

# Dairy farmers motivation for lean training



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A study on the motivation and barriers of dairy farmers to participate in lean training.

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Harm Sake Sem Lutén

## Preface

Before you lies my Bachelor thesis, to complete the agribusiness study “European Food Business”. This research is conducted to provide information for dairy farmers and milk purchasers to improve sustainability and pressure for dairy farmers.

Furthermore would like to thank Mr. Wijma for all support and information during the research. I also would like to take this opportunity to give a big credit to my thesis coach Mr. Oevering for all the support, tips, time, and effort for reading and helping with completing the thesis. I will also thank Aeres University of Applied Science for the time and resources I used to

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## Summary

Dairy farmers nowadays are under a lot of pressure due to the transition to sustainability goals, low milk price, reduction of carbon emissions, and the COVID-19 pandemic. This gives the dairy farmer a lot of pressure and stress. Because of all this, the amount of Dutch dairy farmers is decreasing every year. It is needed to prevent an even further decline in dairy farmers because of the fact that the Dutch dairy farmers are one of the most productive and efficient dairy farmers of Europe and could be a role model (EPRS, 2018).

An effective way of optimizing work and eliminate waste is lean. The goal with the implementation of lean management is to eliminate non-value-added actions like motion, defects, overproduction, or waiting. lean is a way of optimization that could help dairy farmers to release some pressure, stress, and help with the transition to sustainability.

Lean training is however not yet common under dairy farmers. To help dairy farmers to prepare for the future and find ways of optimization for their business lean training would be very useful. The objective for this research is thus to see what motivates a dairy farmer to participate in lean training with the addition of finding the barriers to participation. This is important to find out because training is only useful if the received information is also used after the training. The second objective is to find out what is needed to maintain motivation and what barriers could be preventing the motivation of maintaining lean.

The research question for this study was 'What will motivate Dutch dairy farmers to participate in lean training and keep the motivation for continuing the implementation of lean?'

The main findings from this research are that the knowledge of lean is not sufficient with Dutch dairy farmers. Because of that, there is not much motivation to participate in lean training. Dairy farmers who understand the meaning of lean, participate to optimise their dairy farms and receive new information to clear business blindness.

There are multiple barriers like time and financial resources dairy farmers had for participation. However, lack of knowledge is the major barrier to not participate in lean training. This creates a certain attitude towards lean training. If a dairy farmer does know the benefits of lean their attitude is positive and they will be more open to participate in lean training, to improve work efficiency.

For the future, the recommendation is to help dairy farmers understand what lean means and show the benefits. Due to the lack of knowledge the attitude and interest under dairy farmers for lean training is very low. With the use of more marketing and communication, lean training could be promoted under dairy farmers.

## 1.0 Introduction

The value of the total dairy sector plays a significant role in the Dutch economy. 7% of the total Dutch trade balance comes from this sector (NZO, 2020). The value of the total dairy sector in the Netherlands which combines all dairy farmers and the dairy industry is 12.5 billion euros (NZO, 2020). When comparing 2019 to 2018 dairy farmers lost 6.500 euro of total income in one year. Next to that comparing 2018 to the year, 2017 dairy farmers lost 33.000 euro of total income. The main reason for the decrease in the average income is the high production cost. Previous research shows that the average production cost for dairy farmers is 44,07 ct/kg where the milk price was an average of 34,65 ct/kg in January 2020 (EMB, 2020).

Because of the high production costs, the profit margin on milk decreases what will harm the income of dairy farmers. An option to earn more money is to scale-up the dairy farm, which has happened a lot in the past. In the period from 2000 to 2019, the average amount of cows increased from 57 to 103 dairy cows per farm (WUR, 2019). More cows result in more milk to sell and more profit can be generated, except in reality this is not the case. The number of dairy farmers is decreasing every year. In 2019 alone 550 dairy farmers went out of business (WUR, 2019). One of the reasons is the milk price, due to the low milk price at this moment the dairy farmer is not able to earn back their investment (Bloemberg, 2019). Another reason is the high production cost which is higher than the milk price. The milk price should increase by 10 cents per kilo on the current price of 34 ct/kg of milk (ZuivelNL, 2020). Without an increase in the milk price or a decrease in production costs, it is not possible to earn back the investment or make a profit (Bloemberg, 2019). Another factor is the price of land. In the last 10 years, the price for one acre of agricultural ground increased from 40.000 euro in 2010 to 61.900 euro in 2019 (DTNL, 2019). With still a yearly increase in the price of one acre of agricultural ground, it becomes more difficult to have the money to invest and earn their investment back.

Not to mention, the COVID-19 pandemic will have a subsequent impact on the dairy sector. According to LTO-dairy (Land- en Tuinbouworganisatie) chairman Wil Meulenbroeks (2020), the dairy industry is not directly affected by the COVID-19 pandemic. The majority of the produced products have a longer shelf life for example cheese, milk powder, and UHT (Ultra-high temperature sterilization) milk. nonetheless, it will have an impact over a longer period. The Dutch milk price follows the pricing of the world dairy market, often with a slight delay (Meulenbroeks, 2020). Due to the worldwide impact of COVID-19, it is expected that the milk price will decrease. This means that the milk price in the Netherlands will decrease as well. The price of milk may drop by 10% by the following summer (de Bie, 2020). However, the results of the COVID-19 pandemic are unknown. The

milk price may pick up again in a later stadium of 2020 or beginning 2021. But that depends on the economic developments in the coming period that is influenced by the COVID-19 pandemic (de Bie, 2020).

Above all, dairy farmers are also in the transition towards a more sustainable way of producing. In 2015, 195 countries signed the Paris agreement to limit global warming from 1,5 to 2,0 degrees Celsius by 2050 (UNFCCC, 2015). Changes on the sustainable front for companies and organizations are necessary to reach this objective. The same objective counts for the dairy supply chain. In the last few years, dairy farmers are mentioned a lot in the discussion on pollution of carbon dioxide, phosphate, and nitrous oxide. This brings a lot of stress and pressure from society and media towards the dairy farmers (Kallioniemi, 2016).

In the period from 2010 to 2017, the production per dairy cow increased from an average of 8.000 kilos of milk towards an average of 8.560 kilos per dairy cow. Remarkably is an increase in milk production from 2016 to 2017. The number of dairy cows in the Netherlands decreased by 130.000 (-7%), from 1.857.142 to 1.727.142 dairy cows. On the other hand, milk production increased from 8.303 kilos of milk per dairy cow (2016) to 8.560 kilos of milk per dairy cow (2017), an increase of 3% (ZuivelNL, 2018).

Influence on the decrease of dairy cows is the phosphate reduction plan of 2017. In 2017 the phosphate reduction plan was carried out with regulation for feed producers to reduce the amount of phosphate in the feed of the dairy cows. The regulation for dairy farmers was to reduce the number of dairy cows in the Netherlands (RVO Nederland, 2020). These regulations for dairy farmers and feed producers are to reduce the amount of phosphate in the Netherlands.

Dutch dairy farmers had to reduce the number of dairy cows due to the 2017 phosphate reduction plan. On the other hand, dairy farmers increased cow productivity from 2016 and onwards to limit the decrease in total milk production. This resulted in an increase in milk production from 8.560 (2017) to 8.685 (2018) kilos per dairy cow (ZuivelNL, 2018). The pressure from the government with new regulations for decreasing the phosphate emission resulted in improved productivity. Dairy farmers potentially adjusted their business model to produce more with fewer dairy cows.

A business model describes the rationale of how an organization creates, delivers, and captures value, in economic social, cultural, or other contexts (Osterwalder, 2010). Nowadays dairy farmers are in the transition towards sustainability. To reach the objectives of regulations around sustainability an adjusted business model is necessary. Adjusting the business model is in line with the objective of the sustainable dairy chain in the Netherlands (Duurzamezuivelketen, 2020). The sustainable dairy chain has new objectives for the year 2030 to create a more sustainable dairy chain.

These decisions are made together with Dutch dairy farmers and the dairy industry (Duurzamezuivelketen, 2020). Decreasing production costs will increase the amount of profit the dairy farmers make. This will keep the dairy farmer profitable and in business.

It is important to keep Dutch dairy farmers in business because over the last decades there is a decrease in dairy farms in the Netherlands. The number of dairy farmers decreased from 49.300 (1980) to 16.963 (2018) (CBS, 2017)(ZuivelNL, 2018). On the other hand, milk production per dairy cow is never been higher. This shows that Dutch dairy farmers are improving their efficiency. Dutch dairy farmers are more productive and efficient compared to dairy farmers in other European countries. The Netherlands has one of the highest ratios of herd sizes to the amount of milk produced in Europe (EPRS, 2018). Because of that, it is very important to sustain Dutch dairy farmers and prevent a further decrease. Dutch dairy farmers can be a role model for dairy farmers in other countries in productivity and efficiency (EPRS, 2018).

