Research report

Farm and herd factors influencing antibiotics use on Dutch dairy farms

Author: Corrina Ensing

corrina.ensing@wur.nl

Class: 4 AAS, Van Hall-Larenstein, Wageningen

Supervisor school: Johan Meinderts

Company: Agro Management tools & Animal science group

Edelhertweg 15 8219 PH Lelystad

Supervisors: Dr.ir. A. Kuipers

abele.kuipers@wur.nl

Ing. H. Wemmenhove

harm.wemmenhove@wur.nl

Summary

The amount of used antibiotics is a large problem concerning human health. More and more resistance has occurred during the last years. The Dutch government has announced lowering of used antibiotics in the Netherlands has to be reached.

The amount of used antibiotics can be described in several ways. One of these is the daily dosage per animal per year meaning the amount of days a animal is under effective treatment of antibiotics. With this daily dosage, comparisons between farms or even between sectors can be made.

In this report a relation is searched between farm facts and the amount of used antibiotics. The daily dosage of 57 farmers is calculated and a questionnaire is done to purchase farm information. The topics about farm information in this report were; farm size, intensiveness of the farm, health of the cows and farmer information. Next to that social questions are asked about opinions of the farmers, these are not used for analyzing relations with the amount of used antibiotics. Answers of the technical part of the questionnaire are filed into one data file and calculations are made for a better comparability between farms. Technical data about the farms are correlated with daily dosages to get some first directions between the variables. After the results from the correlations were known, regressions between independent variables the farm facts and the dependent variables the daily dosages are made. Daily dosages is split up in daily dosage total, daily dosage used for mastitis, daily dosage used for dry off and daily dosage other. The results were that there are seems to be farm facts which have influence on the amount of daily dosages on a dairy farm in the Netherlands. More research has to be done for more detailed relations and to analyze the relation between social data and the amount of used antibiotics.

Index

1	T . 1 . 2	page
I.	Introduction	4
	1.1. Problem definition	5
	1.2. Research objective	5
	1.3. Research questions	5 6
_	1.4. Hypothesis	
2.	Literature review	7
	2.1. Medicine and antibiotic last years	7
	2.2. Different types of antibiotics and therapeutic targets	8
	2.3. Antibiotics resistance	9
	2.4. Lowering of antibiotics in the Netherlands	11
	2.5. Daily dosage of antibiotics	11
	2.6. Farm facts in regarding with antibiotic use	12
	2.7. Pilot project efficient and transparent antibiotic use	13
	2.8. Project efficient and transparent antibiotic use	14
3.	Materials and methods	15
	3.1. Research design	15
	3.2. Desk study	15
	3.3. Data collection	15
	3.4. Data processing	16
	3.5. Description of the variables	16
4.	Results	18
	4.1. Descriptive results technical questionnaire data	18
	4.2. Descriptive results social questionnaire data	22
	4.3. Statistical results	25
	4.3.1. Correlations	25
	4.3.2. Regressions	28
5.	Discussion	31
	5.1. Earlier done researches	31
	5.2. Medicine data	31
	5.3. Questionnaire	32
	5.4. Research	32
б.	Conclusion	33
7.	Recommendations	35
8.	References	37
9.	Annexes	
	8.1 Descriptive results annex 1-9	38-46
	8.2 Correlations annex 10- 19	1-68
	8.3 Regressions annex 20-23	1-18
	Regressions annex 24-27	24-27
	1105100010110 41111011 2 1 21	2.21

1.1 Introduction

Antibiotics became a part of the therapeutic arsenal in veterinary medicine about 50 years ago. The antibiotics are used for treating and preventing all kind of animals diseases of bacteriological origin. (Dernburg *et al.*, 2007)

Over the last years the amount of used antibiotics is dramatically increased. Between the years 1999 and 2007 the amount of used antibiotics at precept of a veterinarian in terms of grams per kg live weight is doubled. Since 2008 there is a small decrease, but still much more antibiotics are used then in the past. (Mevius *et al.*, 2010)

A problem which is occurred during the years is resistance against antibiotics. Resistance to antimicrobial substances among many bacterial species that are either pathogenic or commensally to food-producing animals and people. (Dernburg *et al.*, 2007). This resistance has caused problems in human health and is more and more an much-discussed topic.

The Netherlands is leading for years an antibiotic policy in the humane health care, with the goal to control the resistance as much as possible. During years more and more indications have occurred that the transfer of resistant bacteria take place from animals to animal keepers. By that it seems to be essential to take measures in the livestock sector to lead to a more justified antibiotic use, a decrease of resistance and prevent the transfer from animal to human. This is important for animal and human health. (Verburg, 2007)

The resistance of antibiotics has caused a lot of pressure in the different livestock sectors, (also the dairy livestock) and it takes care of that the sector has to be reserved and operate transparent with the use of antibiotics. Control of antibiotic use is a very important goal of the government as well of the LTO. For that the convention "Antibiotica resistentic Dierhouderij" is arranged in 2008 between the government and business. A basis of that convenant is a treatment plan for each farm, composed by the veterinarian and farmer together. (MinLNV, 2008)

In 2010 the ministry of agricultural has announced that in 2011 the amount of used antibiotics should be reduced with 20% in comparison with 2009. This will be a first reduction step. Finally this should result in a lowering of 50% in 3 years of time. Then the same level of antibiotic use is reached as in 1999. When the sectors itself does not reach this or can not find a way to reach this goal, the government will handle more concrete steps. (Verburg, 2010)

To reach this goals, the sector has started some projects. One of these project is the project "Efficient en transparent medicine use".

In the project "Efficiënt en transparant medicijnengebruik" there is observed the medicine use per dairy cow farm and tried to aim to uniformity in registration of the used medicines since 2008. The amount of the total used antibiotics per farm is expressed in "daily dosages". Between the farms are already found large differences in daily dosages per animal per year.

In this report we will focus on the difference in antibiotic use per farmer. When that is known, it could be more easy to lower the antibiotic use, or at least know where the differences did occur. This project is aimed on dairy cow farms.

1.2 Problem definition

In the Netherlands is used too much antibiotics. A decrease is necessary, according to the wishes of the government. How this decrease has to be reached is not known yet. Also the reasons for variation between farms in antibiotic use is not known. This has to be researched.

1.3 Research objective

The objective of this research is to determine farm facts and personal ways of thinking which influence the causes in variations in the amount of used antibiotics. With information about variation in relation to the amount of used daily dosages antibiotics there can be seen what type of farms have the skills to use a low amount of daily dosages antibiotics, and which type of farms have a high use of daily dosages antibiotics. With that information high users of antibiotics can try to develop their farms in a way that they have also the possibility to lower their antibiotic use.

1.4 Research questions

Main question

Are there technical fact which have influence on the total daily dosage antibiotic use on Dutch dairy cow farms?

Sub questions

The sub questions can be split up in 3 parts. The first part is to write the literature review. These questions have to be answered to know the current situation in the dairy sector. The second part is about the technical and social questions. This questions will be used for the descriptive results as well as for the statistical results. The last part is about the rest of the social data. Of the last part only descriptive results will be written down in this report.

- What is the current situation of antibiotic use in the Netherlands?
- What problems have occurred due to the use of antibiotics?
- What are the future demands about the use of antibiotics?
- What is known about the relation between farm facts and the use of antibiotics?
- What are the results of daily dosages antibiotics on the farms?
- What are the technical results on the farms?
- Does the size of a farm have influence of the daily dosage of antibiotic use?
- Do the health facts have influence on the daily dosage of antibiotic use?
- Do farmers facts have influence on the daily dosage of antibiotics?
- Do the reasons for the antibiotics which are given have influence on the total used daily dosages antibiotics?

- How do the farmers think about their relation with their veterinarian practice?
- How do the farmers think about their antibiotic usage?
- How do the farmers think about the environment and consumers?
- How do the farmers think about other peoples opinions?
- How is the registration of the farmers?

1.5 Hypothesis

The overall hypothesis of this research is: There are farm and herd factors influencing antibiotics use on Dutch dairy farms

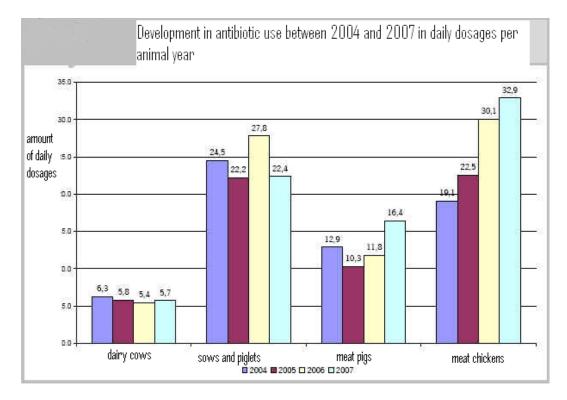
2. Literature review

2.1 Medicine and antibiotic use last years

Use of medicines in animal husbandry can cause risks for human safety, environment, food safety, animal health and animal welfare. The use of antibiotics can lead to resistance on bacteria. In the Netherlands the government will prevent more resistance development from bacteria against antibiotics. (Bondt et al., 2009)

The trends about the total sold antibiotics in the Netherlands are as follow; the total use of antibiotics on prescription of a veterinarian expressed in grams per kg live weight is doubled in 2007 compared to 1999 but decreased in 2008. Recent amounts showed a small decrease again in 2009. In this period between 1999 and 2006 the antimicrobial growth promoters are partly forbidden and later on forbidden at all.

The dairy cattle companies in the Netherlands have a yearly variation with an increase since 2006.



(table 2a from LEI institute)

Table 2a shows the different species animals and their antibiotic use in the Netherlands between 2004 and 2007. As can seen the dairy cows use less antibiotics than other animal species. As explained before there is some variation between years in the antibiotic use.

Some European countries of which data about total veterinarian antibiotics is available show that the amount of antibiotics expressed in grams per kg live weight in 2008 is almost the same as in 2007. A decrease of more than 5% is showed in Norway, France and the Netherlands. (*Mevius et al.*, 2010)

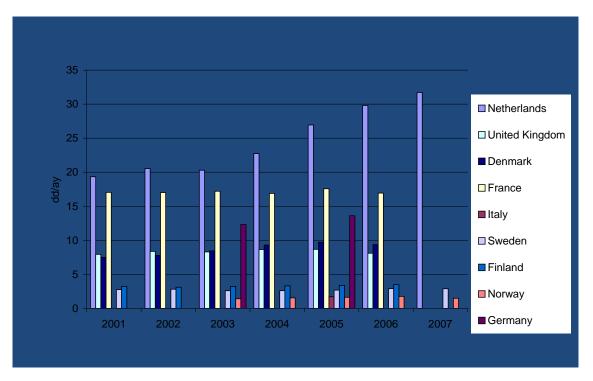


Table 2b; the use of daily dosages antibiotics of the Netherlands and some other countries between 2001 and 2007. (table from LEI institute)

2.2 Different types of antibiotics and therapeutic targets

Antibiotics are invented by Alexander Fleming in 1928. He produced a substance by a penicillium mould which had a antibacterial working and called it penicillin. In 1935 sulfanilamide is detect, a chemical stew which also disputes bacteria. It takes until after the $2^{\rm nd}$ world war before penicillin could be produced on large scale.

Nowadays about 6000 different kinds of antibiotics are known, of which 250 can be used for people and of which 100 are registered in the Netherlands.

The working mechanisms of antibiotics can work on 4 different ways.

- Inhibition of the synthese of the cell-wall (Betalactam antibiotics, vancomycine, bacitracine);
- Damaging of the cellmembrame (polymyxines, polyenen);
- Interfere in the function of the nucliene acid as part of the chomosomale DNA(nitroimidazolen, nitrofuranen, quinolonen, rifampicine) of the intermediaire nucleïneacid metabolism (sulfonamiden, trimethoprim);
- Inhibition of the protiensynthese by influence of the ribosome (aminoglycosiden, fenicolen, lincosamiden, macroliden, streptograminen, pleuromutilinen, tetracyclinen). (Mevius, 2008)

Several types of antimicrobials are commonly used in food animals (*Mitchell et al., 1998*). Antimicrobial classes include beta-lactams (e.g., penicillin, ampicillin, and cephalosporin), tetracyclines (e.g., oxytetracycline, tetracycline, and chlortetracycline), aminoglycosides (e.g., streptomycin, neomycin, and gentamycin), macrolides (e.g., erythromycin), lincosamides (e.g. lincomycin and pirlimycin), and sulfonamides (e.g., sulfamethazine and others) (*Mitchell et al., 1998; Hoeben et al., 1998*).

Antimicrobial drugs are used on dairy farms curative and preventive. Clinical disease has been reported as the primary indicator for initiating therapeutic antimicrobial treatment on dairies (*Friedman et al.*, 2007). Common clinical diseases on dairies include respiratory disease and diarrhea in replacement animals (*Zwald et al.*, 2004) and mastitis, reproductive tract infections, lameness, pneumonia, and diarrhea in adult dairy cows (*United States Department of Agriculture*, 1996). Annually, respiratory disease and diarrhea in calves have been reported on 58–88% and 66–100% of United States dairy operations, respectively (*Sawant et al.*, 2005) and (*United States Department of Agriculture*, 2005). In adult cows, dairy operations most frequently reported mastitis, lameness or metritis, which were reported by 85–100%, 60–100% and 53–79% of operations in a one-year period. (*Sawant et al.*, 2005) and(*United States Department of Agriculture*, 2005). Respiratory disease and diarrhea in adult cows were reported less frequently, affecting cows on 24–50% and 12–43% of dairy operations annually. (*Sawant et al.*, 2005) and (*United States Department of Agriculture*, 2005)

One of the largest uses of preventive antibiotics in dairy production may be for "dry cow" treatment. This practice involves a long-acting intramammary antibiotic infusion given to cows between lactation cycles with the intention of treating existing infections and preventing new infections (*Dodd and Booth, 2000; USDA, 2003b*).

2.3 Antibiotic resistance

Resistance against antibiotics can be defined as the characteristic that a micro-organism (bacteria, virus or parasite) is less sensitive or insensitive for the working of a medicine. In this report we will focus on the resistance of bacteria against antibiotics.

Because every antibiotic has a specific apply point against bacteria the bacteria can also very easy avert against the working of the antibiotics by changing the apply point. This could have the consequence that the antibiotics can not attack the bacteria and resistance has occurred. Resistance can be separated in 2 ways, a natural or purchased resistance. Natural resistance is that a certain bacteria specie can not be killed or restrained by a certain kind of antibiotics. This occurs by the specific and heritable characteristics of the bacteria. Purchased resistance occurs by changes of the heritable characteristics of a bacteria. This can happen by mutations in the DNA whereby proteins which are produced on a basis of the DNA, are changing. Also heritable resistance can occur by the insertion of different DNA from other bacteria or the combinations of this.

In the intensive animal husbandry play the same factors a rule in the origin and spreading of resistance as by human. But the circumstances are not that easy to compare with. This has as reason that an individual animal has an other position in the population on an animal farm

than a human in a hospital. Infection prevention measurements like hygiene and isolation have an other dimension. An animal is part of a herd and within intensive exchange of bacteria by direct or indirect contact by faeces or other particles on the farms. This is also the case in antibiotic use. A lot of antibiotic use is done by herd treatments.

The fast evolution of the resistance of antibiotics is on one side determined by the use of antibiotics and on the other side by the tools antibiotics have to change quick and efficient to changed circumstances. The most dependent environment pressure is the selection pressure of antibiotics. The character extend of the selection pressure will be determined by factors like the characteristics of the used antibiotic, the dosage and the infliction method. The specific bacteria characteristics as written down before are the mechanisms which are involved in the spreading of (multi) resistance.

The chance on a fast revolution will be strongly influenced by the amount of bacteria. In the human medical science the most important places were this circumstances are available hospital units with patients which have an intensive treatment, for example intensive care units. In the animal husbandry are this the stables with large amounts of animals.

Because the same antibiotics are used for animals as for human, or almost the same this has lead to decennia long discussions about human health risks. The risks can be separated in directs risks an indirect risks. With direct risks there can be spoken about zoonotic food pathogens which become resistant by the use of antibiotics. This are bacteria which are available in the intestine composition of animals and which can make people ill by eating infected food. An example of this can be Salmonella. Indirect risks by the use of antibiotics can occur when in animals resistant genes are available which are hereditary. The relation with problems in the health care as result of the hereditary of those resistant genes are very complex and depend of a lot of factors. A role pretend that if animal products are infected with stems which occurs genes, the extend in which those stems each selves can establish in the intestines of humans and assign their genes on the intestines of a human. It can happen that humans which are carrier of these resistance stems or the specific gen will be admitted in a take care organization or hospital. After that those resistant bacteria have to cause a disease or take over their genes on specific hospital bacteria. All these processes will be influenced by a large amount of factors which have nothing to do with the animal husbandry. Although this is very complex and the consequences are dependent from a lot of factors, the final impact for human health can be much bigger than those of the resistant food pathogens. (Mevius, 2008)

2.4 Lowering of antibiotics in the Netherlands

From the ministry of Agricultural there is next to a ban on couple treatment with fluorquinolonen in the poultry sector also a demand for more limitation from the use of antimicrobial medicines. In 2011 a reduction of 20% regarding 2007 has to be reached. 2 Years after that, in 2013 just 50% of the antibiotics are allowed to use regarding to amount of used antibiotics in 2009. To reach this goals certain measurements have to be taken. In the beginning of 2010 the ministry of agricultural have asked the advisory committee animal husbandry to come in 2010 with concrete and clear motions to reach these lowering. Of large importance is it that the use of medicines has to be clear and transparent. (knmvd, minlnv 2010)

The researches done in the last view years were most about the poultry and pig sector. Less is known about the dairy sector in the Netherlands. The Maran report of 2007 showed an average antibiotics use of 5,7 daily dosages per animal per year, in 2008 this was 6,6 daily dosages per animal per year. This amounts are calculated with the so called "steekproefbedrijven" (randomly chosen farms in the Netherlands) . (CVI, Knmvd 2010) There is still need for efficient and transparent data.

2.5 Daily dosage of antibiotics

The organization of pharmacy and importers of animal medicines in the Netherlands (FIDIN) keeps up the data since 1998 about the amount of kilogram's active stew used antibiotics sold by pharmacies which are connected by FIDIN. The selling amounts give a good impression about the development during the years about the total used antibiotics in the veterinarian sector, but from 80% of the data is not known to which sector the antibiotics are given. There is not an overview about the purchased development in the use between different sectors. (Geijlswijk et al., 2009)

The daily dosage per animal living year is a suitable alternative way to measure the total use between different animal groups, companies and sectors. The daily dosage per animal year is determined by the calculation of the total amount of kilograms animal which can be treated with each active ingredient of the antibiotic. With this they calculate with an average treatment for animals with an average for determined weight. (*Mevius et al, 2008*) The daily dosage method is already used for a longer period in human health. There is daily dosage expressed in daily dosage per 1000 human days or as daily dosage per 100 beds in a hospital.

The total amount of the different active ingredients can not simply be count up due to the variation in effectiveness and prescribed dosage. However the use of antibiotics can be compared and count up when the active antibiotic is expressed in daily dosages per animal year. The daily dosage per animal year can be calculated with the help of the daily dosage per kilogram (DDkg); the amount of the medicine (g or ml), used for the treatment of 1 kilogram animal during one day with the antibiotic. It is based on the registered average dosage of the medicine for an animal species. The daily dosages per animal year can be add up to measure the total expose to antibiotics. The DDkg is specific for the animal specie and is defined for dairy cows, pigs and poultry. (Mevius et al, 2008)

The LEI institute has developed a program to calculate these daily dosages. With this calculation they use an average cow of 600kg. Young stock is not included in this calculation. This means that the daily dosage of all antibiotics which is applied to dairy and young stock

over the weight of the dairy cattle is calculated. For example oral antibiotics are applied to young stock but in the calculation it is given to the dairy cows. An other way to calculate the daily dosage is the way of AUV (Ad Usum Veterinarum). Here they use the used antibiotics attributed to the total weight of animals to which the medicine can be applied. Oral medicines are used for animals until < 1 year, a weight of 208 kg is used. The parental medicines will be attributed to the average weight of dairy cattle and the young stock. In this they use for young stock <1 year 208 kg, young stock >1 year 440 kg and for the dairy cattle >2 years 600kg. With the average weight they can calculate the daily dosage for the admitted antibiotics. The dry off injectors and mastitis injectors are only attributed to the weight of the adult cows.

An example about the method of the LEI calculation;

The most dairy cows come in their dry off period after a treatment with dry off injectors which contains antibiotics. For example Orbenin extra dry cow. With this treatment in each quarter of the udder there is putted an injector with antibiotics. Each injector is calculated for 1 daily dosage for 1 animal year. This means that when a cow is coming in her dry off period with the treatment of Orbenin there are 4 daily dosages are applied. So, dry off treatments are easy in calculation.

An other example, the applying of amoxicillin intramuscular 2 times a day during 3 days.

- Amoxicillin contains 10mg active stew per ingredient.
- The registered dosage is 2 times a day 1 ml amoxicillin per 10kg.
- The DDkg is 0,2 ml/kg/day
- For a cow of 600 kg this means 60 ml amoxicillin 2 times a day, so 120 ml per day during 3 days.
- The prescribes 260 ml means a daily dosage per animal year of: (360/0,2=1800 treated kg / 600 kg (weight animal) = 3 daily dosages))
- In one year a farm with 50 cows of 600 kg uses 20 bottles of 100ml (DDkg=0,2)
- Also 10 bottles of 50ml are used with a DDkg = 0.05ml/kg/day
- The total amount of daily dosages = (20*100/0,2+10*50/0,05)/50*600=(10.000+10.000)/30.000=0.667 daily dosages per year.

(Geijlswijk et al, 2009)

2.6 Farm facts in regarding with antibiotics use

Some researches showed interesting facts about farm facts and farm results. Increasing herd size has been associated with increased morbidity and mortality (*Thomsen*, 2005). Larger herd size is associated with increased use of hired labor (*Stahl et al.*, 1999), and an increased amount of cows per full-time employee (*Bewley et al.*, 2001), possibly affecting disease detection, animal care or disease prevention practices. However, larger dairy herds are more likely to culture clinical mastitis cases (*Hoe and Ruegg*, 2006), which may better enable them to tailor treatment to specific pathogens. Larger herds are also more likely to use antimicrobials prophylactically in heifer feeds and at drying off (*United States Department of Agriculture*, 2002b), more likely to keep computerized records of antimicrobial treatments, and more likely to use veterinary services (*Hoe and Ruegg*, 2006). All of these factors could influence frequency of disease and drug choice.

Less facts are available about the direct relation of farm facts and antibiotic use. A research of ULP (Universitaire Landbouwhuisdierenpraktijk) in Utrecht showed no significant relations between farm facts and antibiotic use. This research is done with 100 farmers of one veterinarian practice. One year data about antibiotic use was available.

In the report is searched for a relation between animal health data and the use of antibiotics. For this management score, animal health scores and daily dosage antibiotic data are used. No relations were found. Also when separated parameters were used, no significant relations were found. The report shows also no significant relation between health scores and management scores. (*Boschma 2010*)

2.7 Pilot project efficient and transparent antibiotic use

In 2008 the project transparent and efficient medicine use has started. The aim of this project is to look to the management of medicine use registration on dairy cow farms. The key words of the project are a more uniform registration, a better utilization of data, efficiencies and transparent data and a better awareness. Before this project 2006-2007 a pilot study is done. Result of that pilot was that farmers are only interested in the medicine management when it was directly attached to the diseases of their animals. Because of this reason diseases and medicine use will be verified in mutual connection. In the pilot project "efficient and transparent medicine" use only the use of antibiotic medicines are measured because of the social interest for that topic.

The pilot has a work group and an advisory committee. The Advisory committee exist out members from the following companies: Frieslands Foods, LTO, Nutreco, KNMvD, NRS/CR-Delta, GD, Nedap, Agro Management Tools.

The Work group exist out of: Veterinarian practice de Graafschap, Veterinarian practice Flevoland, Agrovision, NRS, Friesland Foods, LTO, some farmers and Agro Management Tools.

Results of pilot

The work group has concluded the following points which are important for the pilot:

- The registration of medicine use should have a surplus value for the farmer and veterinarian to motivate them.
- The data structure should be based on the individual animal.
- Veterinarians and chain partners see the possibility about tracing as a plus; there should be worked with individual animals and the batch amounts of the medicines should be known.
- The medicine use should be linked to the animal diseases, the medicine use alone is not enough to activate motivation
- The efficiencies of data can be improved by colleting the data (for example with Pocket pc's) and send the data of medicines from the veterinarian also automatically to the management program. (recopies, visiting notes etc)
- The administrative work should be decreased in stead of increased to stimulate a loyal implementation of new policies.
- The link to policy is important.

During the pilot several questions with the registration of medicines have occurred. One of the problems was the batch amount which had to be putted in to the management program. Often the batch amounts were difficult to read and mistakes were easily made. After the experiences with the pilot the following points need special attention in the future.

- Uniformity in the input of data has to be checked on a larger scale.
- Automatisation from veterinarian practice to farmer management programs has to be further developed.
- Dialing codes for medicine use has to be developed and comparisons between farms and veterinarian practices has to be made.
- The time for medicine registration has to be decreased after new policies instead of increased.
- Data exchanges between different parties in the sector and a synchronization has to be realized for the medicine data.
- Stimulate awareness about medicine use and the registration by informing.

After the pilot the conclusion is made that the pilot has to be proceeded. A proceed of the project is realized in the form of the project Efficient and transparent antibiotics use. (*Kuipers et al, 2007*) A project which is nowadays, January 2011 still in development.

2.8 Project transparent and efficient antibiotics use

Organization project

43 farmers from 6 veterinarian practices take part on the project. Next to those group also the farmers from the pilot group and about 10 other farmers take part on an extensive basis. They deliver a part of the data and do not participate in the study groups. In every veterinarian practice group a study group is developed. The study groups have regular meetings to talk about activities and developments. Also a work group exist, of every veterinarian practice one veterinarian and one farmer are representative for the whole group.

The project leader of the research is Abele Kuipers, Wageningen UR and coordinator Janet Bakker from the LTO. Other cooperating companies are: Animal Science Group, Agro Management Tools, LTO, Friesland Foods, Campina, KNMvD, Nutreco, NRS,GD, the farmers and veterinarians. The project is financed by the LTO and LNV..

Goal

The goal of the project is to collect data about the use of medicines, for a more efficient and sufficient way of medicine registration for the future demand on food safety policies. (*Kuipers et al*, 2007)

Project and future

During the project several of the results of the pilot project are analyzed and developed. The results of the pilot have been further analyzed in the study efficient and transparent medicine use. Some were more easy than others. During the project an interesting topic about the reason for variation has occurred. A sub research is started in about the effects of farms facts regarding the amount of used daily dosages antibiotic. The same farms as in the project could be used so the beginning of a research within the project is started.

3. Materials and methods

3.1 Research design

The basis of the research differences per farm in antibiotic use is he project group of the project "transparent en efficient medicijngebruik". The project group consist out of 6 veterinarian practices. Each practice has delivered a few farmers who are interested in the topic and are willing to deliver some farm data. The project group exist out of 43 farmers. Next to the farmers from the project group there is searched for some extra farmers. These farmers are extra farmers from the veterinarian practices of the project group, new veterinarian practices or just some farmers who are interested and wants to participate in the study. Of those extra farmers data about there antibiotic use is needed and they have to fill in the questionnaire. They do not have to participate in meetings etc.

Of each farmer there is data needed about the medicine use of the last 5 years (2005, 2006, 2007, 2008 and 2009). The reason for using 5 years instead of one year is the variation on

Of each farmer there is data needed about the medicine use of the last 5 years (2005, 2006, 2007, 2008 and 2009). The reason for using 5 years instead of one year is the variation on antibiotic use during the years (see table 2.1). When just one year is used the data is not that much reliable. This data is all collect from the veterinarian, they have yearly reports about the total medicine use. Of this data the daily dosage of used antibiotics can be calculated. During those calculation differences per farm are occurred. With the help of all data and a questionnaire a relation will be searched between the farm details and the amount of antibiotics, as explained in the research questions.

The farms in this research are not randomly chosen.

Table progress in antibiotics use.

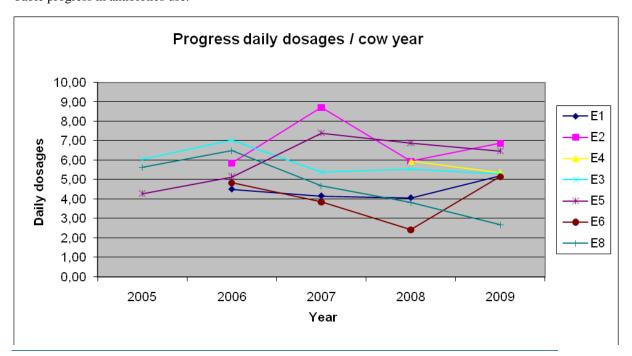


Table 3.1 progress in antibiotic use. (table of F. Kuipers)

3.2 Desk study

A literature study is done to get insight in the topic. Earlier done researches are read en studied. With this information appropriate research questions can be made.

3.3 Data collection

This research is done by a questionnaire. The farmers are asked several questions. This questions will be about farm facts, social visions, future, goals, type of farm, opportunities and threats, character and success in the future. The questionnaire will be observed and with the results a relation with antibiotic use will be searched.

The questionnaire is a written one and has to be filled in by the farmer himself. The questionnaire will be send by post. The first part of the questionnaire is made by myself and the project leader , the last part is from an existing questionnaire of Ron Bergevoet of the LEI institute. For this research just the first part (the self made part) is used to analyze. Also some questions from an earlier done research are used in this study. Most farmers already answered these questions, some did answer them during this research.

3.4 Data processing

The data of the questionnaire will be putted in a program to fill in all data. This program is used in the past for a research in a foreign country. The questions are changed and the program is made usable for this project. From that program the data is transported to excel. In excel some calculations are made for a better comparability between the farms. Also some tables and average amounts are calculated in excel. Statistic tests will be done with SPSS 15.0. Some results will be showed in graphs and tables.

3.5 Description of the variables

The data can be split up in 2 parts, technical data and social data. Some social data will be described shortly is this report. The technical data will be described and analyzed more into detail. Because the focus in this report will be on the technical data a description of the variables is made:

Antibiotic use dependent of technical data, farm and farmer

A. Basis variable Contains 56 farms.

Dependant variables:

- 1. Total amount of daily dosages
- 2. Amount of daily dosages used for mastitis
- 3. Amount of daily dosages used for dry off injectors
- 4. Amount of daily dosages used for "other" (total –mastitis-dry off injectors=other)
- 5. Trend on the total amount of daily dosages
- 6. Trend on the daily dosages used for mastitis
- 7. Trend on the daily dosages used for dry off injectors
- 8. Trend on the daily dosage other

Trends containing mostly 5 years: 2005 t/m 2009; in some cases there are just 3 or 4 years, this because data from earlier years was not available.

Independent variables:

Farm size:

- 1. average amount of dairy cows (2005 t/m 2009)
- 2. trend amount of dairy cows (regression coefficient about 5 years)
- 3. average quota (2005 and 2009)
- 4. trend in quota (year 2009 minus year 2005)

Intensity farm:

- 5. average amount young stock per 10 dairy cows (2005 and 2009)
- 6. trend in average amount of young stock per 10 dairy cows (year 2009 minus year 2005)
- 7. average amount of cows per hectare (2005 and 2009)
- 8. trend in average amount of cows per hectare (year 2009 minus year 2005)
- 9 average amount of concentrates per 100 kg milk (2005 and 2009)
- 10. trend in average amount of concentrates per 100 kg milk (year 2009 minus 2005)
- 11. access to pasture yes or no 2009

Herd information:

- 12. average age of the cows in months. (2005 and 2009)
- 13 trend in average age of the cows in months (year 2009 minus 2005)
- 14. average production of kg milk per cow per year.gem. (2005 and 2009)
- 15. trend in average production of kg milk per cow per year (year 2009 minus 2005)
- 16. average time between calving in days (2005 and 2009)
- 17. trend in average time between calving in days (year 2009 minus 2005)
- 18. % from the cows to destruction (2005 and 2009)
- 19. trend in % cows to destruction (2009 minus 2005)
- 20. % cows removed to slaughterhouses, other farmers etc. (2005 en 2009)
- 21. trend in % cows removed to slaughterhouses, other farms etc. (2009 minus 2005)

Health factors:

- 22. average cell count (2005 t/m 2009)
- 23. trend in average cell count (regression coefficient years 2005 t/m 2009)
- 24. health status 2009

Farmer;

- 25. age farmer in 2009
- 26. highest followed education farmers. (lower/middle or bachelor/ master)

4 Results

4.1 Descriptive results technical questionnaire data

Daily dosages

First for al farms a daily dosage of antibiotics is calculated (the amount of day an animal is under effective treatment of antibiotics). The average daily dosage over 5 years is 5,8 daily dosage per cow per year. Also the separated years are calculated. In 2005 the average daily dosage was 5,48, in 2006; 5,87, in 2007; 6,13, in 2008; 5,90 and in 2009; 5,70. The trend of total daily dosage antibiotics was 0,06. If we put the average daily dosage over 5 years in a table the following results are showed:

Amount of farms with their daily dosage

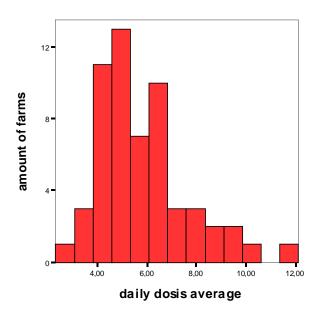


Table 4.1 the amount of farmers with their total daily dosages.

Table 4.1 total daily dosage average shows that the most farms have a total daily dosage between the 4 and 7. So, the cows of the farms are on average 4 till 7 days per year under effective treatment of antibiotics.

Next to the total daily dosage, the use is divided in three parts: Daily dosage mastitis, daily dosage dry off and daily dosage others. "Other" consist all kind of antibiotics which are not antibiotics against mastitis or dry off injectors. Mastitis has an average daily dosage of 1,30 daily dosages per cow per year. The daily dosage of dry off is 2,57 daily dosages per cow per year, for Other is this 1,93 daily dosages per cow per year. The trends are respectively; 0,03, 0,02 and 0,05. (for total table see annex 1.)

amount of farmers with their daily dosage for dry off injectors

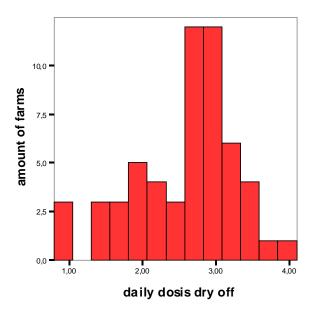


Table 4.2 amount of farmers with their daily dosage for dry off injectors

Table 4.2 about daily dosages antibiotics used for dry off injectors shows that most of the farms have a dosage are around the 3 for dry off injectors. In theory all farmers should have a daily dosage used for dry off injectors around 4. In practice the most cows do not give birth once a year so this lowers the amount of used dry off injectors. Next to that heifers are not given dry off injectors and cows which went to slaughter houses also not. This is the reason why the daily dosage of dry off injectors is lower than 4. The farms which have a daily dosage for dry off injectors between 1 and 2,5 will probably use the method of selective dry off therapy.

amount of farms with their daily dosage used for antibiotics against mastitis

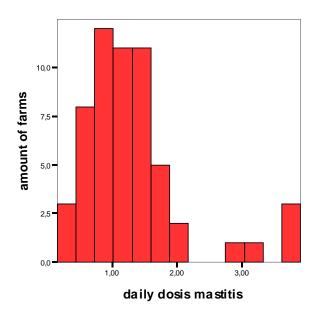
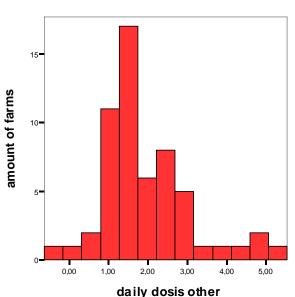


Table 4.3 amount of farms with their daily dosage antibiotics used for mastitis.

Table 4.3 daily dosage antibiotics used for mastitis shows that all farmers have a dosage between the 0 and 4. Most farmers have a daily dosage antibiotics used for mastitis around the 1. This means that on average every cow is under treatment of antibiotics against mastitis for about one day per year.



amount of farms with their daily dosage antibiotics used for "other treatments"

Table 4.4 amount of farms with their daily dosage of antibiotics used for "other treatments".

Table 4.4 shows the daily dosage of antibiotics other. As explained before other consists of all antibiotics except dry off injector and antibiotics against mastitis. This table shows that most farmers have a dosage between 0 and 3. Other has a bit more variation between the farms than the previous tables showed in this report.

Farm size

The farmers have on average 98,51 cows and 69,62 young stock. On average the farms are increased between 2005 and 2009 with 21,16 cows and 13,95 young stock.

To calculate with this amounts the amount of young stock per 10 cows is also calculated. On average this is 7,19 young stock per 10 cows.

The average quota on these farms was 922.736,61 kg milk. Between 2005 and 2009 an increase of 105.000 kg of milk is realized. (for total table see annex 2)

Intensity farm

To measure the intensiveness of the farm the amount of dairy cows per hectare in calculated, this was on average 1,80 cow per hectare. To calculate the amount of cows per hectare first the amount of hectares is asked, this was on average 39 hectare.

Of the 57 farms 39 farms had cows walking outside in the pasture. (This data was only available about 2009. 18 Farmers kept their animals inside during the whole year.

The amount of concentrates per cow is calculated in kg concentrates per 100kg milk. The average use of concentrates was 23,61 kg per 100 kg milk. The difference between 2005 and 2009 is -1,29 kg concentrates per 100kg milk.

The farmers in had on average 7,26 amount of young stock per 10 dairy cows. In 2009 there were on average 0,43 amount of young stock more than in 2005 (for table see annex 2)

Herd information

The average age of the cows is 53,96 months, this is about 4,5 years. The age of cows is measured in months for a better calculation. The average difference in age of the cows between 2005 and 2009 is 0,05 months.

The average production of the cows in this project group is 8715,15 kg milk, the growth in production between 2005 and 2009 is on average 87,95 kg milk.

The time between calving on average is 409,69 days. In 2009 this is 0,19 days more than in 2005.

Also the amount of cows went to destruction and the amount of cows removed from the farm is calculated. Removed cows are cows which went to slaughterhouses or which are sold to for example other farmers. This data is calculated in percentages for a better comparability between farms. The average amount of cows to destruction is 3,32%, and 26,02% of the cows are removed on average. The differences between 2005 and 2009 are respectively 0,98% and -0,32%. (for table see annex 3)

Animal health

To measure health, questions like cow cell count, amount of free diseases and costs per cow per year are asked. The average cell count over 5 years is 192. (The most farms had cell count data about 5 years, some had less years). Of all farms a minimum of 3 year data is used. The trend of cell count is -1,18.

The farmers are also asked if they were certificated free of diseases. The diseases were: Leptospirose, IBR, BVD, Salmonella, Paratuberculose status A and Neospora. The total amount of free diseases is count and this amount is used as data. The farmers were on average free of 4.3 diseases.

The total costs (for animal health) per cow per year was the last question about animal health. Because it was difficult for the most farmers to find this information only the year 2009 is used in statistics. The average costs of 2009 were €12,64 per cow per year. (for the total table see annex 4)

Farmer information

The farmer is asked about the age and the level of highest education. On average the farmers is this research are 42,6 years old. Of the 57 farmers 18 farmers have done a bachelor study or higher. All other farmers did a lower education than a bachelor study.

4.2 Descriptive results social data

A part of the social data is used for this report. Questions about the relation with the veterinarian practice, the antibiotic use, the environment and consumers, what farmers think about other peoples opinions and medicine registration will be shortly described.

The social data is scored with 5 points, 1 till 5. Point 1 is not agree point 5 is totally agree. The farmers have given points for every question and the average results of these questions will be described.

Finally questions about medicine registration are asked. The farmers have filled in the amount of minutes a week they spend for registration and how often they registries their medicine use. The social data results consist less farmers than the technical farm results. This is because not all farmers have got the whole questionnaire.

Results about the questions will be showed in a table within the average answers of the farmers.

Veterinarian practice

Average score 1-5

I have a good relation with my veterinarian practice	4,64
I always follow the advice of my veterinarian concerning to medicine	4,10
use	
My veterinarian advised me to give antibiotics after the first	3
symptoms	

Antibiotic use Average score 1-5

I treat a cow more likely a bit faster and more often with antibiotics	3,23
than that I am to late with the treatment	
It is important for me that a cow build up some own resistance, and	3,31
because of that I am sparing with the use of antibiotics	
I have to strive for a lower use of antibiotics on my farm	3,67
I have to strive for a lower use of dry off injectors on my farm	1,97
I put my cow in to their dry off period on the following way	4 farmers use
	selective dry off
	method, 35
	farmers give all
	cows antibiotics
I read regulary about animal health in specialist journals	4,15

Environment and consumers

Average score 1-5

Less antibiotic use is better for human health	3,59
I think that it is possible for all farms to lower the amount of used	3,18
antibiotics and by that be sufficient to the wishes of the government	
Lowering of the use of antibiotics has disadvantuous consequences	3,41
for the animal health	
Health measurements like vaccination are a possible solution for a	3,39
decrease in antibiotics use	

The following persons or organizations think that I should lower the use of antibiotics on my farm

Average score 1-	5
------------------	---

My feed supplier	2,28
Community and consumers	3,21
My veterinarian	3
The government	3,92
My family	2,18
My dairy industry	3,21
My interest organization	3,15
My colleague farmers	2,26
The politics	3,74

As shown in the table most farmers have a good relation with their veterinarian practice. The farmers also follow the advice of the veterinarian concerning antibiotic use. About the questions if their veterinarian advises to give antibiotics after the first symptoms the farmers are a bit more in the middle the score was 3. (for table with variation see annex 5) For the most farmers it is important to treat the cow soon enough but in the same time it is also important for them to lower their use of antibiotics and take care of a good own resistance of the cows. Most farmer do not think that they have to strive to a lower use of dry off injectors. This can also be seen in the amount of farmers which use the selective dry off method, just 4 farmers use this method, 35 farmers treat all cows with antibiotics before the dry off period. Most farmers often read some magazines about animal health. (for table with variation see annex 6)

The questions about environment and consumers score on average all above 3. The farmers in this group think a decrease of antibiotics will be better for human health but has also as consequence that the animal health will be increased. In the same time they think it is possible for most farmers to lower their antibiotic use and that vaccination will be a possible solution to reach this. (for table with variation see annex 7)

The question about what the farmers think about the opinion of other people on their antibiotic use is variable. (for table with variation see annex 8)

Medicine registration

The average farmer spends about 35 minutes a week for medicine registration. The lowest amount of minutes is 5 the highest 120, so there is a lot of variation. This question is filled in by 33 of the farmers, next to those 33 farmers 19 farmers did had no idea, and some farmers did not fill in the question.

The amount of times that a farmer registers his medicine use is variable. In total 52 farmers have filled in this question. 12 Farmers fill in their registration more times a day, 16 farmers do this once a day, 16 farmers do this once a week and 3 farmers do this once a month. 5 Farmers have filled in that they do it on an other way. (whole tables see annex 9)

4.3 Statistical results

The analysis performed wanted to examine if the antibiotics use on farm level was dependant on certain farm and cow herd factors and on some characteristics of the farmer.

The level of antibiotics use is expressed by the "total daily dosage per average cow per year" on the farm. This total daily dosage per cow per year is split up in the contribution of mastitis antibiotics, of dry off injectors and "other" health problems. In this analyses these are the so called dependant variables. Also the trend in these variables over 2005-2009 were computed by determining the regression coefficients.

Variables characterising the farm were grouped in factors associated with farm size (4 variables) and intensity of farming (6 variables). The farmer was characterised by age and education. The herd of cows was described by 10 factors, while the health status of the herd was described by 3 factors. This resulted in a total in 26 independant variables. For more detailed description of all these variables, see chapter 'Material and methods''.

4.4.1 CORRELATIONS

Technical data is put in a correlation table to see the first results and directions. After the first results of the correlation tables were known, regressions are made.

A correlation table show if there is a relation in direction between 2 variables. For example a correlation of .980 between variable A and variable B. This means that when variable A is increasing, variable B is also increasing, this is called a positive relation. The correlation can also be negative, for example -.980 than this will say that when one of the variables is increasing the other variable will decrease.

Farm size

Several questions in the questionnaire did have something to do with the size of the farm. To see if we could use them all to measure the relation between farm size and the amount of used antibiotics a correlation table about size data is made. In this research the following results are shown. The results of the correlation shown a lot of significant correlations between the variables. For example when there are more milk cows, there is also more young stock, more milk quota and more hectares of land and vice versa.(sig.= <0,01) (for whole table see annex 10).

After analyzing this table shortly the decision in made to use less variables in the other correlation tables. The reason for this is that some variables are familiar to each other or that some are better to compare the farms.

Daily dosages (dependent variables)

The total amount of daily dosages shows positive correlations with; daily dosage mastitis, daily dosage dry off, and daily dosage other. A positive correlation in this means that when the total amount of daily dosages is increasing the daily dosages for mastitis, dry off injectors and others is also decreasing. (sig. = <0.01)

The daily dosage for mastitis shows also just positive correlations. When the dosage for mastitis is increasing the dosages daily dosages total and the daily dosage other is also increasing. (sig. = <0,01)

The daily dosage for dry off injectors shows a positive correlations with the total daily dosage of antibiotics. A negative correlation is seen between the daily dosage for dry off injectors and the trend of the daily dosage for dry off injectors. This means that when one of the variables is increasing the other variable in decreasing.