Numbers from 2016 to 2018 show that dairy farmers optimized their working methods by increasing the ratio of kilos of milk per dairy cow. It should also be possible to optimize other handlings at a dairy farm as well. With optimization, it is possible to decrease for example the amount of waste (Hocken, 2019). This will decrease the production costs and at the same time, it will increase sustainability which has a positive effect on emissions (Bergmiller and McCright, 2009), (Barth and Melin, 2018).

A proven optimization method that can be used for dairy farms is lean management (Mohan et al, 2020), (Yang et al, 2011). The goal with the implementation of lean management is to eliminate non-value-added actions. Non-value added actions are wastes of time, movements, or materials. The eight lean waste aspects are defects, overproduction, waiting, non-utilized talent, transportation, inventory, motion, and extra-processing (Gay, 2015). These types of wastes should be eliminated to reduce or eliminate all non-value-added actions. This makes lean a useful and working method for optimizing work.

New lean working methods created a business that decreases the waste of water, energy, and landfill within the organization. Lean on a dairy farm will increase quality and motivation besides it will reduce wastes, time, and cost (Hocken, 2019). This is needed to decrease the production costs for the dairy farmers to increase the profit margin.

On the other hand, lean implementation could also result in failure. Lean is one of the most powerful quality improvement methodologies, however nearly two-thirds of the lean implementations result in failures and less than one-fifth of those implemented have sustained results (Jadhav, 2014). To prevent failure it is important to identify the results of the lean practises.

Small- and medium-sized enterprises (SMEs) are reluctant to the implementation of lean methodology. This is traced back to the impeding factors which seem sometimes stronger than the motivating factors coupled with a lack of properly documented evidence of lean successful implementation in many SMEs (Enoch, 2013). This is the same for agricultural businesses, lean management is not broadly applied to agricultural productivity (Solano, 2019). A reason for the lack of evidence in the dairy culture where lean is implemented could be operative planning. Agricultural production has historically the objective of improving yields and quality. Waste and the sustainability of operations are generally not integrated into operational planning methodologies for agricultural production (Solano, 2019).

Another factor is the measurability of wastes. For lean implementation, long term planning is needed (Nielsen & Pejstrup, 2018). The effects of lean based on time or money are not directly visible by dairy farmers. This is one of the reasons for the lack of properly documented evidence. The dairy farmers who are implementing lean have not yet enough comparable results. Or that they did not have the intention to measure the results of the lean implementations.

Cheese manufacturer and milk purchaser Royal Bel Leerdammer (RBL) provides lean training. Dairy farmers who sell their milk to RBL can participate in this lean training. The main objective for RBL is to gain experience during the years on how to increase sustainability in the whole supply chain according to the CSR manager of RBL (R. Wijma, personal communication, 2020). The headquarters of RBL have set objectives to increase sustainability from farm to fork (R. Wijma, personal communication, 2020). In the past years, lean is implemented in the factories of RBL, with positive results. Due to the positive experience with lean, RBL implemented it in training for dairy farmers. This is in line with the objectives of RBL to the sustainability and persistence of the dairy farmer (R. Wijma, personal communication, 2020).

However, it is not clear what these dairy farmers motivation or barriers is about lean. What approach is needed to change behaviour towards participating in lean training that is provided by RBL.

What is needed to change the behaviour of dairy farmers to a more lean approach? Ajzen came with the theory of planned behaviour in the '90s. This psychological model shows the three factors that are important towards intention and the planned behavioural itself (Ajzen, 1991).

The first factor is attitude. 'Translating' the theory of planned behaviour to the choices of dairy farmers to participate in lean training. At first, the attitude towards lean has to be positive. Dairy farmers must see the usefulness of lean. Are they expecting to see enough results with the implementation of lean. It should make sense for dairy farmers to participate in lean training.

Factor number two is subjective norms. It is about dairy farmers' social network, cultural norms or group believes. Their opinion about lean will influence your own opinion about lean. It's the social component of this theory. If the social environment appreciates the intention of transition towards a more lean working method the dairy farmers will have also a positive intention to lean themselves.

The last factor is the perceived behaviour control. This factor questions the dairy farmer on his self-belief. If the right resources are available and if there is self-belief to accomplish the planned behaviour to lean (Ajzen, 1991).

It is important to watch all the different factors. When all are positive towards intention the planned behaviour could occur.

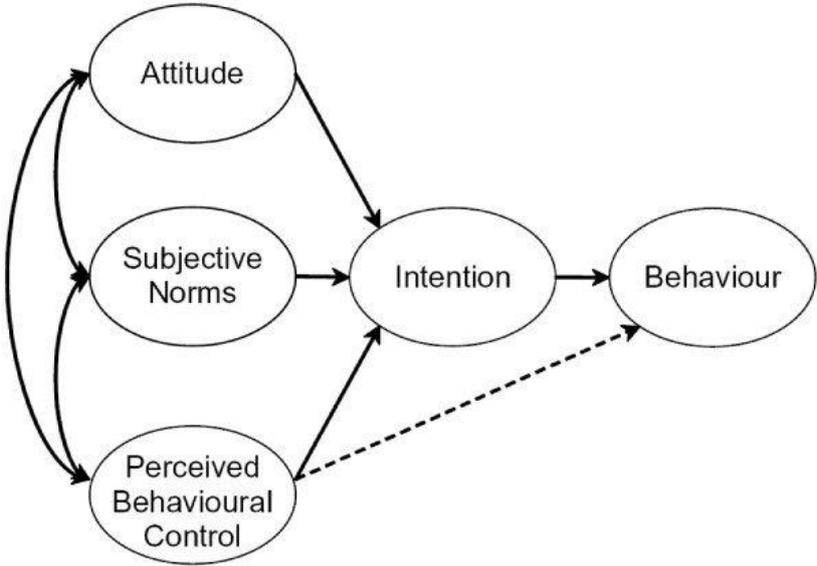


Figure 1 Ajzen (1991), Theory of planned behaviour

Taken into mind the factors of Ajzen (1991) theory of planned behaviour. Planned behaviour must include all three factors.

Figure two will help to find the motivators or barriers for dairy farmers. This model touches all aspects of the Ajzen (1991) theory of planned behaviour. What gives examples of the attitude, subjective norms, and perceived behavioural control. All these aspects could bring barriers or motivations for dairy farmers. For example, the social network of dairy farmers could have a positive opinion about the implementation of lean practises. This will have a motivating impact on the intention of change. On the other hand, if the social network is against the implementation of lean it could be seen as a barrier, and dairy farmers will not have the intention to change their behaviour to a more lean approach.

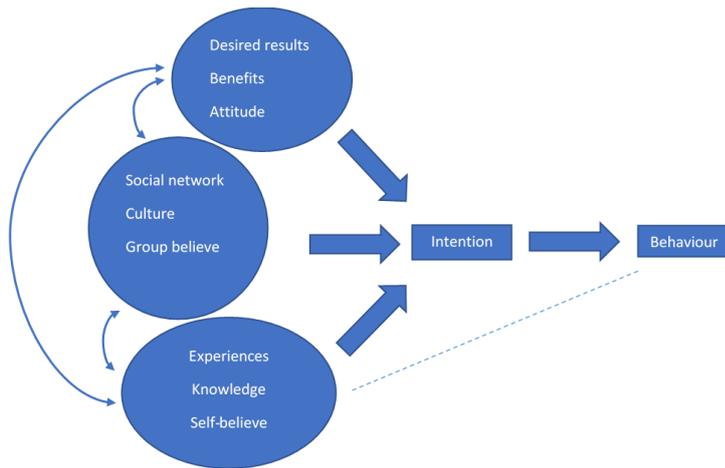


Figure 2 Ajzen (1991), Theory of planned behaviour

For this research, in particular, there is going to be looked at the motivators and barriers of dairy farmers which will lead to the intention of planned behaviour. It is unknown why certain dairy farmers participated in lean training and others not.

Next to that, after participating in lean training it is of importance to maintain the knowledge that is received during lean training. The received Lean knowledge should be implemented and maintained afterwards. As mentioned before even though lean is one of the most powerful quality improvement methodologies, nearly two-thirds of the lean implementations result in failures and less than one-fifth of those implemented have sustained results (Jadhav, 2014). It would be a waste of time, money, and resources to learn dairy farmers about lean and not seeing results afterwards. To prevent the occurrence of failure it is necessary to find the motivators and barriers of dairy farmers for maintaining lean at their dairy farm. When finding the motivators or barriers for maintaining lean the failure can be reduced. This to prevent two-thirds of failure (Jadhav, 2014).