The daily dosage other sows positive correlations with; total daily dosages, the trend in daily dosage mastitis, the trend in daily dosage dry off injectors and the trend in daily dosages other. So, when the daily dosage other is increasing the variables mentioned are also increasing. (sig. = <0.01

When the trend of daily dosage total is increasing also the trend in daily dosage mastitis, the trend in daily dosage dry off injectors and the trend in daily dosage other is increasing so, positive correlations. (sig. = <0.01)

Than the trend in daily dosages dry off injectors. A negative correlation with the daily dosage for dry off injectors and a positive correlation with the trend in total daily dosages is seen. (sig. = <0.01)

The trend daily dosages other shows that when the trend daily dosage is increasing the trend in total daily dosages is also increasing, a positive correlation. (sig. = <0.01) (for whole table see annex 11)

After a correlation with variables about daily dosages, also the other variables (independent) are put in a correlation table together with daily dosage (dependent) data. Results of this are as follow:

Daily dosage total and all variables

The total amount of daily dosage shows positive correlations with the following variables: the average amount of dairy cows, the average amount of young stock, the average cell count, the highest education of the farmer, the animal health costs per cow per year in 2009 and the amount of free diseases. When the total daily dosage is increasing the variables mentioned also increasing. (sig.=<0,05)

(for whole table see annex 12)

Daily dosage mastitis and all variables

The total amount of daily dosage mastitis shows positive correlations with: the average amount of dairy cows, the average amount of young stock and the costs for animal health per cow per year in 2009.

Negative correlations are seen between daily dosage mastitis and the trend of total amount of young stock and growth in the amount of young stock per 10 dairy cows. So when one dependent variable, in this case daily dosage mastitis is increasing the independent variable is decreasing. (sig. = <0.05)

(for whole table see annex 13)

Daily dosage dry off injectors and all variables

The total amount of dry off injectors shows that when the amount of daily dosages is increased the amount of milk cows average and the amount of free diseases also increase. A negative correlation is seen between daily dosage for dry off injectors and the time between calving, the average cell count, and the trend in the amount of hectares. (sig.= <0.05) (for whole table see annex 14)

Daily dosage other and all variables

The total amount of other medicines shows positive correlations with the following variables: the average amount of milk cows, the average trend in milk cows, the average amount of young stock, the average milk quota in kg milk, the average amount of hectares and the costs for animal health per cow per year in 2009. (sig.= <0.05) (for whole table see annexes 15)

Trend total daily dosage and all variables

The trend in total daily dosage antibiotics shows a positive correlation with the trend % removed. (sig.= <0.05)

(for whole table see annex 16)

Trend daily dosage mastitis and all variables

This correlation shows that when the trend in daily dosage is increased the trend in % cows removed is also increased, so a positive correlation. (sig.= <0.05) (for whole table see annex 17)

Trend daily dosage dry off

A positive correlation is seen with cell count. So when there is a increase in daily dosage of dry off injectors the average cell count also increased. (sig.= <0,05) (for whole table see annex 18)

Trend daily dosage other

Positive as well negative correlations are seen with the trend daily dosages and all variables. A positive correlation between trend daily dosage and trend on amount of young stock per 10 dairy cows is seen. Negative correlation are between trend daily dosage other and the time between calving, the growth in milk cows, and the amount of kg concentrates per 100 kg milk. (sig.= <0.05)

(for whole table see annex 19)

Also some independent variables show correlations with each other. For example, the correlation shows a negative correlation between the age of the cows and the % cows which are removed from the farm. Also a negative correlation is seen between the production of the cows and the cell count, and a positive correlation between production and the amount of free diseases. Because in this report the focus will be on the daily dosage of antibiotics not all correlations between variable will be discussed.

4.3.2 REGRESSIONS

The statistical method called stepwise regression is used to see if the antibiotic use can be explained by the independent variables. The R2 (coefficient of determination) explains the amount of variation in the dependant variable that is explained by the independent variables, which enter into the solution. Below we do this exercition for each antibiotics criteria (total daily dosage, daily dosage mastitis, daily dosage dry off, daily dosage other and the trends) separately. Results of the regressions are showed in the table below, and more into detail in a short written description.

Regressions between dependent and independent variables

Antibiotic	R2	Factors of influence	Positive or negative
criteria			relationship (+/-)
Total daily	0,36	Milk quota	+
dosage		Cell count	-
		Health status 2009	+
Daily dosage	0,28	Milk quota	+
mastitis		Milk cows average	-
		Access to pasture 2009	+
Daily dosage	0,44	Cell count	-
dry-off		Time between calving	-
		Health status 2009	+
Daily dosage	0,39	Milk quota	+
other		Average amount of	+
		young stock per 10 milk	
		cows	
		Cell count	-
		% cows removed	-
Trend total daily dosage	0,1	Trend % removed	+
Trend daily	0,24	Trend % removed	+
dosage mastitis		Trend milk production	+
Trend daily	0,17	Cell count	+
dosage dry- off		Age farmer	-
Trend daily	0,26	Trend in milk cows	-
dosage other		Amount of kg	-
		concentrates per 100 kg milk	

Table 4.5 regressions between dependent and independent variables

a. Relation of total daily dosage to farm and farmer factors

The dependent variable "total amount of total daily dosages used per cow per year" is influenced by 3 variables coming into the stepwise regression solution, being average milk quota on the farm, average cell count and health status of the herd. The R2 is 0,36, which tells that 36 % of variation in total amount of daily dosages used is explained by these 3 factors. Total daily dosage has a positive relationship to milk quota amount and health status and a negative relationship to cell count. In other words, farms with more quota, a better health status and a lower cell count use more antibiotics. (Whole table see annex 20)

b. Relation of daily dosage mastitis to farm and farmer factors

The dependent variable "total amount of daily dosages used for mastitis per cow per year is influenced by 3 variables in the stepwise regression. Average milk quota on the farm, average amount of milk cows on the farm and if the cows have access to the pasture in 2009 have influence on the daily dosage for mastitis. The R2 is 0,28, which tells that 28% of the variation in the total daily dosages used for mastitis is explained by these 3 factors. The total daily dosage for mastitis has a positive relationship to milk quota and if the cows have access to pasture in 2009 and a negative relationship to the amount of milk cows average. In other words, farms with more milk quota, with cows walking outside and a lower amount of milk cows use more antibiotics for mastitis. (Whole table see annex 21)

c. Relation of daily dosage dry-off to farm and farmer factors

The dependent variable "total amount daily dosage used for dry off per cow per year is influenced by 3 of the variables in the stepwise regression. These variables are: the average cell count, the average time between calving and the amount of free diseases in 2009. The R2 is 0,44, which tells that 44% of the variation in the total daily dosage used for dry off is explained by these 3 factors. The total daily dosage for dry off has a positive relationship with the amount of free diseases in 2009 and a negative relationship with average cell count and the time between calving. In other words farms with a high amount of free diseases, a low cell count and a low time between calving use more antibiotics for dry off. (Whole table see annex 22)

d. Relation of daily dosage other illnesses to farm and farmer factors

The dependent variable "total amount daily dosage used for other is influenced by 4 of the variables in the stepwise regression. Average milk quota on the farm, average amount of young stock per 10 milk cows on the farm, the average cell count and the % cows which are removed from the farm have influence on the total amount of daily dosages other. The R2 is 0,39, which tells that 39% of the variation in the total daily dosages used for other is explained by these 4 factors. The total daily dosage for other has a positive relationship to the average milk quota and the average amount of young stock per 10 milk cows and a negative relationship with the average cell count and % cows removed. In other words farms with a high milk quota, a high amount of young stock per 10 milk cows, a low amount of cell count and a low % cows removed have a higher use in antibiotics other. (Whole table see annex 23)

e. Relation of trend in total daily dosage total to farm and farmer factors

The dependent variable "trend in total amount daily dosage used in total is influenced by 1 of the variables in the stepwise regression; the variable trend in % cows removed. The R2 is 0,1, which tells that 10% of the variation in the trend total daily dosage total is explained by this variable. The trend in total daily dosage total has a positive relationship with the trend in % cows removed. In other words, a farm with a high % cows removed have a higher trend in total daily dosage total. (Whole table see annex 24)

f. Relation of trend in total daily dosage for mastitis to farm and farmer factors

The dependent variable "trend in total amount daily dosages mastitis" is influenced by 2 of the variables in the stepwise regression. The variables are the trend in % cows removed and the trend in milk production. The R2 is 0,24, which tells that 24% of the variation in the trend total daily dosages used for mastitis is explained by these variables. The trend in total daily dosage used for mastitis has a positive relationship with the trend in % cows removed and the trend in milk production. In other words, a farm with a high trend in % cows removed and a high trend in milk production have a higher trend in total daily dosage for mastitis. (Whole table see annex 25)

g. Relation of trend in total daily dosage dry off to farm and farmer factors

The dependent variable "trend in total amount daily dosage dry off" is influenced by 2 of the variables in the stepwise regression. The variables are the amount of cell count and the age of the farmer. The R2 is 0,17, which tells that 17% of the variation in the trend total daily dosage dry off is explained by these variables. The trend in total daily dosage dry off has a positive relationship with the amount of cell count and a negative relationship with the age of the farmer. In other words, a farm with a high cell count and with a young farmer have a higher trend in total daily dosage dry off. (Whole table see annex 26)

h. Relation of trend in total daily dosage other to farm and farmer factors

The dependent variable "trend in total daily dosage other" is influenced by 2 of the variables in the stepwise regression. The variables which have influence on the trend in total amount of daily dosage other are the trend in milk cows and the amount of kg concentrates per 200kg milk. The R2 is 0,26, which tells that 26 of the variation in the trend daily dosage other is explained by these variables. The trend in total daily dosages other have a negative relationship with the trend in milk cows and the amount of kg concentrates per 100kg milk. In other words, a farm with a low trend in the amount of milk cows and with a low amount of kg concentrates per 100kg milk have a high trend in the total daily dosage other. (Whole table see annex 27)

5 Discussion

Although the report shows some interesting results, discussion points exist which can cause doubts about the reliability of the results.

5.1 Earlier done researches

A partly comparable research is done last year by the ULP (Universitaire Landbouwhuisdierenpraktijk) Utrecht. That research used some other variables and they had fewer years of data but with the same final goal; find farm facts which have influence on the amount of used daily dosages antibiotics. Not any relations were found in that research. (Boschma, 2010)

A reason for this can be, as noticed before, that they had less amount of years with the data. They used just one year of data about antibiotic use and one year data of independent variables. Also other variables are used than in this research. Probably this can explain the reason of different results.

5.2 Medicine data

Method to calculate daily dosage

The data about the daily dosages of antibiotics is calculated with a new program of the LEI institute. During the project a lot of mistakes in the program occurred and were corrected. In this report the results from the LEI program are used. It is possible that still some small mistakes can be presented which causes wrong data about the daily dosages. This might influence the results of the research.

File data into program

Also the way of filing the data into the LEI program can cause some mistakes. Although all data is filed by one and the same person mistakes can be easily made. For example, it can happen that a farmer has bought a box of dry off injectors but that due to vague lists of bought medicines just one injector is filled into the program. The consequence of this will be a daily dosage which is not correct and which can influence the results.

Medicine data collected from the veterinarians

All medicine data are collected at the veterinarian practices of the farmers. All farmers were asked if they also bought medicines in other places, for example web shops, other veterinarian practices etc. We have assumed that all medicine data of the farmers was available to us, but it is possible that some data is missing. Missing data about medicines will have the consequence that the data of daily dosages which is used for this report is not correct and the daily dosages are slightly different in reality. This can give other results in the statistics. An extra note in this should be that for example just one dry off injector extra does not change the data very much.

Kind of data

The data in this report is collected over different years 2005 and 2009. Although the data is asked over more years still it is some rough data. Reasons for this are that the answers on the questionnaires could be searched by the farmers in different data files. Some farmers will have found their data in their own management programs (others will asked for the data to companies they work with.) To prevent that the data was searched in too much different data files we as project have added some notes to the questionnaire for the farmers were the data could be found. The first intention for doing this was to help the farmers to find the needed data. Probably it has also helped to prevent data from all types of data files. Still there is not one equal data base were the farmers have searched up their data. This can have some influence on the results, but based on the high R2 results in the regressions probably the data was precisely enough. A more equal data base can occur an even more precise result.

5.3 Questionnaires

Filled in by farmers

Filling in questionnaires can be done on several ways. In this report the questionnaire is send to the farmers and filled in by them. No control is available to check if they have filled in the correct answers, or that they have just made some assumptions. During the period of this research it can be said that sending a questionnaire to a farm presuming that the questionnaire is filed in correct is not the most trustful method. This can have 2 reasons, or that the farmers did not looked up the really exact amounts but filled in some estimations or as explained before that the data is been searched up in different data files. An example of those last points can be the average amount of cell count per year. This can be looked up in yearly lists of the MPR but can also be collected from the dairy factory; the results will not be exactly the same. Again based on the R2 results probably this small differences does not have a lot of influence but it is a fact that difference have occurred.

Not randomly chosen

The farmers in this research were all part of a study group or are asked to participate in the study. To conclude a research is representative for the whole country randomly selected data / farmers have to be used. Is this report the farmers are not representative for the country because they are not randomly chosen.

5.4 Research

Done by student

All input of technical and social data into excel, SPSS etc is done by a student. Although there is worked precisely and the accompaniment was good, mistakes can be made which can have influenced the results.

6.Conclusion

Based on the results of this report the following things can be concluded:

Influences of daily dosages on each other

The daily dosages which are divided in; daily dosage mastitis, daily dosage dry off and daily dosage have influence on each other. Actually a logic result. The total daily dosage is influenced by the daily dosage mastitis, daily dosage dry off and daily dosage other, in which daily dosage mastitis and daily dosage other have the most influence. This can be explained by the amount of daily dosages for dry off. The variation in daily dosage dry off is not so much and next to that a maximum of a daily dosage of about 4 per cow per year can be reached for dry off. (Dry off period once a year). The variation in mastitis and other can be bigger; a farm which has a lot of mastitis and other health problems can use a lot of antibiotics against that. There is not a maximum as mentioned by the dry off injectors.

Variables and their influence on the daily dosages

All parts of the daily dosages are influenced by certain variables. In general the following conclusions can be made;

Farms with a lot of milk quota a high health status and a low cell count use more antibiotics. Probably for these types of farms it is important to have healthy cows. They reach this to be active and high with their health status and keep their cell count low. The consequence of this is that the amount of total daily dosages is increasing.

The total daily dosages are split up in mastitis, dry off and other.

Farms with more milk quota, less amount of milk cows and with milk cows which have access to the pasture use more antibiotics. Again the milk quota has influence, but now together with a less amount of milk cows and cows which have access to the pasture in 2009.

The daily dosage dry off is high on farms with a low cell count, a low time between calving and a high amount of free diseases. This results says that farms which have a short time between calving use more dry off injectors, a logic result as explained earlier in this report. Once a year a dry off period will conduct a daily dosage for dry off injectors of 4, how closer this time between calving is to 365 days how closer the amount of daily dosages for dry off is to 4. Than the cell count; a farm with lower cell count uses more dry off injectors. This can have something to do with selective dry off therapy; maybe farms with selective dry off therapy have a higher cell count. An other assumption can be that a low cell count means a good general health which causes also a low time between calving which causes a higher daily dosage of dry off injectors.

A lot off milk quota, a high amount of young stock per 10 milk cows, a low cell count and a low % cows removed take care of a high daily dosage other. In this daily dosage the amount of young stock per 10 milk cows is one of the influencing factors. That they influence the daily dosage other can be explained by that young stock is mostly not treated against mastitis and uses no dry off injectors. In the program to calculate the daily dosages young stock is not taken into account, just milk cows are calculated. So when there is more young stock although

they use just about 5% of the total used medicines on a farm they influence the amount of daily dosages other.

General conclusion

In general there are variables which have influence on the amount of daily dosages antibiotics. By that conclusion there can be said that the hypothesis: *There are facts on a farm which have influence on the differences per farm about the amount of used antibiotics* can be accepted.

7. Recommendations

The results and conclusions in this report show very interesting results, but it is just a start for more research. The results from the statistics need more analyzing by a statisticus to find more relations and to give more detailed conclusions. In this research the focus is on independent variables which have influence on the dependent variables. Probably the independent variables also influencing each other. This has to be reached more.

The social data is not used in the statistics. On forehand more relations were expected on the social part of the questionnaire than in the technical part. Results in this report show already a lot of influence by the technical part so the social part seems to be even more interesting. Social data is already available so the research can be started if classified people are available to do this.

For the sector animal husbandry these results are something to think about. Some results show that farms with better animal health use more antibiotics. When a decrease of antibiotics has to be reached the animal health probably will also decrease, is this we want to reach..... Something to carefully consider about.

The farmers in the Netherlands can probably learn a lot from each other, results in this report show that there are types of farm which use fewer antibiotics than other types of farms. Study groups already keep meetings to talk about this kind of topics. Finally companies can always be developed more, so learn from each other, in this report especially about type of farming and the amount of antibiotics used!

8. References

Bewley, J., Palmer R.W., and Jackson-Smith, D.B. An overview of experiences of Wisconsin dairy farmers who modernized their operations, *J. Dairy Sci.* **84**

Bondt, N., Puister, L.F., Bergevoet, R.H.M. (2009) Antibioticagebruik in 2007 op melkveevarkens- en pluimveebedrijven in Nederland. Rapport 2009-015. Februari 2009.

Boschma, T. (2010) Dagdosering melkvee in de universitaire landbouwhuisdierenpraktijk.

Denburg, A.R., Fabre, J., Philippe,S., Sulpice, P., Calavas, D.(2007) A study of the knowledge, attitudes, and behaviours of French dairy farmers toward the farm register. J. dairy science 90:1767-1774

Dodd, F.H. and Booth, J.M. (2000). Mastitis and milk production. In: A.H. Andrews, Editor, *The Health of Dairy Cattle*, Blackwell Science, Oxford, UK (2000), pp. 213–255.

Friedman et al., 2007 D.B. Friedman, C.P. Kanwat, M.L. Headrick, N.J. Patterson, J.C. Neely and L.U. Smith, Importance of prudent antibiotic use on dairy farms in South Carolina: a pilot project on farmers' knowledge, attitudes and practices, *Zoonoses Public Health* **54** (2007), p. 366.

Geijlsweijk, I.M., Mevius, D.J., Puister, L.F., **2009**, Kwantificeren van veterinair antibioticagebruik, Tijdschr. Diergeneeskd 15 januari; 134(2): 69-73

Hoeben, D., Burvenich, C., and Heyneman, R. (1998) Antibiotics commonly used to treat mastitis and respiratory burst of bovine polymorphonuclear leukocytes, *J. Dairy Sci.*

Hoe, F.G.H. and Ruegg, P.L., Opinions and practices of Wisconsin dairy producers about biosecurity and animal well-being, *J. Dairy Sci.* **89** (2006), p. 2297.

Kuiper, A, and Douma, M., Pilot efficiënt en transparant medicijngebruik. Stuurgroep duurzame datastromen. Rapport nr 38.

Mevius, D.J., Koene, M.G.J., Wit, B., Pelt van, W., Bondt, N. (2010) Monitoring of Antimicrobial Resistance and Antibiotic Usage in Animals in the Netherlands in 2008. Maran Rapport 2008

Mevius, D., (2008) Resistantie een gevoelig onderwerp.

Mitchell, J.M., Griffiths, M.W., McEwen, S.A., McNab, W.B. and Yee, A.J. (1998)Antimicrobial drug residues in milk and meat: causes, concerns, prevalence, regulations, tests, and test performance, *J. Food Prot.* **61** (1998), pp. 742–756. View Record in Scopus | Cited By in Scopus (64)

Sawant, A.A., Sordillo, L.M. and Jayarao, B.M. (2005) A survey on antibiotic

Stahl, T.J., Conlin, B.J., Seykora, A.J. and Steuernagel, G.R. Characteristics of Minnesota dairy farms that significantly increased milk production from 1989–1993, *J. Dairy*

Thomsen, P.T., 2005. Loser cows in Danish dairy herds with loose-housing systems: definition, prevalence, consequences and risk factors. In: Livestock, Thomsen, P.T. (Eds.), DIAS Report, Kobenhavn, Danish Ministry of Food, Agriculture and Fisheries.

United States Department of Health and Human Services, 1994 United States Department of Health and Human Services, F.D.A., 1994. Animal Medicinal Drug Use Clarification Act. In: Title 21 – Food and Drugs.

United States Department of Agriculture, 2002b. Part I: Reference of dairy health and management in the United States. In: National Animal Health Monitoring System Dairy 2002, Fort Collins, CO, USDA:APHIS:VS,CEAH.

United States Department of Agriculture. 2003b. Dairy 2002 Part III: Reference of Dairy Cattle Health and Health Management practices in the United States, 2002. APHIS Publication no. N400.1203, Fort Collins, CO.

Verburg, G., (2007) Antibiotica resistentie in de dierhouderij. Letter to president of the second parliament.

Verburg, G., (2010) Deskundigenberaad RIVM en reductie antibioticumgebruik. Letter of president to the second parliament.

Zwald, A.G., Ruegg, P.L., Kaneene, J.B., Warnick, L.D., Wells, S.J., Fossler, C. and Halbert, L.W. (2004) Management practices and reported antimicrobial usage on conventional and organic dairy farms, *J. Dairy Sci.* **87** (2004), pp. 191–201.

Websites:

http://www.cvi.wur.nl Mei – december 2010: zoekterm Maran 2007, Maran 2008, antibiotica Website: Central veterinair instititute, deel van Wageningen UR, Lelystad

http://www.knmvd.nl 1-12-2010, Nota van Convenantspartners Antibioticaresistentie Dierhouderij, september 2010. Website: KNMvD.

http://www.minlnv.nl: Deskundigenberaad RIVM en reductie antibioticagebruik, 9 april 2010, kamerstuk. Kamerbrief met informatie omtrent het advies voortvloeiend uit het deskundigenberaad van het Centrum Infectiebestrijding (CIb) van het Rijksinstituut voor Volksgezondheid en Milieu (RIVM). Mei – december 2010 Website: Ministerie van Landbouw, Natuur en Voedselkwaliteit.

www.minlnv.nl: Overleg over de antibioticaproblematiek in relatie tot de veehouderij, 24 juni 2010, kamerstuk. Kamerbrief waarin de minister een terugkoppeling geeft over het overleg met KNMvD. De stuurgroep zet zich in voor een gebruiksreductie van antibiotica van 20% in 2011 en verdere reductie van 50% in 2013. Mei – december 2010 Website: Ministerie van Landbouw, Natuur en Voedselkwaliteit.

www.minlnv.nl: Convenant Antibioticaresistentie Dierhouderij (2008), 15 March 2010 Website: Ministerie van Landbouw, Natuur en Voedselkwaliteit.

9. Annexes

Annex 1; daily dosages

	2005	2006	2007	2008	2009	Average	Trend
Daily dosage total	5,48	5,90	6,16	5,93	5,70	5,82	0,06
Daily dosage mastitis	1,25	1,37	1,33	1,23	1,35	1,30	0,02
Daily dosage dry off	2,38	2,57	2,68	2,70	2,50	2,57	0,02
Daily dosage other	1,65	1,97	2,17	2,01	1,89	1,95	0,05

Annex 2; farm size / intensiveness

	2005	2006	2007	2008	2009	Average	Difference 05-09
Amount of	93,92	94,43	95,64	101,73	105,58	98,68	3,63
dairy cow							
Amount of	62,70				76,54	69,62	13,83
young stock							
Amount of						168,30	33,74
Total animals							
Amount of	7,05				7,39	7,26	0,43
young stock							
per 10 dairy							
cows							
Milk quota	797562				919497	802500	121935
Amount of	52,59 ha				58,45 ha	55,52 ha	5,86 ha
hectares							
Amount of	1,78				1,83	1,80	0,05
cows per							
hectare							
Amount of kg	24,31 kg				23,02 kg	23,61 kg	-1,29 kg
concentrates/							
100kg milk							
Amount of					39		
farms with							
cows in							
pasture							

Annex 3; cow information

	2005	2009	Average	Difference 05-09
Age cows	53,93 months	53,98 months	53,96 months	0,05 months
Production	8571.18	8859,12	8715,15	287,95 kg
cows	kg	kg	kg	
Time between calving	409,60	409,79	409,69	0,19
% cows to destruction	2,83%	3,81%	3,32%	0,98%
% cows removed	26,19%	25,86%	26,02%	-0,32%

Annex 4; animal health

	2005	2006	2007	2008	2009	Average	Difference
							05-09 /
							trend
Costs for					€112,64		
animal health							
per cow/year							
Cell count	182,35	187,71	202,07	200,64	182,72	192,44	-1,18
Amount of					4,3		
free diseases							

Annex 5; veterinarian practice

I have a good relation with my veterinarian practice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	1,0	2,6	2,6
	3	1	1,0	2,6	5,1
	4	9	9,4	23,1	28,2
	5	28	29,2	71,8	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Farm and herd factors influencing antibiotics use on Dutch dairy farms

I always follow the advices of my veterinarian

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	2,1	5,1	5,1
	3	3	3,1	7,7	12,8
	4	23	24,0	59,0	71,8
	5	11	11,5	28,2	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

My vet advises to use antibiotics after the first symptoms

	my roca.			ttor tile illet eyil	
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	4,2	10,5	10,5
	2	7	7,3	18,4	28,9
	3	14	14,6	36,8	65,8
	4	11	11,5	28,9	94,7
	5	2	2,1	5,3	100,0
	Total	38	39,6	100,0	
Missing	System	58	60,4		
Total		96	100,0		

Annex 6; antibiotic use

I give my cows rather quickly and more often antibiotics than that I am too late with treatment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1,0	2,6	2,6
	2	10	10,4	25,6	28,2
	3	12	12,5	30,8	59,0
	4	11	11,5	28,2	87,2
	5	5	5,2	12,8	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

It is important for me that a cow builds up some own resistance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	6,3	15,4	15,4
	2	1	1,0	2,6	17,9
	3	14	14,6	35,9	53,8
	4	11	11,5	28,2	82,1
	5	7	7,3	17,9	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

On my farm I have to strive to a lower use of antibiotics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	3,1	7,7	7,7
	2	6	6,3	15,4	23,1
	3	3	3,1	7,7	30,8
	4	16	16,7	41,0	71,8
	5	11	11,5	28,2	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

On my farm I have to strive to a lower use of dry off injectors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	19	19,8	48,7	48,7
	2	10	10,4	25,6	74,4
	3	3	3,1	7,7	82,1
	4	6	6,3	15,4	97,4
	5	1	1,0	2,6	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Method of dry off

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	all with antibiotics	35	36,5	89,7	89,7
	selective	4	4,2	10,3	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Farm and herd factors influencing antibiotics use on Dutch dairy farms

I read often about animal health in specialist journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1,0	2,6	2,6
	2	2	2,1	5,1	7,7
	3	5	5,2	12,8	20,5
	4	13	13,5	33,3	53,8
	5	18	18,8	46,2	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Annex 7; Environment and consumers

Less antibiotic use is better for human health

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	2,1	5,1	5,1
	2	4	4,2	10,3	15,4
	3	11	11,5	28,2	43,6
	4	13	13,5	33,3	76,9
	5	9	9,4	23,1	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

I think it is possible for all farmers to decrease the antibiotics use to suffice to the wishes of the government

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1,0	2,6	2,6
	2	9	9,4	23,7	26,3
	3	14	14,6	36,8	63,2
	4	10	10,4	26,3	89,5
	5	4	4,2	10,5	100,0
	Total	38	39,6	100,0	
Missing	System	58	60,4		
Total		96	100,0		

Lowering of the use of antibiotics has disadvantuous consequences for the animal health

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1,0	2,6	2,6
	2	4	4,2	10,3	12,8
	3	16	16,7	41,0	53,8
	4	14	14,6	35,9	89,7
	5	4	4,2	10,3	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Health measurements like vaccination is a possible solution to lower the use of antibiotics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	5,2	13,2	13,2
	2	5	5,2	13,2	26,3
	3	6	6,3	15,8	42,1
	4	14	14,6	36,8	78,9
	5	8	8,3	21,1	100,0
	Total	38	39,6	100,0	
Missing	System	58	60,4		
Total		96	100,0		

Annex 8; The following persons or organizations think that I should lower the use of antibiotics on my farm

Feed supplier

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	13,5	33,3	33,3
	2	5	5,2	12,8	46,2
	3	18	18,8	46,2	92,3
	4	3	3,1	7,7	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Veterinarian

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	6,3	15,4	15,4
	2	4	4,2	10,3	25,6
	3	16	16,7	41,0	66,7
	4	10	10,4	25,6	92,3
	5	3	3,1	7,7	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Government

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	3,1	7,7	7,7
	2	1	1,0	2,6	10,3
	3	9	9,4	23,1	33,3
	4	9	9,4	23,1	56,4
	5	17	17,7	43,6	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Family

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	15	15,6	38,5	38,5
	2	4	4,2	10,3	48,7
	3	18	18,8	46,2	94,9
	4	2	2,1	5,1	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Dairy product producers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	7,3	17,9	17,9
	2	3	3,1	7,7	25,6
	3	10	10,4	25,6	51,3
	4	13	13,5	33,3	84,6
	5	6	6,3	15,4	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

The interest organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	6,3	15,4	15,4
	2	4	4,2	10,3	25,6
	3	11	11,5	28,2	53,8
	4	14	14,6	35,9	89,7
	5	4	4,2	10,3	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Colleague farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	12,5	30,8	30,8
	2	7	7,3	17,9	48,7
	3	18	18,8	46,2	94,9
	4	2	2,1	5,1	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Politics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	7,3	17,9	17,9
	2	2	2,1	5,1	23,1
	3	3	3,1	7,7	30,8
	4	9	9,4	23,1	53,8
	5	18	18,8	46,2	100,0
	Total	39	40,6	100,0	
Missing	System	57	59,4		
Total		96	100,0		

Annex 9; Medicine registration

Statistics

Amount of minutes the administration takes per week

N	Valid	33
	Missing	63
Mean		35,15
Std. Deviation		32,870

Amount of minutes the administration takes per week

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	1	1,0	3,0	3,0
	10	3	3,1	9,1	12,1
	15	11	11,5	33,3	45,5
	20	2	2,1	6,1	51,5
	25	1	1,0	3,0	54,5
	30	6	6,3	18,2	72,7
	40	1	1,0	3,0	75,8
	45	1	1,0	3,0	78,8
	60	3	3,1	9,1	87,9
	90	1	1,0	3,0	90,9
	120	3	3,1	9,1	100,0
	Total	33	34,4	100,0	
Missing	System	63	65,6		
Total		96	100,0		

Statistics

How often will the data put in the registration system?

N	Valid	52
	Missing	44
Mean		2,48
Std. Deviation		1,196

How often will the data put in the registration system?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	more times a day	12	12,5	23,1	23,1
	once a day	16	16,7	30,8	53,8
	once a week	16	16,7	30,8	84,6
	once a month	3	3,1	5,8	90,4
	other	5	5,2	9,6	100,0
	Total	52	54,2	100,0	
Missing	System	44	45,8		
Total		96	100,0		

		milk cows	grow in	youngstock	growth in	hectares	trend amount	milk quota	
		average	milk cows	average	youngstock	average	of hectares	average	trend qouta
milk cows average	Pearson Correlation	1	,620**	,956**	,229	,949**	,317*	,978**	,405*
	Sig. (2-tailed)		,000	,000	,086	,000	,016	,000	,002
grow in milk cows	Pearson	57	57	57	57	57	57	57	57
grow in mink cows	Correlation	,620**	1	,549**	,417**	,570**	,338*	,660**	,783*
	Sig. (2-tailed)	,000	57	,000	,001	,000	,010	,000	,000
youngstock average	Pearson	57	57	57	57	57	57	57	57
, cange caractege	Correlation	,956**	,549**	1	,267*	,933**	,273*	,925**	,377*
	Sig. (2-tailed)	,000, 57	,000 57	57	,045 57	,000, 57	,040 57	,000, 57	,004 57
growth in youngstock	Pearson								
	Correlation	,229	,417**	,267*	1	,303*	,397**	,175	,453*
	Sig. (2-tailed)	,086 57	,001 57	,045 57	57	,022 57	,002 57	,193 57	,000 57
hectares average	Pearson	,949**	,570**	,933**	,303*	1	,396**	,908**	,446*
	Correlation					1	·		
	Sig. (2-tailed)	,000, 57	,000 57	,000 57	,022 57	57	,002 57	,000, 57	,001 57
trend amount of hectares	Pearson	,317*	,338*	,273*	,397**	,396**	1	,239	,299*
	Correlation Sig. (2-tailed)	,016	,010	,040	,002	,002	·	,074	,024
	oig. (2 talled)	57	57	57	57	,002 57	57	57	57
milk quota average	Pearson Correlation	,978**	,660**	,925**	,175	,908**	,239	1	,433*
	Sig. (2-tailed)	,000,	,000	,000,	,193	,000	,074		,001
trend qouta	Pearson	57	57	57	57	57	57	57	57
trena quata	Correlation	,405**	,783**	,377**	,453**	,446**	,299*	,433**	1
	Sig. (2-tailed)	,002	,000	,004	,000	,001	,024	,001	
amount of cows per	Pearson	57	57	57	57	57	57	57	57
hectares average	Correlation	,190	,152	,118	-,108	-,088	-,055	,209	-,076
	Sig. (2-tailed)	,157 57	,260 57	,383 57	,426 57	,516 57	,686 57	,119 57	,573 57
trend amount of cows per	Pearson	,076	,406**	,103	,153	,035	-,472**	,108	,370*
hectares	Correlation Sig. (2-tailed)	,573	,002	,446	,255	,796	,000	,424	,005
	Sig. (2-tailed)	,573 57	,002 57	,440 57	,255 57	,790 57	,000 57	,424 57	57
amount of youngstock	Pearson	-,145	-,108	,116	,047	-,064	-,216	-,149	-,012
per 10milkcows average	Correlation Sig. (2-tailed)	,281	,425	,391	,730	,636	,107	,270	,929
	o.g. (2 tallou)	57	57	57	57	57	57	57	57
trend amount of youngstock per 10 milk	Pearson Correlation	,081	-,137	,062	,592**	,121	,142	,054	-,005
COWS	Sig. (2-tailed)	,547	,310	,647	,000	,371	,294	,689	,968
		57	57	57	57	57	57	57	57
amount of kg concentrates per cow per	Pearson Correlation	-,045	,028	-,027	,029	-,088	-,210	,021	-,073
year average	Sig. (2-tailed)	,739	,838	,841	,831	,515	,117	,877	,588
		57	57	57	57	57	57	57	57
trend in kg concentrates per cow per year	Pearson Correlation	-,153	-,269*	-,198	-,194	-,139	-,269*	-,123	-,124
	Sig. (2-tailed)	,256	,043	,140	,148	,302	,043	,360	,358
kg concentrates per	Pearson	57	57	57	57	57	57	57	57
100kg milk average	Pearson Correlation	-,147	-,072	-,092	-,072	-,174	-,231	-,110	-,185
-	Sig. (2-tailed)	,274	,596	,496	,593	,195	,084	,414	,167
trend kg concentrates per	Pearson	57	57	57	57	57	57	57	57
100 kg milk	Correlation	,063	,209	,122	,184	,059	,187	,046	,144
	Sig. (2-tailed)	,640	,118	,367	,172	,665	,163	,735	,286
		57	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows	amount of kg concentrates per cow per year average	trend in kg concentrates per cow per year
milk cows average	Pearson Correlation	,190	,076	-,145	,081	-,045	-,153
	Sig. (2-tailed)	,157 57	,573 57	,281 57	,547 57	,739 57	,256 57
grow in milk cows	Pearson Correlation	,152	,406**	-,108	-,137	,028	-,269*
	Sig. (2-tailed)	,260	,002	,425	,310	,838	,043
youngstock average	Pearson	57	57	57	57	57	57
youngetook avelage	Correlation	,118	,103	,116	,062	-,027	-,198
	Sig. (2-tailed)	,383 57	,446 57	,391 57	,647 57	,841 57	,140 57
growth in youngstock	Pearson Correlation	-,108	,153	,047	,592**	,029	-,194
	Sig. (2-tailed)	,426 57	,255 57	,730 57	,000 57	,831 57	,148 57
hectares average	Pearson Correlation	-,088	,035	-,064	,121	-,088	-,139
	Sig. (2-tailed)	,516	,796	,636	,371	,515	,302
trend amount of hectares	Pearson	-,055	57 -,472**	-,216	,142	57 -,210	.,269*
	Correlation Sig. (2-tailed)	,686	,000	,107	,294	,117	,043
milk quota average	Pearson	57	57	57	57	57	57
miik quota average	Correlation	,209	,108	-,149	,054	,021	-,123
	Sig. (2-tailed)	,119 57	,424 57	,270 57	,689 57	,877 57	,360 57
trend qouta	Pearson Correlation	-,076	,370**	-,012	-,005	-,073	-,124
	Sig. (2-tailed)	,573 57	,005 57	,929 57	,968 57	,588 57	,358 57
amount of cows per hectares average	Pearson Correlation	1	,044	-,360**	-,042	,069	-,016
nectares average	Sig. (2-tailed)		,744	,006	,758	,611	,908
trend amount of cows per	Pearson	57	57	57	57	57	57
hectares	Correlation	,044	1	,201	-,234	,136	-,019
	Sig. (2-tailed)	,744 57	57	,133 57	,080 57	,312 57	,888, 57
amount of youngstock per 10milkcows average	Pearson Correlation	-,360**	,201	1	-,246	,093	-,232
	Sig. (2-tailed)	,006 57	,133 57	57	,065 57	,491 57	,082 57
trend amount of	Pearson	-,042	-,234	-,246	1	-,014	,078
youngstock per 10 milk cows	Correlation Sig. (2-tailed)	,758	,080	,065	'	,919	,563
amount of ka	Daaraan	57	57	57	57	57	57
amount of kg concentrates per cow per	Pearson Correlation	,069	,136	,093	-,014	1	-,032
year average	Sig. (2-tailed)	,611 57	,312 57	,491 57	,919 57	57	,814, 57
trend in kg concentrates per cow per year	Pearson Correlation	-,016	-,019	-,232	,078	-,032	1
	Sig. (2-tailed)	,908 57	,888, 57	,082 57	,563 57	,814 57	57
kg concentrates per	Pearson Correlation	,046	,085	,221	-,181	,798**	-,118
100kg milk average	Sig. (2-tailed)	,736	,530	,098	,178	,000	,383
trend ka concentrates per	Pearson	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Correlation	-,024	,057	,298*	-,081	,064	-,911**
	Sig. (2-tailed)	,858 57	,676 57	,024 57	,548 57	,636 57	,000 57

		kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk
milk cows average	Pearson Correlation	-,147	,063
	Sig. (2-tailed)	,274	,640
	,	57	57
grow in milk cows	Pearson Correlation	-,072	,209
	Sig. (2-tailed)	,596	,118
		57	57
youngstock average	Pearson Correlation	-,092	,122
	Sig. (2-tailed)	,496	,367
amountle in commonts of	Dagger	57	57
growth in youngstock	Pearson Correlation	-,072	,184
	Sig. (2-tailed)	,593	,172
hectares average	Pearson	57	57
neciales average	Correlation	-,174	,059
	Sig. (2-tailed)	,195	,665
trend amount of hectares	Pearson	57	57
trend amount of neotares	Correlation	-,231	,187
	Sig. (2-tailed)	,084 57	,163 57
milk quota average	Pearson Correlation	-,110	,046
	Sig. (2-tailed)	,414	,735
	o.g. (= taou)	57	57
trend qouta	Pearson Correlation	-,185	,144
	Sig. (2-tailed)	,167	,286
		57	57
amount of cows per hectares average	Pearson Correlation	,046	-,024
	Sig. (2-tailed)	,736	,858
too and a second of a constant	Dagge	57	57
trend amount of cows per hectares	Pearson Correlation	,085	,057
	Sig. (2-tailed)	,530	,676
amount of youngstock	Pearson	57	57
per 10milkcows average	Correlation	,221	,298*
	Sig. (2-tailed)	,098	,024
trend amount of	Pearson	57	57
youngstock per 10 milk cows	Correlation	-,181	-,081
COWS	Sig. (2-tailed)	,178 57	,548 57
amount of kg	Pearson	,798**	,064
concentrates per cow per year average	Correlation Sig. (2-tailed)	,000	,636
,	oig. (2-tailed)	57	,030 57
trend in kg concentrates	Pearson Correlation	-,118	-,911**
per cow per year	Sig. (2-tailed)	,383	,000
		57	57
kg concentrates per 100kg milk average	Pearson Correlation	1	,217
	Sig. (2-tailed)		,105
trond ka concentrates man	Poorcon	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation	,217	1
	Sig. (2-tailed)	,105	
** Correlation is significan	nt at the 0.01 level (57	57

^{**.} Correlation is significant at the 0.01 level (2-tailed).

^{*.} Correlation is significant at the 0.05 level (2-tailed).