Based on that the following research question is formulated:

What will motivate Dutch dairy farmers to participate in lean training and keep the motivation for continuing the implementation of lean?

Information is needed on what lean could offer dairy farmers. If there are enough benefits to start putting effort into changing the dairy farmers working habits towards lean. The following sub-question will support answering the main research question.

- What is the relevance of lean for a dairy farmer?
- What are the motivators or barriers for a dairy farmer to participate in lean training?
- What are the motivators or barriers for a dairy farmer to maintain lean implementations?

The hypothesis is that the motivation to lean on the working process of dairy farmers is not high enough to make changes. Dairy farmers are always at their farm and working more or less every day is not the biggest problem for them. The motivation and the problems dairy farmers are dealing with are the sustainability transitions. Their objective is to follow all new regulations and prepare for the coming years to reduce phosphate and carbon dioxide pollution. Lean does not only bring positive results on time and money. It can also increase sustainability at a dairy farm that is unknown to dairy farmers. Though for this reason, the majority of dairy farmers will not consider or be motivated enough to participate in lean training.

For maintaining the lean practices the current barrier is the pressure to become more sustainable and the COVID-19 pandemic. This will influence the dairy farmers who participated in lean training with the motivation to maintain and implement more lean practices.

Next to that the milk price and the COVID-19 pandemic are problems that will have the focus. The pressure for these problems is higher than work optimization. However, with the expected milk price decrease of 10% due to the COVID-19 pandemic. Lean can help with production cost reduction to improve the profit margin to balance the profit even with the lower milk price that is expected.

## 2.0 Materials and methods

In the chapter materials and methods the type of research that is conducted, how data is received, and how the data is analysed will be explained. As of last the validity and reliability of the information that is received.

### 2.1 Type of research

This research is qualitative, the objective is to understand the dairy farmer's behaviour and their perspective for lean with non-numerical data. Qualitative research was initially used in psychological studies when researchers found it tedious to evaluate human behaviour in numeric. However nowadays qualitative research is done in other sectors as well (Gibson, 2004) (Karla et al, 2013). It is based on receiving the information via literature review and by interviews with the dairy farmers. Mainly to find out the correlation of the answers to base a conclusion and recommendation on the findings.

The study is partly based on an exploratory research method. It is conducted to have a better understanding of the existing problem, but will not provide conclusive results. The group of dairy farmers that are interviewed or surveyed will not provide a conclusive result in general.

The research methodologies that will be used are primarily semi-structured interviews and surveys. Secondary research methodologies that will be used are literature research. This will be from previously published primary research.

On the other hand, this research is based on explanatory research. Explanatory research is conducted when not one clear answer will be the result (Sandhusen, 2008). The research will be conducted to find the motivators, barriers, and benefits of lean for dairy farmers. Multiple dairy farmers will be questioned via semi-structured interviews or surveys. Which will not lead to one and the same answer by all the different dairy farmers. Next to that explanatory research is commonly used for a successive study (Nargundkar, 2008). With the outcomes of this research, RBL can continue with improvements in lean training.

### 2.2 How is the data received

The data that is received is per sub-question elaborated in this chapter. Different strategies are used for obtaining enough information to answer the sub-questions.

#### 2.2.1 Sub question one

Sub question one: What is the relevance of lean for a dairy farmer?

The first sub-question is answered via literature research. The information is received via desk research. The databases for finding the majority of the scientific sources are Google scholar, Wiley, Greeni, Springer, and Science direct.

The following terms and synonyms of these terms are used for the literature research: lean, lean dairy farm, lean agriculture, lean farming, Work efficiency in Agriculture, lean implementation, lean benefits.

The answer to this sub-question will provide a clear view of the effects of lean implementation for dairy farmers. This will clarify the aim of the implementation of lean and what previous results were in the agricultural sector on both positive and negative sides.

### 2.2.2 Sub question two

Sub question two: What are the motivators or barriers for a dairy farmer to participate in lean training?

For this sub-question literature research, a semi-structured interview and survey are used. To receive all information needed for answering the sub-question.

Literature research will provide information on motivators and or barriers were dairy farmers deal with according to different studies. The founded literature is about the motivation and barriers in general and for lean. The information will be compared with the information received by groups of dairy farmers that will be interviewed or surveyed.

The most used databases for finding scientific sources are Google scholar, Wiley, Greeni, Springer, and Science direct.

The following terms and synonyms of these terms are used for the literature research: motivation of farmers, farmers' barriers, eliminate farmers' barriers, maintain motivation, types of motivators, how to motivate.

The second method for receiving information are semi-structured interviews. This specific method is chosen because it can occur that dairy farmers will give more information during an interview that could help the improvement of lean training. With the usage of a semi-structured interview, a follow-up question on the given answer by the farmer can be made. With a follow-up question, dairy farmers can give a more clear or broader answer to the question. A semi-structured interview could provide extra information on lean, which could be useful for future improvements.

The last method that is being used is a survey. The last group of dairy farmers for answering sub-question two is larger than the other groups. To reduce the amount of time, interviews are replaced by a survey. This survey will be forwarded via e-mail to this group of dairy farmers.

#### 2.2.2.1 First group semi-structured interview

One of the objectives of this sub-question is to find out what the motivators of a group of dairy farmers are that already participated in lean training provided by RBL. In 2019, RBL provided lean

training and 12 dairy farmers participated in this lean training. This group of dairy farmers is semi-structured interviewed to find their motivators, barriers for participation in lean training.

The first question is which factors play a major role for a dairy farmer to participate in training in general. What are the conditions or objectives that personally needed to be achieved after this training?

- 1) What factors play a major role for you to participate in a training?
  - a. Explain why these factors are so important

Questions two and three are to find what dairy farmers appealed to and what the motivates are to participate in lean training. The motivators given by dairy farmers will be compared with findings from literature research.

- 2) What appealed to you the most about the lean training?
  - a. Was it clear to you what it would be about?
- 3) What was the motivator to participate in lean training?

The fourth question is to find the barriers of dairy farmers. What do dairy farmers have as barriers and what was needed to eliminate these barriers before participating in a training?

- 4) Were there any barriers you had to eliminate before participating?
  - a. If yes, which ones?

#### *2.2.2.2 Second group semi-structured interview*

The second group that is questioned is a group that was intended to participate in lean training. Unfortunately, because of the Covid-19 pandemic, the 2020 group could not follow the lean training. This group of dairy farmers is questioned to find the motivator(s) of following lean training. These dairy farmers will be having the same first four questions as the previous group.

This group of dairy farmers did not do the training, because of that only the first four questions will be the same as the first group. Also, the expectations of the second group of dairy farmers will be questioned.

The first question is which factors play a major role for a dairy farmer to participate in training in general. What are the conditions or objectives that personally needed to be achieved after this training?

- 1) What factors play a major role for you to participate in a training?
  - a. Explain why these factors are so important

Questions two and three are to find what dairy farmers appealed to and what motivates them to participate in lean training. The motivators given by dairy farmers will be compared with findings from literature research. For example, with the factors from the theory of planned behaviour (Ajzen, 1991)

- 2) What appealed to you the most about the lean training?
  - a. Was it clear to you what it would be about?
- 3) What was the motivator to participate in lean training?

The fourth question is to find the barriers of dairy farmers. What do dairy farmers have as barriers and what was needed to eliminate these barriers before participating in a training?

- 4) Were there any barriers you had to eliminate before participating?
  - a. If yes, which ones?

Question five is to find out what expectations dairy farmers have and what they would like to learn during the lean training.

- 5) What will you expect to learn from this lean training?

The last question is a general question if the dairy farmer wants to comment on something, give any advice or tips. This question is not obligated to answer.

- 6) Do you have tips, advice, or comments about the training provided by RBL? Or is there anything missing?

#### *2.2.2.3 Third group survey questions*

The last group of dairy farmers received a survey. That is the most time-efficient source to receive the information that is needed due to the group size of 250 dairy farmers. The last group of dairy farmers did not participate or was intended to participate in lean training. However, this group of dairy farmers participated in a training with a different topic than lean, which was also provided by RBL.

This last group of dairy farmers is seen as most important to find the barriers to participating in lean training. The answers received by this group are the motivators these dairy farmers have. Due to this fact, this group did not participate in lean training. Their motivation is a barrier to the lean training.