Correlations annex 11 daily dosages

		daily dosis	daily dosis mastitis	daily dosis dry off	daily dosis other	trend daily dosis	trend mastitis	trend droogzetters	trend overige
daily dosis average	Pearson Correlation	average	,749**	,364**	,839**	-,229	-,160	-,173	medicijnen -,154
daily dosis average	Sig. (2-tailed)	'	,000	,005	,000	-,229 ,087	-, 100 ,234	-,173 ,197	,252
	N	57	*	,	,	Ť	,234 57	, 197 57	· ·
daile da ia sa atiti			57	57	57	57		•	57
daily dosis mastitis	Pearson Correlation	,749**	1	,001	,488**	-,030	-,085	,050	-,038
	Sig. (2-tailed)	,000		,995	,000	,825	,529	,710	,781
	N	57	57	57	57	57	57	57	57
daily dosis dry off	Pearson Correlation	,364**	,001	1	-,026	-,237	,005	-,363**	-,112
	Sig. (2-tailed)	,005	,995		,848	,076	,970	,006	,407
	N	57	57	57	57	57	57	57	57
daily dosis other	Pearson Correlation	,839**	,488**	-,026	1	-,198	-,197	-,090	-,150
	Sig. (2-tailed)	,000	,000	,848		,141	,143	,505	,267
	N	57	57	57	57	57	57	57	57
trend daily dosis	Pearson Correlation	-,229	-,030	-,237	-,198	1	,538**	,562**	,643**
	Sig. (2-tailed)	,087	,825	,076	,141		,000	,000	,000
	N	57	57	57	57	57	57	57	57
trend mastitis	Pearson Correlation	-,160	-,085	,005	-,197	,538**	1	-,096	,192
	Sig. (2-tailed)	,234	,529	,970	,143	,000		,478	,153
	N	57	57	57	57	57	57	57	57
trend droogzetters	Pearson Correlation	-,173	,050	-,363**	-,090	,562**	-,096	1	,138
	Sig. (2-tailed)	,197	,710	,006	,505	,000	,478		,305
	N	57	57	57	57	57	57	57	57
trend overige medicijnen	Pearson Correlation	-,154	-,038	-,112	-,150	,643**	,192	,138	1
	Sig. (2-tailed)	,252	,781	,407	,267	,000	,153	,305	
	N	57	57	57	57	57	57	57	57

^{**} Correlation is significant at the 0.01 level (2-tailed).

milk cows average Per Si N Si	Pearson Correlation Sig. (2-tailed)	daily dosis average 1 57 ,304* ,022 57 ,192 ,152 57 ,380** ,004 57 ,048 ,722 57 ,131 ,332 57 -,187 ,163 57	milk cows average ,304* ,022 57 1 57 ,620** ,000 57 ,978** ,000 57 ,405** ,002 57 -,145 ,281 57 ,081	grow in milk cows ,192 ,152 ,57 ,620** ,000 ,57 ,1 57 ,660** ,000 ,57 ,783** ,000 ,57 -,108 ,425	milk quota average ,380** ,004 57 ,978** ,000 57 ,660** ,000 57 1 57 ,433** ,001	trend qouta ,048 ,722 57 ,405** ,002 57 ,783** ,000 57 ,433** ,001 57 1	per 10milkcows average ,131 ,332 57 -,145 ,281 57 -,108 ,425 57 -,149 ,270 57 -,012 ,929	of youngstock per 10 milk cows -,187 ,163 57 ,081 ,547 57 -,137 ,310 57 ,054 ,689 57 -,005 ,968
milk cows average Per Si N Si	Sig. (2-tailed) Pearson Correlation Sig. (2-tailed)	57 ,304* ,022 57 ,192 ,152 57 ,380** ,004 57 ,048 ,722 57 ,131 ,332 57 -,187 ,163 57	,022 57 1 57 ,620** ,000 57 ,978** ,000 57 ,405** ,002 57 -,145 ,281 57	,152 57 ,620** ,000 57 1 57 ,660** ,000 57 ,783** ,000 57 -,108 ,425	,004 57 ,978** ,000 57 ,660** ,000 57 1 57 ,433** ,001 57	,722 57 ,405** ,002 57 ,783** ,000 57 ,433** ,001 57	,332 57 -,145 ,281 57 -,108 ,425 57 -,149 ,270 57 -,012 ,929	,163 57 ,081 ,547 57 -,137 ,310 57 ,054 ,689 57 -,005
milk cows average grow in milk cows grow in milk cows Personal Si N milk quota average Personal Si N trend qouta amount of youngstock per 10 milk cows average N trend amount of youngstock per 10 milk Si cows n amount of cows per Personal Si N trend amount of youngstock per 10 milk Si cows N trend amount of cows per Personal Si N	Pearson Correlation Sig. (2-tailed)	,304* ,022 57 ,192 ,152 57 ,380** ,004 57 ,048 ,722 57 ,131 ,332 57 -,187 ,163 57	57 1 57 ,620** ,000 57 ,978** ,000 57 ,405** ,002 57 -,145 ,281 57	57 ,620** ,000 57 1 57 ,660** ,000 57 ,783** ,000 57 -,108 ,425	57 ,978** ,000 57 ,660** ,000 57 1 57 ,433** ,001 57	57 ,405** ,002 57 ,783** ,000 57 ,433** ,001 57	57 -,145 ,281 57 -,108 ,425 57 -,149 ,270 57 -,012 ,929	57 ,081 ,547 57 -,137 ,310 57 ,054 ,689 57 -,005
grow in milk cows grow in milk cows Personal N milk quota average Personal N trend qouta amount of youngstock per 10 milk cows average trend amount of youngstock per 10 milk si N amount of cows per 10 milk si N amount of cows per Personal N trend amount of cow	Gig. (2-tailed) Pearson Correlation Gig. (2-tailed)	,304* ,022 57 ,192 ,152 57 ,380** ,004 57 ,048 ,722 57 ,131 ,332 57 -,187 ,163 57	57 ,620** ,000 57 ,978** ,000 57 ,405** ,002 57 -,145 ,281 57	,620** ,000 57 1 57 ,660** ,000 57 ,783** ,000 57 -,108 ,425	,978** ,000 57 ,660** ,000 57 1 57 ,433** ,001 57	,405** ,002 57 ,783** ,000 57 ,433** ,001 57	-,145 ,281 57 -,108 ,425 57 -,149 ,270 57 -,012 ,929	,081 ,547 57 -,137 ,310 57 ,054 ,689 57 -,005
grow in milk cows Personal Si N milk quota average Personal Si N trend qouta Personal Si N amount of youngstock per 10 milk Si cows N amount of cows per 10 milk Si cows N trend amount of youngstock per 10 milk Si cows N amount of cows per Personal Si N trend amount of cows per Personal Si N trend amount of cows per Personal Si N trend amount of cows per Personal Si N	Pearson Correlation Sig. (2-tailed)	57 ,192 ,152 57 ,380** ,004 57 ,048 ,722 57 ,131 ,332 57 -,187 ,163 57	,620** ,000 57 ,978** ,000 57 ,405** ,002 57 -,145 ,281 57	57 1 57 ,660** ,000 57 ,783** ,000 57 -,108 ,425	57 ,660** ,000 57 1 57 ,433** ,001 57	57 ,783** ,000 57 ,433** ,001 57	57 -,108 ,425 57 -,149 ,270 57 -,012 ,929	57 -,137 ,310 57 ,054 ,689 57 -,005
grow in milk cows Per Si N milk quota average Per Si N trend qouta Per Si N amount of youngstock per 10 milk cows average N trend amount of youngstock per 10 milk Si cows N amount of cows per Per N trend amount of cows per Per N	Pearson Correlation Sig. (2-tailed)	,192 ,152 57 ,380** ,004 57 ,048 ,722 57 ,131 ,332 57 -,187 ,163 57	,620** ,000 57 ,978** ,000 57 ,405** ,002 57 -,145 ,281 57	57 ,660** ,000 57 ,783** ,000 57 -,108 ,425	,660** ,000 57 1 57 ,433** ,001 57	,783** ,000 57 ,433** ,001 57	-,108 ,425 57 -,149 ,270 57 -,012	-,137 ,310 57 ,054 ,689 57 -,005
milk quota average Personal Si Ni milk quota average Personal Si Ni trend qouta Personal Si Ni amount of youngstock per 10 milk cows Ni amount of cows per hectares average Si Ni trend amount of cows per hectares Si Ni trend amount of cows per hectares Si Ni milk Si Cows Ni trend amount of cows per hectares average Si Ni trend amount of cows per hectares Si Ni milk Si Cows Ni trend amount of cows per hectares Si Ni milk Si Cows Ni trend amount of cows per hectares Si Ni milk Si Cows Ni milk	Sig. (2-tailed) Pearson Correlation Sig. (2-tailed)	,152 57 ,380** ,004 57 ,048 ,722 57 ,131 ,332 57 -,187 ,163 57	,000 57 ,978** ,000 57 ,405** ,002 57 -,145 ,281 57	57 ,660** ,000 57 ,783** ,000 57 -,108 ,425	,000 57 1 57 ,433** ,001 57	,000 57 ,433** ,001 57	,425 57 -,149 ,270 57 -,012 ,929	,310 57 ,054 ,689 57 -,005
milk quota average Personal Si N trend qouta Personal Si N amount of youngstock per 10 milk Si rend amount of youngstock per 10 milk Si cows Amount of cows per Personal Si N trend amount of cows per Personal Si N trend amount of cows per Personal Si N trend amount of cows per Personal Si N	Pearson Correlation Sig. (2-tailed)	57 ,380** ,004 57 ,048 ,722 57 ,131 ,332 57 -,187 ,163 57	57 ,978** ,000 57 ,405** ,002 57 -,145 ,281 57	,660** ,000 57 ,783** ,000 57 -,108 ,425	57 1 57 ,433** ,001 57	57 ,433** ,001 57	57 -,149 ,270 57 -,012 ,929	57 ,054 ,689 57 -,005
trend qouta trend qouta trend qouta per Si N amount of youngstock per 10 milkcows average N trend amount of youngstock per 10 milk Si cows amount of cows per Per hectares average N trend amount of cows per Per hectares N trend amount of cows per Per hectares N	Sig. (2-tailed) Pearson Correlation Sig. (2-tailed)	,004 57 ,048 ,722 57 ,131 ,332 57 -,187 ,163	,000 57 ,405** ,002 57 -,145 ,281 57	,000 57 ,783** ,000 57 -,108 ,425	,433** ,001 57	,001 57 1	,270 57 -,012 ,929	,689 57 -,005 ,968
trend qouta Per Si N amount of youngstock per 10 milkcows average trend amount of youngstock per 10 milk si cows amount of cows per Per hectares average trend amount of cows per Per hectares N trend amount of cows per Per hectares N	Pearson Correlation Sig. (2-tailed)	57 ,048 ,722 57 ,131 ,332 57 -,187 ,163 57	57 ,405** ,002 57 -,145 ,281 57	57 ,783** ,000 57 -,108 ,425	,433** ,001 57	57 1	.,012 ,929	-,005 ,968
trend qouta Per Si Ni Ni Amount of youngstock per 10 milkcows average trend amount of youngstock per 10 milk Si Ni Amount of cows per hectares average Trend amount of cows per hectares Ni trend amount of cows per hectares Ni N	Pearson Correlation Sig. (2-tailed)	,048 ,722 57 ,131 ,332 57 -,187 ,163 57	,405** ,002 57 -,145 ,281 57	,783** ,000 57 -,108 ,425	,433** ,001 57	1	-,012 ,929	-,005 ,968
amount of youngstock per 10 milkcows average Si Nutrend amount of youngstock per 10 milk Si cows Nutrend amount of cows per hectares average Si Nutrend amount of cows per hectares	Sig. (2-tailed) Pearson Correlation Sig. (2-tailed) Pearson Correlation Sig. (2-tailed) Pearson Correlation Sig. (2-tailed) Pearson Correlation Sig. (2-tailed)	,722 57 ,131 ,332 57 -,187 ,163 57	,002 57 -,145 ,281 57	,000 57 -,108 ,425	,001 57	·	,929	,968
amount of youngstock per 10milkcows average Si Ntrend amount of youngstock per 10 milk cows Ntrend amount of cows per hectares average Si Ntrend amount of cows per hectares	Pearson Correlation Sig. (2-tailed) Pearson Correlation Sig. (2-tailed) Pearson Correlation Sig. (2-tailed) Pearson Correlation Sig. (2-tailed)	,131 ,332 57 -,187 ,163	-,145 ,281 57	-,108 ,425		57	57	
10milkcows average Si N trend amount of Per youngstock per 10 milk Si cows N amount of cows per Per hectares average Si N trend amount of cows per Per hectares N	Sig. (2-tailed) Pearson Correlation Sig. (2-tailed) Pearson Correlation Sig. (2-tailed)	,332 57 -,187 ,163 57	,281 57	,425			_	57
trend amount of youngstock per 10 milk Si cows N amount of cows per hectares average Si N trend amount of cows per hectares Si N	Pearson Correlation Sig. (2-tailed) Vearson Correlation Sig. (2-tailed) Vearson Correlation Sig. (2-tailed)	57 -,187 ,163 57	57		-,149	-,012	1	-,246
trend amount of youngstock per 10 milk Si cows N amount of cows per hectares average Si N trend amount of cows per hectares Si N	Pearson Correlation Sig. (2-tailed) Vearson Correlation Sig. (2-tailed) Vearson Correlation	-,187 ,163 57		57	,270 57	,929 57	57	,065 57
cows amount of cows per hectares average trend amount of cows per hectares Si N	Pearson Correlation Sig. (2-tailed)	57		-,137	,054	-,005	-,246	1
amount of cows per hectares average Si N trend amount of cows per hectares Si N	Pearson Correlation Sig. (2-tailed)		,547	,310	,689	,968	,065	
hectares average Si N trend amount of cows per hectares Si N	Sig. (2-tailed) N		57	57	57	57	57	57
trend amount of cows per hectares Si	1	,102 ,452	,190 ,157	,152 ,260	,209 ,119	-,076 ,573	-,360** ,006	-,042 ,758
hectares Si	Pearson Correlation	, 4 52 57	, 15 <i>7</i> 57	,260 57	57	,573 57	,006 57	,758 57
N		,107	,076	,406**	,108	,370**	,201	-,234
.,,	Sig. (2-tailed)	,429	,573	,002	,424	,005	,133	,080,
ky concentrates per	Vearson Correlation	57	57	57	57	57	57	57
100kg milk average Si	Sig. (2-tailed)	,220 ,101	-,147 ,274	-,072 ,596	-,110 ,414	-,185 ,167	,221 ,098	-,181 ,178
N N	•	57	57	57	57	57	57	57
4001 "	Pearson Correlation	-,087	,063	,209	,046	,144	,298*	-,081
	Sig. (2-tailed)	,519	,640	,118	,735	,286	,024	,548
access to pastures last Pe	Pearson Correlation	,008	57 -,269*	57 -,230	57 -,338*	57 -,234		57 -,215
•	Sig. (2-tailed)	,000 ,955	,043	,085	,010	,080	,438	,107
N	1	57	57	57	57	57	57	57
· ·	Pearson Correlation	-,133	-,019	-,267*	-,071	-,248	-,178	,060
SI N	Sig. (2-tailed) ı	,324 57	,888, 57	,045 57	,601 57	,062 57	,185 57	,658 57
• • • • • • • • • • • • • • • • • • • •	Pearson Correlation	,123	-,015	-,195	,003	-,086	-,112	-,090
Si	Sig. (2-tailed)	,361	,914	,145	,981	,525	,407	,503
N	=	57	57	57	57	57	57	57
	Pearson Correlation Sig. (2-tailed)	,221	,123	,077	,214	,063	-,123	,224
N	•	,099 57	,364 57	,569 57	,110 57	,641 57	,363 57	,095 57
trend on milk production Pe	Pearson Correlation	,015	-,115	-,055	-,069	,107	,236	,114
Si	Sig. (2-tailed)	,914	,394	,683	,610	,429	,077	,400
N N	Vearson Correlation	57	57	57	57	57	57	57
•	Pearson Correlation Sig. (2-tailed)	-,025 ,854	,286* ,031	,216 ,107	,286* ,031	,153 ,255	,120 ,375	-,122 ,366
N N	. * '	57	57	57	57	57	57	57
	Pearson Correlation	-,082	-,089	-,148	-,089	-,020	,290*	-,080
calving Si	Sig. (2-tailed)	,543	,509	,271	,510	,884	,029	,552
	Pearson Correlation	57 -,171		57 -,016	,011	57 -,011		,044
· ·	Sig. (2-tailed)	,203	,786	,906	,936	,933	,669	,743
N	١	57	57	57	57	57	57	57
	Pearson Correlation	,108	-,037	-,280*	-,064	-,253	,270*	-,060
N N	Sig. (2-tailed)	,423 57	,783 57	,035 57	,634 57	,058 57	,042 57	,656 57
	Pearson Correlation	,010	,013	,016	,049	,065	,225	-,090
Si	Sig. (2-tailed)	,939	,923	,903	,717	,630	,092	,504
trend percentage	Vearson Correlation	57	57	57	57	57	57	57
· .	Pearson Correlation Big. (2-tailed)	-,074 ,583	,042 ,759	-,210 ,116	,032 ,814	-,092 ,496	-,433** ,001	,435* ⁻ ,001
N N		,363 57	,739 57	57	57	,490 57	,001 57	57
9	Pearson Correlation	-,286*	,331*	,246	,256	,299*	,010	,013
	Sig. (2-tailed)	,031	,012	,065	,055	,024	,943	,922
trend celgetal Pe	Pearson Correlation	57 -,050	.034	57 -,213	,020	57 -,100	57 -,069	,038
•	Sig. (2-tailed)	-,030 ,714	,801	,112	,884	,459	-,009 ,612	,780
N	J	57	57	57	57	57	57	57
	Pearson Correlation	,377**	,052	-,070	,101	-,124	,102	-,097
Si N	Sig. (2-tailed) ı	,004 57	,700 57	,607 57	,456 57	,357 57	,450 57	,473 57

		daily dosis average	milk cows average	grow in milk	milk quota average	trend qouta	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows
age of the farmer	Pearson Correlation	-,138	-,114	-,001	-,130	,161	,030	-,110
age of the farmer	Sig. (2-tailed)	,306	,400	,993	,335	,233	,823	,415
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,318*	,223	,181	,279*	-,044	-,132	,024
	Sig. (2-tailed)	,016	,095	,177	,036	,743	,328	,860
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age
daily dosis average	Pearson Correlation	,102	,107	,220	-,087	,008	-,133	,123
	Sig. (2-tailed) N	,452 57	,429 57	,101 57	,519 57	,955 57	,324 57	,361 57
milk cows average	Pearson Correlation	,190	,076	-,147	,063	-,269*	-,019	-,015
	Sig. (2-tailed)	,157	,573	,274	,640	,043	,888,	,914
	N O I I'	57	57	57	57	57	57	57
grow in milk cows	Pearson Correlation Sig. (2-tailed)	,152	,406**	-,072	,209	-,230	-,267*	-,195
	N	,260 57	,002 57	,596 57	,118 57	,085 57	,045 57	,145 57
milk quota average	Pearson Correlation	,209	,108	-,110	,046	-,338*	-,071	,003
•	Sig. (2-tailed)	,119	,424	,414	,735	,010	,601	,981
	N	57	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,076	,370**	-,185	,144	-,234	-,248	-,086
	Sig. (2-tailed) N	,573 57	,005 57	,167 57	,286 57	,080, 57	,062 57	,525 57
amount of youngstock per	Pearson Correlation	-,360**	,201	,221	,298*	,105	-,178	-,112
10milkcows average	Sig. (2-tailed)	,006	,133	,098	,024	,438	,185	,407
	N	57	57	57	57	57	57	57
trend amount of youngstock per 10 milk	Pearson Correlation	-,042 750	-,234	-,181	-,081	-,215	,060	-,090
cows	Sig. (2-tailed) N	,758 57	,080 57	,178 57	,548 57	,107 57	,658 57	,503 57
amount of cows per	Pearson Correlation	1	,044	,046	-,024	-,166	,096	,005
hectares average	Sig. (2-tailed)		,744	,736	,858	,217	,479	,968
	N	57	57	57	57	57	57	57
trend amount of cows per hectares	Pearson Correlation	,044	1	,085	,057	-,119	-,117	-,305*
nectares	Sig. (2-tailed) N	,744 57	57	,530 57	,676 57	,377 57	,388 57	,021 57
kg concentrates per	Pearson Correlation	,046	,085	1	,217	,063	,018	,075
100kg milk average	Sig. (2-tailed)	,736	,530	·	,105	,642	,896	,582
	N	57	57	57	57	57	57	57
trend kg concentrates per	Pearson Correlation	-,024	,057	,217	1	,039	,018	-,091
100 kg milk	Sig. (2-tailed) N	,858, 57	,676 57	,105 57	57	,776	,892 57	,500
access to pastures last	Pearson Correlation	-,166	-,119	,063	,039	57 1	,149	,167
year	Sig. (2-tailed)	,217	,377	,642	,776		,270	,216
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation	,096	-,117	,018	,018	,149	1	,150
	Sig. (2-tailed) N	,479 57	,388 57	,896	,892	,270	57	,267
trend age cows	Pearson Correlation	,005	-,305*	,075	57 -,091	57 ,167	,150	57 1
a digo como	Sig. (2-tailed)	,968	,021	,582	,500	,216	,267	'
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	-,045	,006	-,011	-,280*	-,256	-,155	-,059
	Sig. (2-tailed)	,740	,965	,933	,035	,055	,249	,660
trend on milk production	N Pearson Correlation	57 -,148	57 -,042	,220	57 ,435**	57 -,256	57 -,055	57 -,021
trend on milk production	Sig. (2-tailed)	,273	,755	,101	,001	,055	,683	,876
	N	57	57	57	57	57	57	57
time between calving	Pearson Correlation	,053	,098	,082	,180	-,055	,075	,177
average	Sig. (2-tailed)	,693	,467	,545	,180	,683	,582	,188
trend on time between	N Pearson Correlation	57 -,154	57 -,087	57 -,065	57 -,006	,012	57 -,094	,004
calving	Sig. (2-tailed)	,251	,518	,633	,964	,930	-,09 4 ,485	,004
	N	57	57	57	57	57	57	57
% to destruction average	Pearson Correlation	-,071	-,095	-,106	-,021	-,159	-,100	-,060
	Sig. (2-tailed)	,598	,481	,431	,879	,237	,458	,659
trend percentage to	N Pearson Correlation	57 -,210	57 -,229	,216	,025	57 -,013	,139	,073
destruction	Sig. (2-tailed)	,117	,086	,216	,025 ,852	-,013 ,924	,139	,588
	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation	,243	,010	-,199	-,034	-,111	-,322*	,046
	Sig. (2-tailed)	,069	,940	,138	,799	,409	,015	,734
trend percentage	N Pearson Correlation	57 ,114	-,233	57 -,235	57 -,341**	57 -,019	,057	,182
removed	Sig. (2-tailed)	,114	,082	,079	,009	-,019 ,888,	,057 ,676	,182
	N	57	57	57	57	,555 57	57	57
cellcount average	Pearson Correlation	-,250	,039	-,125	,272*	,041	,053	,036
	Sig. (2-tailed)	,060	,773	,353	,041	,765	,697	,791
trond coloctal	N Poorson Correlation	57	57	57	57	57	57	57
trend celgetal	Pearson Correlation Sig. (2-tailed)	-,184 ,170	-,327* ,013	,055 ,682	-,123 ,360	-,142 ,292	,110 ,417	,312* ,018
	N	57	57	57	,360 57	,292 57	,417 57	57
amount of free diseases	Pearson Correlation	-,078	-,063	,158	-,145	,152	,067	,215
	Sig. (2-tailed)	,563	,643	,240	,283	,261	,618	,108
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age cows
age of the farmer	Pearson Correlation	-,250	,106	,076	,079	-,040	,071	,280*
	Sig. (2-tailed)	,061	,433	,577	,560	,766	,598	,035
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,327*	,105	,266*	-,190	-,135	,063	-,016
	Sig. (2-tailed)	,013	,437	,045	,156	,317	,640	,904
	N	57	57	57	57	57	57	57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
daily dosis average	Pearson Correlation	,221	,015	-,025	-,082	-,171	,108	,010
	Sig. (2-tailed) N	,099 57	,914 57	,854 57	,543 57	,203 57	,423 57	,939 57
milk cows average	Pearson Correlation	,123	-,115	,286*	-,089	,037	-,037	,013
	Sig. (2-tailed)	,364	,394	,031	,509	,786	,783	,923
grow in milk cows	N Pearson Correlation	57	57	57	57	57	57	57
grow in milk cows	Sig. (2-tailed)	,077 ,569	-,055 ,683	,216 ,107	-,148 ,271	-,016 ,906	-,280* ,035	,016 ,903
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,214	-,069	,286*	-,089	,011	-,064	,049
	Sig. (2-tailed) N	,110 57	,610 57	,031 57	,510 57	,936 57	,634 57	,717, 57
trend gouta	Pearson Correlation	,063	,107	,153	-,020	-,011	-,253	,065
	Sig. (2-tailed)	,641	,429	,255	,884	,933	,058	,630
	N	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Pearson Correlation	-,123	,236	,120	,290*	,058	,270*	,225
Tomincows average	Sig. (2-tailed) N	,363 57	,077 57	,375 57	,029 57	,669 57	,042 57	,092 57
trend amount of	Pearson Correlation	,224	,114	-,122	-,080	,044	-,060	-,090
youngstock per 10 milk	Sig. (2-tailed)	,095	,400	,366	,552	,743	,656	,504
cows	N Completion	57	57	57	57	57	57	57
amount of cows per hectares average	Pearson Correlation Sig. (2-tailed)	-,045 740	-,148 273	,053	-,154 251	-,071 508	-,210	,243
	Sig. (2-tailed) N	,740 57	,273 57	,693 57	,251 57	,598 57	,117 57	,069 57
trend amount of cows per	Pearson Correlation	,006	-,042	,098	-,087	-,095	-,229	,010
hectares	Sig. (2-tailed)	,965	,755	,467	,518	,481	,086	,940
La constante de	N Decree of Occupation	57	57	57	57	57	57	57
kg concentrates per 100kg milk average	Pearson Correlation Sig. (2-tailed)	-,011 ,933	,220 ,101	,082 ,545	-,065 ,633	-,106 ,431	,216 ,107	-,199 ,138
	N	,933 57	57	,343 57	,033 57	,431 57	57	, 136 57
trend kg concentrates per	Pearson Correlation	-,280*	,435**		-,006	-,021	,025	-,034
100 kg milk	Sig. (2-tailed)	,035	,001	,180	,964	,879	,852	,799
access to pastures last	N Pearson Correlation	57	57	57	57	57	57	57
year	Sig. (2-tailed)	-,256 ,055	-,256 ,055	-,055 ,683	,012 ,930	-,159 ,237	-,013 ,924	-,111 ,409
	N	,555 57	57	57	,555 57	,23 <i>1</i> 57	57	57
age cows average	Pearson Correlation	-,155	-,055	,075	-,094	-,100	,139	-,322*
	Sig. (2-tailed)	,249	,683	,582	,485	,458	,301	,015
trend age cows	N Pearson Correlation	57 -,059	57 -,021	57 ,177	,004	-,060	,073	.046
aona ago come	Sig. (2-tailed)	,660	,876	,188	,975	,659	,588	,734
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	1	-,109	,126	,041	,071	,097	-,009
	Sig. (2-tailed) N	57	,422 57	,350 57	,763 57	,601 57	,474 57	,947 57
trend on milk production	Pearson Correlation	-,109	1	-,137	,150	-,175	,207	,035
·	Sig. (2-tailed)	,422		,311	,264	,194	,123	,795
	N	57	57	57	57	57	57	57
time between calving average	Pearson Correlation Sig. (2-tailed)	,126 350	-,137 ,311	1	,031 ,822	,244 ,068	,140 ,298	-,115 305
g -	Sig. (2-tailed)	,350 57	,311 57	57	,822 57	,068 57	,298 57	,395 57
trend on time between	Pearson Correlation	,041	,150	,031	1	-,091	,375**	,215
calving	Sig. (2-tailed)	,763	,264	,822		,500	,004	,109
% to destruction average	N Pearson Correlation	,071	57 -,175	,244	57 -,091	57 1	57 -,084	57 -,071
, to destruction average	Sig. (2-tailed)	,071 ,601	-,175 ,194	,244	-,091 ,500	I	-,084 ,533	-,071 ,600
	N	,551 57	57	57	,555 57	57	57	,555 57
trend percentage to	Pearson Correlation	,097	,207	,140	,375**	-,084	1	-,160
destruction	Sig. (2-tailed) N	,474 57	,123	,298	,004	,533		,233
% cows removed average	Pearson Correlation	57 -,009	,035	57 -,115	,215	57 -,071	57 -,160	57 1
	Sig. (2-tailed)	,947	,795	,395	,109	,600	,233	•
	N	57	57	57	57	57	57	57
trend percentage removed	Pearson Correlation	,129	-,047	-,175	,059	,145	,062	-,038
.5	Sig. (2-tailed) N	,338 57	,727 57	,193 57	,663 57	,283 57	,645 57	,780 57
cellcount average	Pearson Correlation	-,295*	-,081	,382**	-,029	,210	-,014	-,216
•	Sig. (2-tailed)	,026	,549	,003	,829	,117	,916	,106
Annual a L. C.	N Completion	57	57	57	57	57	57	57
trend celgetal	Pearson Correlation Sig. (2-tailed)	,227 ,089	-,033 ,807	-,036 ,793	,135 ,315	,164 222	,356** ,007	-,036 ,792
	N	,089 57	,80 <i>7</i> 57	,793 57	,315 57	,222 57	,007 57	,792 57
amount of free diseases	Pearson Correlation	,298*	-,025	,100	,065	,016	,186	-,161
	Sig. (2-tailed)	,024	,856	,457	,633	,905	,165	,231
	N	57	57	57	57	57	57	57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
age of the farmer	Pearson Correlation	-,159	-,075	,071	,118	,072	,033	-,066
	Sig. (2-tailed)	,238	,581	,601	,381	,593	,810	,625
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,218	-,081	,041	-,066	-,032	,012	,143
	Sig. (2-tailed)	,104	,550	,763	,628	,811	,931	,289
	N	57	57	57	57	57	57	57

milk cows average grow in milk cows milk quota average trend qouta amount of youngstock per 10milkcows average trend amount of youngstock per 10milk cows amount of cows per 10 milk cows amount of cows per 10milk cows trend amount of cows per 10milk cows amount of cows per 10milk cows trend amount of cows per 10milk cows amount of cows per 10milk cows amount of cows per 10milk cows trend amount of cows per 10milk cows trend amount of cows per 10milk cows amount of cows per 10milk cows trend amount of cows	Pearson Correlation Sig. (2-tailed) N	trend percentage removed -,074 ,583 57 ,042 ,759 57 -,210 ,116 57 ,032 ,814 57 -,092 ,496 57 -,433*** ,001 57 ,435*** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341** ,009	cellcount average -,286* ,031 57 ,331* ,012 57 ,246 ,065 57 ,256 ,055 57 ,010 ,943 57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353 57	trend celgetal -,050 ,714 57 ,034 ,801 57 -,213 ,112 57 ,020 ,884 57 -,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013 57 ,055	amount of free diseases ,377** ,004 57 ,052 ,700 57 -,070 ,607 57 ,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57 ,158	age of the farmer -,138 ,306 57 -,114 ,400 57 -,001 ,993 57 -,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57 ,076	higest education ,318° ,016 ,57 ,223 ,095 ,57 ,181 ,177 ,57 ,279° ,036 ,57 -,044 ,743 ,57 -,132 ,328 ,57 ,024 ,860 ,57 ,327° ,013 ,57 ,105 ,437 ,57
milk cows average grow in milk cows milk quota average trend qouta amount of youngstock per 10milkcows average trend amount of youngstock per 10milk cows amount of cows per 10 milk cows amount of cows per 10milk cows trend amount of cows per 10milk cows amount of cows per 10milk cows trend amount of cows per 10milk cows amount of cows per 10milk cows amount of cows per 10milk cows trend amount of cows per 10milk cows trend amount of cows per 10milk cows amount of cows per 10milk cows trend amount of cows	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	removed -,074 -,583 -57 .042 ,759 -57 -,210 ,116 -57 .032 ,814 -57 -,092 ,496 -57 -,433*** ,001 -57 ,435*** ,001 -57 ,114 ,397 -7 -,233 ,082 -57 -,235 ,079 -57 -,341**	-,286* ,031 ,57 ,331* ,012 ,57 ,246 ,065 ,57 ,256 ,055 ,57 ,299* ,024 ,57 ,010 ,943 ,57 ,013 ,922 ,57 -,250 ,060 ,57 ,039 ,773 ,57 -,125 ,353	-,050 ,714 57 ,034 ,801 57 -,213 ,112 57 ,020 ,884 57 -,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013 57	,377** ,004 57 ,052 ,700 57 -,070 ,607 57 ,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57	farmer -,138 ,306 57 -,114 ,400 57 -,001 ,993 57 -,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	education ,318° ,016 57 ,223 ,095 57 ,181 ,177 57 ,279° ,036 57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,327° ,013 57 ,105 ,437 57
milk cows average grow in milk cows milk quota average trend qouta amount of youngstock per 10milkcows average trend amount of youngstock per 10milk cows amount of cows per 10 milk cows amount of cows per 10milk cows trend amount of cows per 10milk cows amount of cows per 10milk cows trend amount of cows per 10milk cows amount of cows per 10milk cows amount of cows per 10milk cows trend amount of cows per 10milk cows trend amount of cows per 10milk cows amount of cows per 10milk cows trend amount of cows	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	,583 57 ,042 ,759 57 -,210 ,116 57 ,032 ,814 57 -,092 ,496 57 -,433*** ,001 57 ,435*** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,031 57 ,331* ,012 57 ,246 ,065 57 ,256 ,055 57 ,024 57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	,714 57 ,034 ,801 57 -,213 ,112 57 ,020 ,884 57 -,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013 57	,004 57 ,052 ,700 57 -,070 ,607 57 ,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57	,306 57 -,114 ,400 57 -,001 ,993 57 -,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	,016 57 ,223 ,095 57 ,181 ,177 57 ,279° ,036 57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,024 ,860 57 ,013 57 ,013 57 ,013 57
milk cows average grow in milk cows milk quota average trend qouta amount of youngstock per 10 milk cows average trend amount of youngstock per 10 milk cows amount of cows per hectares average trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average Frend age cows production average	Pearson Correlation Sig. (2-tailed) N	57 ,042 ,759 57 -,210 ,116 57 ,032 ,814 57 -,092 ,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	57 ,331* ,012 57 ,246 ,065 57 ,256 ,055 57 ,299* ,024 57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	57 ,034 ,801 ,57 -,213 ,112 ,57 ,020 ,884 ,57 -,100 ,459 ,57 -,069 ,612 ,57 ,038 ,780 ,57 -,184 ,170 ,57 -,327* ,013 ,57	57 ,052 ,700 57 -,070 ,607 57 ,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57	57 -,114 ,400 57 -,001 ,993 57 -,130 ,335 57 -,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	57 ,223 ,095 57 ,181 ,177 57 ,279 ,036 57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,024 ,860 57 ,013 57 ,105 ,437 57
grow in milk cows milk quota average trend qouta amount of youngstock per 10 milk cows average trend amount of youngstock per 10 milk cows amount of cows per hectares average trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average Frend age cows	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	,759 57 -,210 ,116 57 ,032 ,814 57 -,092 ,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57	,012 57 ,246 ,065 57 ,256 ,055 57 ,299* ,024 57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	,801 57 -,213 ,112 57 ,020 ,884 57 -,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013 57	,052 ,700 57 -,070 ,607 57 ,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57	,400 57 -,001 ,993 57 -,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	,223 ,095 57 ,181 ,177 57 ,279° ,036 57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,024 ,860 57 ,013 57 ,105 ,437 57
grow in milk cows milk quota average trend qouta amount of youngstock per 10 milk cows average trend amount of youngstock per 10 milk cows amount of cows per 10 milk cows amount of cows per Per 10 milk cows trend amount of cows per Per 100 milk cows trend amount of cows per Per 100 milk cows trend amount of cows per Per 100 milk cows kg concentrates per Per 100 milk cows trend kg concentrates per Per 100 milk cows production average	Pearson Correlation Sig. (2-tailed) N	57 -,210 ,116 57 ,032 ,814 57 -,092 ,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	57 ,246 ,065 ,57 ,256 ,055 ,57 ,299* ,024 ,57 ,010 ,943 ,57 ,013 ,922 ,57 -,250 ,060 ,57 ,039 ,773 ,57 -,125 ,353	57 -,213 ,,112 57 ,,020 ,,884 57 -,100 ,,459 57 -,069 ,612 57 ,,038 ,,780 57 -,184 ,,170 57 -,327* ,,013 57	57 -,070 ,607 57 ,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57	57 -,001 ,993 57 -,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	57 ,181 ,177 57 ,279° ,036 57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,327° ,013 57 ,105 ,437
grow in milk cows milk quota average trend qouta amount of youngstock per 10milkcows average trend amount of youngstock per 10 milk cows amount of cows per 10 milk cows amount of cows per 10 milk cows trend amount of cows per 10 milk cows trend amount of cows per 10 milk cows amount of cows per 10 milk cows trend amount of cows per 100 milk cows trend amount of cows per 100 milk cows trend kg concentrates per 100 milk cows trend kg concentrates per 100 kg milk companies access to pastures last companies trend age cows average production average Figure 100 milk cows production average Figure 1	Pearson Correlation Sig. (2-tailed) N	-,210 ,116 57 ,032 ,814 57 -,092 ,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,246 ,065 ,57 ,256 ,055 ,57 ,299* ,024 ,57 ,010 ,943 ,57 ,013 ,922 ,57 -,250 ,060 ,57 ,039 ,773 ,57 -,125 ,353	-,213 ,112 57 ,020 ,884 57 -,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013	-,070 ,607 57 ,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643	-,001 ,993 57 -,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	,181 ,177 57 ,279, ,036 57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,327, ,013 57 ,105 ,437
milk quota average trend qouta amount of youngstock per 10milkcows average trend amount of youngstock per 10 milk cows amount of cows per 10 milk cows amount of cows per 10 milk cows trend amount of cows per 100 milk cows per 100 m	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	,116 57 ,032 ,814 57 -,092 ,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,065 57 ,256 ,055 57 ,299* ,024 57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	,112 57 ,020 ,884 57 -,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013 57	,607 57 ,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643	,993 57 -,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	,177 57 ,279 ,036 57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,327 ,013 57 ,105 ,437 57
milk quota average trend qouta amount of youngstock per 10milkcows average trend amount of youngstock per 10 milk cows amount of cows per 10 milk cows amount of cows per 10 milk cows trend amount of cows per 100 milk cows trend amount of cows per 100 milk cows trend amount of cows per 100 milk cows trend kg concentrates per 100 milk cows production average cows production average F	Pearson Correlation Sig. (2-tailed) N	57 ,032 ,814 57 -,092 ,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	57 ,256 ,055 ,57 ,299* ,024 ,57 ,010 ,943 ,57 ,013 ,922 ,57 -,250 ,060 ,57 ,039 ,773 ,57 -,125 ,353	57 ,020 ,884 57 -,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013 57	57 ,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643	57 -,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	57 ,279, ,036 57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,327, ,013 57 ,105 ,437
milk quota average trend qouta amount of youngstock per 10milkcows average trend amount of youngstock per 10 milk cows amount of cows per 10 milk cows amount of cows per hectares average trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average Frend age cows	Pearson Correlation Sig. (2-tailed) N	,032 ,814 57 -,092 ,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,256 ,055 57 ,299* ,024 57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	,020 ,884 57 -,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013	,101 ,456 57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643	-,130 ,335 57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	,279 ⁻ ,036 57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,327 ⁻ ,013 57 ,105 ,437 57
trend qouta amount of youngstock per 10milkcows average trend amount of youngstock per 10 milk cows amount of cows per hectares average trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average Froduction average Froduction average Froduction strend so	Pearson Correlation Sig. (2-tailed) N	57 -,092 ,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	57 ,299* ,024 57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	57 -,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013 57	57 -,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57	57 ,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	57 -,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,327 ,013 57 ,105 ,437 57
trend qouta amount of youngstock per 10milkcows average trend amount of youngstock per 10 milk cows amount of cows per hectares average trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average Frend age cows	Pearson Correlation Sig. (2-tailed) N	-,092 ,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,299* ,024 57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	-,100 ,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013	-,124 ,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57	,161 ,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	-,044 ,743 57 -,132 ,328 57 ,024 ,860 57 ,327 ,013 57 ,105 ,437
amount of youngstock per 10milkcows average strend amount of youngstock per 10 milk cows amount of cows per hectares average strend amount of cows per hectares amount of cows per hectares strend amount of cows per hectares str	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	,496 57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,024 57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	,459 57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013	,357 57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643	,233 57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	,743 57 -,132 ,328 57 ,024 ,860 57 ,327 ,013 57 ,105 ,437
amount of youngstock per 10 milkcows average strend amount of youngstock per 10 milk cows amount of cows per hectares average strend amount of cows per hectares average strend amount of cows per hectares strend amount of cows	N Pearson Correlation Sig. (2-tailed) N	57 -,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	57 ,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	57 -,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013 57	57 ,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57	57 ,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	57 -,132 ,328 57 ,024 ,860 57 ,327 ,013 57 ,105 ,437 57
amount of youngstock per 10 milkcows average strend amount of youngstock per 10 milk cows amount of cows per hectares average strend amount of cows per hectares average strend amount of cows per hectares strend strend amount of cows per hectares strend s	Pearson Correlation Sig. (2-tailed) N	-,433** ,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,010 ,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	-,069 ,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013	,102 ,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643	,030 ,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	-,132 ,328 57 ,024 ,860 57 ,327 ,013 57 ,105 ,437
trend amount of youngstock per 10 milk cows amount of cows per hectares average trend amount of cows per hectares with trend amount of cows per hectares trend amount of cows per hectares trend amount of cows per hectares trend kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year trend age cows average trend age cows average trend age cows average trend age cows average trend age cows	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	,001 57 ,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,943 57 ,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125 ,353	,612 57 ,038 ,780 57 -,184 ,170 57 -,327* ,013	,450 57 -,097 ,473 57 -,078 ,563 57 -,063 ,643 57	,823 57 -,110 ,415 57 -,250 ,061 57 ,106 ,433 57	,328 57 ,024 ,860 57 ,327 ,013 57 ,105 ,437
trend amount of youngstock per 10 milk cows amount of cows per hectares average trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average Frend age cows production average	Pearson Correlation Sig. (2-tailed) N	,435** ,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,013 ,922 57 -,250 ,060 57 ,039 ,773 57 -,125	,038 ,780 57 -,184 ,170 57 -,327* ,013	-,097 ,473 57 -,078 ,563 57 -,063 ,643	-,110 ,415 57 -,250 ,061 57 ,106 ,433 57	,024 ,860 57 ,327 ,013 57 ,105 ,437
youngstock per 10 milk cows amount of cows per hectares average trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average Frend age cows production average Frend milk Frend age cows	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	,001 57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,922 57 -,250 ,060 57 ,039 ,773 57 -,125	,780 57 -,184 ,170 57 -,327* ,013 57	,473 57 -,078 ,563 57 -,063 ,643	,415 57 -,250 ,061 57 ,106 ,433 57	,860 57 ,327° ,013 57 ,105 ,437
amount of cows per hectares average trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average Froduction average Froduction average Froduction services per se	N Pearson Correlation Sig. (2-tailed) N	57 ,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	57 -,250 ,060 57 ,039 ,773 57 -,125	57 -,184 ,170 57 -,327* ,013 57	57 -,078 ,563 57 -,063 ,643 57	57 -,250 ,061 57 ,106 ,433 57	57 ,327 ,013 57 ,105 ,437
amount of cows per hectares average trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average trend age cows production average	Pearson Correlation Sig. (2-tailed) N	,114 ,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	-,250 ,060 57 ,039 ,773 57 -,125	-,184 ,170 57 -,327* ,013 57	-,078 ,563 57 -,063 ,643 57	-,250 ,061 57 ,106 ,433 57	,327 ,013 57 ,105 ,437
trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average frend age cows production average	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed)	,397 57 -,233 ,082 57 -,235 ,079 57 -,341**	,060 57 ,039 ,773 57 -,125	,170 57 -,327* ,013 57	,563 57 -,063 ,643 57	,061 57 ,106 ,433 57	,013 57 ,105 ,437 57
trend amount of cows per hectares kg concentrates per 100kg milk average trend kg concentrates per 100 kg milk access to pastures last year age cows average trend age cows production average	N Pearson Correlation Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N Sig. (2-tailed)	57 -,233 ,082 57 -,235 ,079 57 -,341**	57 ,039 ,773 57 -,125 ,353	57 -,327* ,013 57	57 -,063 ,643 57	57 ,106 ,433 57	57 ,105 ,437 57
kg concentrates per 100kg milk average Strend kg concentrates per 100 kg milk average Strend kg concentrates per 100 kg milk average Strend kg concentrates per 100 kg milk St	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	,082 57 -,235 ,079 57 -,341**	,773 57 -,125 ,353	,013 57	,643 57	,433 57	,437 57
kg concentrates per 100kg milk average Strend kg concentrates per 100 kg milk sverage Strend kg concentrates per 100 kg milk Strend kg	N Pearson Correlation Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	57 -,235 ,079 57 -,341**	-,125 ,353	57	57	57	57
kg concentrates per 100kg milk average Strend kg concentrates per 100 kg milk Strend kg milk Strend kg concentrates per 100 kg milk Str	Pearson Correlation Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	-,235 ,079 57 -,341**	-,125 ,353				
trend kg concentrates per 100 kg milk squares last year squares age cows average squares last year year year year year year year year	Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	,079 57 -,341**	,353	055	158	.076	.266
trend kg concentrates per 100 kg milk squares last year year year year year year year year	N Pearson Correlation Sig. (2-tailed) N	57 -,341**			· ·		-
trend kg concentrates per 100 kg milk 2	Pearson Correlation Sig. (2-tailed) N	-,341**	51	,682 57	,240 57	,577 57	,045 57
100 kg milk access to pastures last year age cows average trend age cows production average	Sig. (2-tailed) N	· ·	,272*	-,123	-,145	,079	-,190
access to pastures last year S age cows average F trend age cows F production average F	* *	,000	,041	,360	,283	,560	,156
year S		57	57	57	57	57	57
age cows average F trend age cows F production average F	Pearson Correlation	-,019	,041	-,142	,152	-,040	-,135
age cows average F trend age cows F production average F	Sig. (2-tailed)	,888	,765	,292	,261	,766	,317
trend age cows F S production average F	N Pearson Correlation	,057	,053	,110	,067	,071	,063
trend age cows F S production average F	Sig. (2-tailed)	,057 ,676	,053 ,697	,417	,618	,598	,063
production average F	N	57	,557 57	57	57	57	57
production average F	Pearson Correlation	,182	,036	,312*	,215	,280*	-,016
production average F	Sig. (2-tailed)	,175	,791	,018	,108	,035	,904
. •	N O I II	57	57	57	57	57	57
٠	Pearson Correlation Sig. (2-tailed)	,129	-,295*	,227	,298*	-,159	,218
_	Sig. (2-tailed) N	,338 57	,026 57	,089 57	,024 57	,238 57	,104 57
<u> </u>	Pearson Correlation	-,047	-,081	-,033	-,025	-,075	-,081
-	Sig. (2-tailed)	,727	,549	,807	,856	,581	,550
<u> </u>	N	57	57	57	57	57	57
U	Pearson Correlation	-,175	,382**	-,036	,100	,071	,041
	Sig. (2-tailed)	,193	,003	,793	,457	,601	,763
<u> </u>	N Pearson Correlation	,059	57 -,029	,135	,065	,118	57 -,066
	Sig. (2-tailed)	,663	-,029 ,829	,315	,633	,116	-,000 ,628
	N N	57	57	57	57	57	57
% to destruction average F	Pearson Correlation	,145	,210	,164	,016	,072	-,032
	Sig. (2-tailed)	,283	,117	,222	,905	,593	,811
<u> </u>	N Decrees Correlation	57	57	57	57	57	57
	Pearson Correlation Sig. (2-tailed)	,062 ,645	-,014 ,916	,356** ,007	,186 ,165	,033 ,810	,012 ,931
	Sig. (z-tailed) N	,045 57	,916 57	,007 57	,165	,810 57	,931 57
•	Pearson Correlation	-,038	-,216	-,036	-,161	-,066	,143
•	Sig. (2-tailed)	,780	,106	,792	,231	,625	,289
	N	57	57	57	57	57	57
' .	Pearson Correlation	1	,009	,246	,151	-,107	,198
	Sig. (2-tailed)		,947	,065	,262	,428	,140
<u> </u>	N Pearson Correlation	,009	57 1	,061	57 -,196	,259	57 -,194
· ·	Sig. (2-tailed)	,009 ,947	I	,061	-,196 ,144	,259 ,051	-,194 ,148
	N	57	57	57	57	57	57
	Pearson Correlation	,246	,061	1	,079	,240	,008
	Sig. (2-tailed)	,065	,650		,560	,072	,951
	9- (=	57	57	57	57	57	57
	N	,151	-,196	,079 ,560	1	-,087	,300,
S N	• .	,262	,144		57	,520 57	,023 57

		trend percentage removed	cellcount average	trend celgetal	amount of free diseases	age of the farmer	higest education
age of the farmer	Pearson Correlation	-,107	,259	,240	-,087	1	-,412**
	Sig. (2-tailed)	,428	,051	,072	,520		,001
	N	57	57	57	57	57	57
higest education	Pearson Correlation	,198	-,194	,008	,300*	-,412**	1
	Sig. (2-tailed)	,140	,148	,951	,023	,001	
	N	57	57	57	57	57	57

^{*.} Correlation is significant at the 0.05 level (2-tailed).