The survey questions are about what the motivators and barriers are for this group of dairy farmers to participate in another training with a different topic. In the survey, there will be questions formulated for what is needed for training in the dairy farmers' opinion. Moreover what motivators and barriers there are existing for this group of dairy farmers for participating in the training. On the

other hand motivators for this group of dairy farmers could be potential barriers to lean training. If the majority of dairy farmers dealing with other problems and have the motivation to solve those problems first.

As of last, there are questions asked about if they are familiar with the term lean and if they would like to participate in lean training.

With the received answers from the survey questions. The motivators and barriers are compared with findings from literature research. To find factors that are playing in decision making to participate in training.

The following questions are asked to the dairy farmers to have a better understanding of the motivators and barriers.

Question number one will indicate what topics are important are nowadays. What knowledge dairy farmers think they are lacking, and what is needed for future perspective. The topics which are now important for dairy farmers have higher importance than participating in lean training.

- 1) Which topic of training appeals the most to you? (lean, leadership and management, safety, animal welfare, work efficiency, circular farming, and open space for other options).

The second question is about what previous training dairy farmers participated in. After the dairy farmer answered there will be a follow-up question of what motivated them to participate in this specific training. The importance is to find motivators that attract dairy farmers to participate in training.

- 2) What kind of training did you participate in before?
  - a. What motivated you to participate in this training?

Question three is what future training is on top of the list for dairy farmers to participate in. The dairy farmer can choose between different trainings that are provided by RBL. Also, the dairy farmer needs to explain why he or she wants to participate in that specific training.

- 3) In what kind of training would you like to participate in?
  - a. Why this type of training?

The next question is to see what objectives are needed to join a training. A training needs to have a certain purpose for the dairy farmers. If these objectives are not in line with the objectives of the training. Dairy farmers would not participate in a training which is a barrier that must be found.

- 4) What objectives need to be in a training before you would participate in it?

Question number five is to find out what kind of motivation dairy farmers have in terms of the Ajzen theory of planned behaviour. This is a multiple-choice question with the factors that play a role in the theory of planned behaviour. With the outcome of this question, the trend under dairy farmers can be sorted out and see what factor of the Ajzen theory is most important for dairy farmers to take part in training.

- 5) What factor is important for choosing a training? (Social pressure, government regulations, trend for dairy farmers, expectations results, positive feedback colleague dairy farmers, support for company development, other)

Question six is a direct question to the farmer on what the main barrier(s) are for participating in a training.

- 6) What is for you the most common barrier(s) for participating in a training?

Question six is to discover the popularity and general knowledge of lean under dairy farmers.

- 7) Have you ever heard of the term lean?
  - a. Yes/No

The following question is to see whenever a dairy farmer does know what lean is about. It is known that in the past other knowledge training was more important. However, it could be the case that dairy farmers have solved those higher importance problems and are willing to improve their lean working method.

- 8) If yes for question 6, would you like to participate in lean training in the future?
  - a. Why or why would you not participate in lean training?

The last question is a general question if the dairy farmer wants to comment on something, give any advice or tips. This question is not obligated to answer.

- 9) Do you have tips, advice, or comments about the training provided by RBL? Or is there anything missing?

### 2.2.3 Sub-question three

Sub question three: What are the motivators or barriers for a dairy farmer to maintain lean implementations?

This last sub-question will answer if lean knowledge is applied after the training. The objective of lean training is that the knowledge that is received will be used whenever the training is over. Dairy farmers who participated in the training should have continued with the lean knowledge. For a

successful lean implementation, long-term objectives are needed such as planning (Nielsen & Pejstrup, 2018).

For this sub-question, it is to find out if the dairy farmer successfully continued with lean. This is to see if the motivation for lean is maintained after the received knowledge. However, it could also occur that more barriers came across what decreased the motivation of maintaining lean. The objective of lean training is to improve sustainability goals that are set by companies and governments. This will not be reached within a couple of months. To see if the objectives are reached dairy farmers will be semi-structured interviewed on the results after the lean training. To see what motivated them to continue with the implementation of lean or what barriers occurred.

The findings from the dairy farmers are compared with literature research on motivators and barriers. For example the Ajzen (1991) theory of planned behaviour. To find out what factors play the biggest role in the case of motivation or as a barrier for further implementation of lean.

Literature research is conducted to find the proper information on what factors are important to maintaining motivation. Next to that literature research will compare what is needed to prevent or overcome barriers with the actual barriers of the dairy farmers to maintain lean implementation.

The most used databases for finding scientific sources are Google scholar, Wiley, Greeni, Springer, and Science direct.

The following terms and synonyms of these terms are used for the literature research: maintaining motivation, eliminate barriers, overcome barriers, lean motivation, lean barriers, lean agriculture, lean implementation.

With the semi-structured interviews dairy farmers are questioned about what lean practises are implemented during and after the lean training, and if lean practices are maintained. This is an important aspect because, lean is underpinned by a culture of continuous improvement (Hocken, 2019). Implementation of self-initiative Lean strategies shows that the program lean training has an effective outcome. In the end, the objective of a so-called 'knowledge product' is that the dairy farmer does something with the knowledge he or she receives from training.

At last, the participants are questioned about the experience of the program. With the answers, the overall experience is ranked. Next to that, dairy farmers can give their comments about the lean training positive and negatives. These findings will provide an overall conclusion of the dairy farmers' opinion about how the training was. If there are any negative answers there will be a follow-up question to have an explanation to find the source of the problem. This will be compared with the findings from the other sub-questions to see where the bottlenecks occur. If the bottleneck can be

located a recommendation can be formulated to improve future training. As of last, there is a question if the information dairy farmers received was sufficient enough.

#### *2.2.3.1 First group semi-structured interview*

The following questions are to find out the results of dairy farmers managed during lean training.

- 1) Which lean processes have you implemented to your company during the lean training?
  - a. When not implemented any lean processes. Explain why?

Questions two and three are to see if dairy farmers maintained the motivation for lean and if dairy farmers continued with lean practices and implementation.

- 2) Have you been in touch with the course leaders or other participants for any questions about lean after the training?
  - a. Why or why not?
- 3) Did you continue with the implementation of lean on your dairy farm after the lean training?
  - a. Which ones

Question four is to see the major influencer of maintaining the motivation for lean practises. This will be linked with the three factors of the theory of planned behaviour (Ajzen, 1991).

- 4) When you have not continued with the implementation of lean. What factor was the biggest influence for not continuing?

Question five is to rate the training that was provided by RBL. A rating is used to have a visual indicator on the score of the training. The follow-up question is to find the reason behind the score. This will indicate what sufficient was or whatnot.

- 5) How would you rate the program lean training? (1= not good, 5 = very good)
  - a. Why this rating?

Question eleven goes further in the rating that is given at question 10. The objective of this question is to find all positive or negative influencers of lean training. The negatives must be known for future improvements and to eliminate potential barriers.

- 6) What is your opinion on the lean training? Mention at least one positive and one negative point.
  - a. How could this be solved?

The following question is to see if the dairy farmers that participated in the lean training are satisfied with the information they received. The goal of a training is to learn people as much as possible. If

there is not enough information provided about lean it is difficult to continue after the training with the implementation of new lean practises.

- 7) Was the information received during the lean training sufficient enough?
  - a. Why or why not?

The last question is a general question for dairy farmers that is not necessary to answer. However, a certain dairy farmer may have some more information he or she would like to share. That could be useful for the recommendations for the lean training.

- 8) Do you have any tips, advice, comments, or recommendations regarding the lean training?

With all the findings from literature research and semi-structured interviews, the last sub-question can be answered. Next to that, recommendations can be given for future improvement.

### 2.3 Analysing data

In this chapter description of the analysis will be performed whenever the necessary information is received from the right sources.

After desk research and completing the literature research all the important findings will be collected. The most important findings from the literature research will be listed in the end. These findings will support or clash with the findings from the other sub-questions. Based on the differences between the findings a conclusion and recommendations can be made for RBL.

When completing the semi-structured interviews with the different dairy farmers and lean training instructors, the interviews will be transcribed and coded. After coding all similarities, differences and noticeable outcomes will be filtered. When completing filtering all the points, the major point for motivation and the major barrier of participating in a lean knowledge training will be described.

The answers to the survey questions will be received via google forms. All the answers from the dairy farmers will be filtered on similarities. These similarities will be listed and a percentage of how many dairy farmers have chosen this answer will be given.

All the findings from the literature research will be compared to the major findings that are received via the semi-structured interviews and survey answers from dairy farmers. This will lead to an answer to the main question with a conclusion.

## 2.4 Data Validity and reliability

The information received by the farmers is personal opinions. These will not be the same for other dairy farmers that were not interviewed and or questioned for this research.

The information received from the group that participated in lean training is not influenced by the eye of the milk purchaser RBL. The interviews are anonymous and there is no name combined to the answers of the interviews. The reason for this approach is, that whenever there is a negative opinion about the knowledge training or on RBL, there can be no further action taken that could result in a bad relationship between the dairy farmer and RBL.

Before receiving information from dairy farmers that provide milk to RBL, there will be an approved manor used to contact or communicate with the dairy farmers and lean training leaders. What needs to be in line with the regulations of RBL. This is also to prevent miscommunication between RBL and the dairy farmer or the other way around. During the Covid-19 pandemic, other rules are implemented towards visiting dairy farmers. Due to the new safety and health reasons, it is not allowed to visit dairy farms.

## 3.0 Results

Chapter three will contain all results that are gathered via online literature research and offline research via surveys and interviews. Some specific groups of dairy farmers are questioned the complete answers of the interviews are located in appendix four and five.

### 3.1 What is the relevance of lean for dairy farmers?

In this paragraph are the results for the first sub-question 'What is the relevance of lean for dairy farmers?'. This question will be answered via findings from literature research.

#### 3.1.1 Results literature research relevance of lean

To find answers to the main question firstly the sub-questions need to be answered. For the first sub-question; what is the relevance of lean for dairy farmers? The necessary information is found via doing online desk research on multiple online research platforms.

Lean manufacturing works on identifying and eliminating wastages from each step in the manufacturing cycle of a product. Lean management allows users to identify the eight types of waste: defects, overproduction, waiting, non-utilized talent, transportation, inventory, motion, and extra-processing (Gay, 2015).

The wastages in the production cycle could be energy, time, motion, and resources. Many manufacturing organizations are effectively using lean tools and techniques to identify and eliminate wastages through continuous improvement. The main objective of lean manufacturing is to keep production costs down (Narke, 2020) (Rahani, 2012).

Hocken (2019), wrote a book on her experience with lean implementation in dairy farms. The benefits of lean for a dairy farm are mentioned in figure 3 stated below.

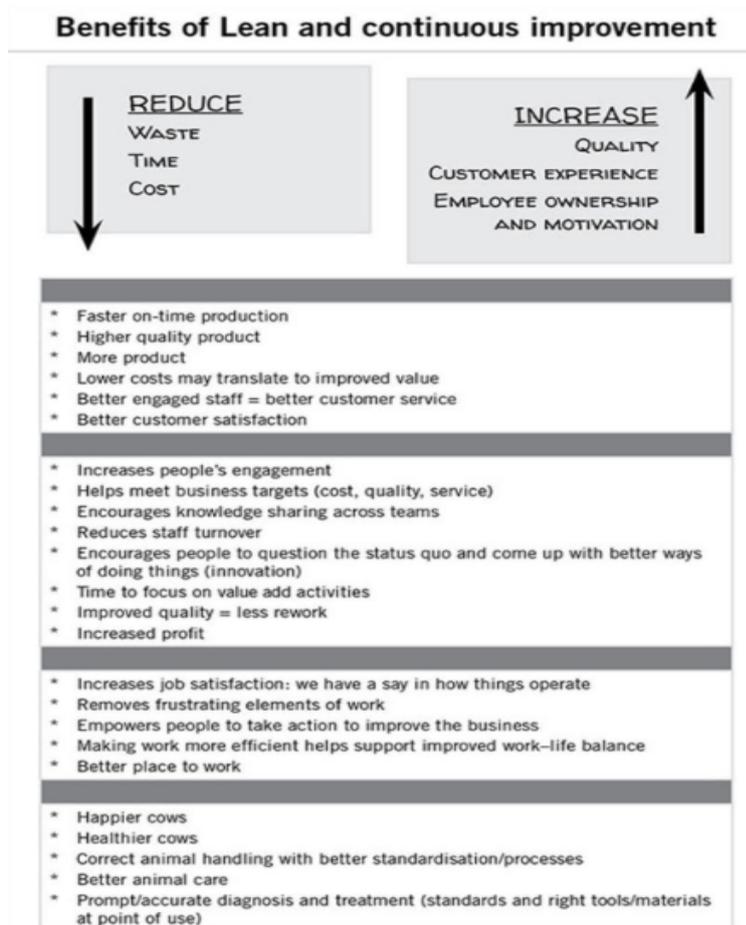


Figure 3 Hocken (2019), benefits of Lean and continuous improvement for dairy farms

One of the most common lean practices is a board meeting. It gives a dairy farmer and whenever it has employees, a clear overview of the day to day objectives. It visualises what goals there are and on what fronts improvements are needed. The use of board meetings is an applicable method for small, medium, and large dairy farms (Hocken, 2019) (Nielsen & Pejstrup, 2018).

Andersson and Eklund (2012) concluded that lean implementation in micro-businesses in the agricultural sector results in a more structured psychosocial work environment that is less stressful for the farmer (Andersson & Eklund, 2012).

Lean is for all farms, small scale, and large scale, as long as they are open to change. For those open to change, lean is the additional gear that provides increased earnings and greater employee satisfaction – without needing investment. Working with wastes has proved to be an eye-opener for the employees (Nielsen & Pejstrup, 2018). Lean creates a lot of opportunities for improvements shown by various researches. However, to keep the lean method relevant for a dairy farm it must continue with implementation for a long period of time. Lean is not a project with a start and end date. It is a new way of working and thinking, at which a new culture must be incorporated. If you

want to incorporate this new culture, long-term planning is needed for implementation (Nielsen and Pjetersrup, 2018).

Bhasin and Burcher (2006) argue that lean training may fail when the adopting organisation views lean as a specific project rather than as a lifelong project in which the lean philosophy permeates all activities and decisions. Furthermore, lean needs to be implemented throughout an organisation's whole value chain. The general approach to the supplier base coupled with the overall universal conviction of viewing lean as a set of tactics rather than embracing it as a philosophy advocates that this contributes to the relatively low number of successful lean initiatives (Bhasin and Burcher, 2006) (Rich, 2004) (Jack et al, 2014).

The success of lean implementation will not be entirely based on the application of appropriate tools and techniques alone but also on the top management involvement and their leadership skills, the worker's attitude, resources, and the organizational culture (Jadhav et al, 2014).

On the other hand, not all cases result in failure. In a study case with the Northumbrian farm, the implementation of Lean had positive effects. When correctly implementing the principles of lean it will improve the overall farming system (Colgan et al, 2013). This will deploy in line with the most profitable market outlets that can provide a step-change in efficiency, farm output, and the consistency of product quality. Next to that, lean has an effect on shortening the production cycle, and the processing time of a dairy farm. This will reduce resource demand and production cost which has the potential to improve profitability. With shortening the cycle the resulting savings in labour time reduce the overtime hours and improve staff quality of work through less fatigue (Colgan et al, 2013).

### 3.2 What are the motivators or barriers for a dairy farmer to participate in lean training?

In this paragraph of the research are all the results for answering the second sub-question 'What are the motivators or barriers for a dairy farmer to participate in lean training?'

Beginning with literature research on motivators and barriers for lean. After the results of the literature research, are the answers from participators of the lean training, and the outcome of a survey with dairy farmers that did not participate in lean training.

#### 3.2.1 Results literature research motivators and barriers lean training

Certain motivators for dairy farmers according to Marrier (2016), are providing farmers with interventions on a demonstration farm. Will increase the motivation for a dairy farmer to adopt advice. Interventions with peers from the industry also increase the positive attitude of farmers and the responsibility towards control.

In a study case from Nova Scotia, Helping to publicize positive farm stewardship practices was reported as the most important reason for participating in the environmental farm plan scheme, followed by its use to help improve relationships with non-farming neighbours and to comply with government environmental regulations. In contrast, minimizing potential farm environmental risks, was the lowest-rated factor for importance to participate (Atari et al, 2009).

Not all farmers are sensitive to financial rewards or fines, for example in programs on zoonotic control, mastitis management or adoption of sustainable practises (Ellis-Iversen et al, 2010)(Valeeva et al, 2007). Monetary benefits are not the only main motivator for dairy farmers. Monetary benefits are even equally motivating as internal farm performance relating to internal esteem and in healthy animals. Overall internal farm performance is a higher motivator than external factors implying esteem and awareness of the whole dairy sector performance (Valeeva et al, 2007).

Monetary motivation is however elastic, at a certain point it will increase or decrease as a motivator. On that behave it has been found that farmers are willing to work harder to prevent a loss than to gain a win (Kahnemen, 1979).