^{**.} Correlation is significant at the 0.01 level (2-tailed).

							amount of youngstock	trend amount
		daily dosis	milk cows	grow in	milk quota		per 10milkcows	of youngstock per 10 milk
		mastitis	average	milk cows	average	trend qouta	average	cows
daily dosis mastitis	Pearson Correlation Sig. (2-tailed)	1	,283* ,033	,147 ,275	,321* ,015	,028 ,835	-,058 ,666	-,288* ,030
	N	57	,033 57	,273 57	57	,655 57	57	57
milk cows average	Pearson Correlation	,283*	1	,620**	,978**	,405**	-,145	,081
	Sig. (2-tailed)	,033		,000	,000	,002	,281	,547
grow in milk cows	N Pearson Correlation	57 ,147	.620**	57 1	57 ,660**	57 ,783**	57 -,108	57 -,137
grow in mink dows	Sig. (2-tailed)	,275	,020	' '	,000	,703	,425	,310
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,321*	,978**	,660**	1	,433**	-,149	,054
	Sig. (2-tailed) N	,015 57	,000, 57	,000 57	57	,001 57	,270 57	,689 57
trend gouta	Pearson Correlation	,028	,405**	,783**	,433**	1	-,012	-,005
•	Sig. (2-tailed)	,835	,002	,000	,001		,929	,968
	N	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Pearson Correlation	-,058	-,145	-,108	-,149	-,012	1	-,246
Tommkoows average	Sig. (2-tailed) N	,666 57	,281 57	,425 57	,270 57	,929 57	57	,065 57
trend amount of	Pearson Correlation	-,288*	,081	-,137	,054	-,005	-,246	1
youngstock per 10 milk	Sig. (2-tailed)	,030	,547	,310	,689	,968	,065	
cows	N Correlation	57	57	57	57	57	57	57
amount of cows per hectares average	Pearson Correlation Sig. (2-tailed)	,119 ,380	,190 ,157	,152 ,260	,209 ,119	-,076 ,573	-,360** ,006	-,042 ,758
- 9 -	N	,380 57	, 15 <i>7</i> 57	,260 57	57	,573 57	57	57
trend amount of cows per	Pearson Correlation	-,072	,076	,406**	,108	,370**	,201	-,234
hectares	Sig. (2-tailed)	,597	,573	,002	,424	,005	,133	,080,
kg concentrates per	N Pearson Correlation	57 163	57 147	57	57	57	57	57
100kg milk average	Sig. (2-tailed)	,163 ,227	-,147 ,274	-,072 ,596	-,110 ,414	-,185 ,167	,221 ,098	-,181 ,178
·	N	57	,274 57	,530 57	57	57	57	57
trend kg concentrates per	Pearson Correlation	-,064	,063	,209	,046	,144	,298*	-,081
100 kg milk	Sig. (2-tailed)	,638	,640	,118	,735	,286	,024	,548
access to pastures last	N Pearson Correlation	.203	57 -,269*	-,230	57 -,338*	57 -,234	,105	57 -,215
year	Sig. (2-tailed)	,203 ,129	,043	,085	,010	,080	,438	,107
	N ,	57	57	57	57	57	57	57
age cows average	Pearson Correlation	-,064	-,019	-,267*	-,071	-,248	-,178	,060
	Sig. (2-tailed) N	,635 57	,888, 57	,045 57	,601 57	,062 57	,185 57	,658 57
trend age cows	Pearson Correlation	,187	-,015	-,195	,003	-,086	-,112	-,090
o	Sig. (2-tailed)	,164	,914	,145	,981	,525	,407	,503
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	,041	,123	,077	,214	,063	-,123	,224
	Sig. (2-tailed) N	,760 57	,364 57	,569 57	,110 57	,641 57	,363 57	,095 57
trend on milk production	Pearson Correlation	-,208	-,115	-,055	-,069	,107	,236	,114
	Sig. (2-tailed)	,120	,394	,683	,610	,429	,077	,400
flore hat we are as his or	N O a marketic a	57	57	57	57	57	57	57
time between calving average	Pearson Correlation Sig. (2-tailed)	,068 ,616	,286* ,031	,216 ,107	,286* ,031	,153 ,255	,120 ,375	-,122 ,366
· ·	N	57	,031 57	, 10 <i>7</i> 57	57	,255 57	57	57
trend on time between	Pearson Correlation	-,126	-,089	-,148	-,089	-,020	,290*	-,080
calving	Sig. (2-tailed)	,351	,509	,271	,510	,884	,029	,552
% to destruction average	N Pearson Correlation	57 -,141	,037	57 -,016	,011	.,011	,058	,044
, a to acondonation avoided	Sig. (2-tailed)	,294	,03 <i>1</i> ,786	,906	,936	,933	,669	,743
	N	57	57	57	57	57	57	57
trend percentage to destruction	Pearson Correlation	,063	-,037	-,280*	-,064	-,253	,270*	-,060
นษอแนบแบบ	Sig. (2-tailed) N	,642 57	,783, 57	,035 57	,634 57	,058 57	,042 57	,656 57
% cows removed average	Pearson Correlation	,023	,013	,016	,049	,065	,225	-,090
1.00	Sig. (2-tailed)	,867	,923	,903	,717	,630	,092	,504
	N	57	57	57	57	57	57	57
trend percentage removed	Pearson Correlation	-,060 656	,042 750	-,210 116	,032	-,092 496	-,433** 001	,435*
	Sig. (2-tailed) N	,656 57	,759 57	,116 57	,814, 57	,496 57	,001 57	,001 57
cellcount average	Pearson Correlation	-,008	,331*	,246	,256	,299*	,010	,013
-	Sig. (2-tailed)	,953	,012	,065	,055	,024	,943	,922
trand adjects!	N Degreen Correlation	57	57	57	57	57	57	57
trend celgetal	Pearson Correlation Sig. (2-tailed)	-,043 ,753	,034 ,801	-,213 ,112	,020 ,884	-,100 ,459	-,069 ,612	,038 ,780
	,	,755 57	,601 57	57	57	,459 57	57	57
amount of free diseases	N) 5/ 1	31	0,				
amount of free diseases	Pearson Correlation	,200	,052	-,070	,101	-,124	,102	-,097
amount of free diseases								-,097 ,473 57

		daily dosis mastitis	milk cows average	grow in milk cows	milk quota average	trend qouta	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows
age of the farmer	Pearson Correlation	-,028	-,114	-,001	-,130	,161	,030	-,110
	Sig. (2-tailed)	,835	,400	,993	,335	,233	,823	,415
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,227	,223	,181	,279*	-,044	-,132	,024
	Sig. (2-tailed)	,090	,095	,177	,036	,743	,328	,860
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age
daily dosis mastitis	Pearson Correlation Sig. (2-tailed)	,119 ,380	-,072 ,597	,163 ,227	-,064 ,638	,203 ,129	-,064 ,635	,187 ,164
	N	57	57	57	57	57	57	57
milk cows average	Pearson Correlation	,190	,076	-,147	,063	-,269*	-,019	-,015
	Sig. (2-tailed) N	,157 57	,573 57	,274 57	,640 57	,043 57	,888, 57	,914 57
grow in milk cows	Pearson Correlation	,152	,406**	-,072	,209	-,230	-,267*	-,195
9.011 111 11111111 00110	Sig. (2-tailed)	,162	,002	,596	,118	,085	,045	,145
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,209	,108	-,110	,046	-,338*	-,071	,003
	Sig. (2-tailed) N	,119 57	,424 57	,414 57	,735 57	,010	,601	,981
trend gouta	Pearson Correlation	-,076	,370**	-,185	,144	-,234	57 -,248	57 -,086
	Sig. (2-tailed)	,573	,005	,167	,286	,080	,062	,525
	N	57	57	57	57	57	57	57
amount of youngstock per	Pearson Correlation	-,360**	,201	,221	,298*	,105	-,178	-,112
10milkcows average	Sig. (2-tailed)	,006	,133	,098	,024	,438	,185	,407
trend amount of	N Pearson Correlation	57 -,042	57 -,234	57 -,181	57 -,081	57 -,215	,060	57 -,090
youngstock per 10 milk	Sig. (2-tailed)	,758	,080	,178	,548	,107	,658	,503
cows	N	57	57	57	57	57	57	57
amount of cows per	Pearson Correlation	1	,044	,046	-,024	-,166	,096	,005
hectares average	Sig. (2-tailed)		,744	,736	,858	,217	,479	,968
trend amount of cows per	N Pearson Correlation	,044	57 1	,085	57 ,057	57 -,119	57 -,117	57 -,305*
hectares	Sig. (2-tailed)	,044 ,744	'	,530	,057 ,676	-,119 ,377	,388	-,305 ,021
	N	57	57	57	57	,57 57	57	57
kg concentrates per	Pearson Correlation	,046	,085	1	,217	,063	,018	,075
100kg milk average	Sig. (2-tailed)	,736	,530		,105	,642	,896	,582
trand ka aanaantrataa nar	N Pearson Correlation	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Sig. (2-tailed)	-,024 ,858	,057 ,676	,217 ,105	1	,039 ,776	,018 ,892	-,091 ,500
3	N	,036 57	57	57	57	,770 57	57	,300 57
access to pastures last	Pearson Correlation	-,166	-,119	,063	,039	1	,149	,167
year	Sig. (2-tailed)	,217	,377	,642	,776		,270	,216
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation Sig. (2-tailed)	,096	-,117	,018	,018	,149	1	,150
	N	,479 57	,388 57	,896 57	,892 57	,270 57	57	,267 57
trend age cows	Pearson Correlation	,005	-,305*	,075	-,091	,167	,150	1
	Sig. (2-tailed)	,968	,021	,582	,500	,216	,267	
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	-,045 740	,006	-,011	-,280*	-,256	-,155	-,059
	Sig. (2-tailed) N	,740 57	,965 57	,933 57	,035 57	,055 57	,249 57	,660 57
trend on milk production	Pearson Correlation	-,148	-,042	,220	,435**	-,256	-,055	-,021
·	Sig. (2-tailed)	,273	,755	,101	,001	,055	,683	,876
	N	57	57	57	57	57	57	57
time between calving average	Pearson Correlation	,053	,098	,082	,180	-,055	,075	,177
average	Sig. (2-tailed)	,693 57	,467 57	,545 57	,180 57	,683, 57	,582 57	,188 57
trend on time between	Pearson Correlation	-,154	-,087	-,065	-,006	,012	-,094	,004
calving	Sig. (2-tailed)	,251	,518	,633	,964	,930	,485	,975
	N	57	57	57	57	57	57	57
% to destruction average	Pearson Correlation	-,071	-,095	-,106	-,021	-,159	-,100	-,060 650
	Sig. (2-tailed) N	,598 57	,481 57	,431 57	,879 57	,237 57	,458 57	,659 57
trend percentage to	Pearson Correlation	-,210	-,229	,216	,025	-,013	,139	,073
destruction	Sig. (2-tailed)	,117	,086	,107	,852	,924	,301	,588
	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation	,243	,010	-,199	-,034	-,111	-,322*	,046
	Sig. (2-tailed) N	,069 57	,940 57	,138 57	,799 57	,409 57	,015 57	,734, 57
trend percentage	Pearson Correlation	,114	-,233	-,235	-,341**	-,019	,057	,182
removed	Sig. (2-tailed)	,397	,082	,079	,009	,888,	,676	,175
	N	57	57	57	57	57	57	57
cellcount average	Pearson Correlation	-,250	,039	-,125	,272*	,041	,053	,036
	Sig. (2-tailed) N	,060 57	,773 57	,353 57	,041 57	,765 57	,697 57	,791 57
trend celgetal	Pearson Correlation	-,184	-,327*	,055	-,123	5 <i>7</i> -,142	,110	57 ,312*
	Sig. (2-tailed)	,170	,013	,682	,360	,292	,110	,018
	N	57	57	57	57	57	57	57
amount of free diseases	Pearson Correlation	-,078	-,063	,158	-,145	,152	,067	,215
	Sig. (2-tailed)	,563	,643	,240	,283	,261	,618	,108
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age cows
age of the farmer	Pearson Correlation	-,250	,106	,076	,079	-,040	,071	,280*
	Sig. (2-tailed)	,061	,433	,577	,560	,766	,598	,035
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,327*	,105	,266*	-,190	-,135	,063	-,016
	Sig. (2-tailed)	,013	,437	,045	,156	,317	,640	,904
	N	57	57	57	57	57	57	57

Cabing dosis mastilis									
Sign Challed Form					calving	between		percentage to	% cows removed average
Milk Cova avertage	daily dosis mastitis		,041	1	,068	· ·	-,141	· '	,023
Sig. (2-lailed) Sig. S		• '	· ·		l '	· ·			,867 57
Second company Seco	nilk cows average		· ·		· ·	· ·	· ·		,013
Second Person Correlation 1.77 1.065 2.16 1.48 0.016 0.282 1.57 1.77 1.75 1.			· ·		l '	· ·	*	· ·	,923 57
Sig. (24-lailed) Sig. (26-lailed) Sig. (26-lailed) N	grow in milk cows	* *							,016
Milk quota average Pearson Correlation 214 .008 .288 .088 .011 .084 .088	,	Sig. (2-tailed)	· ·		· ·			· ·	,903
Sign (2-halled)									57
March Marc	niik quota average		· ·	1	l '	· ·		· ·	,049 ,717
Sig. (2-tailled)		• ' '	· ·		l '	· ·		· ·	57
Name	rend qouta		· ·		l '	· ·		· ·	,065
Amount of youngstock per Pearson Correlation 1-123 236 120 209 3.958 3.970 1270 1270 1270 1375 2029 3.968 3.968 3.970 3.975		• '	· ·			· ·		· ·	,630 57
Tomikicow's average Sig. (2-kailed)	amount of youngstock per								,225
Fend amount of vice years Pearson Correlation Vice		Sig. (2-tailed)	· ·		· ·	· '		· '	,092
youngslock per 10 milk crows per covers Sig. (2-lailed) (2-lailed) 400 (3-5) 365 (3-5) 743 (3-5) 57 (5-7)	and an area of	* *							57
cows N 67 57 57 57 57 57 amount of cows per hearson Correlation Pectares aversige Sig. (2-tailed) 7/40 2/73 693 2.51 598 1.17 Trend amount of cows per hearson Correlation Pectares 506 -0.42 .098 .087 .095 .229 hectares Sig. (2-tailed) .965 .755 .467 .518 .481 .086 N 57			· ·		l '		· ·		-,090 ,504
Second per		• ' '	· ·		· · · · · · · · · · · · · · · · · · ·	· ·			,50 4 57
N	•		-,045	-,148	,053	-,154	-,071	-,210	,243
Pearson Correlation	iectares average	• '	· ·		l '	· ·		· ·	,069 57
Rectares Sig. (2-tailed) 9.65 7.55 3.67 5.75	rend amount of cows per	* *							,010
Region contrates per Pearson Correlation Sig. (2-tailed) S	•		· ·		· · · · · · · · · · · · · · · · · · ·	· ·		· ·	,940
100kg milk average Sig. (2-tailed) 9.33 1,01 5.45 6.833 4,31 1,07 trend kg concentrates per 100 kg milk Pearson Correlation -,280* 4,35* 1,80 -,006 -,021 0,25 100 kg milk Sig. (2-tailed) 0,35 0,01 1,80 .964 8,79 8,52 100 kg milk Pearson Correlation 5,67 5,7									57
N					l '	· ·		· ·	-,199 ,138
Tend kg concentrates per Pearson Correlation -280° -435° -180 -0.06 -0.21 -0.25 -0.05 -0.01 -0.06 -0.21 -0.25 -0.05 -0.06 -0.21 -0.25 -0.05 -0.06 -0.25 -0.2		• •			·	· ·			,136
N ST ST ST ST ST ST ST									-,034
Comparison Com	100 kg milk	• ' '	· ·			· ·			,799
year Sig. (2-tailed) N .055 57 .055 57 .055 57 .055 57 .055 57 .055 57 .055 57 .075 57 .57 57									57 -,111
Second	•		· ·		l '	· ·			,409
Sig. (2-tailed) 249 .683 .582 .485 .458 .301 N		* *	57	57	57	57	57		57
N 57 57 57 57 57 57 57 trend age cows Pearson Correlation Sig. (2-tailed) .059 -,021 1,177 ,004 -,060 ,073 Sig. (2-tailed) .660 .876 ,188 .975 ,659 .588 N .57 .57 .57 .57 .57 .57 .57 production average Pearson Correlation Sig. (2-tailed) .109 .126 .041 .071 .097 trend on milk production Milk production Pearson Correlation Sig. (2-tailed) .109 .1 .137 .150 .175 .207 trend on milk production Sig. (2-tailed) .422 .311 .264 .194 .123 N .57 .57 .57 .57 .57 .57 .57 time between calving average Pearson Correlation Sig. (2-tailed) .350 .311 .031 .244 .140 average Sig. (2-tailed) .350 .311 .982 .068 .298	age cows average				l '				-,322*
trend age cows Pearson Correlation Sig. (2-tailed) -,059 (80 mode) -,021 (177 mode) 1,177 (177 mode) 0,04 (178 mode) 0,73 (178 mode) production average Pearson Correlation Sig. (2-tailed) 1 (179 mode) 1,126 (179 mode) 0,41 (171 mode) 0,71 (179 mode) 0,763 (179 mode) 6,60 (177 mode) 0,77 (179 mode		• •	· ·	1	· · · · · · · · · · · · · · · · · · ·	· ·			,015 57
Pearson Correlation Pearson Correlation Sig. (2-tailed) N S7 S7 S7 S7 S7 S7 S7	rend age cows	Pearson Correlation							,046
Pearson Correlation Sig. (2-tailed) Sig. (• •	· ·		l '	· ·			,734
Sig. (2-tailed)									-,009
N 57 57 57 57 57 trend on milk production milk production Sig. (2-tailed) -,109 1 -,137 ,150 -,175 ,207 Sig. (2-tailed) ,422 311 ,264 ,194 ,123 N 57 57 57 57 57 time between calving average Pearson Correlation Sig. (2-tailed) ,350 ,311 ,031 ,244 ,140 average Sig. (2-tailed) ,350 ,311 ,822 ,068 ,298 N 57 57 57 57 57 57 57 trend on time between Sig. (2-tailed) ,763 ,264 ,822 ,500 ,004 N 57 57 57 57 57 57 57 % to destruction average Pearson Correlation Sig. (2-tailed) ,601 ,194 ,068 ,500 ,533 N 57 57 57 57 57 57 57 tren	roduction average		'		·	· ·			-,009 ,947
Sig. (2-tailed)		N	57			· ·		57	57
N 57 57 57 57 57 57 57	rend on milk production			1	· · · · · · · · · · · · · · · · · · ·	· ·		· ·	,035
time between calving average Sig. (2-tailed) S				57	l '	· ·			,795 57
N S7 S7 S7 S7 S7 S7 S7		Pearson Correlation							-,115
trend on time between calving Pearson Correlation Sig. (2-tailed) 0,041 0,150 0,031 1 -,091 0,375** Sig. (2-tailed) 0,763 2,264 8,822 500 0,004 N 57 57 57 57 57 % to destruction average Pearson Correlation Sig. (2-tailed) 0,071 -,175 2,244 -,091 1 -,084 N 57 57 57 57 57 57 57 trend percentage to destruction Pearson Correlation Sig. (2-tailed) 0,97 2,207 1,40 3,75** -,084 1 destruction Sig. (2-tailed) 4,474 1,23 2,988 0,004 533 N 57 57 57 57 57 57 % cows removed average Pearson Correlation Sig. (2-tailed) 9,947 7,95 3,95 1,109 600 2,233 N 57 57 57 57 57 57 57 ftrend per	average					· ·			,395
calving Sig. (2-tailed) ,763 ,264 ,822 ,500 ,004 N 57 57 57 57 57 57 % to destruction average Pearson Correlation Sig. (2-tailed) ,071 -,175 ,244 -,091 1 -,084 N 50 ,601 ,194 ,068 ,500 ,533 ,533 N 57 57 57 57 57 57 57 trend percentage to destruction Pearson Correlation Sig. (2-tailed) ,474 ,123 ,298 ,004 ,533 1 N 57 57 57 57 57 57 57 % cows removed average Pearson Correlation Sig. (2-tailed) ,947 ,795 ,395 ,109 ,600 ,233 N 57 57 57 57 57 57 57 trend percentage Pearson Correlation ,129 -,047 -,175 ,059 ,145 ,062	rend on time between					57			
N 57 57 57 57 57 57 % to destruction average Pearson Correlation Sig. (2-tailed) ,071 -,175 ,244 -,091 1 -,084 Sig. (2-tailed) ,601 ,194 ,068 ,500 533 ,533 N 57 57 57 57 57 57 57 trend percentage to destruction Pearson Correlation Sig. (2-tailed) ,474 ,123 ,298 ,004 ,533 1 N 57 57 57 57 57 57 57 % cows removed average Pearson Correlation Sig. (2-tailed) ,947 ,795 ,395 ,109 ,600 ,233 N 57 57 57 57 57 57 57 57 trend percentage Pearson Correlation ,129 -,047 -,175 ,059 ,145 ,062			·	1	l '	'		'	,213
Sig. (2-tailed) ,601 ,194 ,068 ,500 ,533 trend percentage to destruction Pearson Correlation ,097 ,207 ,140 ,375** -,084 1 destruction Sig. (2-tailed) ,474 ,123 ,298 ,004 ,533 N 57 57 57 57 57 57 % cows removed average Pearson Correlation -,009 ,035 -,115 ,215 -,071 -,160 Sig. (2-tailed) ,947 ,795 ,395 ,109 ,600 ,233 N 57 57 57 57 57 57 trend percentage Pearson Correlation ,129 -,047 -,175 ,059 ,145 ,062	2/ 1		57	57	57		57	57	57
N 57 57 57 57 57 57 trend percentage to destruction Pearson Correlation Sig. (2-tailed) ,097 ,207 ,140 ,375** -,084 1 Sig. (2-tailed) ,474 ,123 ,298 ,004 ,533 -,533 N 57 57 57 57 57 57 % cows removed average Pearson Correlation Sig. (2-tailed) ,947 ,795 ,395 ,109 ,600 ,233 N 57 57 57 57 57 57 57 trend percentage Pearson Correlation ,129 -,047 -,175 ,059 ,145 ,062	% to destruction average		· ·		· · · · · · · · · · · · · · · · · · ·		1	· ·	-,071 ,600
trend percentage to destruction Pearson Correlation Sig. (2-tailed) ,097 ,207 ,140 ,375** -,084 1 % cows removed average Pearson Correlation Sig. (2-tailed) ,474 ,123 ,298 ,004 ,533 57 % cows removed average Pearson Correlation Sig. (2-tailed) -,009 ,035 -,115 ,215 -,071 -,160 N 57 57 57 57 57 57 57 trend percentage Pearson Correlation ,129 -,047 -,175 ,059 ,145 ,062			·		·	· ·	57		,600 57
N 57 57 57 57 57 57 57 57 57 57 57 57 57			,097	,207	,140	,375**	-,084	1	-,160
% cows removed average Pearson Correlation Sig. (2-tailed) -,009 ,035 -,115 ,215 -,071 -,160 N ,947 ,795 ,395 ,109 ,600 ,233 N 57 57 57 57 57 trend percentage Pearson Correlation ,129 -,047 -,175 ,059 ,145 ,062	aestruction		· ·		·	· ·			,233
Sig. (2-tailed) ,947 ,795 ,395 ,109 ,600 ,233 N 57 57 57 57 57 57 trend percentage Pearson Correlation ,129 -,047 -,175 ,059 ,145 ,062	% cows removed average								57 1
N 57 </td <td>2 2 22 200 0.0000</td> <td></td> <td>· ·</td> <td></td> <td>l '</td> <td>· ·</td> <td></td> <td></td> <td>1</td>	2 2 22 200 0.0000		· ·		l '	· ·			1
			57	57	57	57	57	57	57
the company of the co		Pearson Correlation Sig. (2-tailed)	,129 ,338		l '	,059 ,663		· ·	-,038 780
removed Sig. (2-tailed) ,338 ,727 ,193 ,663 ,283 ,645 N 57 57 57 57 57		• •							,780 57
cellcount average Pearson Correlation -,295* -,081 ,382** -,029 ,210 -,014	cellcount average		-,295*	-,081	,382**	-,029	,210	-,014	-,216
Sig. (2-tailed) ,026 ,549 ,003 ,829 ,117 ,916		·			· · · · · · · · · · · · · · · · · · ·				,106
N 57 </td <td>rend celgetal</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-,036</td>	rend celgetal								-,036
Sig. (2-tailed) ,089 ,807 ,793 ,315 ,222 ,007	g -							· ·	,792
N 57 57 57 57 57			57	57	57	57	57	57	57
amount of free diseases Pearson Correlation ,298* -,025 ,100 ,065 ,016 ,186	amount of free diseases					· ·			-,161 221
Sig. (2-tailed) ,024 ,856 ,457 ,633 ,905 ,165 N 57 57 57 57 57 57									,231 57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
age of the farmer	Pearson Correlation	-,159	-,075	,071	,118	,072	,033	-,066
	Sig. (2-tailed)	,238	,581	,601	,381	,593	,810	,625
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,218	-,081	,041	-,066	-,032	,012	,143
	Sig. (2-tailed)	,104	,550	,763	,628	,811	,931	,289
	N	57	57	57	57	57	57	57

		trond					
		trend percentage	cellcount		amount of free	age of the	higest
daily dosis mastitis	Pearson Correlation	removed -,060	average -,008	trend celgetal -,043	diseases ,200	farmer -,028	education ,227
daily doole madale	Sig. (2-tailed)	,656	,953	,753	,136	,835	,090
	N	57	57	57	57	57	57
milk cows average	Pearson Correlation Sig. (2-tailed)	,042 ,759	,331*	,034 ,801	,052	-,114	,223 ,095
	N	,759 57	,012 57	57	,700 57	,400 57	,095 57
grow in milk cows	Pearson Correlation	-,210	,246	-,213	-,070	-,001	,181
	Sig. (2-tailed)	,116 	,065	,112	,607	,993	,177
milk quota average	N Pearson Correlation	,032	57 ,256	,020	,101	57 -,130	57 ,279 ⁻
Time quota average	Sig. (2-tailed)	,814	,250	,884	,456	,335	,279
	N	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,092	,299*	-,100	-,124	,161	-,044
	Sig. (2-tailed) N	,496 57	,024 57	,459 57	,357 57	,233 57	,743, 57
amount of youngstock per	Pearson Correlation	-,433**	,010	-,069	,102	,030	-,132
10milkcows average	Sig. (2-tailed)	,001	,943	,612	,450	,823	,328
	N	57	57	57	57	57	57
trend amount of youngstock per 10 milk	Pearson Correlation	,435**	,013	,038	-,097	-,110	,024
cows	Sig. (2-tailed) N	,001 57	,922 57	,780 57	,473 57	,415 57	,860 57
amount of cows per	Pearson Correlation	,114	-,250	-,184	-,078	-,250	,327
hectares average	Sig. (2-tailed)	,397	,060	,170	,563	,061	,013
	N O I I	57	57	57	57	57	57
trend amount of cows per hectares	Pearson Correlation Sig. (2-tailed)	-,233 ,082	,039 ,773	-,327* ,013	-,063 ,643	,106 ,433	,105 ,437
	N	,082 57	,773 57	57	57	,433 57	,43 <i>1</i> 57
kg concentrates per	Pearson Correlation	-,235	-,125	,055	,158	,076	,266
100kg milk average	Sig. (2-tailed)	,079	,353	,682	,240	,577	,045
trand ka cancentrates nor	N Pearson Correlation	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Sig. (2-tailed)	-,341** ,009	,272* ,041	-,123 ,360	-,145 ,283	,079 ,560	-,190 ,156
· ·	N	,003 57	57	57	57	57	57
access to pastures last	Pearson Correlation	-,019	,041	-,142	,152	-,040	-,135
year	Sig. (2-tailed)	,888,	,765	,292	,261	,766	,317
age cows average	N Pearson Correlation	,057	,053	,110	,067	,071	,063
age cows average	Sig. (2-tailed)	,676	,697	,417	,618	,598	,640
	N	57	57	57	57	57	57
trend age cows	Pearson Correlation	,182	,036	,312*	,215	,280*	-,016
	Sig. (2-tailed) N	,175 57	,791 57	,018 57	,108 57	,035 57	,904 57
production average	Pearson Correlation	,129	-,295*	,227	,298*	-,159	,218
,	Sig. (2-tailed)	,338	,026	,089	,024	,238	,104
	N	57	57	57	57	57	57
trend on milk production	Pearson Correlation	-,047	-,081	-,033	-,025	-,075	-,081
	Sig. (2-tailed) N	,727 57	,549 57	,807 57	,856 57	,581 57	,550 57
time between calving	Pearson Correlation	-,175	,382**	-,036	,100	,071	,041
average	Sig. (2-tailed)	,193	,003	,793	,457	,601	,763
Annual on Europhotocom	N O a marketic m	57	57	57	57	57	57
trend on time between calving	Pearson Correlation Sig. (2-tailed)	,059 ,663	-,029 ,829	,135 ,315	,065 ,633	,118 ,381	-,066 ,628
3	N	,003 57	,629 57	57	57	57	,028 57
% to destruction average	Pearson Correlation	,145	,210	,164	,016	,072	-,032
	Sig. (2-tailed)	,283	,117	,222	,905	,593	,811
trend percentage to	N Pearson Correlation	57	57	57 356**	57	57	57
destruction	Sig. (2-tailed)	,062 ,645	-,014 ,916	,356** ,007	,186 ,165	,033 ,810	,012 ,931
	N	,048 57	,516 57	57	57	57	,551 57
% cows removed average	Pearson Correlation	-,038	-,216	-,036	-,161	-,066	,143
	Sig. (2-tailed)	,780	,106	,792	,231	,625	,289
trend percentage	N Pearson Correlation	57 1	,009	,246	,151	57 -,107	57 ,198
removed	Sig. (2-tailed)		,947	,065	,262	,428	,190
	N	57	57	57	57	57	57
cellcount average	Pearson Correlation	,009	1	,061	-,196	,259	-,194
	Sig. (2-tailed) N	,947 57	F7	,650 57	,144 57	,051 57	,148 57
trend celgetal	Pearson Correlation	,246		1	,079	,240	,008
J	Sig. (2-tailed)	,065	,650		,560	,072	,953 ,951
	N	57	57	57	57	57	57
amount of free diseases	Pearson Correlation Sig. (2-tailed)	,151 ,262	-,196 ,144	,079 ,560	1	-,087 ,520	,300 ⁻ ,023

		trend percentage removed	cellcount average	trend celgetal	amount of free diseases	age of the farmer	higest education
age of the farmer	Pearson Correlation	-,107	,259	,240	-,087	1	-,412**
	Sig. (2-tailed)	,428	,051	,072	,520		,001
	N	57	57	57	57	57	57
higest education	Pearson Correlation	,198	-,194	,008	,300*	-,412**	1
	Sig. (2-tailed)	,140	,148	,951	,023	,001	
	N	57	57	57	57	57	57

^{*.} Correlation is significant at the 0.05 level (2-tailed).

^{**.} Correlation is significant at the 0.01 level (2-tailed).

							amount of youngstock	trend amount
		daily dasis	milk oowo	grow in	milk guete		per	of youngstock
		daily dosis dry off	milk cows average	grow in milk cows	milk quota average	trend qouta	10milkcows average	per 10 milk cows
daily dosis dry off	Pearson Correlation	1	-,108	-,164	-,055	-,184	,060	,042
	Sig. (2-tailed) N	57	,423	,222	,687	,170	,657	,755
milk cows average	Pearson Correlation	57 -,108	57 1	57 ,620**	57 ,978**	57 ,405**	57 -,145	,081
min dowe average	Sig. (2-tailed)	,423	ı	,020	,000	,403	,281	,547
	N	57	57	57	57	57	57	57
grow in milk cows	Pearson Correlation	-,164	,620**	1	,660**	,783**	-,108	-,137
	Sig. (2-tailed)	,222	,000	5-7	,000	,000	,425	,310
milk quota average	N Pearson Correlation	57 -,055	.978**	57 ,660**	57 1	57 ,433**	57 -,149	,054
Timit quota avorago	Sig. (2-tailed)	,687	,000	,000	'	,400	,270	,689
	N	57	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,184	,405**	,783**	,433**	1	-,012	-,005
	Sig. (2-tailed)	,170	,002	,000	,001	57	,929	,968
amount of youngstock per	N Pearson Correlation	.060	57 -,145	57 -,108	57 -,149	57 -,012	57 1	-,246
10milkcows average	Sig. (2-tailed)	,657	,281	,425	,270	,929	'	,065
	N ,	57	57	57	57	57	57	57
trend amount of	Pearson Correlation	,042	,081	-,137	,054	-,005	-,246	1
youngstock per 10 milk cows	Sig. (2-tailed)	,755	,547	,310	,689	,968	,065	
amount of cows per	N Pearson Correlation	57 -,049	57 ,190	57 ,152	,209	57 -,076	57 -,360**	57 -,042
hectares average	Sig. (2-tailed)	-,049 ,718	,190 ,157	,152 ,260	,209 ,119	-,076 ,573	-,360°°° ,006	,758
-	N	,7 10 57	57	,200 57	57	,573 57	57	57
trend amount of cows per	Pearson Correlation	,012	,076	,406**	,108	,370**	,201	-,234
hectares	Sig. (2-tailed)	,931	,573	,002	,424	,005	,133	,080,
ka oonoontrotoo no-	N Pearson Correlation	57	57	57	57	57	57	57
kg concentrates per 100kg milk average	Sig. (2-tailed)	,029 ,830	-,147 ,274	-,072 ,596	-,110 ,414	-,185 ,167	,221 ,098	-,181 ,178
o o	N	,030 57	,274 57	,530 57	57	, 10 <i>7</i> 57	57	57
trend kg concentrates per	Pearson Correlation	-,228	,063	,209	,046	,144	,298*	-,081
100 kg milk	Sig. (2-tailed)	,088	,640	,118	,735	,286	,024	,548
	N	57	57	57	57	57	57	57
access to pastures last year	Pearson Correlation Sig. (2-tailed)	,051 ,707	-,269*	-,230	-,338*	-,234	,105	-,215
) oui	N	,707 57	,043 57	,085 57	,010 57	,080, 57	,438 57	,107 57
age cows average	Pearson Correlation	,041	-,019	-,267*	-,071	-,248	-,178	,060
	Sig. (2-tailed)	,763	,888,	,045	,601	,062	,185	,658
	N	57	57	57	57	57	57	57
trend age cows	Pearson Correlation	,167	-,015	-,195	,003	-,086	-,112	-,090
	Sig. (2-tailed) N	,216 57	,914 57	,145 57	,981 57	,525 57	,407 57	,503 57
production average	Pearson Correlation	,145	,123	,077	,214	,063	-,123	,224
	Sig. (2-tailed)	,284	,364	,569	,110	,641	,363	,095
	N	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation	,044	-,115	-,055	-,069	,107	,236	,114
	Sig. (2-tailed) N	,745 57	,394 57	,683 57	,610 57	,429 57	,077 57	,400 57
time between calving	Pearson Correlation	-,476**	,286*	,216	,286*	,153	,120	-,122
average	Sig. (2-tailed)	,000	,031	,107	,031	,255	,375	,366
	N	57	57	57	57	57	57	57
trend on time between	Pearson Correlation	-,031	-,089	-,148	-,089	-,020	,290*	-,080
calving	Sig. (2-tailed) N	,817 57	,509 57	,271 57	,510 57	,884 57	,029 57	,552
% to destruction average	Pearson Correlation	-,068	,037	-,016	,011	57 -,011	,058	,044
arolugo	Sig. (2-tailed)	,613	,786	,906	,936	,933	,669	,743
	N	57	57	57	57	57	57	57
trend percentage to	Pearson Correlation	,003	-,037	-,280*	-,064	-,253	,270*	-,060
destruction	Sig. (2-tailed)	,982	,783	,035	,634	,058	,042	,656
% cows removed average	N Pearson Correlation	57 ,160	,013	,016	,049	,065	,225	-,090
,, some removed average	Sig. (2-tailed)	,160	,013	,016	,049	,063	,092	,504
	N	,200 57	,525 57	,500 57	57	,555 57	57	57
trend percentage	Pearson Correlation	,252	,042	-,210	,032	-,092	-,433**	,435*
removed	Sig. (2-tailed)	,058	,759	,116 	,814	,496	,001	,001
colleguat average	N Pearson Correlation	57 501**	57	57	57	57 200*	57	57
cellcount average	Pearson Correlation Sig. (2-tailed)	-,501** ,000	,331* ,012	,246 ,065	,256 ,055	,299* ,024	,010 ,943	,013 ,922
	N	,000 57	,012 57	,065 57	,055 57	,024 57	,943 57	,922
trend celgetal	Pearson Correlation	-,029	,034	-,213	,020	-,100	-,069	,038
	Sig. (2-tailed)	,830	,801	,112	,884	,459	,612	,780
	N O I I	57	57	57	57	57	57	57
amount of free diseases	Pearson Correlation	,327*	,052	-,070	,101	-,124 257	,102	-,097
	Sig. (2-tailed) N	,013 57	,700 57	,607 57	,456 57	,357 57	,450 57	,473 57
	17	31	31	31	1 31	31	<u> </u>	<u> </u>

Correlations annex 14 daily dosage for dry off injectors

		daily dosis dry off	milk cows average	grow in milk cows	milk quota average	trend qouta	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows
age of the farmer	Pearson Correlation	,043	-,114	-,001	-,130	,161	,030	-,110
	Sig. (2-tailed)	,748	,400	,993	,335	,233	,823	,415
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,170	,223	,181	,279*	-,044	-,132	,024
	Sig. (2-tailed)	,206	,095	,177	,036	,743	,328	,860
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age
daily dosis dry off	Pearson Correlation Sig. (2-tailed)	-,049 ,718	,012 ,931	,029 ,830	-,228 ,088	,051 ,707	,041 ,763	,167 ,216
	N	57	57	57	57	57	57	57
milk cows average	Pearson Correlation	,190	,076	-,147	,063	-,269*	-,019	-,015
	Sig. (2-tailed) N	,157 57	,573 57	,274 57	,640 57	,043 57	,888, 57	,914 57
grow in milk cows	Pearson Correlation	,152	,406**	-,072	,209	-,230	-,267*	-,195
	Sig. (2-tailed)	,260	,002	,596	,118	,085	,045	,145
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,209	,108	-,110	,046	-,338*	-,071	,003
	Sig. (2-tailed) N	,119 57	,424 57	,414 57	,735 57	,010, 57	,601 57	,981 57
trend qouta	Pearson Correlation	-,076	,370**	-,185	,144	-,234	-,248	-,086
	Sig. (2-tailed)	,573	,005	,167	,286	,080,	,062	,525
amount of voungetook per	N Pearson Correlation	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Sig. (2-tailed)	-,360** ,006	,201 ,133	,221 ,098	,298* ,024	,105 ,438	-,178 ,185	-,112 ,407
· ·	N	,555 57	57	57	,024 57	,+66 57	57	, +67 57
trend amount of	Pearson Correlation	-,042	-,234	-,181	-,081	-,215	,060	-,090
youngstock per 10 milk cows	Sig. (2-tailed)	,758	,080,	,178	,548	,107	,658	,503
amount of cows per	N Pearson Correlation	57 1	.044	,046	57 -,024	57 -,166	,096	,005
hectares average	Sig. (2-tailed)	'	,044 ,744	,046	-,024 ,858	-,166 ,217	,096	,005
	N ,	57	57	57	57	57	57	57
trend amount of cows per hectares	Pearson Correlation	,044	1	,085	,057	-,119	-,117	-,305*
nectares	Sig. (2-tailed) N	,744		,530	,676	,377	,388	,021
kg concentrates per	Pearson Correlation	,046	,085	57 1	57 ,217	,063	,018	,075
100kg milk average	Sig. (2-tailed)	,736	,530	'	,105	,642	,896	,582
	N	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation	-,024	,057	,217	1	,039	,018	-,091
100 kg Illiik	Sig. (2-tailed) N	,858 57	,676 57	,105 57	57	,776, 57	,892 57	,500 57
access to pastures last	Pearson Correlation	-,166	-,119	,063	,039	1	,149	,167
year	Sig. (2-tailed)	,217	,377	,642	,776		,270	,216
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation Sig. (2-tailed)	,096	-,117	,018	,018	,149	1	,150
	N	,479 57	,388 57	,896 57	,892 57	,270 57	57	,267 57
trend age cows	Pearson Correlation	,005	-,305*	,075	-,091	,167	,150	1
	Sig. (2-tailed)	,968	,021	,582	,500	,216	,267	
nraduation average	N Pearson Correlation	57	57	57	57	57	57	57
production average	Sig. (2-tailed)	-,045 ,740	,006 ,965	-,011 ,933	-,280* ,035	-,256 ,055	-,155 ,249	-,059 ,660
	N	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation	-,148	-,042	,220	,435**	-,256	-,055	-,021
	Sig. (2-tailed)	,273	,755	,101	,001	,055	,683	,876
time between calving	N Pearson Correlation	,053	,098	,082	,180	57 -,055	,075	,177
average	Sig. (2-tailed)	,693	,467	,545	,180	,683	,582	,177
	N	57	57	57	57	57	57	57
trend on time between calving	Pearson Correlation	-,154	-,087	-,065	-,006	,012	-,094	,004
Sairing	Sig. (2-tailed) N	,251 57	,518 57	,633 57	,964 57	,930 57	,485 57	,975 57
% to destruction average	Pearson Correlation	-,071	-,095	-,106	-,021	-,159	-,100	-,060
-	Sig. (2-tailed)	,598	,481	,431	,879	,237	,458	,659
trand narrantees to	N Decrees Correlation	57	57	57	57	57	57	57
trend percentage to destruction	Pearson Correlation Sig. (2-tailed)	-,210 ,117	-,229 ,086	,216 ,107	,025 ,852	-,013 ,924	,139 ,301	,073 ,588
	N	57	57	57	,83 <u>2</u> 57	,924 57	57	,366 57
% cows removed average	Pearson Correlation	,243	,010	-,199	-,034	-,111	-,322*	,046
	Sig. (2-tailed)	,069	,940	,138	,799	,409	,015	,734
trend percentage	N Pearson Correlation	57 ,114	-,233	57 -,235	57 -,341**	57 -,019	,057	,182
removed	Sig. (2-tailed)	,114	,082	,079	,009	-,019 ,888,	,676	,162
	N	57	57	57	57	57	57	57
cellcount average	Pearson Correlation	-,250	,039	-,125	,272*	,041	,053	,036
	Sig. (2-tailed) N	,060 57	,773 57	,353 57	,041 57	,765 57	,697 57	,791
trend celgetal	Pearson Correlation	-,184	-,327*	,055	-,123	-,142	,110	57 ,312*
	Sig. (2-tailed)	,170	,013	,682	,360	,292	,417	,018
	N	57	57	57	57	57	57	57
amount of free diseases	Pearson Correlation	-,078 563	-,063	,158	-,145	,152	,067	,215
	Sig. (2-tailed) N	,563 57	,643 57	,240 57	,283 57	,261 57	,618 57	,108 57
		ا عا ا	1 3/	51	51	31	<u> </u>	31

Correlations annex 14 daily dosage for dry off injectors

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age cows
age of the farmer	Pearson Correlation	-,250	,106	,076	,079	-,040	,071	,280*
	Sig. (2-tailed)	,061	,433	,577	,560	,766	,598	,035
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,327*	,105	,266*	-,190	-,135	,063	-,016
	Sig. (2-tailed)	,013	,437	,045	,156	,317	,640	,904
	N	57	57	57	57	57	57	57

				time between	trend on time	% to	trend	% cows
		production average	trend on milk production	calving average	between calving	destruction average	percentage to destruction	removed average
daily dosis dry off	Pearson Correlation	,145	,044	-,476**	-,031	-,068	,003	,160
	Sig. (2-tailed) N	,284 57	,745 57	,000 57	,817 57	,613 57	,982 57	,235, 57
milk cows average	Pearson Correlation	,123	-,115	,286*	-,089	,037	-,037	,013
	Sig. (2-tailed)	,364	,394	,031	,509	,786	,783	,923
grow in milk cows	N Pearson Correlation	57	57	57	57	57	57	57
grow in milk cows	Sig. (2-tailed)	,077 ,569	-,055 ,683	,216 ,107	-,148 ,271	-,016 ,906	-,280* ,035	,016, ,903
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,214	-,069	,286*	-,089	,011	-,064	,049
	Sig. (2-tailed) N	,110 57	,610 57	,031 57	,510 57	,936 57	,634 57	,717, 57
trend qouta	Pearson Correlation	,063	,107	,153	-,020	-,011	-,253	,065
•	Sig. (2-tailed)	,641	,429	,255	,884	,933	,058	,630
	N	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Pearson Correlation Sig. (2-tailed)	-,123	,236	,120	,290*	,058	,270*	,225
Tommoows average	N	,363 57	,077 57	,375 57	,029 57	,669 57	,042 57	,092 57
trend amount of	Pearson Correlation	,224	,114	-,122	-,080	,044	-,060	-,090
youngstock per 10 milk	Sig. (2-tailed)	,095	,400	,366	,552	,743	,656	,504
amount of cows per	N Pearson Correlation	57	57	57	57	57	57	57
amount of cows per hectares average	Pearson Correlation Sig. (2-tailed)	-,045 ,740	-,148 ,273	,053 ,693	-,154 ,251	-,071 ,598	-,210 ,117	,243 ,069
Ŭ	N	,740 57	57	,093 57	,251 57	,596 57	57	,009
trend amount of cows per	Pearson Correlation	,006	-,042	,098	-,087	-,095	-,229	,010
hectares	Sig. (2-tailed)	,965	,755	,467	,518	,481	,086	,940
kg concentrates per	N Pearson Correlation	57 -,011	,220	,082	57 -,065	-,106	,216	57 -,199
100kg milk average	Sig. (2-tailed)	,933	,101	,082 ,545	,633	-, 100 ,431	,107	-, 199 ,138
	N ,	57	57	57	57	57	57	57
trend kg concentrates per	Pearson Correlation	-,280*	,435**	,180	-,006	-,021	,025	-,034
100 kg milk	Sig. (2-tailed) N	,035 57	,001 57	,180 57	,964	,879	,852 57	,799
access to pastures last	Pearson Correlation	-,256	-,256	-,055	,012	57 -,159	-,013	57 -,111
year	Sig. (2-tailed)	,055	,055	,683	,930	,237	,924	,409
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation Sig. (2-tailed)	-,155	-,055	,075	-,094	-,100	,139	-,322*
	N	,249 57	,683 57	,582 57	,485 57	,458 57	,301 57	,015 57
trend age cows	Pearson Correlation	-,059	-,021	,177	,004	-,060	,073	,046
	Sig. (2-tailed)	,660	,876	,188	,975	,659	,588	,734
and duction overess	N Pearson Correlation	57	57	57	57	57	57	57
production average	Sig. (2-tailed)	1	-,109 ,422	,126 ,350	,041 ,763	,071 ,601	,097 ,474	-,009 ,947
	N (= taeu)	57	57	57	57	57	57	,5 17 57
trend on milk production	Pearson Correlation	-,109	1	-,137	,150	-,175	,207	,035
	Sig. (2-tailed)	,422		,311	,264	,194	,123	,795
time between calving	N Pearson Correlation	,126	57 -,137	57 1	,031	57 ,244	,140	57 -,115
average	Sig. (2-tailed)	,350	,311	· ·	,822	,068	,298	,395
	N	57	57	57	57	57	57	57
trend on time between calving	Pearson Correlation	,041	,150	,031	1	-,091	,375**	,215
- 39	Sig. (2-tailed) N	,763 57	,264 57	,822 57	57	,500 57	,004 57	,109 57
% to destruction average	Pearson Correlation	,071	-,175	,244	-,091	1	-,084	-,071
-	Sig. (2-tailed)	,601	,194	,068	,500		,533	,600
trand paraantage to	N Pearson Correlation	57	57	57	57	57	57	57
trend percentage to destruction	Sig. (2-tailed)	,097 ,474	,207 ,123	,140 ,298	,375** ,004	-,084 ,533	1	-,160 ,233
	N	57	57	57	57	,555 57	57	, <u>2</u> 55
% cows removed average	Pearson Correlation	-,009	,035	-,115	,215	-,071	-,160	1
	Sig. (2-tailed) N	,947	,795	,395 57	,109	,600	,233	- -
trend percentage	Pearson Correlation	,129	57 -,047	-,175	,059	,145	,062	57 -,038
removed	Sig. (2-tailed)	,338	,727	,193	,663	,283	,645	,780
	N	57	57	57	57	57	57	57
cellcount average	Pearson Correlation	-,295*	-,081	,382**	-,029	,210	-,014	-,216
	Sig. (2-tailed) N	,026 57	,549 57	,003 57	,829 57	,117 57	,916 57	,106 57
trend celgetal	Pearson Correlation	,227	-,033	-,036	,135	,164	,356**	-,036
-	Sig. (2-tailed)	,089	,807	,793	,315	,222	,007	,792
	N Completion	57	57	57	57	57	57	57
amount of free diseases	Pearson Correlation Sig. (2-tailed)	,298*	-,025 856	,100	,065 633	,016 905	,186 165	-,161 231
	Jig. (Z-laiitu)	,024	,856	,457	,633	,905	,165	,231

Correlations annex 14 daily dosage for dry off injectors

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
age of the farmer	Pearson Correlation	-,159	-,075	,071	,118	,072	,033	-,066
	Sig. (2-tailed)	,238	,581	,601	,381	,593	,810	,625
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,218	-,081	,041	-,066	-,032	,012	,143
	Sig. (2-tailed)	,104	,550	,763	,628	,811	,931	,289
	N	57	57	57	57	57	57	57

		trend percentage	cellcount		amount of free	age of the	higest
		removed	average	trend celgetal	diseases	farmer	education
daily dosis dry off	Pearson Correlation Sig. (2-tailed)	,252	-,501**		,327*	,043	,170
	N	,058 57	,000, 57	,830 57	,013 57	,748 57	,206 57
milk cows average	Pearson Correlation	,042	,331*	,034	,052	-,114	,223
	Sig. (2-tailed)	,759	,012	,801	,700	,400	,095
	N	57	57	57	57	57	57
grow in milk cows	Pearson Correlation	-,210	,246	-,213	-,070	-,001	,181
	Sig. (2-tailed) N	,116 57	,065 57	,112 57	,607 57	,993 57	,177, 57
milk quota average	Pearson Correlation	,032	,256	,020	,101	-,130	,279
	Sig. (2-tailed)	,814	,055	,884	,456	,335	,036
	N	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,092	,299*	-,100	-,124	,161	-,044
	Sig. (2-tailed) N	,496 57	,024 57	,459 57	,357 57	,233 57	,743, 57
amount of youngstock per	Pearson Correlation	-,433**	,010	-,069	,102	,030	-,132
10milkcows average	Sig. (2-tailed)	,001	,943	,612	,450	,823	,328
	N	57	57	57	57	57	57
trend amount of	Pearson Correlation	,435**	,013	,038	-,097	-,110	,024
youngstock per 10 milk cows	Sig. (2-tailed)	,001	,922	,780	,473	,415	,860
	N Pearson Correlation	57	57	57	57	57 250	57
amount of cows per hectares average	Sig. (2-tailed)	,114 ,397	-,250 ,060	-,184 ,170	-,078 ,563	-,250 ,061	,327 ,013
	N	,397 57	,060 57	,170 57	,563 57	57	,013 57
trend amount of cows per	Pearson Correlation	-,233	,039	-,327*	-,063	,106	,105
hectares	Sig. (2-tailed)	,082	,773	,013	,643	,433	,437
	N	57	57	57	57	57	57
kg concentrates per	Pearson Correlation	-,235	-,125	,055	,158	,076	,266
100kg milk average	Sig. (2-tailed)	,079	,353	,682	,240	,577	,045
trend kg concentrates per	N Pearson Correlation	57 -,341**	57 ,272*	57 -,123	57 -,145	,079	57 -,190
100 kg milk	Sig. (2-tailed)	,009	,272 ,041	,360	,283	,560	,156
-	N	57	57	57	57	57	57
access to pastures last	Pearson Correlation	-,019	,041	-,142	,152	-,040	-,135
year	Sig. (2-tailed)	,888	,765	,292	,261	,766	,317
	N	57	57	57	57	57	57
age cows average	Pearson Correlation	,057	,053	,110	,067	,071	,063
	Sig. (2-tailed) N	,676 57	,697 57	,417 57	,618 57	,598 57	,640 57
trend age cows	Pearson Correlation	,182	,036	,312*	,215	,280*	-,016
.	Sig. (2-tailed)	,175	,791	,018	,108	,035	,904
	N	57	57	57	57	57	57
production average	Pearson Correlation	,129	-,295*	,227	,298*	-,159	,218
	Sig. (2-tailed)	,338	,026	,089	,024	,238	,104
trend on milk production	N Pearson Correlation	57	57	57	57	57	57
trend on milk production	Sig. (2-tailed)	-,047 ,727	-,081 ,549	-,033 ,807	-,025 ,856	-,075 ,581	-,081 ,550
	N	57	,5 -1 5	,507 57	57	57	,550 57
time between calving	Pearson Correlation	-,175	,382**	-,036	,100	,071	,041
average	Sig. (2-tailed)	,193	,003	,793	,457	,601	,763
	N	57	57	57	57	57	57
trend on time between calving	Pearson Correlation	,059	-,029	,135	,065	,118	-,066
Calving	Sig. (2-tailed) N	,663 57	,829, 57	,315 57	,633 57	,381 57	,628 57
% to destruction average	Pearson Correlation	,145	,210	,164	,016	,072	-,032
	Sig. (2-tailed)	,143	,210 ,117	,222	,905	,593	-,032 ,811
	N	57	57	57	57	57	57
trend percentage to	Pearson Correlation	,062	-,014	,356**	,186	,033	,012
destruction	Sig. (2-tailed)	,645	,916	,007	,165	,810	,931
0/ 00W2 ramayad =	N Poorcon Correlation	57	57	57	57	57	57
% cows removed average	Pearson Correlation Sig. (2-tailed)	-,038 ,780	-,216 106	-,036 792	-,161 231	-,066 625	,143 ,289
	N	,780 57	,106 57	,792 57	,231 57	,625 57	,289 57
trend percentage	Pearson Correlation	1	,009	,246	,151	-,107	,198
removed	Sig. (2-tailed)		,947	,065	,262	,428	,140
	N	57	57	57	57	57	57
cellcount average	Pearson Correlation	,009	1	,061	-,196	,259	-,194
	Sig. (2-tailed)	,947		,650	,144	,051	,148
trend celgetal	N Pearson Correlation	57 ,246	57 061	57	,079	57 240	,008
aona odigetai	Sig. (2-tailed)	,246 ,065	,061 ,650	'	,560	,240 ,072	,008 ,951
	N	,065 57	,650 57	57	57	57	,951
amount of free diseases	Pearson Correlation	,151	-,196	,079	1	-,087	,300
	Sig. (2-tailed)	,262	,144	,560		,520	,023
	N	57	57	57	57	57	57

Correlations annex 14 daily dosage for dry off injectors

		trend percentage removed	cellcount average	trend celgetal	amount of free diseases	age of the farmer	higest education
age of the farmer	Pearson Correlation	-,107	,259	,240	-,087	1	-,412**
	Sig. (2-tailed)	,428	,051	,072	,520		,001
	N	57	57	57	57	57	57
higest education	Pearson Correlation	,198	-,194	,008	,300*	-,412**	1
	Sig. (2-tailed)	,140	,148	,951	,023	,001	
	N	57	57	57	57	57	57

^{**.} Correlation is significant at the 0.01 level (2-tailed).

^{*.} Correlation is significant at the 0.05 level (2-tailed).

							amount of youngstock	trend amount
		daily dosis	milk cows	grow in	milk quota		per 10milkcows	of youngstock per 10 milk
		other	average	milk cows	average	trend qouta	average	cows
daily dosis other	Pearson Correlation Sig. (2-tailed)	1	,348** ,008	,299* ,024	,409** ,002	,167 ,215	,210 ,116	-,122 ,366
	N	57	,008 57	,024 57	57	,213 57	57	57
milk cows average	Pearson Correlation	,348**	1	,620**	,978**	,405**	-,145	,081
	Sig. (2-tailed)	,008		,000	,000	,002	,281	,547
grow in milk cows	N Pearson Correlation	57 ,299*	.620**	57 1	57 ,660**	57 ,783**	57 -,108	-,137
grow in mink cows	Sig. (2-tailed)	,024	,020	'	,000	,700	,425	,310
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,409**	,978**	,660**	1	,433**	-,149	,054
	Sig. (2-tailed) N	,002 57	,000, 57	,000, 57	57	,001 57	,270 57	,689 57
trend gouta	Pearson Correlation	,167	,405**	,783**	,433**	1	-,012	-,005
·	Sig. (2-tailed)	,215	,002	,000	,001		,929	,968
	N	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Pearson Correlation	,210	-,145	-,108	-,149	-,012	1	-,246
Tomincows average	Sig. (2-tailed) N	,116 57	,281 57	,425 57	,270 57	,929 57	57	,065 57
trend amount of	Pearson Correlation	-,122	,081	-,137	,054	-,005	-,246	1
youngstock per 10 milk	Sig. (2-tailed)	,366	,547	,310	,689	,968	,065	
cows	N Decrees Correlation	57	57	57	57	57	57	57
amount of cows per hectares average	Pearson Correlation Sig. (2-tailed)	,107 ,427	,190 ,157	,152 ,260	,209 ,119	-,076 ,573	-,360** ,006	-,042 ,758
3 -	N	,427 57	, 15 <i>7</i> 57	,260 57	57	,573 57	,006 57	57
trend amount of cows per	Pearson Correlation	,211	,076	,406**	,108	,370**	,201	-,234
hectares	Sig. (2-tailed)	,116 	,573	,002	,424	,005	,133	,080
kg concentrates per	N Pearson Correlation	57 ,216	57	57	57	57	57	57
100kg milk average	Sig. (2-tailed)	,216 ,107	-,147 ,274	-,072 ,596	-,110 ,414	-,185 ,167	,221 ,098	-,181 ,178
	N	57	57	57	57	57	57	57
trend kg concentrates per	Pearson Correlation	,043	,063	,209	,046	,144	,298*	-,081
100 kg milk	Sig. (2-tailed)	,749	,640	,118	,735	,286	,024	,548
access to pastures last	N Pearson Correlation	57 -,159	57 -,269*	57 -,230	57 -,338*	57 -,234	,105	57 -,215
year	Sig. (2-tailed)	,238	,043	,085	,010	,080	,438	,107
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation	-,190	-,019	-,267*	-,071	-,248	-,178	,060
	Sig. (2-tailed) N	,158 57	,888, 57	,045 57	,601 57	,062 57	,185 57	,658 57
trend age cows	Pearson Correlation	-,035	-,015	-,195	,003	-,086	-,112	-,090
	Sig. (2-tailed)	,798	,914	,145	,981	,525	,407	,503
	N O I II	57	57	57	57	57	57	57
production average	Pearson Correlation Sig. (2-tailed)	,232 ,082	,123 ,364	,077 ,569	,214 ,110	,063 ,641	-,123 ,363	,224 ,095
	N	,062 57	,30 4 57	,309 57	57	,041 57	,303 57	57
trend on milk production	Pearson Correlation	,140	-,115	-,055	-,069	,107	,236	,114
	Sig. (2-tailed)	,298	,394	,683	,610	,429	,077	,400
time between calving	N Pearson Correlation	57 ,199	57 ,286*	57 ,216	,286*	57 ,153	,120	57 -,122
average	Sig. (2-tailed)	,199	,286° ,031	,216 ,107	,286",031	,153 ,255	,120 ,375	,366
	N	57	57	57	57	, <u>2</u> 55 57	57	57
trend on time between	Pearson Correlation	-,024	-,089	-,148	-,089	-,020	,290*	-,080
calving	Sig. (2-tailed) N	,861 57	,509 57	,271 57	,510 57	,884 57	,029 57	,552 57
% to destruction average	Pearson Correlation	-,131	,037	-,016	,011	57 -,011	,058	,044
	Sig. (2-tailed)	,331	,786	,906	,936	,933	,669	,743
	N	57	57	57	57	57	57	57
trend percentage to destruction	Pearson Correlation	,125	-,037 783	-,280*	-,064 634	-,253	,270*	-,060
2558 458611	Sig. (2-tailed) N	,353 57	,783, 57	,035 57	,634 57	,058 57	,042 57	,656 57
% cows removed average	Pearson Correlation	-,095	,013	,016	,049	,065	,225	-,090
-	Sig. (2-tailed)	,482	,923	,903	,717	,630	,092	,504
trand paraceters	N Regreen Correlation	57	57	57	57	57	57	57
trend percentage removed	Pearson Correlation Sig. (2-tailed)	-,226 ,090	,042 ,759	-,210 ,116	,032 ,814	-,092 ,496	-,433** ,001	,435* ,001
	N	,090 57	,759 57	57	57	,490 57	,001 57	57
cellcount average	Pearson Correlation	-,145	,331*	,246	,256	,299*	,010	,013
	Sig. (2-tailed)	,283	,012	,065	,055	,024	,943	,922
trend celgetal	N Pearson Correlation	57 -,031	,034	57 -,213	,020	57 -,100	57 -,069	,038
aona ooigotai	Sig. (2-tailed)	-,031 ,818	,034 ,801	-,213 ,112	,020	-, 100 ,459	-,069 ,612	,038
	N	,516 57	,551 57	57	57	57	57	57
amount of free diseases	Pearson Correlation	,260	,052	-,070	,101	-,124	,102	-,097
	Sig. (2-tailed) N	,051	,700 57	,607	,456	,357	,450	,473
	111	57	57	57	57	57	57	57

		daily dosis other	milk cows average	grow in milk cows	milk quota average	trend qouta	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows
age of the farmer	Pearson Correlation	-,224	-,114	-,001	-,130	,161	,030	-,110
	Sig. (2-tailed)	,094	,400	,993	,335	,233	,823	,415
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,243	,223	,181	,279*	-,044	-,132	,024
	Sig. (2-tailed)	,069	,095	,177	,036	,743	,328	,860
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age
daily dosis other	Pearson Correlation Sig. (2-tailed)	,107 ,427	,211 ,116	,216 ,107	,043 ,749	-,159 ,238	-,190 ,158	-,035 ,798
	N	57	57	57	57	57	57	57
milk cows average	Pearson Correlation	,190	,076	-,147	,063	-,269*	-,019	-,015
	Sig. (2-tailed) N	,157	,573	,274	,640	,043	,888,	,914
grow in milk cows	Pearson Correlation	57 ,152	57 ,406**	57 -,072		-,230	57 -,267*	57 -,195
grow in minic conc	Sig. (2-tailed)	,260	,002	,596	,118	,085	,045	,145
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,209	,108	-,110	,046	-,338*	-,071	,003
	Sig. (2-tailed) N	,119 57	,424 57	,414 57	,735 57	,010 57	,601 57	,981 57
trend qouta	Pearson Correlation	-,076	,370**	-,185	,144	-,234	-,248	-,086
	Sig. (2-tailed)	,573	,005	,167	,286	,080	,062	,525
	N Pearson Correlation	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Sig. (2-tailed)	-,360** ,006	,201 ,133	,221 ,098	,298* ,024	,105 ,438	-,178 ,185	-,112 ,407
	N	57	57	57	,02 4 57	57	57	57
trend amount of	Pearson Correlation	-,042	-,234	-,181	-,081	-,215	,060	-,090
youngstock per 10 milk cows	Sig. (2-tailed)	,758	,080,	,178	,548	,107	,658	,503
amount of cows per	N Pearson Correlation	57 1	.044	,046	57 -,024	57 -,166	,096	,005
hectares average	Sig. (2-tailed)	[,044 ,744	,736	-,024 ,858	,217	,096	,968
	N ,	57	57	57	57	[′] 57	57	57
trend amount of cows per hectares	Pearson Correlation	,044	1	,085	,057	-,119	-,117	-,305*
nectares	Sig. (2-tailed) N	,744 57	57	,530 57	,676 57	,377 57	,388 57	,021 57
kg concentrates per	Pearson Correlation	,046	,085	1	,217	,063	,018	,075
100kg milk average	Sig. (2-tailed)	,736	,530	·	,105	,642	,896	,582
	N	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation	-,024	,057	,217	1	,039	,018	-,091
100 kg milk	Sig. (2-tailed) N	,858 57	,676 57	,105 57	57	,776 57	,892 57	,500 57
access to pastures last	Pearson Correlation	-,166	-,119	,063	,039	1	,149	,167
year	Sig. (2-tailed)	,217	,377	,642	,776		,270	,216
	N Decree of October 1945 of	57	57	57	57	57	57	57
age cows average	Pearson Correlation Sig. (2-tailed)	,096 ,479	-,117 ,388	,018 ,896	,018 ,892	,149 ,270	1	,150 ,267
	N	57	57	57	,53 <u>2</u> 57	57	57	57
trend age cows	Pearson Correlation	,005	-,305*	,075	-,091	,167	,150	1
	Sig. (2-tailed)	,968	,021	,582	,500	,216	,267	
production average	N Pearson Correlation	57 -,045	,006	57 -,011	57 -,280*	57 -,256	57 -,155	-,059
production average	Sig. (2-tailed)	,740	,965	,933	,035	,055	,249	,660
	N	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation	-,148	-,042	,220	,435**	-,256	-,055	-,021
	Sig. (2-tailed) N	,273 57	,755 57	,101 57	,001 57	,055 57	,683 57	,876 57
time between calving	Pearson Correlation	,053	,098	,082	,180	-,055	,075	,177
average	Sig. (2-tailed)	,693	,467	,545	,180	,683	,582	,188
Annual on time a battire on	N Correlation	57	57	57	57	57	57	57
trend on time between calving	Pearson Correlation Sig. (2-tailed)	-,154 ,251	-,087 ,518	-,065 ,633	-,006 ,964	,012 ,930	-,094 ,485	,004 ,975
-	N	57	57	,033 57	,90 4 57	,930 57	, 4 63 57	57
% to destruction average	Pearson Correlation	-,071	-,095	-,106	-,021	-,159	-,100	-,060
	Sig. (2-tailed)	,598	,481	,431	,879	,237	,458	,659
trend percentage to	N Pearson Correlation	57 -,210	57 -,229	,216	,025	-,013	,139	,073
destruction	Sig. (2-tailed)	,117	,086	,210	,025 ,852	,924	,139	,588
	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation	,243	,010	-,199	-,034	-,111	-,322*	,046
	Sig. (2-tailed) N	,069 57	,940 57	,138 57	,799 57	,409 57	,015 57	,734 57
trend percentage	Pearson Correlation	,114	-,233	-,235	-,341**	-,019	,057	,182
removed	Sig. (2-tailed)	,397	,082	,079	,009	,888	,676	,175
colleguet average	N Degreen Correlation	57	57	57	57	57	57	57
cellcount average	Pearson Correlation Sig. (2-tailed)	-,250 ,060	,039 ,773	-,125 ,353	,272* ,041	,041 ,765	,053 ,697	,036 ,791
	N	57	57	,353 57	,041 57	57	,69 <i>1</i> 57	57
trend celgetal	Pearson Correlation	-,184	-,327*	,055	-,123	-,142	,110	,312*
	Sig. (2-tailed)	,170	,013	,682	,360	,292	,417	,018
amount of free diseases	N Pearson Correlation	57 -,078	57 -,063	,158	57 - 145	,152	,067	57 ,215
amount of fiee diseases	Sig. (2-tailed)	,563	-,063 ,643	,158 ,240	-,145 ,283	,152 ,261	,067	,215 ,108
	oig. (= tailou)							

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age cows
age of the farmer	Pearson Correlation	-,250	,106	,076	,079	-,040	,071	,280*
	Sig. (2-tailed)	,061	,433	,577	,560	,766	,598	,035
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,327*	,105	,266*	-,190	-,135	,063	-,016
	Sig. (2-tailed)	,013	,437	,045	,156	,317	,640	,904
	N	57	57	57	57	57	57	57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
daily dosis other	Pearson Correlation Sig. (2-tailed)	,232 ,082	,140 ,298	,199 ,138	-,024 ,861	-,131 ,331	,125 ,353	-,095 ,482
	N	,002 57	, <u>2</u> 50 57	57	57	,551 57	57	, 4 62 57
milk cows average	Pearson Correlation	,123	-,115	,286*	-,089	,037	-,037	,013
	Sig. (2-tailed) N	,364 57	,394 57	,031 57	,509 57	,786 57	,783 57	,923 57
grow in milk cows	Pearson Correlation	,077	-,055	,216	-,148	-,016	-,280*	,016
	Sig. (2-tailed)	,569	,683	,107	,271	,906	,035	,903
mills assata assarana	N Pearson Correlation	57	57	57	57	57	57	57
milk quota average	Sig. (2-tailed)	,214 ,110	-,069 ,610	,286* ,031	-,089 ,510	,011 ,936	-,064 ,634	,049 ,717
	N	57	57	57	57	,555 57	57	57
trend qouta	Pearson Correlation	,063	,107	,153	-,020	-,011	-,253	,065
	Sig. (2-tailed) N	,641 57	,429 57	,255 57	,884 57	,933 57	,058 57	,630 57
amount of youngstock per	Pearson Correlation	-,123	,236	,120	,290*	,058	,270*	,225
10milkcows average	Sig. (2-tailed)	,363	,077	,375	,029	,669	,042	,092
	N	57	57	57	57	57	57	57
trend amount of youngstock per 10 milk	Pearson Correlation Sig. (2-tailed)	,224 ,095	,114 ,400	-,122 ,366	-,080 ,552	,044 ,743	-,060 ,656	-,090 ,504
cows	N	,095 57	,400 57	57	,552 57	,743 57	57	,50 4 57
amount of cows per	Pearson Correlation	-,045	-,148	,053	-,154	-,071	-,210	,243
hectares average	Sig. (2-tailed)	,740	,273	,693	,251	,598	,117	,069
trend amount of cows per	N Pearson Correlation	57	57	57	57	57	57	57
hectares	Sig. (2-tailed)	,006 ,965	-,042 ,755	,098 ,467	-,087 ,518	-,095 ,481	-,229 ,086	,010 ,940
	N	57	57	57	57	57	57	57
kg concentrates per 100kg milk average	Pearson Correlation	-,011	,220	,082	-,065	-,106	,216	-,199
TOOKY TIIIK average	Sig. (2-tailed) N	,933 57	,101 57	,545 57	,633 57	,431 57	,107 57	,138 57
trend kg concentrates per	Pearson Correlation	-,280*	,435**		-,006	-,021	,025	-,034
100 kg milk	Sig. (2-tailed)	,035	,001	,180	,964	,879	,852	,799
	N Decree of Occasion for	57	57	57	57	57	57	57
access to pastures last year	Pearson Correlation Sig. (2-tailed)	-,256 ,055	-,256 ,055	-,055 ,683	,012 ,930	-,159 ,237	-,013 ,924	-,111 ,409
,	N	,033 57	57	57	57	,237 57	57	, 1 03
age cows average	Pearson Correlation	-,155	-,055	,075	-,094	-,100	,139	-,322*
	Sig. (2-tailed)	,249	,683	,582	,485	,458	,301	,015
trend age cows	N Pearson Correlation	57 -,059	57 -,021	,177	,004	57 -,060	,073	,046
a constant	Sig. (2-tailed)	,660	,876	,188	,975	,659	,588	,734
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	1	-,109	,126	,041	,071	,097	-,009
	Sig. (2-tailed) N	57	,422 57	,350 57	,763 57	,601 57	,474 57	,947 57
trend on milk production	Pearson Correlation	-,109	1	-,137	,150	-,175	,207	,035
	Sig. (2-tailed)	,422		,311	,264	,194	,123	,795
time between calving	N Pearson Correlation	57 ,126	57 -,137	57 1	,031	57 ,244	,140	57 -,115
average	Sig. (2-tailed)	,120	,311	'	,822	,244	,298	,395
	N	,555 57	57	57	57	,555 57	57	57
trend on time between calving	Pearson Correlation	,041	,150	,031	1	-,091	,375**	,215
calving	Sig. (2-tailed) N	,763 57	,264 57	,822 57	57	,500 57	,004 57	,109 57
% to destruction average	Pearson Correlation	,071	-,175	,244	-,091	1	-,084	-,071
•	Sig. (2-tailed)	,601	,194	,068	,500		,533	,600
trand narrasstars to	N Regreen Correlation	57	57	57	57	57	57	57
trend percentage to destruction	Pearson Correlation Sig. (2-tailed)	,097 ,474	,207 ,123	,140 ,298	,375** ,004	-,084 ,533	1	-,160 ,233
	N	,474 57	57	,298 57	57	,333 57	57	,233 57
% cows removed average	Pearson Correlation	-,009	,035	-,115	,215	-,071	-,160	1
	Sig. (2-tailed)	,947	,795	,395	,109	,600	,233	
trend percentage	N Pearson Correlation	57 ,129	57 -,047	57 -,175	,059	,145	,062	-,038
removed	Sig. (2-tailed)	,338	,727	,193	,663	,283	,645	,780
	N	57	57	57	57	57	57	57
cellcount average	Pearson Correlation	-,295*	-,081	,382**	-,029	,210	-,014	-,216
	Sig. (2-tailed) N	,026 57	,549 57	,003 57	,829 57	,117 57	,916 57	,106 57
trend celgetal	Pearson Correlation	,227	-,033	-,036	,135	,164	,356**	-,036
	Sig. (2-tailed)	,089	,807	,793	,315	,222	,007	,792
amount of free diseases	N Pearson Correlation	57 200*	57	57	57	57	57	57
amount of free diseases	Sig. (2-tailed)	,298* ,024	-,025 ,856	,100 ,457	,065 ,633	,016 ,905	,186 ,165	-,161 ,231
	N N	,024 57	57	57	57	57	57	57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
age of the farmer	Pearson Correlation	-,159	-,075	,071	,118	,072	,033	-,066
	Sig. (2-tailed)	,238	,581	,601	,381	,593	,810	,625
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,218	-,081	,041	-,066	-,032	,012	,143
	Sig. (2-tailed)	,104	,550	,763	,628	,811	,931	,289
	N	57	57	57	57	57	57	57

		trend percentage	cellcount		amount of free	age of the	higest
		removed	average	trend celgetal	diseases	farmer	education
daily dosis other	Pearson Correlation Sig. (2-tailed)	-,226 ,090	-,145 ,283	-,031 ,818	,260 ,051	-,224 ,094	,243 ,069
	N	,090 57	,203 57	57	57	57	,069 57
milk cows average	Pearson Correlation	,042	,331*	,034	,052	-,114	,223
	Sig. (2-tailed)	,759	,012	,801	,700	,400	,095
	N O a marketic m	57	57	57	57	57	57
grow in milk cows	Pearson Correlation Sig. (2-tailed)	-,210 ,116	,246 ,065	-,213 ,112	-,070 ,607	-,001 ,993	,181 ,177
	N	,116 57	,003 57	57	57	57	,177 57
milk quota average	Pearson Correlation	,032	,256	,020	,101	-,130	,279
	Sig. (2-tailed)	,814	,055	,884	,456	,335	,036
	N	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,092	,299*	-,100	-,124	,161	-,044
	Sig. (2-tailed) N	,496 57	,024 57	,459 57	,357 57	,233 57	,743, 57
amount of youngstock per	Pearson Correlation	-,433**	,010	-,069	,102	,030	-,132
10milkcows average	Sig. (2-tailed)	,001	,943	,612	,450	,823	,328
	N	57	57	57	57	57	57
trend amount of	Pearson Correlation	,435**	,013	,038	-,097	-,110	,024
youngstock per 10 milk cows	Sig. (2-tailed)	,001	,922	,780	,473	,415	,860
amount of cows per	N Pearson Correlation	57	57 250	57	57	57 250	,327 ⁻
hectares average	Sig. (2-tailed)	,114 ,397	-,250 ,060	-,184 ,170	-,078 ,563	-,250 ,061	,327 ,013
J -	N	,397 57	,060 57	57	57	57	,013 57
trend amount of cows per	Pearson Correlation	-,233	,039	-,327*	-,063	,106	,105
hectares	Sig. (2-tailed)	,082	,773	,013	,643	,433	,437
	N	57	57	57	57	57	57
kg concentrates per 100kg milk average	Pearson Correlation	-,235	-,125	,055	,158	,076	,266
Tooky Tillik average	Sig. (2-tailed) N	,079	,353	,682 57	,240	,577	,045
trend kg concentrates per	Pearson Correlation	57 -,341**	57 ,272*	-,123	57 -,145	,079	57 -,190
100 kg milk	Sig. (2-tailed)	,009	,041	,360	,283	,560	,156
	N	57	57	57	57	57	57
access to pastures last	Pearson Correlation	-,019	,041	-,142	,152	-,040	-,135
year	Sig. (2-tailed)	,888	,765	,292	,261	,766	,317
	N Correlation	57	57	57	57	57	57
age cows average	Pearson Correlation Sig. (2-tailed)	,057 ,676	,053 ,697	,110 ,417	,067 ,618	,071 ,598	,063 ,640
	N	,676 57	,09 <i>1</i> 57	57	57	57	,040 57
trend age cows	Pearson Correlation	,182	,036	,312*	,215	,280*	-,016
-	Sig. (2-tailed)	,175	,791	,018	,108	,035	,904
	N	57	57	57	57	57	57
production average	Pearson Correlation	,129	-,295*	,227	,298*	-,159	,218
	Sig. (2-tailed) N	,338	,026	,089	,024	,238	,104
trend on milk production	Pearson Correlation	57 -,047	57 -,081	-,033	-,025	57 -,075	57 -,081
tiona on mine production	Sig. (2-tailed)	,727	,549	,807	,856	,581	,550
	N	57	57	57	57	57	57
time between calving	Pearson Correlation	-,175	,382**	-,036	,100	,071	,041
average	Sig. (2-tailed)	,193	,003	,793	,457	,601	,763
trand on time between	N Decrees Correlation	57	57	57	57	57	57
trend on time between calving	Pearson Correlation Sig. (2-tailed)	,059 ,663	-,029 ,829	,135 ,315	,065 ,633	,118 381	-,066 ,628
5	N	,663 57	,829 57	,315	,633 57	,381 57	,628 57
% to destruction average	Pearson Correlation	,145	,210	,164	,016	,072	-,032
ŭ	Sig. (2-tailed)	,283	,117	,222	,905	,593	,811
	N	57	57	57	57	57	57
trend percentage to destruction	Pearson Correlation	,062	-,014	,356**	,186	,033	,012
นธอแนบแบบ	Sig. (2-tailed)	,645	,916	,007	,165	,810	,931
% cows removed average	N Pearson Correlation	57 -,038	57 -,216	-,036	57 -,161	-,066	57 ,143
, some removed average	Sig. (2-tailed)	-,038 ,780	-,210 ,106	-,036 ,792	,231	,625	,143
	N	57	57	57	57	57	, <u>2</u> 53
trend percentage	Pearson Correlation	1	,009	,246	,151	-,107	,198
removed	Sig. (2-tailed)		,947	,065	,262	,428	,140
- all a sour f	N Completion	57	57	57	57	57	57
cellcount average	Pearson Correlation	,009	1	,061	-,196	,259	-,194
	Sig. (2-tailed) N	,947 57	57	,650 57	,144 57	,051 57	,148 57
trend celgetal	Pearson Correlation	,246		1	,079	,240	,008
U = '	Sig. (2-tailed)	,065	,650		,560	,072	,950, ,951
	N	57	57	57	57	57	57
amount of free diseases	Pearson Correlation	,151	-,196	,079	1	-,087	,300;
	Sig. (2-tailed)	,262	,144	,560		,520	,023
	N	57	57	57	57	57	57

		trend percentage removed	cellcount average	trend celgetal	amount of free diseases	age of the farmer	higest education
age of the farmer	Pearson Correlation	-,107	,259	,240	-,087	1	-,412**
	Sig. (2-tailed)	,428	,051	,072	,520		,001
	N	57	57	57	57	57	57
higest education	Pearson Correlation	,198	-,194	,008	,300*	-,412**	1
	Sig. (2-tailed)	,140	,148	,951	,023	,001	
	N	57	57	57	57	57	57

^{**.} Correlation is significant at the 0.01 level (2-tailed).

^{*.} Correlation is significant at the 0.05 level (2-tailed).

							amount of youngstock	trend amount
		trond daily	milk cows	grow in	milk guota		per 10milkcows	of youngstock per 10 milk
		trend daily dosis	average	grow in milk cows	milk quota average	trend qouta	average	cows
trend daily dosis	Pearson Correlation	1	-,001	-,191	-,047	-,100	-,242	,153
	Sig. (2-tailed)		,996	,154	,727	,458	,070	,256
milk cours average	N Pearson Correlation	57	57	57	57	57	57	57
milk cows average	Sig. (2-tailed)	-,001 ,996	1	,620** ,000	,978** ,000	,405** ,002	-,145 ,281	,081 ,547
	N	,990 57	57	,000 57	57	,002 57	57	57
grow in milk cows	Pearson Correlation	-,191	,620**	1	,660**	,783**	-,108	-,137
	Sig. (2-tailed)	,154	,000		,000	,000	,425	,310
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	-,047	,978**	,660**	1	,433**	-,149	,054
	Sig. (2-tailed)	,727	,000	,000		,001	,270	,689
trend gouta	N Pearson Correlation	57 -,100	57 ,405**	.783**	57 ,433**	57	-,012	-,005
trena quata	Sig. (2-tailed)	-, 100 ,458	,403	,763	,433	'	,929	,968
	N	57	57	,555 57	57	57	57	57
amount of youngstock per	Pearson Correlation	-,242	-,145	-,108	-,149	-,012	1	-,246
10milkcows average	Sig. (2-tailed)	,070	,281	,425	,270	,929		,065
	N	57	57	57	57	57	57	57
trend amount of youngstock per 10 milk	Pearson Correlation	,153	,081	-,137	,054	-,005	-,246	1
cows	Sig. (2-tailed) N	,256 57	,547 57	,310 57	,689 57	,968 57	,065 57	
amount of cows per	Pearson Correlation	-,089	,190	,152	,209	-,076	-,360**	57 -,042
hectares average	Sig. (2-tailed)	-,009 ,512	,157	,132	,209	-,070 ,573	,006	,758
	N	57	57	57	57	,513 57	57	57
trend amount of cows per	Pearson Correlation	-,142	,076	,406**	,108	,370**	,201	-,234
hectares	Sig. (2-tailed)	,293	,573	,002	,424	,005	,133	,080,
l	N O a marketic m	57	57	57	57	57	57	57
kg concentrates per 100kg milk average	Pearson Correlation Sig. (2-tailed)	-,240 ,072	-,147 ,274	-,072	-,110	-,185 ,167	,221 ,098	-,181 ,178
. cong a ronage	N	,072 57	,274 57	,596 57	,414 57	, 16 <i>7</i> 57	,096 57	57
trend kg concentrates per	Pearson Correlation	-,155	,063	,209	,046	,144	,298*	-,081
100 kg milk	Sig. (2-tailed)	,251	,640	,118	,735	,286	,024	,548
	N	57	57	57	57	57	57	57
access to pastures last	Pearson Correlation	,040	-,269*	-,230	-,338*	-,234	,105	-,215
year	Sig. (2-tailed)	,766	,043	,085	,010	,080,	,438	,107
age cows average	N Pearson Correlation	,054	57 -,019	57 -,267*	57 -,071	57 -,248	57 -,178	,060
age cows average	Sig. (2-tailed)	,03 4 ,688	-,019 ,888	-,207 ,045	,601	-,2 4 6 ,062	,185	,658
	N	57	,555 57	,513 57	57	57	57	57
trend age cows	Pearson Correlation	-,004	-,015	-,195	,003	-,086	-,112	-,090
	Sig. (2-tailed)	,974	,914	,145	,981	,525	,407	,503
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	-,146	,123	,077	,214	,063	-,123	,224
	Sig. (2-tailed) N	,278 57	,364 57	,569 57	,110 57	,641 57	,363 57	,095 57
trend on milk production	Pearson Correlation	,139	-,115	-,055	-,069	,107	,236	,114
, in the second	Sig. (2-tailed)	,303	,394	,683	,610	,429	,077	,400
	N	57	57	57	57	57	57	57
time between calving	Pearson Correlation	-,204	,286*	,216	,286*	,153	,120	-,122
average	Sig. (2-tailed)	,128	,031	,107	,031	,255	,375	,366
trend on time between	N Pearson Correlation	57	57	57	57	57	57	57
calving	Sig. (2-tailed)	-,029 ,833	-,089 ,509	-,148 ,271	-,089 ,510	-,020 ,884	,290* ,029	-,080 ,552
-	N	,633 57	,309 57	,271 57	57	,004 57	57	57
% to destruction average	Pearson Correlation	-,096	,037	-,016	,011	-,011	,058	,044
	Sig. (2-tailed)	,477	,786	,906	,936	,933	,669	,743
	N O I I	57	57	57	57	57	57	57
trend percentage to destruction	Pearson Correlation	,073	-,037	-,280*	-,064	-,253	,270*	-,060
4300 40001	Sig. (2-tailed) N	,588 57	,783 57	,035 57	,634 57	,058 57	,042 57	,656 57
% cows removed average	Pearson Correlation	-,141	,013	,016	,049	,065	,225	-,090
2 2.22.2.0.00	Sig. (2-tailed)	,296	,923	,903	,717	,630	,092	,504
	N	57	57	57	57	57	57	57
trend percentage	Pearson Correlation	,312*	,042	-,210	,032	-,092	-,433**	,435**
removed	Sig. (2-tailed)	,018	,759	,116	,814	,496	,001	,001
cellcount average	N Pearson Correlation	57	57 221*	57	57	57 200*	57	57
cellcount average	Sig. (2-tailed)	,224 ,094	,331* ,012	,246 ,065	,256 ,055	,299* ,024	,010 ,943	,013 ,922
	N	,094 57	,012 57	,065 57	,055 57	,02 4 57	,943 57	,922 57
trend celgetal	Pearson Correlation	,114	,034	-,213	,020	-,100	-,069	,038
	Sig. (2-tailed)	,399	,801	,112	,884	,459	,612	,780
	N	57	57	57	57	57	57	57
amount of free diseases	Pearson Correlation	-,031	,052	-,070	,101	-,124	,102	-,097
	Sig. (2-tailed)	,820	,700	,607	,456	,357	,450	,473
	N	57	57	57	57	57	57	57