Financial incentives are not equal for all farmers. Every dairy farmer differs in their sensitivity towards a reward or a fine. The motivation of a farmer mainly depends on their attitude towards a programme or subject, to the extent whenever they perceive problems in this area of work (de Lauwere et al, 2020)(Brennan et al, 2016).

### 3.2.2 Results interview dairy farmers lean training 2019

This is the group of dairy farmers that participated in lean training in the year 2019. In total six dairy farmers were interviewed on their experience, motivation, and whenever the knowledge was sufficient enough to motivate dairy farmers to continue with the implementation of lean practises at their businesses. In appendix four are the complete and coded interviews of each dairy farmer. In the results below are the major findings given by six dairy farmers on each question that is asked to them.

#### **1) What factors play a major role for you to participate in a training?**

The subject must at first be in the interest of the dairy farmer. However all dairy farmers have some different interests, the most common one is future-focused subjects to develop the company (farmers 1, 2, 4, 5, 6).

Subjects that were mentioned are related to government regulations, profitability, self-improvement, and sustainability (farmers 1, 2, 3, 6).

#### **1a) Explain why these factors are so important**

The decision for participating in training is important for the company, innovation and new working ways are needed and to be ready for the future to continue providing milk (farmer 1, 4, 5, 6). Next to that, the social factor to share difficulties and different opinions with colleague dairy farmers is an important factor for participating (farmers 3, 6).

## **2) What appealed to you the most about the lean training?**

The most appealing factor was to have a view of other dairy farms (farmers 3, 5, 6). The interaction and comparing your own company with that one from a colleague dairy farmer. This is according to the dairy farmers refreshing and gives a different perspective on their working habits (farmers 4, 5).

Next to the interaction, work efficiency is an important factor that is appealing for dairy farmers (farmers 1, 2, 3).

## **2a) Was it clear to you what it would be about?**

All the questioned dairy farmers answered yes. They all said that it was about more efficient working and optimization of work.

## **3) What was the motivator to participate in lean training?**

Learning about how to be efficient or more efficient is the motivator for the majority of dairy farmers to participate in lean training (farmers 1, 2, 3, 4).

## **4) Were there any barriers you had to eliminate before participating? If yes, which ones?**

The common barrier is the distance (farmers 1, 2, 3, 4). However, the expectations to learn something worth the travel was higher and the barrier was eliminated for the majority of the group. Dairy farmer one was not able to participate in the whole training due to distance and travel time (farmer 1). For future training, some dairy farmers will see distance as a barrier to not participate in training (farmer 4).

### **3.2.3 Results interview dairy farmers lean training 2020**

In this part of the results are the answers from dairy farmers that were supposed to participate in lean training for the year 2020. Due to the impact of the Covid-19 pandemic the training was not able to continue. Due to that limited questions are done compared to the group of 2019.

Five of the twelve dairy farmers are questioned about their motivation for participating in lean training. The results with major findings from the interviews are stated below.

The complete and coded interview is located in appendix five.

## **1) What factors play a major role for you to participate in a training?**

Learning new things to benefit from it is a major component of participating in the training (farmers 8, 9, 10, 11). Next to that is being up to date with the sector and developments important (farmers 7, 8).

**1a) Explain why these factors are so important**

It is needed for the improvement of entrepreneurship and benefits the company (farmers 10, 11). Staying focused and be provided with new ideas and not lagging behind (farmers, 7, 8).

**2) What appealed to you the most about the lean training?**

To work more efficiently, with the focus on labour what is a major cost and bottleneck (farmers 7, 8). Finding bottlenecks working more efficiently and saving time, money, and materials (farmers 9, 10, 11).

**2a) Was it clear to you what it would be about?**

For two dairy farmers, it was not immediately clear what it was about (farmers 8, 11). The other dairy farmers did know it was about working more efficiently, eliminate waste in money, time, energy, and materials (farmers 7, 9, 10).

**3) What was the motivator to participate in lean training?**

Decreasing costs and creating more work satisfaction, effective working routines, to increase time savings (farmers 7, 8, 11). Next to optimizations factors, to clear business blindness is the second most important motivator for participating in lean training (farmers 3, 4).

**4) Were there any barriers you had to eliminate before participating?**

For three farmers there were no barriers (farmers 7, 8, 11), the other two farmers said yes (farmers 9, 10).

**4a) If yes, which ones?**

Time is a common barrier for farmers (farmers 9, 10). However, the expectations are that the investment of time for the lean training will lead to future benefits and time savings (farmer 10).

**5) What will you expect to learn from this lean training?**

All the dairy farmers mentioned the potential to optimize work processes and becoming more efficient. That will decrease the time spent on labour.

### 3.2.4 Results survey outcome dairy farmers

In total 91 of the 250 dairy farmers responded to the survey.

The responding dairy farmers did not participate in lean training before.

In the understated figures, not all scores will have a total of 100%. For some of the survey questions, it was allowed for the respondents to fill in multiple options of interest.

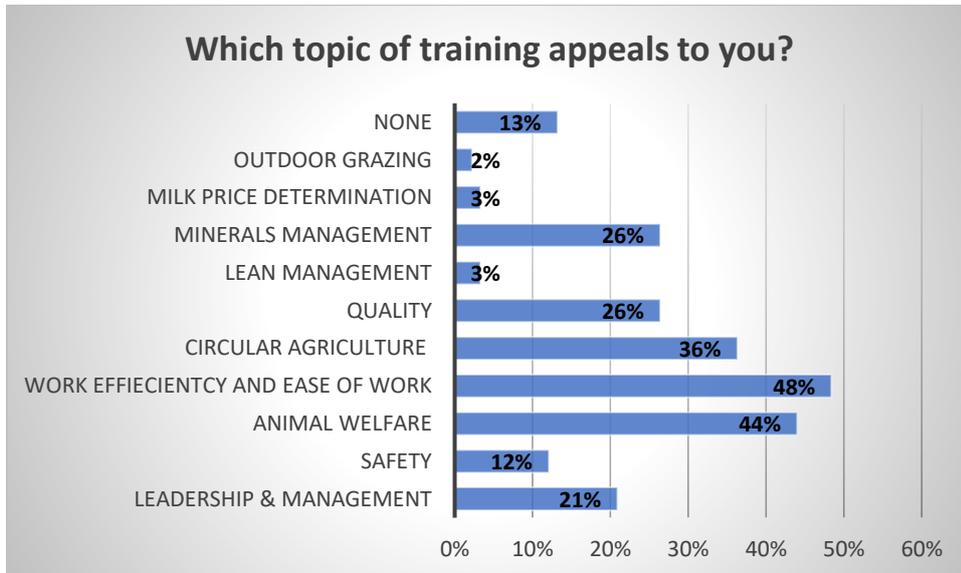


Figure 4 Appealing topics for dairy farmers

In figure 4 Appealing topics for dairy farmers, are the results of the question: "Which topic of training appeals to your?". To visualize what topic is most appealing under dairy farmers. Work efficiency and ease of work scored the highest with 48%. Lean management scored only 3%.

Results of figure 4 are as followed: work efficiency and ease of work (48%), animal welfare (44%), circular agriculture (36%), quality (26%), minerals management (26%), leadership & management (21%), none (13%), safety (12%), milk price determination (3%), lean management (3%) and outdoor grazing (2%).

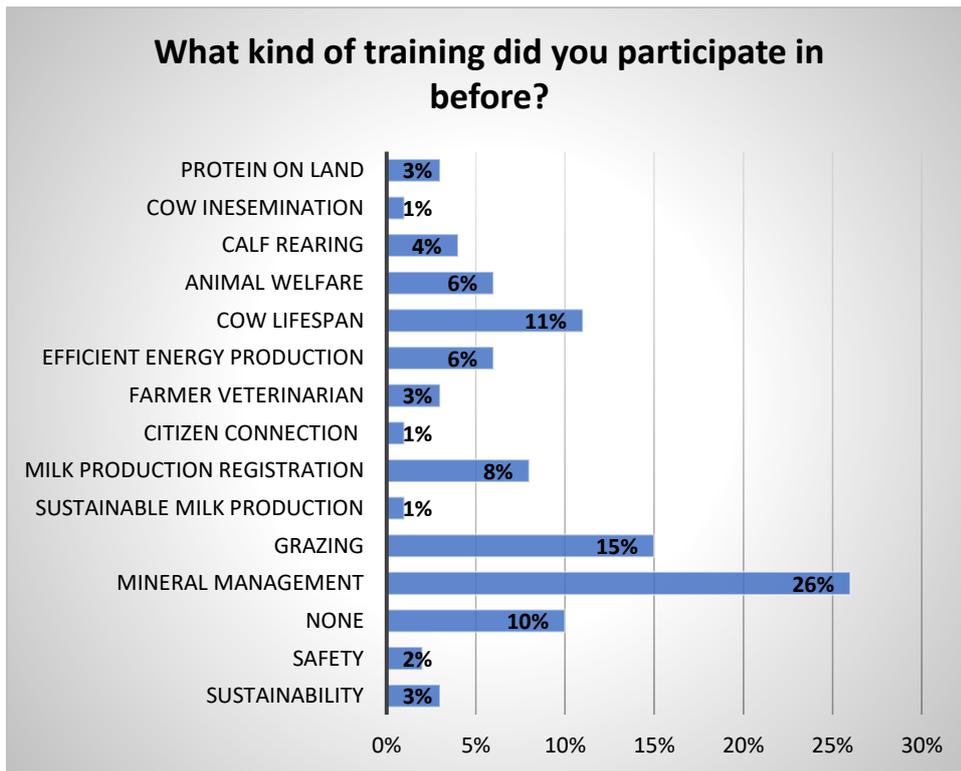


Figure 5 Participated knowledge training dairy farmers

In figure 5 *Participated knowledge training dairy farmers* the results of the question: “What kind of training did you participate in before?”.