		trend daily dosis	milk cows average	grow in milk cows	milk quota average	trend qouta	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows
age of the farmer	Pearson Correlation	-,149	-,114	-,001	-,130	,161	,030	-,110
	Sig. (2-tailed)	,269	,400	,993	,335	,233	,823	,415
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	-,125	,223	,181	,279*	-,044	-,132	,024
	Sig. (2-tailed)	,354	,095	,177	,036	,743	,328	,860
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age
trend daily dosis	Pearson Correlation	-,089	-,142	-,240	-,155	,040	,054	-,004
	Sig. (2-tailed) N	,512	,293	,072	,251	,766	,688	,974
milk cows average	Pearson Correlation	57 ,190	,076	57 -,147	,063	.,269*	57 -,019	57 -,015
Tillik dowd avorago	Sig. (2-tailed)	,150	,573	,274	,640	,043	,888	,914
	N	57	57	57	57	57	57	57
grow in milk cows	Pearson Correlation	,152	,406**	· ·	,209	-,230	-,267*	-,195
	Sig. (2-tailed)	,260	,002	,596	,118	,085	,045	,145
milk quota average	N Pearson Correlation	57 ,209	,108	57 -,110	,046	.,338*	57 -,071	,003
Timit quota avorago	Sig. (2-tailed)	,119	,424	,414	,735	,010	,601	,981
	N	57	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,076	,370**	1	,144	-,234	-,248	-,086
	Sig. (2-tailed)	,573	,005	,167	,286	,080,	,062	,525
amount of youngstock per	N Pearson Correlation	57 -,360**	,201	,221	57 ,298*		57	57
10milkcows average	Sig. (2-tailed)	,006	,201	,098	,298	, 105 ,438	-,178 ,185	-,112 ,407
· ·	N	57	57	57	57	, 466 57	57	,467 57
trend amount of	Pearson Correlation	-,042	-,234	-,181	-,081	-,215	,060	-,090
youngstock per 10 milk	Sig. (2-tailed)	,758	,080	,178	,548	,107	,658	,503
cows	N Completion	57	57	57	57	57	57	57
amount of cows per hectares average	Pearson Correlation	1	,044	,046	-,024	-,166	,096	,005
nocialos avelage	Sig. (2-tailed) N	57	,744 57	,736 57	,858 57	,217 57	,479 57	,968 57
trend amount of cows per	Pearson Correlation	,044	1	,085	,057	-,119	-,117	-,305*
hectares	Sig. (2-tailed)	,744		,530	,676	,377	,388	,021
	N	57	57	57	57	57	57	57
kg concentrates per	Pearson Correlation	,046	,085	1	,217	,063	,018	,075
100kg milk average	Sig. (2-tailed)	,736	,530		,105	,642	,896	,582
fuend la secondada as	N Completion	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation Sig. (2-tailed)	-,024 ,858	,057 ,676	,217 ,105	1	,039 ,776	,018 ,892	-,091 ,500
	N	57	57	57	57	,776 57	,092 57	,500 57
access to pastures last	Pearson Correlation	-,166	-,119	,063	,039	1	,149	,167
year	Sig. (2-tailed)	,217	,377	,642	,776		,270	,216
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation	,096	-,117	,018	,018	,149	1	,150
	Sig. (2-tailed)	,479	,388	,896	,892	,270		,267
trend age cows	N Pearson Correlation	,005	57 -,305*	,075	57 -,091	57 ,167		57
trena age cows	Sig. (2-tailed)	,968	,021	,582	,500	,107	,130	ı
	N	57	57	57	57	, <u>_</u> .57	, <u> </u>	57
production average	Pearson Correlation	-,045	,006	-,011	-,280*	-,256	-,155	-,059
	Sig. (2-tailed)	,740	,965	,933	,035	,055	,249	,660
	N O I I'	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation Sig. (2-tailed)	-,148	-,042	,220	,435**	-,256	-,055	-,021
	N	,273 57	,755 57	,101 57	,001 57	,055 57	,683 57	,876 57
time between calving	Pearson Correlation	,053	,098	,082	,180	-,055	,075	,177
average	Sig. (2-tailed)	,693	,467	,545	,180	,683	,582	,188
	N	57	57	57	57	57	57	57
trend on time between	Pearson Correlation	-,154	-,087	-,065	-,006	,012	-,094	,004
calving	Sig. (2-tailed) N	,251	,518	,633	,964	,930	,485	,975
% to destruction average	Pearson Correlation	57 -,071	57 -,095	57 -,106	57 -,021	57 -,159	57 -,100	57 -,060
,, to acontaction average	Sig. (2-tailed)	,598	-,095 ,481	,431	-,021 ,879	-, 159 ,237	-, 100 ,458	-,060 ,659
	N	57	57	57	57	,_57	57	57
trend percentage to	Pearson Correlation	-,210	-,229	,216	,025	-,013	,139	,073
destruction	Sig. (2-tailed)	,117	,086	,107	,852	,924	,301	,588
0/	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation Sig. (2-tailed)	,243	,010	-,199	-,034 700	-,111 400	-,322* 015	,046 734
	Sig. (2-tailed)	,069 57	,940 57	,138 57	,799 57	,409 57	,015 57	,734 57
trend percentage	Pearson Correlation	,114	-,233	-,235	-,341**	-,019	,057	,182
removed	Sig. (2-tailed)	,397	,082	,079	,009	,888	,676	,175
	N	57	57	57	57	57	57	57
cellcount average	Pearson Correlation	-,250	,039	-,125	,272*	,041	,053	,036
	Sig. (2-tailed)	,060	,773	,353	,041	,765	,697	,791
trend celgetal	N Pearson Correlation	57	57	57	57	57 142	57	57 312*
u enu velyeldi	Sig. (2-tailed)	-,184 ,170	-,327* ,013	,055 ,682	-,123 ,360	-,142 ,292	,110 ,417	,312* ,018
	N	57	57	57	,360 57	,292 57	,41 <i>7</i> 57	,018 57
amount of free diseases	Pearson Correlation	-,078	-,063	,158	-,145	,152	,067	,215
	Sig. (2-tailed)	,563	,643	,240	,283	,261	,618	,108
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age cows
age of the farmer	Pearson Correlation	-,250	,106	,076	,079	-,040	,071	,280*
	Sig. (2-tailed)	,061	,433	,577	,560	,766	,598	,035
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,327*	,105	,266*	-,190	-,135	,063	-,016
	Sig. (2-tailed)	,013	,437	,045	,156	,317	,640	,904
	N	57	57	57	57	57	57	57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
trend daily dosis	Pearson Correlation	-,146	,139	-,204	-,029	-,096	,073	-,141
	Sig. (2-tailed) N	,278 57	,303 57	,128 57	,833, 57	,477 57	,588 57	,296 57
milk cows average	Pearson Correlation	,123	-,115	,286*	-,089	,037	-,037	,013
	Sig. (2-tailed)	,364	,394	,031	,509	,786	,783	,923
grow in milk cows	N Pearson Correlation	,077	57 -,055	,216	57 -,148	57 -,016	57 -,280*	,016
grow in mink dowe	Sig. (2-tailed)	,569	,683	,107	,271	,906	,035	,903
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,214	-,069	,286*	-,089	,011	-,064	,049
	Sig. (2-tailed) N	,110 57	,610 57	,031 57	,510 57	,936 57	,634 57	,717, 57
trend qouta	Pearson Correlation	,063	,107	,153	-,020	-,011	-,253	,065
	Sig. (2-tailed)	,641	,429	,255	,884	,933	,058	,630
amount of voungetook per	N Pearson Correlation	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Sig. (2-tailed)	-,123 ,363	,236 ,077	,120 ,375	,290* ,029	,058 ,669	,270* ,042	,225 ,092
· ·	N	,565 57	57	57	,023 57	,555 57	57	57
trend amount of	Pearson Correlation	,224	,114	-,122	-,080	,044	-,060	-,090
youngstock per 10 milk cows	Sig. (2-tailed)	,095	,400	,366	,552	,743	,656	,504
amount of cows per	N Pearson Correlation	57 -,045	57 -,148	,053	57 -,154	57 -,071	57 -,210	
hectares average	Sig. (2-tailed)	-,045 ,740	,273	,693	-, 154 ,251	-,071 ,598	,117	,243
	N	57	57	57	57	57	57	57
trend amount of cows per hectares	Pearson Correlation	,006	-,042	,098	-,087	-,095	-,229	,010
nectares	Sig. (2-tailed) N	,965 57	,755 57	,467 57	,518 57	,481 57	,086 57	,940 57
kg concentrates per	Pearson Correlation	-,011	,220	,082	-,065	-,106	,216	-,199
100kg milk average	Sig. (2-tailed)	,933	,101	,545	,633	,431	,107	,138
	N	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation	-,280*	,435**	*	-,006	-,021	,025	-,034
100 kg mik	Sig. (2-tailed) N	,035 57	,001 57	,180 57	,964 57	,879 57	,852 57	,799 57
access to pastures last	Pearson Correlation	-,256	-,256	-,055	,012	-,159	-,013	-,111
year	Sig. (2-tailed)	,055	,055	,683	,930	,237	,924	,409
	N Decree of Occupation	57	57	57	57	57	57	57
age cows average	Pearson Correlation Sig. (2-tailed)	-,155 ,249	-,055 ,683	,075 ,582	-,094 ,485	-,100 ,458	,139 ,301	-,322* ,015
	N	, <u>2</u> 43 57	57	57	, - 55	, 100 57	57	57
trend age cows	Pearson Correlation	-,059	-,021	,177	,004	-,060	,073	,046
	Sig. (2-tailed)	,660	,876	,188	,975	,659	,588	,734
production average	N Pearson Correlation	57 1	-,109	,126	,041	,071	,097	-,009
production average	Sig. (2-tailed)	'	,422	,350	,763	,601	,474	,947
	N	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation	-,109	1	-,137	,150	-,175	,207	,035
	Sig. (2-tailed) N	,422 57	57	,311 57	,264 57	,194 57	,123 57	,795 57
time between calving	Pearson Correlation	,126	-,137	1	,031	,244	,140	-,115
average	Sig. (2-tailed)	,350	,311		,822	,068	,298	,395
trond on time between	N Pearson Correlation	57	57	57	57	57	57	57
trend on time between calving	Sig. (2-tailed)	,041 ,763	,150 ,264	,031 ,822	1	-,091 ,500	,375** ,004	,215 ,109
-	N	,703 57	57	57	57	,500 57	57	57
% to destruction average	Pearson Correlation	,071	-,175	,244	-,091	1	-,084	-,071
	Sig. (2-tailed)	,601	,194	,068	,500		,533	,600
trend percentage to	N Pearson Correlation	,097	,207	,140	57 ,375**	-,084	57	-,160
destruction	Sig. (2-tailed)	,097 ,474	,123	,298	,004	,533	'	,233
	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation	-,009	,035	-,115	,215	-,071	-,160	1
	Sig. (2-tailed) N	,947 57	,795 57	,395 57	,109 57	,600 57	,233 57	57
trend percentage	Pearson Correlation	,129	-,047	-,175	,059	,145	,062	-,038
removed	Sig. (2-tailed)	,338	,727	,193	,663	,283	,645	,780
cellcount average	N Pearson Correlation	57 205*	57	57	57	57	57	57
cellcount average	Pearson Correlation Sig. (2-tailed)	-,295* ,026	-,081 ,549	,382** ,003	-,029 ,829	,210 ,117	-,014 ,916	-,216 ,106
	N	,020 57	57	57	,829 57	57	57	57
trend celgetal	Pearson Correlation	,227	-,033	-,036	,135	,164	,356**	-,036
	Sig. (2-tailed)	,089	,807	,793	,315	,222	,007	,792
amount of free diseases	N Pearson Correlation	57 ,298*	57 -,025	,100	,065	,016	,186	57 -,161
	Sig. (2-tailed)	,024	,856	,457	,633	,905	,165	,231
	N	57	57	57	57	57	57	57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
age of the farmer	Pearson Correlation	-,159	-,075	,071	,118	,072	,033	-,066
	Sig. (2-tailed)	,238	,581	,601	,381	,593	,810	,625
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,218	-,081	,041	-,066	-,032	,012	,143
	Sig. (2-tailed)	,104	,550	,763	,628	,811	,931	,289
	N	57	57	57	57	57	57	57

		trend percentage	cellcount		amount of free	age of the	higest
tooned deliberate	Degrees Completion	removed	average	trend celgetal	diseases	farmer	education
trend daily dosis	Pearson Correlation Sig. (2-tailed)	,312* ,018	,224 ,094	,114 ,399	-,031 ,820	-,149 ,269	-,125 ,354
	N	57	,09 4 57	57	57	57	57
milk cows average	Pearson Correlation	,042	,331*	,034	,052	-,114	,223
	Sig. (2-tailed)	,759	,012	,801	,700	,400	,095
	N O I I	57	57	57	57	57	57
grow in milk cows	Pearson Correlation Sig. (2-tailed)	-,210	,246	-,213	-,070	-,001	,181
	N	,116 57	,065 57	,112 57	,607 57	,993 57	,177 57
milk quota average	Pearson Correlation	,032	,256	,020	,101	-,130	,279
	Sig. (2-tailed)	,814	,055	,884	,456	,335	,036
	N	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,092	,299*	-,100	-,124	,161	-,044
	Sig. (2-tailed) N	,496	,024	,459	,357	,233	,743
amount of youngstock per	Pearson Correlation	57 -,433**	,010	57 -,069	,102	,030	57 -,132
10milkcows average	Sig. (2-tailed)	-,433 ,001	,010	,612	,450	,823	,328
•	N	57	,516 57	57	57	57	57
trend amount of	Pearson Correlation	,435**	,013	,038	-,097	-,110	,024
youngstock per 10 milk	Sig. (2-tailed)	,001	,922	,780	,473	,415	,860
cows	N	57	57	57	57	57	57
amount of cows per hectares average	Pearson Correlation	,114	-,250	-,184	-,078	-,250	,327
neciales average	Sig. (2-tailed) N	,397 57	,060, 57	,170 57	,563 57	,061 57	,013 57
trend amount of cows per	Pearson Correlation	-,233	,039	-,327*	-,063	,106	,105
hectares	Sig. (2-tailed)	,082	,773	,013	,643	,433	,103
	N	57	57	57	57	57	57
kg concentrates per	Pearson Correlation	-,235	-,125	,055	,158	,076	,266
100kg milk average	Sig. (2-tailed)	,079	,353	,682	,240	,577	,045
too allo assassatostas assa	N October	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation	-,341**	,272*	-,123	-,145	,079	-,190
100 kg milk	Sig. (2-tailed) N	,009 57	,041 57	,360 57	,283 57	,560 57	,156 57
access to pastures last	Pearson Correlation	-,019	,041	-,142	,152	-,040	-,135
year	Sig. (2-tailed)	,888	,765	,292	,261	,766	,317
	N	57	57	57	57	57	57
age cows average	Pearson Correlation	,057	,053	,110	,067	,071	,063
	Sig. (2-tailed)	,676	,697	,417	,618	,598	,640
trend age cows	N Pearson Correlation	57 ,182	57	57	57	57	57
tiend age cows	Sig. (2-tailed)	,182 ,175	,036 ,791	,312* ,018	,215 ,108	,280* ,035	-,016 ,904
	N	57	,791 57	57	57	57	57
production average	Pearson Correlation	,129	-,295*	,227	,298*	-,159	,218
	Sig. (2-tailed)	,338	,026	,089	,024	,238	,104
	N	57	57	57	57	57	57
trend on milk production	Pearson Correlation	-,047	-,081	-,033	-,025	-,075	-,081
	Sig. (2-tailed) N	,727 57	,549 57	,807 57	,856 57	,581	,550
time between calving	Pearson Correlation	-,175	,382**	-,036	,100	,071	,041
average	Sig. (2-tailed)	,173	,002	,793	,457	,601	,763
	N	57	57	57	57	57	57
trend on time between	Pearson Correlation	,059	-,029	,135	,065	,118	-,066
calving	Sig. (2-tailed)	,663	,829	,315	,633	,381	,628
0/ to doctrication account	N Poarson Correlation	57	57	57	57	57	57
% to destruction average	Pearson Correlation Sig. (2-tailed)	,145 ,283	,210 ,117	,164 ,222	,016 ,905	,072 ,593	-,032 ,811
	N	,283 57	,117 57	,222 57	,905 57	,593	,811 57
trend percentage to	Pearson Correlation	,062	-,014	,356**	,186	,033	,012
destruction	Sig. (2-tailed)	,645	,916	,007	,165	,810	,931
	N	57	57	57	57	57	57
% cows removed average	Pearson Correlation	-,038	-,216	-,036	-,161	-,066	,143
	Sig. (2-tailed) N	,780	,106	,792	,231	,625	,289
trend percentage	Pearson Correlation	57 1	,009	,246	,151	57 -,107	57 ,198
removed	Sig. (2-tailed)	'	,009 ,947	,065	,262	,428	,190
	N	57	,547 57	57	57	57	57
cellcount average	Pearson Correlation	,009	1	,061	-,196	,259	-,194
	Sig. (2-tailed)	,947	1	,650	,144	,051	,148
	N	57	57	57	57	57	57
trend celgetal	Pearson Correlation	,246	,061	1	,079	,240	,008
	Sig. (2-tailed)	,065 57	,650	E7	,560	,072	,951
	N Pearson Correlation	57	57 -,196	,079	57 1	57 -,087	,300°
amount of free diseases	FEAISON CONFISION					100,	,300
amount of free diseases	Sig. (2-tailed)	,151 ,262	,144	,560		,520	,023

		trend percentage removed	cellcount average	trend celgetal	amount of free diseases	age of the farmer	higest education
age of the farmer	Pearson Correlation	-,107	,259	,240	-,087	1	-,412**
	Sig. (2-tailed)	,428	,051	,072	,520		,001
	N	57	57	57	57	57	57
higest education	Pearson Correlation	,198	-,194	,008	,300*	-,412**	1
	Sig. (2-tailed)	,140	,148	,951	,023	,001	
	N	57	57	57	57	57	57

^{*.} Correlation is significant at the 0.05 level (2-tailed).

^{**.} Correlation is significant at the 0.01 level (2-tailed).

			milk cows	grow in	milk quota		amount of youngstock per 10milkcows	trend amount of youngstock per 10 milk
		trend mastitis	average	milk cows	average	trend qouta	average	cows
trend mastitis	Pearson Correlation	1	-,066	-,121	-,065	-,068	-,215	,063
	Sig. (2-tailed) N	57	,625 57	,371 57	,633 57	,614 57	,109 57	,642 57
milk cows average	Pearson Correlation	-,066	1	,620**	,978**	,405**	-,145	,081
· ·	Sig. (2-tailed)	,625		,000	,000	,002	,281	,547
	N	57	57	57	57	57	57	57
grow in milk cows	Pearson Correlation	-,121	,620**	1	,660**	,783**	-,108	-,137
	Sig. (2-tailed)	,371	,000	57	,000	,000	,425	,310
milk quota average	N Pearson Correlation	57 -,065	57 ,978**	57 ,660**	57	57 ,433**	57 -,149	,054
min quota avorago	Sig. (2-tailed)	,633	,000	,000	'	,001	,270	,689
	N	57	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,068	,405**	,783**	,433**	1	-,012	-,005
	Sig. (2-tailed)	,614	,002	,000	,001		,929	,968
amount of voundated als nor	N Pearson Correlation	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Sig. (2-tailed)	-,215 ,109	-,145 ,281	-,108 ,425	-,149 ,270	-,012 ,929	1	-,246 ,065
	N	57	57	57	57	57	57	57
trend amount of	Pearson Correlation	,063	,081	-,137	,054	-,005	-,246	1
youngstock per 10 milk	Sig. (2-tailed)	,642	,547	,310	,689	,968	,065	
cows	N	57	57	57	57	57	57	57
amount of cows per	Pearson Correlation	-,137	,190	,152	,209	-,076	-,360**	-,042
hectares average	Sig. (2-tailed) N	,308	,157	,260	,119	,573	,006	,758
trend amount of cows per	Pearson Correlation	57	,076	57 ,406**	57	57 ,370**	57	-,234
hectares	Sig. (2-tailed)	-,184 ,171	,076	,406***	,108 ,424	,370***	,201 ,133	-,234 ,080
	N	57	57	57	57	57	57	57
kg concentrates per	Pearson Correlation	-,041	-,147	-,072	-,110	-,185	,221	-,181
100kg milk average	Sig. (2-tailed)	,762	,274	,596	,414	,167	,098	,178
	N	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation	-,104	,063	,209	,046	,144	,298*	-,081
100 kg Illiik	Sig. (2-tailed) N	,443 57	,640 57	,118 57	,735 57	,286 57	,024 57	,548 57
access to pastures last	Pearson Correlation	-,006	-,269*	-,230	-,338*	-,234	,105	-,215
year	Sig. (2-tailed)	,962	,043	,085	,010	,080	,438	,107
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation	-,043	-,019	-,267*	-,071	-,248	-,178	,060
	Sig. (2-tailed)	,752	,888	,045	,601	,062	,185	,658
trand ago saws	N Pearson Correlation	57	57	57	57	57	57	57
trend age cows	Sig. (2-tailed)	,069 ,611	-,015 ,914	-,195 ,145	,003 ,981	-,086 ,525	-,112 ,407	-,090 ,503
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	-,028	,123	,077	,214	,063	-,123	,224
	Sig. (2-tailed)	,835	,364	,569	,110	,641	,363	,095
	N	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation	,222	-,115	-,055	-,069	,107	,236	,114
	Sig. (2-tailed)	,097 57	,394 57	,683 57	,610 57	,429 57	,077 57	,400 57
time between calving	Pearson Correlation	-,133	,286*	,216	,286*	,153	,120	-,122
average	Sig. (2-tailed)	,326	,031	,107	,031	,255	,375	,366
	N	57	57	57	57	57	57	57
trend on time between	Pearson Correlation	,002	-,089	-,148	-,089	-,020	,290*	-,080
calving	Sig. (2-tailed)	,987	,509	,271	,510	,884	,029	,552
% to destruction average	N Pearson Correlation	57 126	57 037	57 - 016	57 011	57 - 011	57	,044
70 to destruction average	Sig. (2-tailed)	,126 ,352	,037 ,786	-,016 ,906	,011 ,936	-,011 ,933	,058 ,669	,044
	N	57	57	57	57	57	57	57
trend percentage to	Pearson Correlation	,062	-,037	-,280*	-,064	-,253	,270*	-,060
destruction	Sig. (2-tailed)	,646	,783	,035	,634	,058	,042	,656
	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation	-,071	,013	,016	,049	,065	,225	-,090
	Sig. (2-tailed) N	,600 57	,923 57	,903 57	,717, 57	,630 57	,092 57	,504 57
trend percentage	Pearson Correlation	,425**	,042	-,210	,032	-,092	-,433**	,435**
removed	Sig. (2-tailed)	,001	,759	,116	,814	,496	,001	,001
	N	57	57	57	57	57	57	57
cellcount average	Pearson Correlation	,164	,331*	,246	,256	,299*	,010	,013
	Sig. (2-tailed)	,222	,012	,065	,055	,024	,943	,922
trond coloctal	N Pearson Correlation	57	57	57	57	57	57	57
trend celgetal	Sig. (2-tailed)	,197 141	,034 801	-,213 112	,020 ,884	-,100 450	-,069 ,612	,038 780
	Sig. (2-tailed)	,141 57	,801 57	,112 57	,884 57	,459 57	,612 57	,780 57
amount of free diseases	Pearson Correlation	-,042	,052	-,070	,101	-,124	,102	-,097
	Sig. (2-tailed)	,755	,700	,607	,456	,357	,450	,473
	N	57	57	57	57	57	57	57

		trend mastitis	milk cows average	grow in milk cows	milk quota average	trend qouta	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows
age of the farmer	Pearson Correlation	,112	-,114	-,001	-,130	,161	,030	-,110
	Sig. (2-tailed)	,409	,400	,993	,335	,233	,823	,415
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	-,106	,223	,181	,279*	-,044	-,132	,024
	Sig. (2-tailed)	,435	,095	,177	,036	,743	,328	,860
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age
trend mastitis	Pearson Correlation Sig. (2-tailed)	-,137 ,308	-,184 ,171	-,041 ,762	-,104 ,443	-,006 ,962	-,043 ,752	,069 ,611
	N	57	57	57	57	57	57	57
milk cows average	Pearson Correlation	,190	,076	-,147	,063	-,269*	-,019	-,015
	Sig. (2-tailed) N	,157 57	,573 57	,274 57	,640 57	,043	,888, 57	,914
grow in milk cows	Pearson Correlation	,152	,406**	-,072	,209	57 -,230	-,267*	57 -,195
3	Sig. (2-tailed)	,260	,002	,596	,118	,085	,045	,145
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,209	,108	-,110	,046	-,338*	-,071	,003
	Sig. (2-tailed) N	,119 57	,424 57	,414 57	,735 57	,010, 57	,601 57	,981 57
trend qouta	Pearson Correlation	-,076	,370**	-,185	,144	-,234	-,248	-,086
	Sig. (2-tailed)	,573	,005	,167	,286	,080,	,062	,525
amount of voungetook per	N Pearson Correlation	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Sig. (2-tailed)	-,360** ,006	,201 ,133	,221 ,098	,298* ,024	,105 ,438	-,178 ,185	-,112 ,407
v	N	,555 57	57	57	,024 57	,+55 57	57	57
trend amount of	Pearson Correlation	-,042	-,234	-,181	-,081	-,215	,060	-,090
youngstock per 10 milk cows	Sig. (2-tailed)	,758	,080,	,178	,548	,107	,658	,503
amount of cows per	N Pearson Correlation	57 1	.044	,046	57 -,024	57 -,166	,096	,005
hectares average	Sig. (2-tailed)	'	,044 ,744	,736	-,024 ,858	-, 166 ,217	,096	,968
	N	57	57	57	57	, <u>_</u> .7 57	57	57
trend amount of cows per hectares	Pearson Correlation	,044	1	,085	,057	-,119	-,117	-,305*
nectares	Sig. (2-tailed) N	,744 57	57	,530 57	,676 57	,377 57	,388 57	,021 57
kg concentrates per	Pearson Correlation	,046	,085	1	,217	,063	,018	,075
100kg milk average	Sig. (2-tailed)	,736	,530	·	,105	,642	,896	,582
	N	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation	-,024	,057	,217	1	,039	,018	-,091
100 kg milk	Sig. (2-tailed) N	,858 57	,676 57	,105 57	57	,776 57	,892 57	,500 57
access to pastures last	Pearson Correlation	-,166	-,119	,063	,039	1	,149	,167
year	Sig. (2-tailed)	,217	,377	,642	,776		,270	,216
	N O a mada ti a m	57	57	57	57	57	57	57
age cows average	Pearson Correlation Sig. (2-tailed)	,096 ,479	-,117 ,388	,018 ,896	,018 ,892	,149 ,270	1	,150 ,267
	N	,+73 57	57	57	,53 <u>2</u> 57	,270 57	57	57
trend age cows	Pearson Correlation	,005	-,305*	,075	-,091	,167	,150	1
	Sig. (2-tailed)	,968	,021	,582	,500	,216	,267	
production average	N Pearson Correlation	57 -,045	,006	57 -,011	57 -,280*	57 -,256	57 -,155	-,059
production average	Sig. (2-tailed)	,740	,965	,933	,035	,055	,249	,660
	N	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation	-,148	-,042	,220	,435**	-,256	-,055	-,021
	Sig. (2-tailed) N	,273 57	,755 57	,101 57	,001 57	,055 57	,683 57	,876, 57
time between calving	Pearson Correlation	,053	,098	,082	,180	-,055	,075	,177
average	Sig. (2-tailed)	,693	,467	,545	,180	,683	,582	,188
Annual on times hat we are	N Degrees Cornelation	57	57	57	57	57	57	57
trend on time between calving	Pearson Correlation Sig. (2-tailed)	-,154 ,251	-,087 ,518	-,065 ,633	-,006 ,964	,012 ,930	-,094 ,485	,004 ,975
-	N	,251 57	57	,033 57	,90 4 57	,930 57	,403 57	,973 57
% to destruction average	Pearson Correlation	-,071	-,095	-,106	-,021	-,159	-,100	-,060
	Sig. (2-tailed) N	,598	,481	,431	,879	,237	,458	,659
trend percentage to	N Pearson Correlation	57 -,210	57 -,229	,216	,025	57 -,013	,139	,073
destruction	Sig. (2-tailed)	,117	,086	,107	,852	,924	,109	,588
	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation	,243	,010	-,199	-,034 700	-,111 400	-,322*	,046
	Sig. (2-tailed) N	,069 57	,940 57	,138 57	,799 57	,409 57	,015 57	,734, 57
trend percentage	Pearson Correlation	,114	-,233	-,235	-,341**	-,019	,057	,182
removed	Sig. (2-tailed)	,397	,082	,079	,009	,888,	,676	,175
cellcount average	N Pearson Correlation	57 250	57	57	57 272*	57	57	57
cellcount average	Sig. (2-tailed)	-,250 ,060	,039 ,773	-,125 ,353	,272* ,041	,041 ,765	,053 ,697	,036 ,791
	N	,000 57	57	,555 57	,041 57	,763 57	57	57
trend celgetal	Pearson Correlation	-,184	-,327*	,055	-,123	-,142	,110	,312*
	Sig. (2-tailed)	,170	,013	,682	,360	,292	,417	,018
amount of free diseases	N Pearson Correlation	57 -,078	57 -,063	,158	57 -,145	,152	,067	,215
amount of froe diseases	Sig. (2-tailed)	,563	,643	,240	,283	,132	,618	,108
	,	,	57	57	, <u>_</u> 57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age
age of the farmer	Pearson Correlation	-,250	,106	,076	,079	-,040	,071	,280*
	Sig. (2-tailed)	,061	,433	,577	,560	,766	,598	,035
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,327*	,105	,266*	-,190	-,135	,063	-,016
	Sig. (2-tailed)	,013	,437	,045	,156	,317	,640	,904
	N	57	57	57	57	57	57	57

				time between	trend on time	% to	trend	% cows
		production average	trend on milk production	calving average	between calving	destruction average	percentage to destruction	removed average
trend mastitis	Pearson Correlation	-,028	,222	-,133	,002	,126	,062	-,071
	Sig. (2-tailed) N	,835 57	,097 57	,326 57	,987 57	,352 57	,646 57	,600 57
milk cows average	Pearson Correlation	,123	-,115	,286*	-,089	,037	-,037	,013
· ·	Sig. (2-tailed)	,364	,394	,031	,509	,786	,783	,923
grow in milk cows	N Pearson Correlation	57	57	57	57	57	57	57
grow in milk cows	Sig. (2-tailed)	,077 ,569	-,055 ,683	,216 ,107	-,148 ,271	-,016 ,906	-,280* ,035	,016 ,903
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,214	-,069	,286*	-,089	,011	-,064	,049
	Sig. (2-tailed) N	,110 57	,610 57	,031 57	,510 57	,936 57	,634 57	,717, 57
trend qouta	Pearson Correlation	,063	,107	,153	-,020	-,011	-,253	,065
	Sig. (2-tailed)	,641	,429	,255	,884	,933	,058	,630
amount of voungetook per	N Pearson Correlation	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Sig. (2-tailed)	-,123 ,363	,236 ,077	,120 ,375	,290* ,029	,058 ,669	,270* ,042	,225 ,092
-	N	57	57	57	57	57	57	57
trend amount of	Pearson Correlation	,224	,114	-,122	-,080	,044	-,060	-,090
youngstock per 10 milk cows	Sig. (2-tailed) N	,095	,400	,366	,552	,743	,656	,504
amount of cows per	Pearson Correlation	57 -,045	57 -,148	,053	57 -,154	57 -,071	57 -,210	
hectares average	Sig. (2-tailed)	,740	,273	,693	,251	,598	,117	,069
trond constant	N Decrees Correlation	57	57	57	57	57	57	57
trend amount of cows per hectares	Pearson Correlation Sig. (2-tailed)	,006 ,965	-,042 ,755	,098 ,467	-,087 ,518	-,095 ,481	-,229 ,086	,010 ,940
	N	,903 57	57	,467 57	,516 57	, 4 61 57	57	,9 4 0 57
kg concentrates per	Pearson Correlation	-,011	,220	,082	-,065	-,106	,216	-,199
100kg milk average	Sig. (2-tailed)	,933	,101	,545	,633	,431	,107	,138
trend kg concentrates per	N Pearson Correlation	57 -,280*	57 ,435**	,180	57 -,006	57 -,021	,025	-,034
100 kg milk	Sig. (2-tailed)	,035	,001	,180	,964	,879	,852	,799
	N	57	57	57	57	57	57	57
access to pastures last year	Pearson Correlation	-,256	-,256	-,055	,012	-,159	-,013	-,111
your	Sig. (2-tailed) N	,055 57	,055 57	,683 57	,930 57	,237 57	,924 57	,409 57
age cows average	Pearson Correlation	-,155	-,055	,075	-,094	-,100	,139	-,322*
	Sig. (2-tailed)	,249	,683	,582	,485	,458	,301	,015
trend age cows	N Pearson Correlation	57 -,059	57 -,021	57 ,177	,004	-,060	,073	.046
tiena age cows	Sig. (2-tailed)	,660	,876	,188	,975	,659	,588	,734
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	1	-,109	,126	,041	,071	,097	-,009
	Sig. (2-tailed) N	57	,422 57	,350 57	,763 57	,601 57	,474, 57	,947 57
trend on milk production	Pearson Correlation	-,109	1	-,137	,150	-,175	,207	,035
	Sig. (2-tailed)	,422		,311	,264	,194	,123	,795
time between calving	N Pearson Correlation	,126	57 -,137	57 1	,031	57 ,244	,140	57 -,115
average	Sig. (2-tailed)	,350	,311	'	,822	,068	,298	,395
	N	57	57	57	57	57	57	57
trend on time between calving	Pearson Correlation	,041	,150	,031	1	-,091	,375**	,215
9	Sig. (2-tailed) N	,763 57	,264 57	,822 57	57	,500 57	,004 57	,109 57
% to destruction average	Pearson Correlation	,071	-,175	,244	-,091	1	-,084	-,071
	Sig. (2-tailed)	,601	,194	,068	,500		,533	,600
trend percentage to	N Pearson Correlation	,097	,207	,140	57 ,375**	-,084	57	57 -,160
destruction	Sig. (2-tailed)	,097 ,474	,207	,140	,375	-,084 ,533	'	-, 160 ,233
	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation	-,009	,035	-,115	,215	-,071	-,160	1
	Sig. (2-tailed) N	,947 57	,795 57	,395 57	,109 57	,600 57	,233 57	57
trend percentage	Pearson Correlation	,129	-,047	-,175	,059	,145	,062	-,038
removed	Sig. (2-tailed)	,338	,727	,193	,663	,283	,645	,780
cellcount average	N Pearson Correlation	57 -,295*	57 -,081	,382**	57 -,029	,210	57 -,014	57 -,216
osnosani average	Sig. (2-tailed)	-,295° ,026	-,081 ,549	,382***	-,029 ,829	,210 ,117	-,014 ,916	-,216 ,106
	N	57	57	57	57	57	57	57
trend celgetal	Pearson Correlation	,227	-,033	-,036	,135	,164	,356**	-,036
	Sig. (2-tailed) N	,089, 57	,807 57	,793 57	,315 57	,222 57	,007 57	,792 57
amount of free diseases	Pearson Correlation	,298*	-,025	,100	,065	,016	,186	-,161
	Sig. (2-tailed)	,024	,856	,457	,633	,905	,165	,231
	N	57	57	57	57	57	57	57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
age of the farmer	Pearson Correlation	-,159	-,075	,071	,118	,072	,033	-,066
	Sig. (2-tailed)	,238	,581	,601	,381	,593	,810	,625
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,218	-,081	,041	-,066	-,032	,012	,143
	Sig. (2-tailed)	,104	,550	,763	,628	,811	,931	,289
	N	57	57	57	57	57	57	57

		trend percentage	cellcount		amount of free	age of the	higest
trend mastitis	Pearson Correlation	removed ,425**	average ,164	trend celgetal ,197	diseases -,042	farmer ,112	education -,106
tiena mastitis	Sig. (2-tailed)	,425	,104	,141	-,042 ,755	,409	-, 106 ,435
	N ,	57	57	57	57	57	57
milk cows average	Pearson Correlation	,042	,331*	,034	,052	-,114	,223
	Sig. (2-tailed) N	,759 57	,012 57	,801 57	,700 57	,400 57	,095 57
grow in milk cows	Pearson Correlation	-,210	,246	-,213	-,070	-,001	,181
g. c	Sig. (2-tailed)	,116	,065	,112	,607	,993	,177
	N	57	57	57	57	57	57
milk quota average	Pearson Correlation	,032	,256	,020	,101	-,130	,279
	Sig. (2-tailed) N	,814 57	,055 57	,884 57	,456 57	,335 57	,036 57
trend qouta	Pearson Correlation	-,092	,299*	-,100	-,124	,161	-,044
•	Sig. (2-tailed)	,496	,024	,459	,357	,233	,743
	N	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Pearson Correlation	-,433**	,010	-,069	,102	,030	-,132
Torrincows average	Sig. (2-tailed) N	,001 57	,943 57	,612 57	,450 57	,823 57	,328 57
trend amount of	Pearson Correlation	,435**	,013	,038	-,097	-,110	,024
youngstock per 10 milk	Sig. (2-tailed)	,001	,922	,780	,473	,415	,860
cows	N	57	57	57	57	57	57
amount of cows per hectares average	Pearson Correlation	,114	-,250	-,184	-,078	-,250	,327
nootaros avorage	Sig. (2-tailed) N	,397 57	,060 57	,170 57	,563 57	,061 57	,013 57
trend amount of cows per	Pearson Correlation	-,233	,039	-,327*	-,063	,106	,105
hectares	Sig. (2-tailed)	,082	,773	,013	,643	,433	,437
	N	57	57	57	57	57	57
kg concentrates per 100kg milk average	Pearson Correlation	-,235	-,125	,055	,158	,076	,266
Tooky Illik average	Sig. (2-tailed) N	,079 57	,353 57	,682 57	,240 57	,577 57	,045 57
trend kg concentrates per	Pearson Correlation	-,341**	,272*	-,123	-,145	,079	-,190
100 kg milk	Sig. (2-tailed)	,009	,041	,360	,283	,560	,156
	N	57	57	57	57	57	57
access to pastures last	Pearson Correlation	-,019	,041	-,142	,152	-,040	-,135
year	Sig. (2-tailed) N	,888 57	,765 57	,292 57	,261 57	,766 57	,317 57
age cows average	Pearson Correlation	,057	,053	,110	,067	,071	,063
3	Sig. (2-tailed)	,676	,697	,417	,618	,598	,640
	N	57	57	57	57	57	57
trend age cows	Pearson Correlation	,182	,036	,312*	,215	,280*	-,016
	Sig. (2-tailed) N	,175 57	,791 57	,018 57	,108 57	,035 57	,904 57
production average	Pearson Correlation	,129	-,295*	,227	,298*	-,159	,218
,	Sig. (2-tailed)	,338	,026	,089	,024	,238	,104
	N	57	57	57	57	57	57
trend on milk production	Pearson Correlation	-,047	-,081	-,033	-,025	-,075	-,081
	Sig. (2-tailed) N	,727	,549	,807	,856	,581	,550
time between calving	Pearson Correlation	57 -,175	57 ,382**	57 -,036	,100	,071	,041
average	Sig. (2-tailed)	,193	,003	,793	,457	,601	,763
	N	57	57	57	57	57	57
trend on time between calving	Pearson Correlation	,059	-,029	,135	,065	,118	-,066
carving	Sig. (2-tailed) N	,663 57	,829, 57	,315 57	,633 57	,381 57	,628 57
% to destruction average	Pearson Correlation	,145	,210	,164	,016	,072	-,032
1 1 2.23	Sig. (2-tailed)	,283	,117	,222	,905	,593	,811
	N	57	57	57	57	57	57
trend percentage to destruction	Pearson Correlation	,062	-,014	,356**	,186	,033	,012
นองแนบแบบ	Sig. (2-tailed) N	,645 57	,916 57	,007 57	,165 57	,810 57	,931 57
% cows removed average	Pearson Correlation	-,038	-,216	-,036	-,161	-,066	57 ,143
	Sig. (2-tailed)	,780	,106	,792	,231	,625	,289
	N	57	57	57	57	57	57
trend percentage	Pearson Correlation	1	,009	,246	,151	-,107	,198
removed	Sig. (2-tailed) N	57	,947 57	,065 57	,262 57	,428 57	,140 57
cellcount average	Pearson Correlation	,009	57 1	,061	-,196	,259	-,194
	Sig. (2-tailed)	,009 ,947	ı	,650	,144	,259	,148
	N	57	57	57	57	57	57
trend celgetal	Pearson Correlation	,246	,061	1	,079	,240	,008
	Sig. (2-tailed)	,065	,650		,560	,072	,951
amount of free diseases	N Pearson Correlation	57 ,151	57 -,196	,079	57	57 -,087	,300
amount of fice diseases	Sig. (2-tailed)	,151 ,262	-, 196 ,144	,079		,520	,300
	N	57	57	57	57	57	57

		trend percentage removed	cellcount average	trend celgetal	amount of free diseases	age of the farmer	higest education
age of the farmer	Pearson Correlation	-,107	,259	,240	-,087	1	-,412**
	Sig. (2-tailed)	,428	,051	,072	,520		,001
	N	57	57	57	57	57	57
higest education	Pearson Correlation	,198	-,194	,008	,300*	-,412**	1
	Sig. (2-tailed)	,140	,148	,951	,023	,001	
	N	57	57	57	57	57	57

^{**.} Correlation is significant at the 0.01 level (2-tailed).

^{*.} Correlation is significant at the 0.05 level (2-tailed).

		trend	milk cows	grow in	milk quota		amount of youngstock per 10milkcows	trend amount of youngstock per 10 milk
		droogzetters	average	milk cows	average	trend qouta	average	cows
trend droogzetters	Pearson Correlation Sig. (2-tailed)	1	,218 ,104	,211 ,114	,188	,161 ,232	-,164 ,222	-,010 ,941
	N	57	57	57	,162 57	,232 57	57	57
milk cows average	Pearson Correlation	,218	1	,620**		,405**		,081
	Sig. (2-tailed)	,104		,000	,000	,002	,281	,547
	N	57	57	57	57	57	57	57
grow in milk cows	Pearson Correlation	,211	,620**	1	,660**	,783**	-,108	-,137
	Sig. (2-tailed) N	,114 57	,000 57	57	,000 57	,000 57	,425 57	,310 57
milk quota average	Pearson Correlation	,188	,978**	,660**	1	,433**	-,149	,054
4 4	Sig. (2-tailed)	,162	,000	,000	.	,001	,270	,689
	N	57	57	57	57	57	57	57
trend qouta	Pearson Correlation	,161	,405**	,783**	,433**	1	-,012	-,005
	Sig. (2-tailed)	,232	,002	,000	,001	'	,929	,968
amount of youngstock per	N Pearson Correlation	57	57	57	57	57	57	57
10milkcows average	Sig. (2-tailed)	-,164 ,222	-,145 ,281	-,108 ,425	-,149 ,270	-,012 ,929	1	-,246 ,065
	N	57	57	57	57	57	57	57
trend amount of	Pearson Correlation	-,010	,081	-,137	,054	-,005	-,246	1
youngstock per 10 milk	Sig. (2-tailed)	,941	,547	,310	,689	,968	,065	
cows	N	57	57	57	57	57	57	57
amount of cows per	Pearson Correlation	,121	,190	,152	,209	-,076	-,360**	-,042
hectares average	Sig. (2-tailed) N	,368	,157	,260 57	,119 57	,573	,006 57	,758
trend amount of cows per	Pearson Correlation	,084	,076	,406**	,108	,370**	,201	-,234
hectares	Sig. (2-tailed)	,084 ,534	,076	,406	,108	,370	,201	,080
	N	57	57	57	57	57	57	57
kg concentrates per	Pearson Correlation	-,199	-,147	-,072	-,110	-,185	,221	-,181
100kg milk average	Sig. (2-tailed)	,138	,274	,596	,414	,167	,098	,178
	N	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation	,052	,063	,209	,046	,144	,298*	-,081
100 kg milk	Sig. (2-tailed) N	,700 57	,640 57	,118 57	,735 57	,286 57	,024 57	,548 57
access to pastures last	Pearson Correlation	,063	-,269*	-,230	-,338*	-,234	,105	-,215
year	Sig. (2-tailed)	,641	,043	,085	,010	,080	,438	,107
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation	,029	-,019	-,267*	-,071	-,248	-,178	,060
	Sig. (2-tailed)	,832	,888,	,045	,601	,062	,185	,658
trend age cows	N Pearson Correlation	57	57	57	57	57	57	57
trend age cows	Sig. (2-tailed)	-,036 ,788	-,015 ,914	-,195 ,145	,003 ,981	-,086 ,525	-,112 ,407	-,090 ,503
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	-,057	,123	,077	,214	,063	-,123	,224
	Sig. (2-tailed)	,674	,364	,569	,110	,641	,363	,095
	N	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation	-,107	-,115	-,055	-,069	,107	,236	,114
	Sig. (2-tailed) N	,430	,394	,683	,610	,429	,077	,400
time between calving	Pearson Correlation	57 -,027	,286*	,216	57 ,286*	,153	,120	57 -,122
average	Sig. (2-tailed)	,840	,031	,107	,031	,155	,375	,366
	N	57	57	57	57	57	57	57
trend on time between	Pearson Correlation	,001	-,089	-,148	-,089	-,020	,290*	-,080
calving	Sig. (2-tailed)	,991	,509	,271	,510 	,884	,029	,552
0/ to doctrication account	N Poorson Correlation	57	57	57	57	57	57	57
% to destruction average	Pearson Correlation Sig. (2-tailed)	-,096 ,479	,037 ,786	-,016 ,906	,011 ,936	-,011 ,933	,058 ,669	,044 ,743
	N	,479 57	57	,906	,936 57	,933 57	57	57
trend percentage to	Pearson Correlation	-,242	-,037	-,280*	-,064	-,253	,270*	-,060
destruction	Sig. (2-tailed)	,069	,783	,035	,634	,058	,042	,656
	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation	-,086	,013	,016	,049	,065	,225	-,090
	Sig. (2-tailed) N	,523	,923	,903	,717 57	,630	,092	,504
trend percentage	Pearson Correlation	57 -,100	,042	57 -,210	,032	57 -,092	57 -,433**	57 * ,435*
removed	Sig. (2-tailed)	-,100 ,458	,042	,116	,032	,496	,001	,001
	N	57	57	57	57	57	57	57
cellcount average	Pearson Correlation	,269*	,331*	,246	,256	,299*	,010	,013
	Sig. (2-tailed)	,043	,012	,065	,055	,024	,943	,922
	N	57	57	57	57	57	57	57
trend celgetal	Pearson Correlation	-,073	,034	-,213	,020	-,100	-,069	,038
	Sig. (2-tailed)	,590 57	,801 57	,112 57	,884 57	,459 57	,612	,780
amount of free diseases	N Pearson Correlation	,061	,052	57 -,070	,101	57 -,124	,102	57 -,097
amount of fice diseases	Sig. (2-tailed)	,061	,052	,607	,101	-, 124 ,357	,102	,473
	ر من ر ت استان اس	. ,,,,,,	, ., .,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, ,,,,,,,	, , , , , , ,

		trend droogzetters	milk cows average	grow in milk cows	milk quota average	trend qouta	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows
age of the farmer	Pearson Correlation	-,230	-,114	-,001	-,130	,161	,030	-,110
	Sig. (2-tailed)	,085	,400	,993	,335	,233	,823	,415
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	-,008	,223	,181	,279*	-,044	-,132	,024
	Sig. (2-tailed)	,953	,095	,177	,036	,743	,328	,860
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age cows
trend droogzetters	Pearson Correlation Sig. (2-tailed)	,121 ,368	,084 ,534	-,199 ,138	,052 ,700	,063 ,641	,029 ,832	-,036 ,788
	N	57	57	57	57	57	57	57
milk cows average	Pearson Correlation	,190	,076	-,147	,063	-,269*	-,019	-,015
	Sig. (2-tailed) N	,157 57	,573 57	,274 57	,640 57	,043 57	,888, 57	,914, 57
grow in milk cows	Pearson Correlation	,152	,406**		,209	-,230	-,267*	-,195
	Sig. (2-tailed)	,260	,002	,596	,118	,085	,045	,145
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,209	,108	-,110	,046	-,338*	-,071	,003
	Sig. (2-tailed) N	,119 57	,424 57	,414 57	,735 57	,010, 57	,601 57	,981, 57
trend gouta	Pearson Correlation	-,076	,370**		,144	-,234	-,248	-,086
-	Sig. (2-tailed)	,573	,005	,167	,286	,080	,062	,525
	N	57	57	57	57	57	57	57
amount of youngstock per	Pearson Correlation	-,360**	,201	,221	,298*	,105	-,178	-,112
10milkcows average	Sig. (2-tailed)	,006	,133	,098	,024	,438	,185	,407
trend amount of	N Pearson Correlation	57	57	57	57	57	57	57
youngstock per 10 milk	Sig. (2-tailed)	-,042 759	-,234	-,181 179	-,081	-,215 107	,060	-,090 503
cows	N	,758 57	,080 57	,178 57	,548 57	,107 57	,658 57	,503, 57
amount of cows per	Pearson Correlation	1	,044	,046	-,024	-,166	,096	,005
hectares average	Sig. (2-tailed)	·	,744	,736	,858	,217	,479	,968
	N	57	57	57	57	57	57	57
trend amount of cows per	Pearson Correlation	,044	1	,085	,057	-,119	-,117	-,305*
hectares	Sig. (2-tailed)	,744		,530	,676	,377	,388,	,021
	N O I I'	57	57	57	57	57	57	57
kg concentrates per 100kg milk average	Pearson Correlation Sig. (2-tailed)	,046	,085	1	,217	,063	,018	,075
roong min avolago	N	,736 57	,530 57	57	,105 57	,642 57	,896 57	,582, 57
trend kg concentrates per	Pearson Correlation	-,024	,057	,217	1	,039	,018	-,091
100 kg milk	Sig. (2-tailed)	,858	,676	,105		,776	,892	,500
	N	57	57	57	57	57	57	57
access to pastures last	Pearson Correlation	-,166	-,119	,063	,039	1	,149	,167
year	Sig. (2-tailed)	,217	,377	,642	,776		,270	,216
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation	,096	-,117	,018	,018	,149	1	,150
	Sig. (2-tailed) N	,479 57	,388 57	,896 57	,892 57	,270 57	57	,267 57
trend age cows	Pearson Correlation	,005	-,305*	,075	-,091	,167	,150	1
a conduction and a constant	Sig. (2-tailed)	,968	,021	,582	,500	,216	,267	
	N	57	57	57	57	57	57	57
production average	Pearson Correlation	-,045	,006	-,011	-,280*	-,256	-,155	-,059
	Sig. (2-tailed)	,740	,965	,933	,035	,055	,249	,660
formal on well, mandenting	N Completion	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation Sig. (2-tailed)	-,148	-,042	,220	,435**	-,256 055	-,055	-,021
	N	,273 57	,755 57	,101 57	,001 57	,055 57	,683 57	,876, 57
time between calving	Pearson Correlation	,053	,098	,082	,180	-,055	,075	,177
average	Sig. (2-tailed)	,693	,467	,545	,180	,683	,582	,188
	N	57	57	57	57	57	57	57
trend on time between	Pearson Correlation	-,154	-,087	-,065	-,006	,012	-,094	,004
calving	Sig. (2-tailed)	,251	,518	,633	,964	,930	,485	,975
% to destruction average	N Pearson Correlation	57 071	57	57	57	57 150	57 100	57
70 to destruction average	Sig. (2-tailed)	-,071 ,598	-,095 ,481	-,106 ,431	-,021 ,879	-,159 ,237	-,100 ,458	-,060 ,659
	N	57	57	,431 57	,879 57	,23 <i>1</i> 57	,436 57	,059 57
trend percentage to	Pearson Correlation	-,210	-,229	,216	,025	-,013	,139	,073
destruction	Sig. (2-tailed)	,117	,086	,107	,852	,924	,301	,588
	N	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation	,243	,010	-,199	-,034	-,111	-,322*	,046
	Sig. (2-tailed)	,069	,940	,138	,799	,409	,015	,734
trend percentage	N Pearson Correlation	57	57	57	57 341**	57	57 057	57
removed	Sig. (2-tailed)	,114 ,397	-,233 ,082	-,235 ,079	-,341** ,009	-,019 ,888	,057 ,676	,182 ,175
	N	57	57	57	,009 57	,888 57	57	,173 57
cellcount average	Pearson Correlation	-,250	,039	-,125	,272*	,041	,053	,036
-	Sig. (2-tailed)	,060	,773	,353	,041	,765	,697	,791
	N	57	57	57	57	57	57	57
trend celgetal	Pearson Correlation	-,184	-,327*	,055	-,123	-,142	,110	,312*
	Sig. (2-tailed)	,170	,013	,682	,360	,292	,417	,018
amount of free diseases	N Pearson Correlation	57	57	57	57 145	57 152	57 067	57 215
amount of free diseases		-,078	-,063	,158 ,240	-,145 ,283	,152	,067	,215
	Sig. (2-tailed)	,563	,643	, ,,,,,	.72.4	,261	,618	,108

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age
age of the farmer	Pearson Correlation	-,250	,106	,076	,079	-,040	,071	,280*
	Sig. (2-tailed)	,061	,433	,577	,560	,766	,598	,035
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,327*	,105	,266*	-,190	-,135	,063	-,016
	Sig. (2-tailed)	,013	,437	,045	,156	,317	,640	,904
	N	57	57	57	57	57	57	57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
trend droogzetters	Pearson Correlation Sig. (2-tailed)	-,057	-,107	-,027	,001	-,096	-,242	-,086 ,523
	N	,674 57	,430 57	,840 57	,991 57	,479 57	,069 57	,523 57
milk cows average	Pearson Correlation	,123	-,115	,286*	-,089	,037	-,037	,013
	Sig. (2-tailed)	,364	,394	,031	,509	,786	,783	,923
grow in milk cows	N Pearson Correlation	,077	57 -,055	,216	57 -,148	57 -,016	57 -,280*	,016
grow in mink dowe	Sig. (2-tailed)	,569	,683	,107	,271	,906	,035	,903
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation	,214	-,069	,286*	-,089	,011	-,064	,049
	Sig. (2-tailed) N	,110 57	,610 57	,031 57	,510 57	,936 57	,634 57	,717, 57
trend qouta	Pearson Correlation	,063	,107	,153	-,020	-,011	-,253	,065
	Sig. (2-tailed)	,641	,429	,255	,884	,933	,058	,630
	N Pearson Correlation	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Sig. (2-tailed)	-,123 ,363	,236 ,077	,120 ,375	,290* ,029	,058 ,669	,270* ,042	,225 ,092
· ·	N	,565 57	57	57	57	,565 57	57	,05 <u>2</u> 57
trend amount of	Pearson Correlation	,224	,114	-,122	-,080	,044	-,060	-,090
youngstock per 10 milk cows	Sig. (2-tailed)	,095	,400	,366	,552	,743	,656	,504
amount of cows per	N Pearson Correlation	57 -,045	57 -,148	,053	57 -,154	57 -,071	57 -,210	,243
hectares average	Sig. (2-tailed)	-,045 ,740	,273	,693	,251	-,071 ,598	,117	,243
	N	57	57	57	57	,555 57	57	57
trend amount of cows per hectares	Pearson Correlation	,006	-,042	,098	-,087	-,095	-,229	,010
nectares	Sig. (2-tailed) N	,965 57	,755 57	,467 57	,518 57	,481 57	,086 57	,940 57
kg concentrates per	Pearson Correlation	-,011	,220	,082	-,065	-,106	,216	-,199
100kg milk average	Sig. (2-tailed)	,933	,101	,545	,633	,431	,107	,138
	N	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation	-,280*	,435**	*	-,006	-,021	,025	-,034
100 kg mik	Sig. (2-tailed) N	,035 57	,001 57	,180 57	,964 57	,879 57	,852 57	,799 57
access to pastures last	Pearson Correlation	-,256	-,256	-,055	,012	-,159	-,013	-,111
year	Sig. (2-tailed)	,055	,055	,683	,930	,237	,924	,409
	N Decree Occupation	57	57	57	57	57	57	57
age cows average	Pearson Correlation Sig. (2-tailed)	-,155 ,249	-,055 ,683	,075 ,582	-,094 ,485	-,100 ,458	,139 ,301	-,322* ,015
	N (= 1004)	, <u>2</u> 10 57	57	57	57	57	57	57
trend age cows	Pearson Correlation	-,059	-,021	,177	,004	-,060	,073	,046
	Sig. (2-tailed)	,660	,876	,188	,975	,659	,588	,734
production average	N Pearson Correlation	57 1	-,109	,126	,041	,071	,097	-,009
production average	Sig. (2-tailed)		,422	,350	,763	,601	,474	,947
	N	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation	-,109	1	-,137	,150	-,175	,207	,035
	Sig. (2-tailed) N	,422 57	57	,311 57	,264 57	,194 57	,123 57	,795 57
time between calving	Pearson Correlation	,126	-,137	1	,031	,244	,140	-,115
average	Sig. (2-tailed)	,350	,311		,822	,068	,298	,395
trend on time between	N Pearson Correlation	57	57	57	57	57	,375**	,215
calving	Sig. (2-tailed)	,041 ,763	,150 ,264	,031 ,822		-,091 ,500	,375**	,215 ,109
	N	57	57	57	57	,555 57	57	57
% to destruction average	Pearson Correlation	,071	-,175	,244	-,091	1	-,084	-,071
	Sig. (2-tailed) N	,601	,194	,068	,500	E 7	,533	,600 57
trend percentage to	Pearson Correlation	57 ,097	,207	,140	,375**	-,084	57	-,160
destruction	Sig. (2-tailed)	,474	,123	,298	,004	,533		,233
	N O I I'	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation Sig. (2-tailed)	-,009 ,947	,035 ,795	-,115 ,395	,215 ,109	-,071 ,600	-,160	1
	N	,94 <i>7</i> 57	,795 57	,395 57	,109 57	,600 57	,233 57	57
trend percentage	Pearson Correlation	,129	-,047	-,175	,059	,145	,062	-,038
removed	Sig. (2-tailed)	,338	,727	,193	,663	,283	,645	,780
cellcount average	N Pearson Correlation	57 -,295*	-,081	,382**	57 -,029	,210	57 -,014	-,216
Concount average	Sig. (2-tailed)	-,295" ,026	-,081 ,549	,382	-,029 ,829	,210 ,117	-,014 ,916	-,216 ,106
	N	,520 57	57	57	57	57	57	57
trend celgetal	Pearson Correlation	,227	-,033	-,036	,135	,164	,356**	-,036
	Sig. (2-tailed)	,089 57	,807	,793	,315	,222	,007	,792
amount of free diseases	N Pearson Correlation	,298*	57 -,025	,100	,065	,016	,186	57 -,161
	Sig. (2-tailed)	,024	,856	,457	,633	,905	,165	,231
	N	57	57	57	57	57	57	57

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
age of the farmer	Pearson Correlation	-,159	-,075	,071	,118	,072	,033	-,066
	Sig. (2-tailed)	,238	,581	,601	,381	,593	,810	,625
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,218	-,081	,041	-,066	-,032	,012	,143
	Sig. (2-tailed)	,104	,550	,763	,628	,811	,931	,289
	N	57	57	57	57	57	57	57

		trend					
		percentage removed	cellcount average	trend celgetal	amount of free diseases	age of the farmer	higest education
trend droogzetters	Pearson Correlation	-,100	,269*	-,073	,061	-,230	-,008
	Sig. (2-tailed) N	,458 57	,043 57	,590 57	,654 57	,085 57	,953 57
milk cows average	Pearson Correlation	,042	,331*	,034	,052	-,114	,223
•	Sig. (2-tailed)	,759	,012	,801	,700	,400	,095
	N October 1 of the second of t	57	57	57	57	57	57
grow in milk cows	Pearson Correlation Sig. (2-tailed)	-,210 ,116	,246 ,065	-,213 ,112	-,070 ,607	-,001 ,993	,181, 177,
	N (= 1000)	57	57	57	57	57	57
milk quota average	Pearson Correlation	,032	,256	,020	,101	-,130	,279
	Sig. (2-tailed) N	,814, 57	,055 57	,884 57	,456 57	,335	,036
trend qouta	Pearson Correlation	-,092	,299*	-,100	-,124	,161	57 -,044
•	Sig. (2-tailed)	,496	,024	,459	,357	,233	,743
	N	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Pearson Correlation	-,433**	,010	-,069	,102	,030	-,132
Tominicows average	Sig. (2-tailed) N	,001 57	,943 57	,612 57	,450 57	,823 57	,328 57
trend amount of	Pearson Correlation	,435**	,013	,038	-,097	-,110	,024
youngstock per 10 milk	Sig. (2-tailed)	,001	,922	,780	,473	,415	,860
cows	N Correlation	57	57	57	57	57	57
amount of cows per hectares average	Pearson Correlation Sig. (2-tailed)	,114 ,397	-,250 ,060	-,184 ,170	-,078 ,563	-,250 ,061	,327 ,013
- 9 -	N	,397 57	,060 57	57	57	57	57
trend amount of cows per	Pearson Correlation	-,233	,039	-,327*	-,063	,106	,105
hectares	Sig. (2-tailed)	,082	,773	,013	,643	,433	,437
ka concentrates per	N Pearson Correlation	57 235	57 125	57	57	57	57 266
kg concentrates per 100kg milk average	Sig. (2-tailed)	-,235 ,079	-,125 ,353	,055 ,682	,158 ,240	,076 ,577	,266 ,045
	N (= 1000)	57	57	57	57	57	57
trend kg concentrates per	Pearson Correlation	-,341**	,272*	-,123	-,145	,079	-,190
100 kg milk	Sig. (2-tailed)	,009	,041	,360	,283	,560	,156
access to pastures last	N Pearson Correlation	57 -,019	,041	57 -,142	,152	57 -,040	57 -,135
year	Sig. (2-tailed)	,888	,765	,292	,261	,766	,317
	N	57	57	57	57	57	57
age cows average	Pearson Correlation	,057	,053	,110	,067	,071	,063
	Sig. (2-tailed) N	,676 57	,697 57	,417 57	,618 57	,598 57	,640 57
trend age cows	Pearson Correlation	,182	,036	,312*	,215	,280*	-,016
J	Sig. (2-tailed)	,175	,791	,018	,108	,035	,904
	N	57	57	57	57	57	57
production average	Pearson Correlation	,129	-,295*	,227	,298*	-,159	,218
	Sig. (2-tailed) N	,338 57	,026 57	,089 57	,024 57	,238 57	,104 57
trend on milk production	Pearson Correlation	-,047	-,081	-,033	-,025	-,075	-,081
	Sig. (2-tailed)	,727	,549	,807	,856	,581	,550
the bathers and the	N October 1	57	57	57	57	57	57
time between calving average	Pearson Correlation Sig. (2-tailed)	-,175 ,193	,382** ,003	-,036 ,793	,100 ,457	,071 ,601	,041 ,763
•	N	57	,003 57	,793 57	57	57	57
trend on time between	Pearson Correlation	,059	-,029	,135	,065	,118	-,066
calving	Sig. (2-tailed)	,663	,829	,315	,633	,381	,628
% to destruction average	N Pearson Correlation	,145	,210	,164	,016	,072	57 -,032
10 to destruction average	Sig. (2-tailed)	,145 ,283	,210 ,117	,164	,016	,072	-,032 ,811
	N	,200 57	57	57	57	57	57
trend percentage to	Pearson Correlation	,062	-,014	,356**		,033	,012
destruction	Sig. (2-tailed)	,645	,916	,007	,165	,810	,931
% cows removed average	N Pearson Correlation	57 -,038	57 -,216	57 -,036	57 -,161	-,066	57 ,143
	Sig. (2-tailed)	,780	,106	,792	,231	,625	,289
	N	57	57	57	57	57	57
trend percentage	Pearson Correlation	1	,009	,246	,151	-,107	,198
removed	Sig. (2-tailed) N	57	,947 57	,065 57	,262 57	,428 57	,140 57
cellcount average	Pearson Correlation	,009	1	,061	-,196	,259	-,194
	Sig. (2-tailed)	,947	'	,650	,144	,051	,148
	N	57	57	57	57	57	57
trend celgetal	Pearson Correlation	,246	,061	1	,079	,240	,008
	Sig. (2-tailed) N	,065 57	,650 57	57	,560 57	,072 57	,951 57
amount of free diseases	Pearson Correlation	,151	-,196	,079	1	-,087	,300
	Sig. (2-tailed)	,262	,144	,560		,520	,023
	oig. (2 tailed)	,					

		trend percentage removed	cellcount average	trend celgetal	amount of free diseases	age of the farmer	higest education
age of the farmer	Pearson Correlation	-,107	,259	,240	-,087	1	-,412**
	Sig. (2-tailed)	,428	,051	,072	,520		,001
	N	57	57	57	57	57	57
higest education	Pearson Correlation	,198	-,194	,008	,300*	-,412**	1
	Sig. (2-tailed)	,140	,148	,951	,023	,001	
	N	57	57	57	57	57	57

^{*.} Correlation is significant at the 0.05 level (2-tailed).

^{**.} Correlation is significant at the 0.01 level (2-tailed).

		trend overige medicijnen	milk cows average	grow in milk cows	milk quota average	trend gouta	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows
trend overige medicijnen	Pearson Correlation	1	-,170	-,354**	-,230	-,131	-,148	,336*
	Sig. (2-tailed) N	57	,206 57	,007 57	,086 57	,332 57	,271 57	,010 57
milk cows average	Pearson Correlation	-,170	1	,620**	,978**	,405**	-,145	,081
	Sig. (2-tailed)	,206		,000	,000	,002	,281	,547
grow in milk cows	N Pearson Correlation	57 -,354**		57 1	57 ,660**	57 ,783**	-,108	-,137
grow in mink cowo	Sig. (2-tailed)	,007	,020		,000,	,703	,425	,310
	N	57	57	57	57	57	57	57
milk quota average	Pearson Correlation Sig. (2-tailed)	-,230	,978**	,660**	1	,433**	-,149	,054
	N	,086 57	,000, 57	,000, 57	57	,001 57	,270 57	,689 57
trend qouta	Pearson Correlation	-,131	,405**	,783**	,433**	1	-,012	-,005
	Sig. (2-tailed) N	,332	,002	,000	,001	F.7	,929	,968
amount of youngstock per	Pearson Correlation	57 -,148	57 -,145	57 -,108	57 -,149	.,012	57 1	-,246
10milkcows average	Sig. (2-tailed)	,271	,281	,425	,270	,929	•	,065
	N	57	57	57	57	57	57	57
trend amount of youngstock per 10 milk	Pearson Correlation Sig. (2-tailed)	,336* ,010	,081 ,547	-,137 ,310	,054 ,689	-,005 ,968	-,246 ,065	1
cows	N	57	,54 <i>7</i> 57	,310 57	57	,900 57	,065 57	57
amount of cows per	Pearson Correlation	-,177	,190	,152	,209	-,076	-,360**	-,042
hectares average	Sig. (2-tailed)	,187	,157	,260	,119	,573	,006	,758
trend amount of cows per	N Pearson Correlation	57 -,215	,076	57 ,406**	57 ,108	57 ,370**	,201	57 -,234
hectares	Sig. (2-tailed)	,109	,076 ,573	,406	,108	,370	,201	,080
	N	57	57	57	57	57	57	57
kg concentrates per 100kg milk average	Pearson Correlation	-,333*	-,147	-,072	-,110	-,185	,221	-,181
Tooky Tillik average	Sig. (2-tailed) N	,011 57	,274 57	,596 57	,414 57	,167 57	,098 57	,178 57
trend kg concentrates per	Pearson Correlation	-,240	,063	,209	,046	,144	,298*	-,081
100 kg milk	Sig. (2-tailed)	,072	,640	,118	,735	,286	,024	,548
access to pastures last	N Pearson Correlation	57	57	57	57	57	57	57
access to pastures last year	Sig. (2-tailed)	,105 ,438	-,269* ,043	-,230 ,085	-,338* ,010	-,234 ,080	,105 ,438	-,215 ,107
	N	57	57	57	57	57	57	57
age cows average	Pearson Correlation	,058	-,019	-,267*	-,071	-,248	-,178	,060
	Sig. (2-tailed) N	,667 57	,888, 57	,045 57	,601 57	,062 57	,185 57	,658 57
trend age cows	Pearson Correlation	-,086	-,015	-,195	,003	-,086	-,112	-,090
-	Sig. (2-tailed)	,525	,914	,145	,981	,525	,407	,503
production average	N Pearson Correlation	57	57	57	57	57	57	57
production average	Sig. (2-tailed)	-,176 ,191	,123 ,364	,077 ,569	,214 ,110	,063 ,641	-,123 ,363	,224 ,095
	N	57	57	57	57	57	57	57
trend on milk production	Pearson Correlation	,131	-,115	-,055	-,069	,107	,236	,114
	Sig. (2-tailed) N	,330 57	,394 57	,683 57	,610 57	,429 57	,077 57	,400 57
time between calving	Pearson Correlation	-,263*	,286*	,216	,286*	,153	,120	-,122
average	Sig. (2-tailed)	,048	,031	,107	,031	,255	,375	,366
Annual on times hative on	N Correlation	57	57	57	57	57	57	57
trend on time between calving	Pearson Correlation Sig. (2-tailed)	-,010 ,942	-,089 ,509	-,148 ,271	-,089 ,510	-,020 ,884	,290* ,029	-,080 ,552
_	N	57	57	57	57	57	57	57
% to destruction average	Pearson Correlation	-,150	,037	-,016	,011	-,011	,058	,044
	Sig. (2-tailed) N	,264 57	,786 57	,906 57	,936 57	,933 57	,669 57	,743 57
trend percentage to	Pearson Correlation	,038	-,037	-,280*	-,064	-,253	,270*	-,060
destruction	Sig. (2-tailed)	,778	,783	,035	,634	,058	,042	,656
0/ 00000 7000000	N Degrees Correlation	57	57	57	57	57	57	57
% cows removed average	Pearson Correlation Sig. (2-tailed)	-,011 ,936	,013 ,923	,016 ,903	,049 ,717	,065 ,630	,225 ,092	-,090 ,504
	N	,936 57	,923 57	,903 57	57	,630 57	,092 57	57
trend percentage	Pearson Correlation	,246	,042	-,210	,032	-,092	-,433**	,435*
removed	Sig. (2-tailed)	,065	,759	,116	,814	,496	,001	,001
cellcount average	N Pearson Correlation	,030	57 ,331*	57 ,246	,256	57 ,299*	,010	,013
	Sig. (2-tailed)	,826	,012	,065	,250	,024	,943	,922
	N	57	57	57	57	57	57	57
trend celgetal	Pearson Correlation Sig. (2-tailed)	-,063	,034	-,213 112	,020	-,100	-,069	,038
	Sig. (2-tailed) N	,642 57	,801 57	,112 57	,884, 57	,459 57	,612 57	,780 57
amount of free diseases	Pearson Correlation	-,031	,052	-,070	,101	-,124	,102	-,097
	Sig. (2-tailed)	,821	,700	,607	,456	,357	,450	,473
	N	57	57	57	57	57	57	57

		trend overige medicijnen	milk cows average	grow in milk cows	milk quota average	trend qouta	amount of youngstock per 10milkcows average	trend amount of youngstock per 10 milk cows
age of the farmer	Pearson Correlation	-,079	-,114	-,001	-,130	,161	,030	-,110
	Sig. (2-tailed)	,558	,400	,993	,335	,233	,823	,415
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	-,175	,223	,181	,279*	-,044	-,132	,024
	Sig. (2-tailed)	,193	,095	,177	,036	,743	,328	,860
	N	57	57	57	57	57	57	57

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age
trend overige medicijnen	Pearson Correlation Sig. (2-tailed)	-,177 ,187	-,215 ,109	-,333* ,011	-,240 ,072	,105 ,438	,058 ,667	-,086 ,525
	N	57	57	57	57	57	57	57
milk cows average	Pearson Correlation	,190	,076	-,147	,063	-,269*	-,019	-,015
	Sig. (2-tailed) N	,157 57	,573 57	,274 57	,640 57	,043 57	,888, 57	,914 57
grow in milk cows	Pearson Correlation	,152	,406**	-,072	,209	-,230	-,267*	-,195
	Sig. (2-tailed)	,260	,002	,596	,118	,085	,045	,145
mills guata average	N Pearson Correlation	57	57	57	57	57	57	57
milk quota average	Sig. (2-tailed)	,209 ,119	,108 ,424	-,110 ,414	,046 ,735	-,338* ,010	-,071 ,601	,003 ,981
	N	57	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,076	,370**	-,185	,144	-,234	-,248	-,086
	Sig. (2-tailed) N	,573 57	,005 57	,167 57	,286 57	,080, 57	,062 57	,525 57
amount of youngstock per	Pearson Correlation	-,360**	,201	,221	,298*	,105	-,178	-,112
10milkcows average	Sig. (2-tailed)	,006	,133	,098	,024	,438	,185	,407
	N	57	57	57	57	57	57	57
trend amount of youngstock per 10 milk	Pearson Correlation	-,042	-,234	-,181	-,081	-,215	,060	-,090
cows	Sig. (2-tailed) N	,758 57	,080 57	,178 57	,548 57	,107 57	,658 57	,503 57
amount of cows per	Pearson Correlation	1	,044	,046	-,024	-,166	,096	,005
hectares average	Sig. (2-tailed)		,744	,736	,858	,217	,479	,968
	N O I II	57	57	57	57	57	57	57
trend amount of cows per hectares	Pearson Correlation Sig. (2-tailed)	,044 ,744	1	,085 ,530	,057 ,676	-,119 ,377	-,117 ,388	-,305* ,021
	N	57	57	,550 57	,070 57	,37 <i>1</i> 57	57	57
kg concentrates per	Pearson Correlation	,046	,085	1	,217	,063	,018	,075
100kg milk average	Sig. (2-tailed)	,736	,530		,105	,642	,896	,582
trend kg concentrates per	N Pearson Correlation	57 -,024	,057	57 ,217	57	,039	,018	57 -,091
100 kg milk	Sig. (2-tailed)	-,02 4 ,858	,676	,105	'	,039	,892	,500
	N	57	57	57	57	57	57	57
access to pastures last	Pearson Correlation	-,166	-,119	,063	,039	1	,149	,167
year	Sig. (2-tailed) N	,217 57	,377 57	,642 57	,776 57	57	,270 57	,216 57
age cows average	Pearson Correlation	,096	-,117	,018	,018	,149	1	,150
	Sig. (2-tailed)	,479	,388	,896	,892	,270		,267
	N O I I	57	57	57	57	57	57	57
trend age cows	Pearson Correlation Sig. (2-tailed)	,005 ,968	-,305*	,075 ,582	-,091 ,500	,167 ,216	,150	1
	N	,908 57	,021 57	,582 57	,500 57	,210 57	,267 57	57
production average	Pearson Correlation	-,045	,006	-,011	-,280*	-,256	-,155	-,059
	Sig. (2-tailed)	,740	,965	,933	,035	,055	,249	,660
trend on milk production	N Pearson Correlation	57 -,148	57 -,042	,220	57 ,435**	57 -,256	-,055	.,021
trend on milk production	Sig. (2-tailed)	,273	,755	,101	,433	-,250 ,055	,683	,876
	N	57	57	57	57	57	57	57
time between calving	Pearson Correlation	,053	,098	,082	,180	-,055	,075	,177
average	Sig. (2-tailed) N	,693 57	,467 57	,545 57	,180 57	,683 57	,582 57	,188 57
trend on time between	Pearson Correlation	-,154	-,087	-,065	-,006	,012	-,094	,004
calving	Sig. (2-tailed)	,251	,518	,633	,964	,930	,485	,975
% to destruction average	N Pearson Correlation	57	57	57	57	57	57	57
% to destruction average	Sig. (2-tailed)	-,071 ,598	-,095 ,481	-,106 ,431	-,021 ,879	-,159 ,237	-,100 ,458	-,060 ,659
	N	,550 57	57	57	,573 57	,267 57	57	,555 57
trend percentage to	Pearson Correlation	-,210	-,229	,216	,025	-,013	,139	,073
destruction	Sig. (2-tailed)	,117	,086	,107	,852	,924	,301	,588
% cows removed average	Pearson Correlation	57 ,243	,010	57 -,199	57 -,034	57 -,111	57 -,322*	,046
	Sig. (2-tailed)	,069	,940	,138	,799	,409	,015	,734
to and	N Decree of Consoletion	57	57	57	57	57	57	57
trend percentage removed	Pearson Correlation Sig. (2-tailed)	,114 ,397	-,233 ,082	-,235 ,079	-,341** ,009	-,019 888	,057 ,676	,182 175
· 	Sig. (2-tailed) N	,397 57	,082 57	,079 57	,009 57	,888, 57	,676 57	,175 57
cellcount average	Pearson Correlation	-,250	,039	-,125	,272*	,041	,053	,036
	Sig. (2-tailed)	,060	,773	,353	,041	,765	,697	,791
trend celgetal	N Pearson Correlation	57 - 184	57 - 327*	57 055	57 - 123	57 - 142	57 110	57 312*
uenu ceigelai	Sig. (2-tailed)	-,184 ,170	-,327* ,013	,055 ,682	-,123 ,360	-,142 ,292	,110 ,417	,312* ,018
	N	57	57	57	,500 57	,232 57	57	,516 57
amount of free diseases	Pearson Correlation	-,078	-,063	,158	-,145	,152	,067	,215
	Sig. (2-tailed)	,563	,643	,240 57	,283	,261	,618	,108
	N	57	57	57	57	57	57	57

Correlations annex 19 trend daily dosage other

		amount of cows per hectares average	trend amount of cows per hectares	kg concentrates per 100kg milk average	trend kg concentrates per 100 kg milk	access to pastures last year	age cows average	trend age cows
age of the farmer	Pearson Correlation	-,250	,106	,076	,079	-,040	,071	,280*
	Sig. (2-tailed)	,061	,433	,577	,560	,766	,598	,035
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,327*	,105	,266*	-,190	-,135	,063	-,016
	Sig. (2-tailed)	,013	,437	,045	,156	,317	,640	,904
	N	57	57	57	57	57	57	57

				time between	trend on time	% to	trend	% cows
		production average	trend on milk production	calving average	between calving	destruction average	percentage to destruction	removed average
trend overige medicijnen	Pearson Correlation	-,176	,131	-,263*	-,010	-,150	,038	-,011
	Sig. (2-tailed)	,191	,330	,048	,942	,264	,778	,936
milk cows average	N Pearson Correlation	,123	57 -,115	57 ,286*	57 -,089		57 -,037	,013
95	Sig. (2-tailed)	,364	,394	,031	,509	,786	,783	,923
	N	57	57	57	57	57	57	57
grow in milk cows	Pearson Correlation Sig. (2-tailed)	,077 ,569	-,055 ,683	,216 ,107	-,148 ,271	-,016 ,906	-,280* ,035	,016 ,903
	N	,509 57	57	57	57 S	,900 57	57	,903 57
milk quota average	Pearson Correlation	,214	-,069	,286*	-,089	,011	-,064	,049
	Sig. (2-tailed)	,110	,610	,031	,510	,936	,634	,717,
trend gouta	N Pearson Correlation	.063	,107	,153	57 -,020	57 -,011	57 -,253	.065
tiona quata	Sig. (2-tailed)	,641	,429	,255	,884	,933	,058	,630
	N	57	57	57	57	57	57	57
amount of youngstock per 10milkcows average	Pearson Correlation Sig. (2-tailed)	-,123	,236	,120	,290*	,058	,270*	,225
Tominicows average	N	,363 57	,077 57	,375 57	,029 57	,669 57	,042 57	,092 57
trend amount of	Pearson Correlation	,224	,114	-,122	-,080	,044	-,060	-,090
youngstock per 10 milk cows	Sig. (2-tailed)	,095	,400	,366	,552	,743	,656	,504
amount of cows per	N Pearson Correlation	57 - 045	57 - 148	57 053	57 -,154	57 - 071	57 - 210	57
hectares average	Sig. (2-tailed)	-,045 ,740	-,148 ,273	,053 ,693	-,154 ,251	-,071 ,598	-,210 ,117	,243 ,069
	N	57	57	57	57	,550 57	57	57
trend amount of cows per	Pearson Correlation	,006	-,042	,098	-,087	-,095	-,229	,010
hectares	Sig. (2-tailed) N	,965 57	,755 57	,467 57	,518 57	,481 57	,086 57	,940 57
kg concentrates per	Pearson Correlation	-,011	,220	,082	-,065	-,106	,216	-,199
100kg milk average	Sig. (2-tailed)	,933	,101	,545	,633	,431	,107	,138
	N	57	57	57	57	57	57	57
trend kg concentrates per 100 kg milk	Pearson Correlation Sig. (2-tailed)	-,280* ,035	,435** ,001	,180 ,180	-,006 ,964	-,021 ,879	,025 ,852	-,034 ,799
	N	,035 57	57	, 160 57	,964 57	,679 57	,052 57	,799 57
access to pastures last	Pearson Correlation	-,256	-,256	-,055	,012	-,159	-,013	-,111
year	Sig. (2-tailed)	,055	,055	,683	,930	,237	,924	,409
age cows average	N Pearson Correlation	57 -,155	57 -,055	,075	57 -,094	57 -,100	,139	57 -,322*
age cows average	Sig. (2-tailed)	,249	,683	,582	,485	,458	,301	,015
	N	57	57	57	57	57	57	57
trend age cows	Pearson Correlation	-,059	-,021	,177	,004	-,060	,073	,046
	Sig. (2-tailed) N	,660 57	,876 57	,188 57	,975 57	,659 57	,588 57	,734 57
production average	Pearson Correlation	1	-,109	,126	,041	,071	,097	-,009
	Sig. (2-tailed)		,422	,350	,763	,601	,474	,947
trend on milk production	N Pearson Correlation	57	57	57	57	57	57	57
trend on milk production	Sig. (2-tailed)	-,109 ,422	1	-,137 ,311	,150 ,264	-,175 ,194	,207 ,123	,035 ,795
	N ,	57	57	57	57	57	57	57
time between calving	Pearson Correlation	,126	-,137	1	,031	,244	,140	-,115
average	Sig. (2-tailed) N	,350 57	,311 57	57	,822 57	,068 57	,298 57	,395 57
trend on time between	Pearson Correlation	,041	,150	,031	1	-,091	,375**	,215
calving	Sig. (2-tailed)	,763	,264	,822		,500	,004	,109
0/ to doctruction average	N Pearson Correlation	57	57	57	57	57	57	57
% to destruction average	Sig. (2-tailed)	,071 ,601	-,175 ,194	,244 ,068	-,091 ,500	1	-,084 ,533	-,071 ,600
	N	57	57	57	,300 57	57	57	,000 57
trend percentage to	Pearson Correlation	,097	,207	,140	,375**	-,084	1	-,160
destruction	Sig. (2-tailed)	,474	,123	,298	,004	,533		,233
% cows removed average	N Pearson Correlation	57 -,009	,035	57 -,115	57 ,215	57 -,071	57 -,160	57 1
2 1 1 1 2 2 2 1 0 1 0 9 0	Sig. (2-tailed)	,947	,795	,395	,109	,600	,233	,
	N	57	57	57	57	57	57	57
trend percentage removed	Pearson Correlation	,129	-,047	-,175	,059	,145	,062	-,038
	Sig. (2-tailed) N	,338 57	,727 57	,193 57	,663 57	,283 57	,645 57	,780 57
cellcount average	Pearson Correlation	-,295*	-,081	,382**	-,029	,210	-,014	-,216
	Sig. (2-tailed)	,026	,549	,003	,829	,117	,916	,106
trend celgetal	N Pearson Correlation	57	57	57	57 135	57	57 356**	57
uenu ociyetdi	Sig. (2-tailed)	,227 ,089	-,033 ,807	-,036 ,793	,135 ,315	,164 ,222	,356** ,007	-,036 ,792
	N	,003 57	57	57	,515 57	57	57	57
			L -					
amount of free diseases	Pearson Correlation Sig. (2-tailed)	,298* ,024	-,025 ,856	,100 ,457	,065 ,633	,016 ,905	,186 ,165	-,161 ,231

Correlations annex 19 trend daily dosage other

		production average	trend on milk production	time between calving average	trend on time between calving	% to destruction average	trend percentage to destruction	% cows removed average
age of the farmer	Pearson Correlation	-,159	-,075	,071	,118	,072	,033	-,066
	Sig. (2-tailed)	,238	,581	,601	,381	,593	,810	,625
	N	57	57	57	57	57	57	57
higest education	Pearson Correlation	,218	-,081	,041	-,066	-,032	,012	,143
	Sig. (2-tailed)	,104	,550	,763	,628	,811	,931	,289
	N	57	57	57	57	57	57	57

		trend percentage	cellcount		amount of free	age of the	higest
trend overige medicijnen	Pearson Correlation	removed ,246	average ,030	trend celgetal -,063	diseases -,031	farmer -,079	education -,175
trend overige medicijnen	Sig. (2-tailed)	,065	,826	,642	,821	,558	,173
	N	57	57	57	57	57	57
milk cows average	Pearson Correlation Sig. (2-tailed)	,042 ,759	,331* ,012	,034 ,801	,052 ,700	-,114 ,400	,223 ,095
	N	,759 57	,012 57	57	57	57	,095 57
grow in milk cows	Pearson Correlation	-,210	,246	-,213	-,070	-,001	,181
	Sig. (2-tailed)	,116 	,065	,112	,607	,993	,177
milk quota average	N Pearson Correlation	,032	57 ,256	,020	,101	57 -,130	57 ,279
Tillik quota average	Sig. (2-tailed)	,814	,250	,884	,456	,335	,279
	N	57	57	57	57	57	57
trend qouta	Pearson Correlation	-,092	,299*	-,100	-,124	,161	-,044
	Sig. (2-tailed) N	,496 57	,024 57	,459 57	,357 57	,233 57	,743, 57
amount of youngstock per	Pearson Correlation	-,433**	,010	-,069	,102	,030	-,132
10milkcows average	Sig. (2-tailed)	,001	,943	,612	,450	,823	,328
trend amount of	N Pearson Correlation	57	57	57	57	57	57
youngstock per 10 milk	Sig. (2-tailed)	,435** ,001	,013 ,922	,038 ,780	-,097 ,473	-,110 ,415	,024 ,860
cows	N	57	57	57	57	57	57
amount of cows per	Pearson Correlation	,114	-,250	-,184	-,078	-,250	,327
hectares average	Sig. (2-tailed) N	,397 57	,060 57	,170 57	,563 57	,061 57	,013 57
trend amount of cows per	Pearson Correlation	-,233	,039	-,327*	-,063	,106	,105
hectares	Sig. (2-tailed)	,082	,773	,013	,643	,433	,437
	N	57	57	57	57	57	57
kg concentrates per 100kg milk average	Pearson Correlation Sig. (2-tailed)	-,235	-,125	,055	,158	,076	,266
roong min avorago	N	,079 57	,353 57	,682 57	,240 57	,577 57	,045 57
trend kg concentrates per	Pearson Correlation	-,341**	,272*	-,123	-,145	,079	-,190
100 kg milk	Sig. (2-tailed)	,009	,041	,360	,283	,560	,156
access to pastures last	N Pearson Correlation	57 -,019		57 -,142	,152	57	57 125
year	Sig. (2-tailed)	-,019 ,888	,765	,292	,261	-,040 ,766	-,135 ,317
	N ,	57	57	57	57	57	57
age cows average	Pearson Correlation	,057	,053	,110	,067	,071	,063
	Sig. (2-tailed) N	,676 57	,697 57	,417 57	,618 57	,598 57	,640 57
trend age cows	Pearson Correlation	,182	,036	,312*	,215	,280*	-,016
-	Sig. (2-tailed)	,175	,791	,018	,108	,035	,904
and direction are non-	N Correlation	57	57	57	57	57	57
production average	Pearson Correlation Sig. (2-tailed)	,129 ,338	-,295* ,026	,227 ,089	,298* ,024	-,159 ,238	,218 ,104
	N	,550 57	,020 57	57	57	57	57
trend on milk production	Pearson Correlation	-,047	-,081	-,033	-,025	-,075	-,081
	Sig. (2-tailed)	,727	,549	,807	,856	,581	,550
time between calving	N Pearson Correlation	57 -,175	57 ,382**	57 -,036	,100	,071	57 ,041
average	Sig. (2-tailed)	,173	,002	,793	,457	,601	,763
	N	57	57	57	57	57	57
trend on time between calving	Pearson Correlation	,059	-,029	,135	,065	,118	-,066
Calving	Sig. (2-tailed) N	,663 57	,829, 57	,315 57	,633 57	,381 57	,628 57
% to destruction average	Pearson Correlation	,145	,210	,164	,016	,072	-,032
-	Sig. (2-tailed)	,283	,117	,222	,905	,593	,811
trand percentage to	N Pearson Correlation	57	57	57 256**	57	57	57
trend percentage to destruction	Sig. (2-tailed)	,062 ,645	-,014 ,916	,356** ,007	,186 ,165	,033 ,810	,012 ,931
	N	,516 57	57	57	57	57	57
% cows removed average	Pearson Correlation	-,038	-,216	-,036	-,161	-,066	,143
	Sig. (2-tailed) N	,780 57	,106 57	,792 57	,231	,625	,289 57
trend percentage	Pearson Correlation	57 1	,009	,246	,151	57 -,107	57 ,198
removed	Sig. (2-tailed)		,947	,065	,262	,428	,140
	N Completion	57	57	57	57	57	57
cellcount average	Pearson Correlation Sig. (2-tailed)	,009 ,947	1	,061 650	-,196	,259	-,194 148
	Sig. (2-tailed) N	,947 57	57	,650 57	,144 57	,051 57	,148 57
trend celgetal	Pearson Correlation	,246	,061	1	,079	,240	,008
	Sig. (2-tailed)	,065	,650		,560	,072	,951
amount of free diseases	N Pearson Correlation	57 151	57	57	57	57	57 300
amount of free diseases	Sig. (2-tailed)	,151 ,262	-,196 ,144	,079 ,560	1	-,087 ,520	,300 [,] ,023
		,202 57	57	57	57	57	,023 57

Correlations annex 19 trend daily dosage other

		trend percentage removed	cellcount average	trend celgetal	amount of free diseases	age of the farmer	higest education
age of the farmer	Pearson Correlation	-,107	,259	,240	-,087	1	-,412**
	Sig. (2-tailed)	,428	,051	,072	,520		,001
	N	57	57	57	57	57	57
higest education	Pearson Correlation	,198	-,194	,008	,300*	-,412**	1
	Sig. (2-tailed)	,140	,148	,951	,023	,001	
	N	57	57	57	57	57	57

^{**.} Correlation is significant at the 0.01 level (2-tailed).

^{*.} Correlation is significant at the 0.05 level (2-tailed).