Results of figure 5 are as followed: mineral management (26%), grazing (15%), cow lifespan (11%), none (10%), milk production registration (8%), animal welfare (6%), efficient energy production (6%), calf rearing (4%), sustainability (3%), farmer veterinarian (3%), protein on land (3%), cow insemination (1%), citizen connection (1%), sustainable milk production (1%).

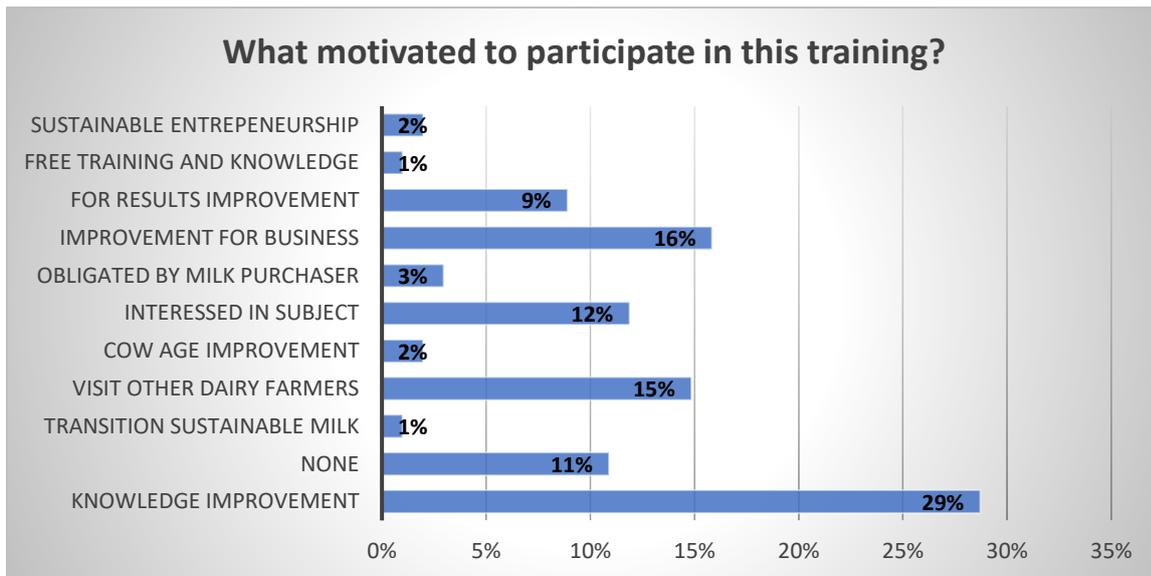


Figure 6 Dairy farmers motivation for participating

In figure 6 *Dairy farmers motivation for participating* the results of the question: “What motivated to participate in this training?”.

Results of figure 6 are as followed: knowledge improvement (29%), improvement for business (16%), visit other dairy farms (15%), interested in subject (12%), none (11%), for results improvement (9%), obligated by milk purchaser (3%), cow age improvement (2%), sustainable entrepreneurship (2%), the transition to sustainable milk (1%).

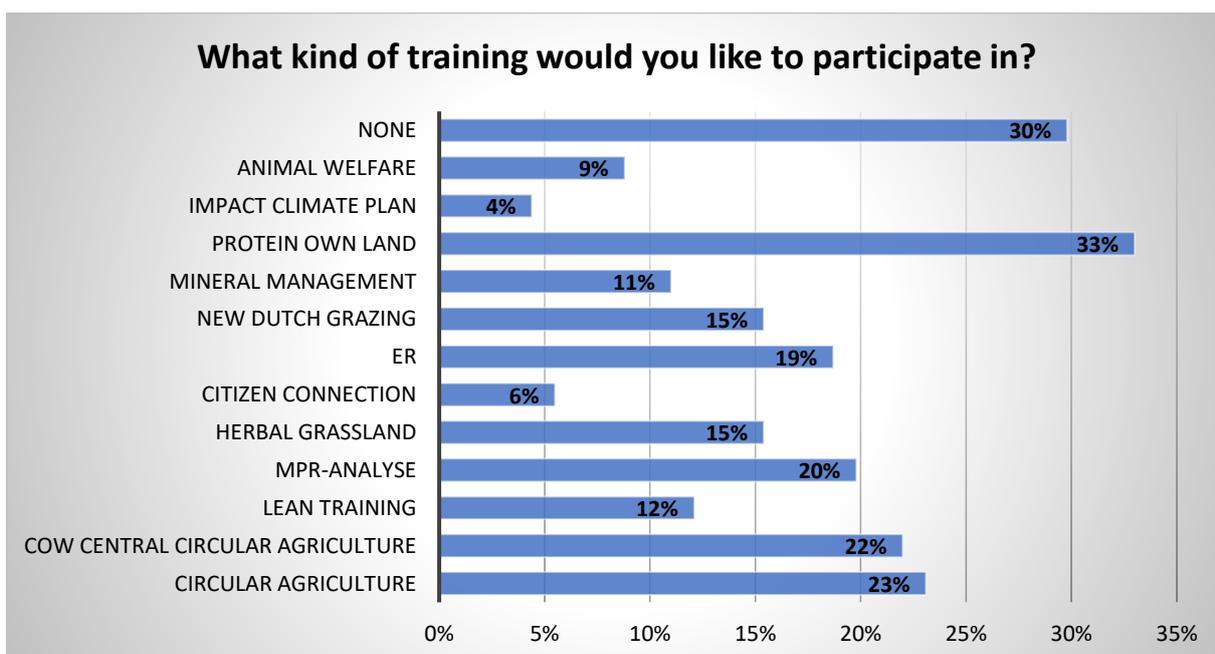


Figure 7 Subject interest dairy farmers for training

In figure 7 *Subject interest dairy farmers for training* the results of question: “What kind of training would you like to participate in?”.

Results of figure 7 are as followed: protein own land (33%), none (30%), circular agriculture (23%), cow central in circular agriculture (22%), MPR-analyse (20%), ER (19%), Herbal grassland (15%), new Dutch grazing (15%), lean training (12%), mineral management (11%), animal welfare (9%), citizen connection (6%), impact climate plan (4%).

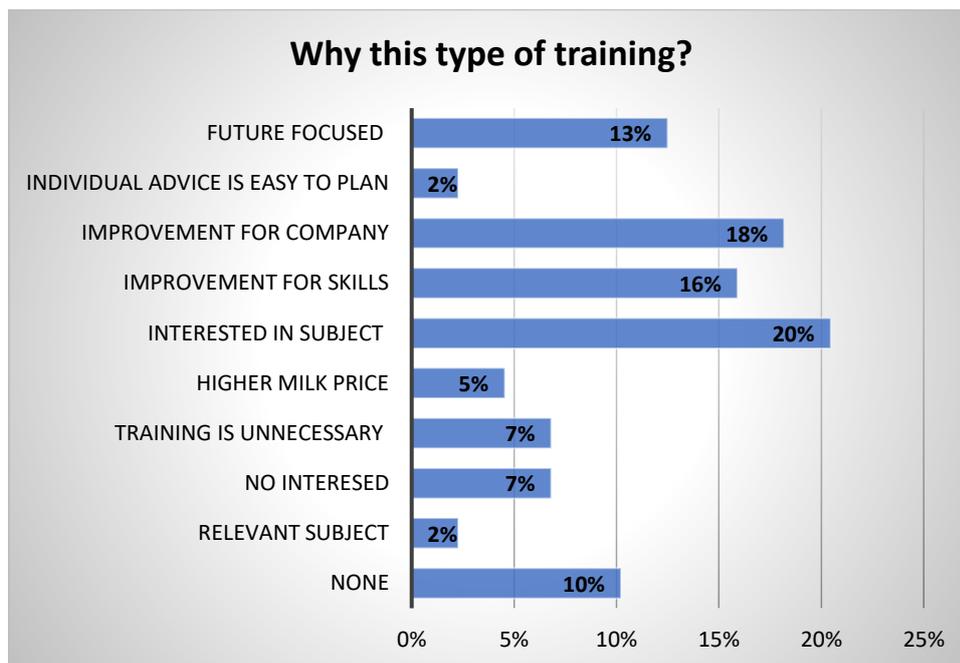


Figure 8 *Motivation for interest training*

In figure 8 *Motivation for interest training* the result of question: “Why this type of training”?.