Annex 20 Regression

[DataSet1] E:\Thesis 2-2011\spss bestanden\thesis alles erin 28-1-2011.sav

Variables Entered/Removeda

	1		
	Variables	Variables	
Model	Entered	Removed	Method
1	milk quota average		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
3	cellcount average		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
3	amount of free diseases		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).

a. Dependent Variable: daily dosis average

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,380 ^a	,144	,129	1,71334
2	,549 ^b	,302	,276	1,56223
3	,606 ^c	,367	,331	1,50108

a. Predictors: (Constant), milk quota average

b. Predictors: (Constant), milk quota average, cellcount average

c. Predictors: (Constant), milk quota average, cellcount average, amount of free diseases

ANOVA^d

		Sum of				
Model		Squares	df	Mean Square	F	Sig.
1	Regression	27,223	1	27,223	9,274	,004 ^a
	Residual	161,454	55	2,936		
	Total	188,678	56			
2	Regression	56,886	2	28,443	11,654	,000 ^b
	Residual	131,791	54	2,441		
	Total	188,678	56			
3	Regression	69,256	3	23,085	10,246	,000 ^c
	Residual	119,421	53	2,253		
	Total	188,678	56			

- a. Predictors: (Constant), milk quota average
- b. Predictors: (Constant), milk quota average, cellcount average
- c. Predictors: (Constant), milk quota average, cellcount average, amount of free diseases
- d. Dependent Variable: daily dosis average

Coefficientsa

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	4,744	,415		11,442	,000
	milk quota average	1,23E-006	,000	,380	3,045	,004
2	(Constant)	7,457	,865		8,620	,000
	milk quota average	1,57E-006	,000	,485	4,120	,000
	cellcount average	-,016	,004	-,410	-3,486	,001
3	(Constant)	5,569	1,158		4,811	,000
	milk quota average	1,43E-006	,000	,442	3,861	,000
	cellcount average	-,013	,004	-,347	-2,990	,004
	amount of free diseases	,360	,154	,264	2,343	,023

a. Dependent Variable: daily dosis average

Model		Beta In	4	Sig	Partial Correlation	Collinearity Statistics Tolerance
1 VIOUEI	milk cowe average		0.750	Sig.		
'	milk cows average	-1,556 ^a	-2,752	,008	-,351	,043
	grow in milk cows	-,104 ^a	-,622	,536	-,084	,564
	trend qouta	-,143 ^a	-1,037	,305	-,140	,812
	amount of cows per hectares average	,023 ^a	,180	,857	,025	,956
	trend amount of cows per hectares	,067 ^a	,527	,600	,072	,988
	amount of youngstock per 10milkcows average	,192 ^a	1,538	,130	,205	,978
	trend amount of youngstock per 10 milk cows	-,209 ^a	-1,699	,095	-,225	,997
	age cows average	-,107 ^a	-,851	,399	-,115	,995
	trend age cows	,122 ^a	,977	,333	,132	1,000
	production average	,146 ^a	1,147	,256	,154	,954
	trend on milk production	,041 ^a	,325	,746	,044	,995
	time between calving average	-,145 ^a	,	,268	-,151	,918
	trend on time between calving	-,049 ^a	-,386	,701	-,052	,992

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
1	cellcount average	-,410 ^a	-3,486	,001	-,429	,935
	trend celgetal	-,057 ^a	-,455	,651	-,062	1,000
	% to destruction average	-,175 ^a	-1,419	,162	-,190	1,000
	trend percentage to destruction	,133 ^a	1,068	,290	,144	,996
	% cows removed average	-,008 ^a	-,065	,948	-,009	,998
	trend percentage removed	-,086 ^a	-,689	,494	-,093	,999
	access to pastures last year	,154 ^a	1,164	,250	,156	,886
	kg concentrates per 100kg milk average	,265 ^a	2,180	,034	,284	,988
	trend kg concentrates per 100 kg milk	-,105 ^a	-,836	,407	-,113	,998
	age of the farmer	-,090 ^a	-,714	,478	-,097	,983
	higest education	,230 ^a	1,809	,076	,239	,922
	amount of free diseases	,342 ^a	2,910	,005	,368	,990
2	milk cows average	-,942 ^b	-1,603	,115	-,215	,036
	grow in milk cows	-,049 ^b	-,316	,753	-,043	,558
	trend qouta	-,051 ^b	-,390	,698	-,053	,774
	amount of cows per hectares average	-,119 ^b		,336	-,132	,858
	trend amount of cows per hectares	,071 ^b		,538	,085	,988
	amount of youngstock per 10milkcows average	,212 ^b	1,886	,065	,251	,975
	trend amount of youngstock per 10 milk cows	-,209 ^b	-1,877	,066	-,250	,997
	age cows average	-,078 ^b	-,678	,501	-,093	,990
	trend age cows	,137 ^b	1,204	,234	,163	,999
	production average	-,005 ^b	-,037	,971	-,005	,824
	trend on milk production	,015 ^b	,130	,897	,018	,991
	time between calving average	-,009 ^b		,946	-,009	,816
	trend on time between calving	-,051 ^b		,657	-,061	,992
	trend celgetal	-,034 ^b	-,297	,768	-,041	,996
	% to destruction average	-,095 ^b	-,812	,420	-,111	,954
	trend percentage to destruction	,134 ^b	1,182	,243	,160	,996
	% cows removed average	-,108 ^b	-,923	,360	-,126	,942
	trend percentage removed	-,086 ^b	-,754	,454	-,103	,999
	access to pastures last year	,217 ^b		,075	,242	,868
	kg concentrates per 100kg milk average	,227 ^b	2,026	,048	,268	,978
	trend kg concentrates per 100 kg milk	,003 ^b	,021	,983	,003	,925
	age of the farmer	,035 ^b	,289	,774	,040	,891
	higest education	,122 ^b	,988	,328	,134	,847
	amount of free diseases	,264 ^b	2,343	,023	,306	,937

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
3	milk cows average	-,762 ^c	-1,326	,191	-,181	,036
	grow in milk cows	,008 ^c	,050	,960	,007	,543
	trend qouta	-,009 ^c	-,070	,945	-,010	,758
	amount of cows per hectares average	-,069 ^c	-,571	,571	-,079	,826
	trend amount of cows per hectares	,091 ^c	,821	,415	,113	,983
	amount of youngstock per 10milkcows average	,181 ^c	1,644	,106	,222	,958
	trend amount of youngstock per 10 milk cows	-,184 ^c	-1,700	,095	-,229	,986
	age cows average	-,103 ^c	-,935	,354	-,129	,981
	trend age cows	,082 ^c	,724	,473	,100	,945
	production average	-,070 ^c	-,566	,574	-,078	,784
	trend on milk production	,024 ^c	,214	,831	,030	,990
	time between calving average	-,057 ^c	-,462	,646	-,064	,794
	trend on time between calving	-,071 ^c	-,641	,524	-,089	,986
	trend celgetal	-,059 ^c	-,529	,599	-,073	,988
	% to destruction average	-,113 ^c	-1,010	,317	-,139	,950
	trend percentage to destruction	,086 ^c	,769	,445	,106	,956
	% cows removed average	-,049 ^c	-,421	,676	-,058	,890
	trend percentage removed	-,128 ^c	-1,164	,250	-,159	,976
	access to pastures last year	,160 ^c	1,337	,187	,182	,819
	kg concentrates per 100kg milk average	,192 ^c	1,746	,087	,235	,955
	trend kg concentrates per 100 kg milk	,028 ^c	,241	,810	,033	,917
	age of the farmer	,036 ^c	,312	,756	,043	,891
	higest education	,060 ^c	,490	,626	,068	,800

a. Predictors in the Model: (Constant), milk quota average

Annex 21 Regression

[DataSet1] E:\Thesis 2-2011\spss bestanden\thesis alles erin 28-1-2011.sav

b. Predictors in the Model: (Constant), milk quota average, cellcount average

c. Predictors in the Model: (Constant), milk quota average, cellcount average, amount of free diseases

d. Dependent Variable: daily dosis average

Variables Entered/Removeda

Model	Variables Entered	Variables Removed	Method
1	milk quota average		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
2	access to pastures last year		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
3	milk cows average		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).

a. Dependent Variable: daily dosis mastitis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,321 ^a	,103	,087	,76912
2	,461 ^b	,213	,183	,72717
3	,531 ^c	,282	,241	,70109

a. Predictors: (Constant), milk quota average

b. Predictors: (Constant), milk quota average, access to pastures last year

c. Predictors: (Constant), milk quota average, access to pastures last year, milk cows average

ANOVA^d

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3,731	1	3,731	6,307	,015 ^a
	Residual	32,535	55	,592	-,	,
	Total	36,266	56	,		
2	Regression	7,712	2	3,856	7,292	,002 ^b
	Residual	28,554	54	,529		·
	Total	36,266	56			
3	Regression	10,215	3	3,405	6,928	,001 ^c
	Residual	26,051	53	,492		
	Total	36,266	56			

- a. Predictors: (Constant), milk quota average
- b. Predictors: (Constant), milk quota average, access to pastures last year
- c. Predictors: (Constant), milk quota average, access to pastures last year, milk cows average
- d. Dependent Variable: daily dosis mastitis

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	,913	,186		4,905	,000
	milk quota average	4,56E-007	,000	,321	2,511	,015
2	(Constant)	-,250	,459		-,545	,588
	milk quota average	6,25E-007	,000	,440	3,428	,001
	access to pastures last year	,604	,220	,352	2,744	,008
3	(Constant)	-,391	,447		-,874	,386
	milk quota average	2,51E-006	,000	1,769	2,940	,005
	access to pastures last year	,762	,224	,444	3,410	,001
	milk cows average	-,018	,008	-1,327	-2,257	,028

a. Dependent Variable: daily dosis mastitis

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
1	milk cows average	-,698 ^a	-1,143	,258	-,154	,043
	grow in milk cows	-,115 ^a	-,672	,505	-,091	,564
	trend qouta	-,136 ^a	-,963	,340	-,130	,812
	amount of cows per hectares average	,054 ^a	,410	,684	,056	,956
	trend amount of cows per hectares	-,107 ^a	-,834	,408	-,113	,988
	amount of youngstock per 10milkcows average	-,011 ^a	-,084	,934	-,011	,978
	trend amount of youngstock per 10 milk cows	-,306 ^a	-2,503	,015	-,322	,997
	age cows average	-,042 ^a	-,323	,748	-,044	,995
	trend age cows	,186 ^a	1,469	,148	,196	1,000
	production average	-,029 ^a	-,217	,829	-,029	,954
	trend on milk production	-,187 ^a	-1,476	,146	-,197	,995
	time between calving average	-,026 ^a	-,194	,847	-,026	,918

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
1	trend on time between calving	-,098 ^a	-,761	,450	-,103	,992
	cellcount average	-,096 ^a	-,725	,471	-,098	,935
	trend celgetal	-,049 ^a	-,381	,705	-,052	1,000
	% to destruction average	-,145 ^a	-1,138	,260	-,153	1,000
	trend percentage to destruction	,084 ^a	,652	,517	,088	,996
	% cows removed average	,007 ^a	,054	,957	,007	,998
	trend percentage removed	-,071 ^a	-,549	,585	-,075	,999
	access to pastures last year	,352 ^a	2,744	,008	,350	,886
	kg concentrates per 100kg milk average	,201 ^a	1,581	,120	,210	,988
	trend kg concentrates per 100 kg milk	-,079 ^a	-,611	,544	-,083	,998
	age of the farmer	,014 ^a	,106	,916	,014	,983
	higest education	,149 ^a	1,121	,267	,151	,922
	amount of free diseases	,169 ^a	1,328	,190	,178	,990
2	milk cows average	-1,327 ^b	-2,257	,028	-,296	,039
	grow in milk cows	-,110 ^b	-,684	,497	-,094	,564
	trend qouta	-,100 ^b	-,737	,465	-,101	,804
	amount of cows per hectares average	,090 ^b	,722	,474	,099	,946
	trend amount of cows per hectares	-,079 ^b	-,641	,524	-,088	,981
	amount of youngstock per 10milkcows average	-,031 ^b	-,248	,805	-,034	,975
	trend amount of youngstock per 10 milk cows	-,247 ^b	-2,057	,045	-,272	,953
	age cows average	-,087 ^b	-,712	,480	-,097	,977
	trend age cows	,131 ^b	1,067	,291	,145	,968
	production average	,041 ^b	,319	,751	,044	,916
	trend on milk production	-,097 ^b	-,760	,450	-,104	,907
	time between calving average	-,042 ^b	-,331	,742	-,045	,916
	trend on time between calving	-,092 ^b	-,752	,455	-,103	,992
	cellcount average	-,147 ^b	-1,169	,248	-,159	,916
	trend celgetal	-,001 ^b	-,011	,991	-,002	,979
	% to destruction average	-,093 ^b	-,755	,454	-,103	,973
	trend percentage to destruction	,096 ^b	,793	,432	,108	,994
	% cows removed average	,041 ^b	,334	,740	,046	,987
	trend percentage removed	-,068 ^b	-,557	,580	-,076	,999
	kg concentrates per 100kg milk average	,192 ^b	1,598	,116	,214	,987
	trend kg concentrates per 100 kg milk	-,098 ^b	-,806	,424	-,110	,995
	age of the farmer	,044 ^b	,360	,721	,049	,975
	higest education	,164 ^b	1,316	,194	,178	,920
	amount of free diseases	,107 ^b	,866	,390	,118	,95

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
3	grow in milk cows	-,175 ^c	-1,117	,269	-,153	,547
	trend qouta	-,121 ^c	-,932	,356	-,128	,799
	amount of cows per hectares average	,079 ^c	,658	,514	,091	,945
	trend amount of cows per hectares	-,112 ^c	-,948	,348	-,130	,966
	amount of youngstock per 10milkcows average	-,035 ^c	-,297	,768	-,041	,974
	trend amount of youngstock per 10 milk cows	-,198 ^c	-1,647	,106	-,223	,908
	age cows average	-,033 ^c	-,268	,790	-,037	,934
	trend age cows	,093 ^c	,771	,444	,106	,946
	production average	-,078 ^c	-,591	,557	-,082	,777
	trend on milk production	-,141 ^c	-1,143	,258	-,157	,887
	time between calving average	-,037 ^c	-,299	,766	-,041	,916
	trend on time between calving	-,093 ^c	-,789	,434	-,109	,992
	cellcount average	-,049 ^c	-,370	,713	-,051	,782
	trend celgetal	,032 ^c	,266	,792	,037	,964
	% to destruction average	-,044 ^c	-,363	,718	-,050	,938
	trend percentage to destruction	,137 ^c	1,162	,251	,159	,974
	% cows removed average	,003 ^c	,024	,981	,003	,967
	trend percentage removed	-,053 ^c	-,455	,651	-,063	,996
	kg concentrates per 100kg milk average	,142 ^c	1,194	,238	,163	,944
	trend kg concentrates per 100 kg milk	-,079 ^c	-,669	,507	-,092	,989
	age of the farmer	,072 ^c	,600	,551	,083	,965
	higest education	,103 ^c	,823	,414	,113	,865
	amount of free diseases	,028 ^c	,217	,829	,030	,862

a. Predictors in the Model: (Constant), milk quota average

Annex 22 Regression

[DataSet1] E:\Thesis 2-2011\spss bestanden\thesis alles erin 28-1-2011.sav

b. Predictors in the Model: (Constant), milk quota average, access to pastures last year

c. Predictors in the Model: (Constant), milk quota average, access to pastures last year, milk cows average

d. Dependent Variable: daily dosis mastitis

Variables Entered/Removeda

Model	Variables Entered	Variables Removed	Method
1	cellcount		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
2	time between calving average		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
3	amount of free diseases		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).

a. Dependent Variable: daily dosis dry off

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,501 ^a	,251	,238	,60974
2	,588 ^b	,346	,322	,57512
3	,660 ^c	,435	,403	,53956

a. Predictors: (Constant), cellcount average

b. Predictors: (Constant), cellcount average, time between calving average

c. Predictors: (Constant), cellcount average, time between calving average, amount of free diseases

ANOVA^d

Model		Sum of	df	Moon Cauara	F	.; c
Model		Squares	df	Mean Square	Г	Sig.
1	Regression	6,868	1	6,868	18,472	,000 ^a
	Residual	20,448	55	,372		
	Total	27,315	56			
2	Regression	9,454	2	4,727	14,292	,000 ^b
	Residual	17,861	54	,331		
	Total	27,315	56			
3	Regression	11,886	3	3,962	13,609	,000 ^c
	Residual	15,430	53	,291		
	Total	27,315	56			

- a. Predictors: (Constant), cellcount average
- b. Predictors: (Constant), cellcount average, time between calving average
- c. Predictors: (Constant), cellcount average, time between calving average, amount of free diseases
- d. Dependent Variable: daily dosis dry off

Coefficientsa

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	3,964	,335		11,833	,000
	cellcount average	-,007	,002	-,501	-4,298	,000
2	(Constant)	9,752	2,093		4,658	,000
	cellcount average	-,005	,002	-,374	-3,144	,003
	time between calving average	-,015	,005	-,333	-2,797	,007
3	(Constant)	9,998	1,966		5,086	,000
	cellcount average	-,004	,002	-,289	-2,504	,015
	time between calving average	-,018	,005	-,397	-3,484	,001
	amount of free diseases	,161	,056	,310	2,890	,006

a. Dependent Variable: daily dosis dry off

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	milk cows average	,065ª	,524	,602	,071	,890
	grow in milk cows	-,044 ^a	-,359	,721	-,049	,940
	milk quota average	,079 ^a	,650	,518	,088	,935
	trend gouta	-,038 ^a	-,307	,760	-,042	,911
	amount of cows per hectares average	-,186 ^a	•	,124	-,208	,937
	trend amount of cows per hectares	,031 ^a	,266	,791	,036	,998
	amount of youngstock per 10milkcows average	,065 ^a	,554	,582	,075	1,000
	trend amount of youngstock per 10 milk cows	,049 ^a	,416	,679	,057	1,000
	age cows average	,067 ^a	,574	,568	,078	,997
	trend age cows	,185 ^a	1,605	,114	,213	,999
	production average	-,004 ^a	-,029	,977	-,004	,913
	trend on milk production	,003 ^a	,029	,977	,004	,993

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
1	time between calving average	-,333 ^a	-2,797	,007	-,356	,854
	trend on time between calving	-,046 ^a	-,391	,697	-,053	,999
	trend celgetal % to destruction average	,002 ^a ,038 ^a	,015 ,319	,988 ,751	,002 ,043	,996 ,956
	trend percentage to destruction	-,004 ^a	-,035	,972	-,005	1,000
	% cows removed average	,054 ^a	,447	,657	,061	,953
	trend percentage removed	,257 ^a	2,284	,026	,297	1,000
	access to pastures last year	,071 ^a	,607	,546	,082	,998
	kg concentrates per 100kg milk average	-,034 ^a	-,290	,773	-,039	,984
	trend kg concentrates per 100 kg milk	-,099 ^a	-,810	,421	-,110	,926
	age of the farmer	,186 ^a	1,559	,125	,208	,933
	higest education	,076 ^a	,633	,529	,086	,962
	amount of free diseases	,238 ^a	2,057	,045	,270	,962
2	milk cows average	,129 ^b	1,093	,279	,148	,860
	grow in milk cows	,000 ^b	-,003	,997	,000	,922
	milk quota average	,153 ^b	1,321	,192	,179	,893
	trend qouta	-,024 ^b	-,202	,841	-,028	,909
	amount of cows per hectares average	-,137 ^b	-1,192	,238	-,162	,911
	trend amount of cows per hectares	,060 ^b	,536	,594	,073	,990
	amount of youngstock per 10milkcows average	,105 ^b	,949	,347	,129	,984
	trend amount of youngstock per 10 milk cows	,007 ^b	,060	,952	,008	,981
	age cows average	,086 ^b	,776	,441	,106	,994
	trend age cows	,247 ^b	2,292	,026	,300	,968
	production average	,090 ^b	,749	,457	,102	,847
	trend on milk production	-,032 ^b	-,289	,774	-,040	,980
	trend on time between calving	-,032 ^b	-,290	,773	-,040	,997
	trend celgetal	-,018 ^b	-,162	,872	-,022	,992
	% to destruction average	,099 ^b	,860	,394	,117	,925
	trend percentage to destruction	,046 ^b	,405	,687	,056	,975
	% cows removed average	,043 ^b	,375	,709	,051	,952
	trend percentage removed	,205 ^b	1,870	,067	,249	,963
	access to pastures last year	,048 ^b	,431	,668	,059	,992
	kg concentrates per 100kg milk average	,010 ^b	,086	,932	,012	,965
	trend kg concentrates per 100 kg milk	-,072 ^b	-,621	,537	-,085	,919
	age of the farmer	,176 ^b	1,565	,124	,210	,932
	higest education	,117 ^b	1,038	,304	,141	,947
	amount of free diseases	,310 ^b	2,890	,006	,369	,926

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
3	milk cows average	,100 ^c	,892	,377	,123	,853
	grow in milk cows	,015 ^c	,141	,889	,020	,920
	milk quota average	,116 ^c	1,052	,298	,144	,879
	trend qouta	,002 ^c	,015	,988	,002	,903
	amount of cows per hectares average	-,086 ^c	-,778	,440	-,107	,884
	trend amount of cows per hectares	,083 ^c	,792	,432	,109	,985
	amount of youngstock per 10milkcows average	,081 ^c	,769	,445	,106	,977
	trend amount of youngstock per 10 milk cows	,029 ^c	,271	,788	,038	,976
	age cows average	,065 ^c	,627	,534	,087	,989
	trend age cows	,194 ^c	1,853	,070	,249	,929
	production average	,021 ^c	,180	,858	,025	,807
	trend on milk production	-,026 ^c	-,251	,803	-,035	,980
	trend on time between calving	-,048 ^c	-,460	,647	-,064	,994
	trend celgetal	-,051 ^c	-,484	,630	-,067	,981
	% to destruction average	,091 ^c	,843	,403	,116	,924
	trend percentage to destruction	-,003 ^c	-,032	,975	-,004	,949
	% cows removed average	,112 ^c	1,033	,307	,142	,910
	trend percentage removed	,150 ^c	1,410	,164	,192	,924
	access to pastures last year	-,007 ^c	-,062	,951	-,009	,960
	kg concentrates per 100kg milk average	-,025 ^c	-,234	,816	-,032	,952
	trend kg concentrates per 100 kg milk	-,036 ^c	-,330	,743	-,046	,907
	age of the farmer	,186 ^c	1,776	,082	,239	,931
	higest education	,042 ^c	,380	,705	,053	,886

a. Predictors in the Model: (Constant), cellcount average

Annex 23 Regression

[DataSet1] E:\Thesis 2-2011\spss bestanden\thesis alles erin 28-1-2011.sav

b. Predictors in the Model: (Constant), cellcount average, time between calving average

c. Predictors in the Model: (Constant), cellcount average, time between calving average, amount of free diseases

d. Dependent Variable: daily dosis dry off

Variables Entered/Removeda

	Variables	Variables	
Model	Entered	Removed	Method
1	milk quota average		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
2	amount of youngstock per 10milkcows average		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
3	cellcount average	·	Stepwise (Criteria: Probability -of-F-to-enter <= ,050, Probability -of-F-to-remo ve >= ,100).
4	% cows removed average		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).

a. Dependent Variable: daily dosis other

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,409 ^a	,168	,152	1,07348
2	,493 ^b	,243	,215	1,03329
3	,563 ^c	,317	,278	,99074
4	,621 ^d	,386	,339	,94808

- a. Predictors: (Constant), milk quota average
- b. Predictors: (Constant), milk quota average, amount of youngstock per 10milkcows average
- c. Predictors: (Constant), milk quota average, amount of youngstock per 10milkcows average, cellcount average
- d. Predictors: (Constant), milk quota average, amount of youngstock per 10milkcows average, cellcount average, % cows removed average

ANOVA^e

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12,752	1	12,752	11,066	,002 ^a
	Residual	63,379	55	1,152		
	Total	76,132	56			
2	Regression	18,477	2	9,238	8,653	,001 ^b
	Residual	57,655	54	1,068		
	Total	76,132	56			
3	Regression	24,109	3	8,036	8,187	,000 ^c
	Residual	52,023	53	,982		
	Total	76,132	56			
4	Regression	29,391	4	7,348	8,175	,000 ^d
	Residual	46,741	52	,899		
	Total	76,132	56			

- a. Predictors: (Constant), milk quota average
- b. Predictors: (Constant), milk quota average, amount of youngstock per 10milkcows average
- c. Predictors: (Constant), milk quota average, amount of youngstock per 10milkcows average, cellcount average
- d. Predictors: (Constant), milk quota average, amount of youngstock per 10milkcows average, cellcount average, % cows removed average
- e. Dependent Variable: daily dosis other

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	1,207	,260		4,645	,000
	milk quota average	8,42E-007	,000	,409	3,327	,002
2	(Constant)	-,217	,664		-,327	,745
	milk quota average	9,27E-007	,000	,451	3,762	,000
	amount of youngstock per 10milkcows average	,188	,081	,277	2,316	,024
3	(Constant)	,895	,788		1,136	,261
	milk quota average	1,08E-006	,000	,525	4,411	,000
	amount of youngstock per 10milkcows average	,197	,078	,291	2,532	,014
	cellcount average	-,007	,003	-,282	-2,395	,020
4	(Constant)	2,170	,919		2,361	,022
	milk quota average	1,17E-006	,000	,567	4,927	,000
	amount of youngstock per 10milkcows average	,245	,077	,361	3,176	,003
	cellcount average	-,009	,003	-,354	-3,041	,004
	% cows removed average	-,052	,022	-,281	-2,424	,019

a. Dependent Variable: daily dosis other

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1 milk cows average	-1,213 ^a	-2,119	,039	-,277	,043
grow in milk cows	,052 ^a	,314	,755	,043	,564
trend qouta	-,013 ^a	-,094	,925	-,013	,812
amount of cows per hectares average	,023 ^a	,180	,858,	,024	,956

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
1	trend amount of cows per hectares	,168 ^a	1,371	,176	,183	,988
	amount of youngstock per 10milkcows average	,277 ^a	2,316	,024	,301	,978
	trend amount of youngstock per 10 milk cows	-,145 ^a	-1,178	,244	-,158	,997
	age cows average	-,161 ^a	-1,317	,193	-,176	,995
	trend age cows	-,036 ^a	-,290	,773	-,039	1,000
	production average	,152 ^a	1,209	,232	,162	,954
	trend on milk production	,169 ^a	1,385	,172	,185	,995
	time between calving average	,089 ^a	,691	,492	,094	,918
	trend on time between calving	,013 ^a	,103	,918	,014	,992
	cellcount average	-,267 ^a	-2,166	,035	-,283	,935
	trend celgetal	-,039 ^a	-,317	,752	-,043	1,000
	% to destruction average	-,135 ^a	-1,103	,275	-,148	1,000
	trend percentage to destruction	,152 ^a	1,241	,220	,167	,996
	% cows removed average	-,115 ^a	-,935	,354	-,126	,998
	trend percentage removed	-,240 ^a	-1,999	,051	-,263	,999
	access to pastures last year	-,023 ^a	-,173	,863	-,024	,886
	kg concentrates per 100kg milk average	,264 ^a	2,209	,031	,288	,988
	trend kg concentrates per 100 kg milk	,025 ^a	,197	,844	,027	,998
	age of the farmer	-,174 ^a	-1,412	,164	-,189	,983
	higest education	,139 ^a	1,090	,281	,147	,922
	amount of free diseases	,221 ^a	1,824	,074	,241	,990

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
2	milk cows average	-1,214 ^b	-2,214	,031	-,291	,043
	grow in milk cows	,057 ^b	,355	,724	,049	,564
	trend qouta	-,031 ^b	-,233	,817	-,032	,809
	amount of cows per hectares average	,134 ^b	1,039	,304	,141	,846
	trend amount of cows per hectares	,113 ^b	,923	,360	,126	,940
	trend amount of youngstock per 10 milk cows	-,083 ^b	-,678	,501	-,093	,939
	age cows average	-,113 ^b	-,933	,355	-,127	,959
	trend age cows	-,005 ^b	-,043	,966	-,006	,987
	production average	,180 ^b	1,492	,142	,201	,946
	trend on milk production	,112 ^b	,921	,361	,125	,943
	time between calving average	,041 ^b	,328	,745	,045	,891
	trend on time between calving	-,070 ^b	-,561	,577	-,077	,914
	cellcount average	-,282 ^b	-2,395	,020	-,313	,932
	trend celgetal	-,021 ^b	-,177	,860	-,024	,995
	% to destruction average	-,153 ^b	-1,293	,201	-,175	,996
	trend percentage to destruction	,086 ^b	,692	,492	,095	,926
	% cows removed average	-,191 ^b	-1,583	,119	-,213	,942
	trend percentage removed	-,149 ^b	-1,133	,262	-,154	,811
	access to pastures last year	-,040 ^b	-,315	,754	-,043	,883
	kg concentrates per 100kg milk average	,216 ^b	1,812	,076	,242	,945
	trend kg concentrates per 100 kg milk	-,067 ^b	-,531	,598	-,073	,903
	age of the farmer	-,177 ^b	-1,496	,140	-,201	,983
	higest education	,168 ^b	1,368	,177	,185	,914
	amount of free diseases	,191 ^b	1,616	,112	,217	,976

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
3	milk cows average	-,821 ^c	-1,392	,170	-,190	,036
	grow in milk cows	,096 ^c	,630	,532	,087	,557
	trend qouta	,035 ^c	,270	,788	,037	,772
	amount of cows per hectares average	,042 ^c	,321	,750	,044	,757
	trend amount of cows per hectares	,113 ^c	,965	,339	,133	,940
	trend amount of youngstock per 10 milk cows	-,080 ^c	-,679	,500	-,094	,939
	age cows average	-,090 ^c	-,771	,444	-,106	,952
	trend age cows	,006 ^c	,055	,956	,008	,986
	production average	,089 ^c	,705	,484	,097	,818
	trend on milk production	,091 ^c	,771	,444	,106	,937
	time between calving average	,153 ^c	1,207	,233	,165	,794
	trend on time between calving	-,076 ^c	-,637	,527	-,088	,914
	trend celgetal	-,004 ^c	-,038	,970	-,005	,991
	% to destruction average	-,099 ^c	-,851	,399	-,117	,952
	trend percentage to destruction	,082 ^c	,695	,490	,096	,926
	% cows removed average	-,281 ^c	-2,424	,019	-,319	,880
	trend percentage removed	-,141 ^c	-1,122	,267	-,154	,811
	access to pastures last year	,000 ^c	-,003	,998	,000	,866
	kg concentrates per 100kg milk average	,187 ^c	1,612	,113	,218	,933
	trend kg concentrates per 100 kg milk	,011 ^c	,086	,932	,012	,838
	age of the farmer	-,103 ^c	-,851	,399	-,117	,891
	higest education	,095 ^c	,766	,447	,106	,841
	amount of free diseases	,133 ^c	1,124	,266	,154	,920

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
4	milk cows average	-,935 ^d	-1,664	,102	-,227	,036
	grow in milk cows	,099 ^d	,680	,500	,095	,557
	trend qouta	,065 ^d	,516	,608	,072	,765
	amount of cows per hectares average	,142 ^d	1,091	,281	,151	,693
	trend amount of cows per hectares	,099 ^d	,885,	,380	,123	,938
	trend amount of youngstock per 10 milk cows	-,090 ^d	-,801	,427	-,111	,938
	age cows average	-,178 ^d	-1,560	,125	-,213	,879
	trend age cows	,030 ^d	,272	,787	,038	,978
	production average	,060 ^d	,492	,625	,069	,810
	trend on milk production	,081 ^d	,715	,478	,100	,936
	time between calving average	,123 ^d	1,001	,322	,139	,785
	trend on time between calving	-,031 ^d	-,270	,788	-,038	,889
	trend celgetal	-,006 ^d	-,055	,957	-,008	,991
	% to destruction average	-,109 ^d	-,979	,332	-,136	,950
	trend percentage to destruction	,016 ^d	,136	,892	,019	,870
	trend percentage removed	-,118 ^d	-,977	,333	-,135	,805
	access to pastures last year	-,025 ^d	-,212	,833	-,030	,859
	kg concentrates per 100kg milk average	,116 ^d	,982	,331	,136	,850
	trend kg concentrates per 100 kg milk	-,005 ^d	-,039	,969	-,005	,836
	age of the farmer	-,099 ^d	-,854	,397	-,119	,891
	higest education	,124 ^d	1,045	,301	,145	,833
	amount of free diseases	,060 ^d	,509	,613	,071	,848

- a. Predictors in the Model: (Constant), milk quota average
- b. Predictors in the Model: (Constant), milk quota average, amount of youngstock per 10milkcows average
- c. Predictors in the Model: (Constant), milk quota average, amount of youngstock per 10milkcows average, cellcount average
- d. Predictors in the Model: (Constant), milk quota average, amount of youngstock per 10milkcows average, cellcount average, % cows removed average
- e. Dependent Variable: daily dosis other

Annex 24 regression

Variables Entered/Removeda

Model	Variables Entered	Variables Removed	Method
1	trend percentage removed	·	Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).

a. Dependent Variable: trend daily dosis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,312 ^a	,097	,081	,46407

a. Predictors: (Constant), trend percentage removed

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,276	1	1,276	5,927	,018 ^a
	Residual	11,845	55	,215		
	Total	13,121	56			

a. Predictors: (Constant), trend percentage removed

b. Dependent Variable: trend daily dosis

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	,067	,062		1,087	,282
	trend percentage removed	,016	,006	,312	2,435	,018

a. Dependent Variable: trend daily dosis

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
1	milk cows average	-,014 ^a	-,106	,916	-,014	,998
	grow in milk cows	-,131 ^a	-1,002	,321	-,135	,956
	milk quota average	-,057 ^a	-,443	,660	-,060	,999
	trend qouta	-,072 ^a	-,558	,579	-,076	,992
	amount of cows per hectares average	-,126 ^a	-,976	,333	-,132	,987
	trend amount of cows per hectares	-,073 ^a	-,553	,583	-,075	,946
	amount of youngstock per 10milkcows average	-,131 ^a	-,924	,360	-,125	,812
	trend amount of youngstock per 10 milk cows	,021 ^a	,149	,882	,020	,811
	age cows average	,037 ^a	,285	,777	,039	,997
	trend age cows	-,063 ^a	-,482	,631	-,066	,967
	production average	-,190 ^a	-1,483	,144	-,198	,983
	trend on milk production	,154 ^a	1,206	,233	,162	,998
	time between calving average	-,154 ^a	-1,191	,239	-,160	,969
	trend on time between calving	-,047 ^a	-,364	,717	-,049	,997
	cellcount average	,221 ^a	1,756	,085	,232	1,000
	trend celgetal	,040 ^a	,297	,768	,040	,939
	% to destruction average	-,144 ^a	-1,116	,269	-,150	,979
	trend percentage to destruction	,054 ^a	,417	,678	,057	,996
	% cows removed average	-,129 ^a	-1,007	,318	-,136	,999
	access to pastures last year	,046 ^a	,358	,722	,049	1,000
	kg concentrates per 100kg milk average	-,177 ^a	-1,353	,182	-,181	,945
	trend kg concentrates per 100 kg milk	-,055 ^a	-,398	,692	-,054	,884
	age of the farmer	-,117 ^a	-,906	,369	-,122	,989
	higest education	-,194 ^a	-1,504	,138	-,200	,961
	amount of free diseases	-,080 ^a	-,613	,543	-,083	,977

a. Predictors in the Model: (Constant), trend percentage removed

Annex 25 regression

b. Dependent Variable: trend daily dosis

Variables Entered/Removeda

Model	Variables Entered	Variables Removed	Method
1	trend percentage removed		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
2	trend on milk production		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).

a. Dependent Variable: trend mastitis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,425 ^a	,181	,166	,24409
2	,489 ^b	,240	,211	,23734

a. Predictors: (Constant), trend percentage removed

b. Predictors: (Constant), trend percentage removed, trend on milk production

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,723	1	,723	12,136	,001 ^a
	Residual	3,277	55	,060		
	Total	4,000	56			
2	Regression	,958	2	,479	8,505	,001 ^b
	Residual	3,042	54	,056		
	Total	4,000	56			

a. Predictors: (Constant), trend percentage removed

b. Predictors: (Constant), trend percentage removed, trend on milk production

c. Dependent Variable: trend mastitis

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	,026	,032		,796	,429
	trend percentage removed	,012	,003	,425	3,484	,001
2	(Constant)	-,004	,035		-,118	,907
	trend percentage removed	,012	,003	,437	3,675	,001
	trend on milk production	,000	,000	,243	2,043	,046

a. Dependent Variable: trend mastitis

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
1	milk cows average	-,084 ^a	-,684	,497	-,093	,998
	grow in milk cows	-,033 ^a	-,261	,795	-,035	,956
	milk quota average	-,078 ^a	-,638	,526	-,086	,999
	trend qouta	-,029 ^a	-,238	,813	-,032	,992
	amount of cows per hectares average	-,188 ^a	-1,553	,126	-,207	,987
	trend amount of cows per hectares	-,090 ^a	-,712	,480	-,096	,946
	amount of youngstock per 10milkcows average	-,038 ^a	-,275	,784	-,037	,812
	trend amount of youngstock per 10 milk cows	-,150 ^a	-1,111	,272	-,149	,811
	age cows average	-,067 ^a	-,545	,588	-,074	,997
	trend age cows	-,009 ^a	-,071	,943	-,010	,967
	production average	-,085 ^a	-,684	,497	-,093	,983
	trend on milk production	,243 ^a	2,043	,046	,268	,998
	time between calving average	-,060 ^a	-,480	,633	-,065	,969
	trend on time between calving	-,023 ^a	-,187	,853	-,025	,997
	cellcount average	,161 ^a	1,326	,191	,178	1,000
	trend celgetal	,099 ^a	,780	,439	,106	,939
	% to destruction average	,065 ^a	,527	,601	,071	,979
	trend percentage to destruction	,036 ^a	,291	,772	,040	,996
	% cows removed average	-,055 ^a	-,447	,656	-,061	,999
	access to pastures last year	,002 ^a	,014	,989,	,002	1,000
	kg concentrates per 100kg milk average	,062 ^a	,493	,624	,067	,945
	trend kg concentrates per 100 kg milk	,047 ^a	,358	,722	,049	,884
	age of the farmer	,159 ^a	1,302	,198	,175	,989
	higest education	-,197 ^a	-1,608	,114	-,214	,961
	amount of free diseases	-,109 ^a	-,881	,382	-,119	,977

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
2	milk cows average	-,057 ^b	-,475	,637	-,065	,985
	grow in milk cows	-,016 ^b	-,133	,895	-,018	,952
	milk quota average	-,062 ^b	-,519	,606	-,071	,994
	trend qouta	-,055 ^b	-,457	,650	-,063	,981
	amount of cows per hectares average	-,157 ^b	-1,306	,197	-,177	,967
	trend amount of cows per hectares	-,076 ^b	-,621	,537	-,085	,943
	amount of youngstock per 10milkcows average	-,108 ^b	-,795	,430	-,109	,766
	trend amount of youngstock per 10 milk cows	-,195 ^b	-1,477	,146	-,199	,793
	age cows average	-,054 ^b	-,454	,652	-,062	,994
	trend age cows	-,006 ^b	-,048	,962	-,007	,967
	production average	-,060 ^b	-,494	,623	-,068	,973
	time between calving average	-,024 ^b	-,197	,844	-,027	,948
	trend on time between calving	-,062 ^b	-,510	,612	-,070	,973
	cellcount average	,181 ^b	1,543	,129	,207	,993
	trend celgetal	,104 ^b	,848	,400	,116	,939
	% to destruction average	,110 ^b	,904	,370	,123	,951
	trend percentage to destruction	-,016 ^b	-,130	,897	-,018	,952
	% cows removed average	-,063 ^b	-,529	,599	-,072	,997
	access to pastures last year	,069 ^b	,554	,582	,076	,934
	kg concentrates per 100kg milk average	,009 ^b	,073	,942	,010	,901
	trend kg concentrates per 100 kg milk	-,085 ^b	-,601	,551	-,082	,708
	age of the farmer	,180 ^b	1,518	,135	,204	,982
	higest education	-,180 ^b	-1,502	,139	-,202	,956
	amount of free diseases	-,105 ^b	-,870	,388	-,119	,977

a. Predictors in the Model: (Constant), trend percentage removed

Annex 26 regression

b. Predictors in the Model: (Constant), trend percentage removed, trend on milk production

c. Dependent Variable: trend mastitis

Variables Entered/Removeda

Model	Variables Entered	Variables Removed	Method
1	cellcount average		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
2	age of the farmer		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).

a. Dependent Variable: trend droogzetters

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,269 ^a	,072	,055	,28728
2	,411 ^b	,169	,138	,27447

a. Predictors: (Constant), cellcount average

b. Predictors: (Constant), cellcount average, age of the farmer

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,354	1	,354	4,289	,043 ^a
	Residual	4,539	55	,083		
	Total	4,893	56			
2	Regression	,825	2	,412	5,475	,007 ^b
	Residual	4,068	54	,075		
	Total	4,893	56			

a. Predictors: (Constant), cellcount average

b. Predictors: (Constant), cellcount average, age of the farmer

c. Dependent Variable: trend droogzetters

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-,293	,158		-1,859	,068
	cellcount average	,002	,001	,269	2,071	,043
2	(Constant)	,054	,205		,262	,794
	cellcount average	,002	,001	,352	2,742	,008
	age of the farmer	-,010	,004	-,321	-2,500	,015

a. Dependent Variable: trend droogzetters

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
1	milk cows average	,144 ^a	1,049	,299	,141	,890
	grow in milk cows	,155 ^a	1,158	,252	,156	,940
	milk quota average	,127 ^a	,947	,348	,128	,935
	trend qouta	,088 ^a	,646	,521	,088	,911
	amount of cows per hectares average	,201 ^a	1,519	,135	,202	,937
	trend amount of cows per hectares	,074 ^a	,564	,575	,077	,998
	amount of youngstock per 10milkcows average	-,167 ^a	-1,293	,201	-,173	1,000
	trend amount of youngstock per 10 milk cows	-,014 ^a	-,103	,918	-,014	1,000
	age cows average	,015 ^a	,111	,912	,015	,997
	trend age cows	-,046 ^a	-,352	,726	-,048	,999
	production average	,025 ^a	,179	,859	,024	,913
	trend on milk production	-,085 ^a	-,652	,517	-,088	,993
	time between calving average	-,152 ^a	-1,085	,283	-,146	,854
	trend on time between calving	,009 ^a	,071	,944	,010	,999
	trend celgetal	-,090 ^a	-,686	,495	-,093	,996
	% to destruction average	-,159 ^a	-1,202	,235	-,161	,956
	trend percentage to destruction	-,239 ^a	-1,879	,066	-,248	1,000
	% cows removed average	-,029 ^a	-,220	,827	-,030	,953
	trend percentage removed	-,103 ^a	-,788	,434	-,107	1,000
	access to pastures last year	,052 ^a	,399	,692	,054	,998
	kg concentrates per 100kg milk average	-,168 ^a	-1,291	,202	-,173	,984
	trend kg concentrates per 100 kg milk	-,023 ^a	-,168	,867	-,023	,926
	age of the farmer	-,321 ^a	-2,500	,015	-,322	,933
	higest education	,046 ^a	,345	,732	,047	,962
	amount of free diseases	,118 ^a	,889	,378	,120	,962

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
2	milk cows average	,076 ^b	,560	,578	,077	,847
	grow in milk cows	,133 ^b	1,038	,304	,141	,935
	milk quota average	,063 ^b	,473	,638	,065	,893
	trend qouta	,119 ^b	,908	,368	,124	,903
	amount of cows per hectares average	,144 ^b	1,101	,276	,149	,901
	trend amount of cows per hectares	,106 ^b	,844	,402	,115	,989
	amount of youngstock per 10milkcows average	-,158 ^b	-1,281	,206	-,173	,999
	trend amount of youngstock per 10 milk cows	-,051 ^b	-,402	,689	-,055	,986
	age cows average	,033 ^b	,265	,792	,036	,994
	trend age cows	,044 ^b	,340	,735	,047	,920
	production average	-,005 ^b	-,035	,973	-,005	,906
	trend on milk production	-,103 ^b	-,824	,414	-,112	,990
	time between calving average	-,163 ^b	-1,219	,228	-,165	,853
	trend on time between calving	,051 ^b	,402	,690	,055	,982
	trend celgetal	-,019 ^b	-,144	,886	-,020	,942
	% to destruction average	-,153 ^b	-1,211	,231	-,164	,956
	trend percentage to destruction	-,227 ^b	-1,872	,067	-,249	,998
	% cows removed average	-,033 ^b	-,257	,798	-,035	,953
	trend percentage removed	-,140 ^b	-1,121	,267	-,152	,987
	access to pastures last year	,036 ^b	,287	,775	,039	,996
	kg concentrates per 100kg milk average	-,134 ^b	-1,070	,290	-,145	,972
	trend kg concentrates per 100 kg milk	-,020 ^b	-,154	,879	-,021	,926
	higest education	-,087 ^b	-,636	,528	-,087	,822
	amount of free diseases	,106 ^b	,835	,408	,114	,960

a. Predictors in the Model: (Constant), cellcount average

Annex 27 regression

b. Predictors in the Model: (Constant), cellcount average, age of the farmer

c. Dependent Variable: trend droogzetters

Variables Entered/Removeda

Model	Variables Entered	Variables Removed	Method
1	grow in milk cows		Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).
2	kg concentrate s per 100kg milk average	·	Stepwise (Criteria: Probability -of- F-to-enter <= ,050, Probability -of- F-to-remo ve >= ,100).

a. Dependent Variable: trend overige medicijnen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,354 ^a	,125	,109	,23357
2	,504 ^b	,254	,227	,21760

a. Predictors: (Constant), grow in milk cows

b. Predictors: (Constant), grow in milk cows, kg concentrates per 100kg milk average

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,429	1	,429	7,865	,007 ^a
	Residual	3,000	55	,055		
	Total	3,430	56			
2	Regression	,873	2	,436	9,215	,000 ^b
	Residual	2,557	54	,047		
	Total	3,430	56			

a. Predictors: (Constant), grow in milk cows

b. Predictors: (Constant), grow in milk cows, kg concentrates per 100kg milk average

c. Dependent Variable: trend overige medicijnen

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	,113	,039		2,941	,005
	grow in milk cows	-,018	,006	-,354	-2,804	,007
2	(Constant)	,581	,157		3,702	,001
	grow in milk cows	-,019	,006	-,380	-3,222	,002
	kg concentrates per 100kg milk average	-,020	,007	-,361	-3,061	,003

a. Dependent Variable: trend overige medicijnen

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
1	milk cows average	,080 ^a	,494	,623	,067	,616
	milk quota average	,007 ^a	,041	,967	,006	,564
	trend qouta	,378 ^a	1,907	,062	,251	,387
	amount of cows per hectares average	-,127 ^a	-,992	,326	-,134	,977
	trend amount of cows per hectares	-,085 ^a	-,614	,542	-,083	,835
	amount of youngstock per 10milkcows average	-,189 ^a	-1,504	,138	-,200	,988
	trend amount of youngstock per 10 milk cows	,294 ^a	2,404	,020	,311	,981
	age cows average	-,039 ^a	-,295	,769	-,040	,929
	trend age cows	-,161 ^a	-1,260	,213	-,169	,962
	production average	-,149 ^a	-1,184	,242	-,159	,994
	trend on milk production	,112 ^a	,886	,380	,120	,997
	time between calving average	-,196 ^a	-1,538	,130	-,205	,953
	trend on time between calving	-,064 ^a	-,495	,622	-,067	,978
	cellcount average	,124 ^a	,954	,345	,129	,940
	trend celgetal	-,145 ^a	-1,124	,266	-,151	,955
	% to destruction average	-,156 ^a	-1,243	,219	-,167	1,000
	trend percentage to destruction	-,066 ^a	-,499	,620	-,068	,921
	% cows removed average	-,005 ^a	-,040	,968	-,005	1,000
	trend percentage removed	,179 ^a	1,403	,166	,188	,956
	access to pastures last year	,025 ^a	,188	,851	,026	,947
	kg concentrates per 100kg milk average	-,361 ^a	-3,061	,003	-,385	,995
	trend kg concentrates per 100 kg milk	-,173 ^a	-1,354	,181	-,181	,956
	age of the farmer	-,080 ^a	-,628	,532	-,085	1,000
	higest education	-,114 ^a	-,890	,377	-,120	,967
	amount of free diseases	-,055 ^a	-,436	,665	-,059	,995

					Partial	Collinearity Statistics
Model		Beta In	t	Sig.	Correlation	Tolerance
2	milk cows average	,020 ^b	,132	,895	,018	,605
	milk quota average	-,033 ^b	-,211	,833	-,029	,560
	trend qouta	,269 ^b	1,405	,166	,189	,370
	amount of cows per hectares average	-,106 ^b	-,889	,378	-,121	,974
	trend amount of cows per hectares	-,037 ^b	-,280	,781	-,038	,822
	amount of youngstock per 10milkcows average	-,116 ^b	-,959	,342	-,131	,943
	trend amount of youngstock per 10 milk cows	,232 ^b	1,970	,054	,261	,945
	age cows average	-,039 ^b	-,321	,750	-,044	,929
	trend age cows	-,139 ^b	-1,162	,251	-,158	,958
	production average	-,151 ^b	-1,293	,202	-,175	,994
	trend on milk production	,199 ^b	1,682	,098	,225	,950
	time between calving average	-,161 ^b	-1,341	,185	-,181	,944
	trend on time between calving	-,092 ^b	-,768	,446	-,105	,972
	cellcount average	,084 ^b	,684	,497	,094	,928
	trend celgetal	-,130 ^b	-1,080	,285	-,147	,953
	% to destruction average	-,197 ^b	-1,696	,096	-,227	,988
	trend percentage to destruction	,011 ^b	,087	,931	,012	,883,
	% cows removed average	-,080 ^b	-,660	,512	-,090	,960
	trend percentage removed	,091 ^b	,730	,468	,100	,893
	access to pastures last year	,042 ^b	,348	,729	,048	,945
	trend kg concentrates per 100 kg milk	-,091 ^b	-,733	,466	-,100	,902
	age of the farmer	-,053 ^b	-,445	,658	-,061	,994
	higest education	-,011 ^b	-,089	,930	-,012	,889
	amount of free diseases	,000 ^b	,000	1,000	,000	,972

a. Predictors in the Model: (Constant), grow in milk cows

b. Predictors in the Model: (Constant), grow in milk cows, kg concentrates per 100kg milk average

c. Dependent Variable: trend overige medicijnen