Results from figure 8 are as followed: interested in subject (20%), improvement for company (18%), Improvement for skills (16%), future-focused (13%), none (10%), no interest (7%), training is unnecessary (7%), higher milk price (5%), individual advice is easy to plan (2%) and relevant subject (2%).

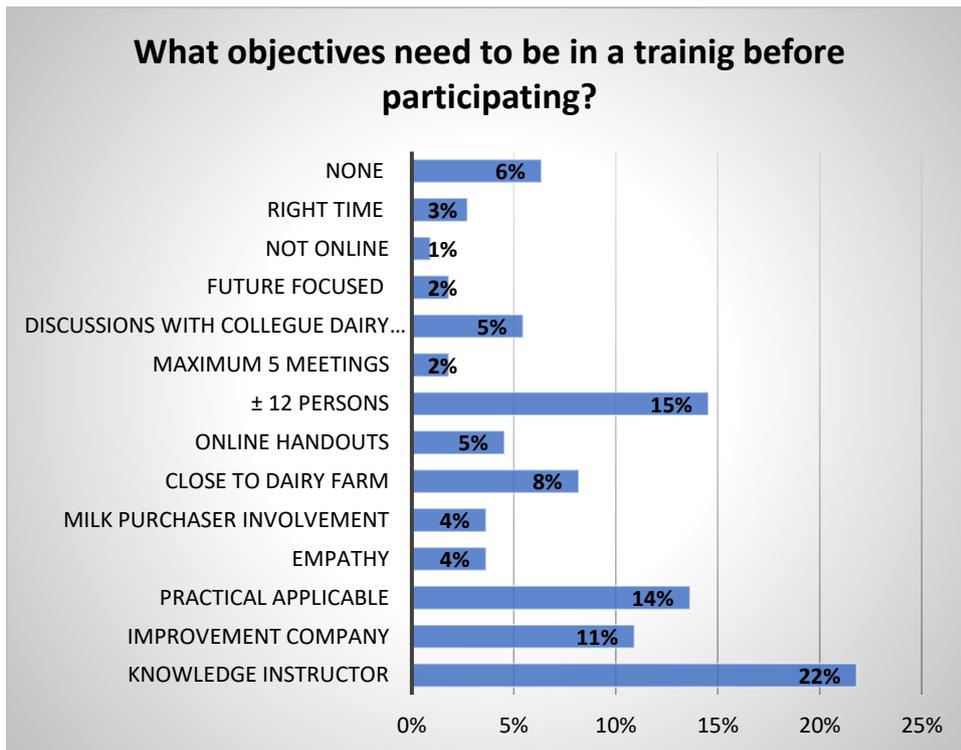


Figure 9 Dairy farmers objectives for a training

In figure 9 *Dairy farmers objectives for a training*, the results of question: “What objectives need to be in a training before participating?”.

The results of figure 9 are as followed: knowledge instructor (22%), ±12 persons (15%), practical applicable (14%), improvement company (11%), close to dairy farm (8%), none (6%), discussion with colleague dairy farmers (5%), online handouts (5%), milk purchaser involvement (4%), empathy (4%), the right time (3%), future-focused (2%), maximum five meetings (2%) and not online (1%).

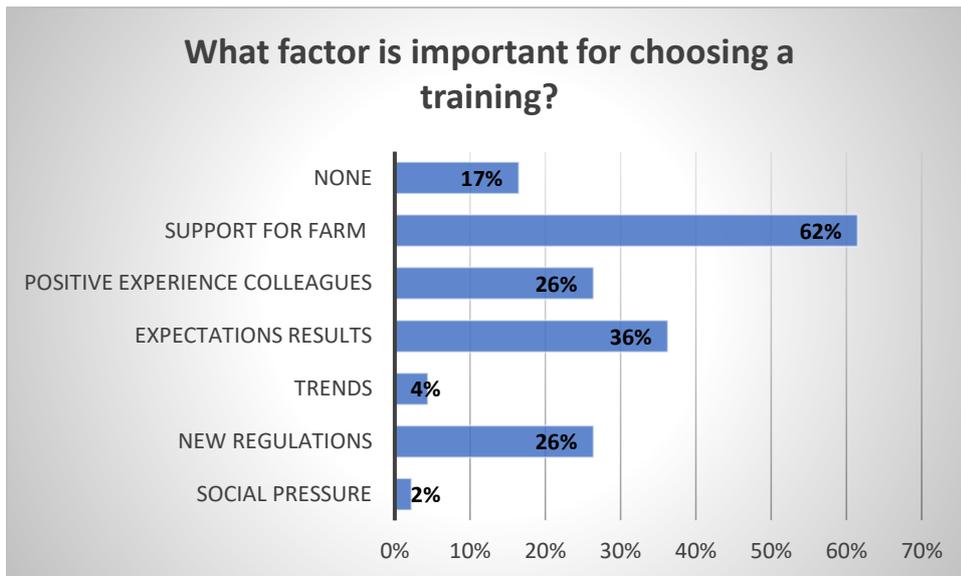


Figure 10 Ajzen (1991), essential factors

In figure 10 Ajzen (1991), essential factors the result of question: “What factor is important for choosing a training?”.

The results of figure 10 are as followed: Support for dairy farm (61,5%), expectations results (36,6%), new regulations (26,4%), Positive experience colleagues (26,4%), none (16,5%), trend under dairy farmers (4,4%) and as last social pressure (2,2%).

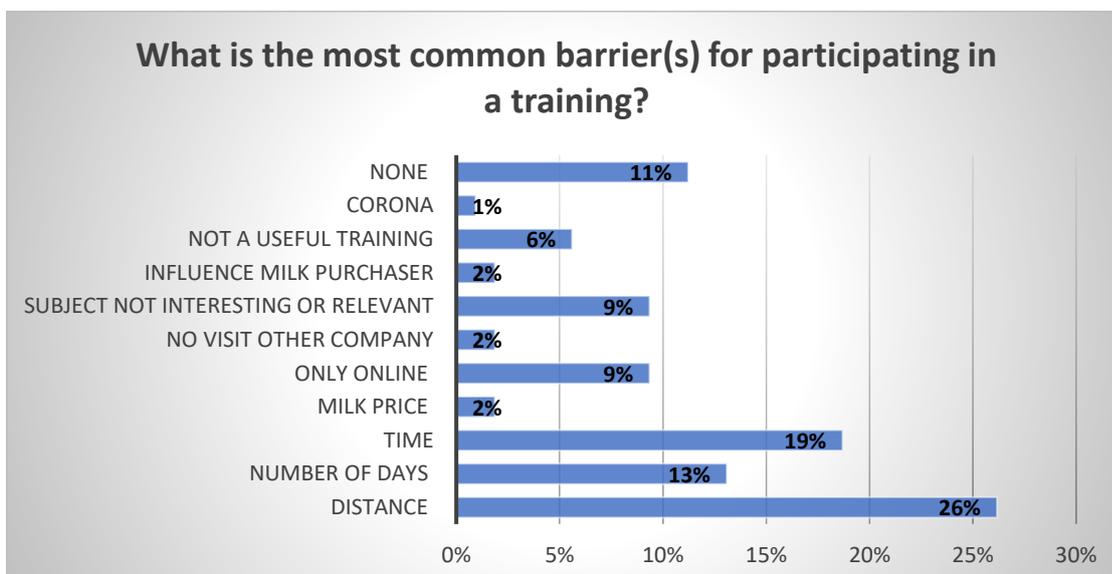


Figure 11 Common barriers for dairy farmers

In figure 11 Common barriers for dairy farmers the result of the question: “What is the most common barrier(s) for participating in a training?”.

Results of figure 11 are as followed: Distance (26%), time (19%), number of days (13%), none (11%), subject not interesting or relevant (9%), only online (9%), not a useful training (6%), influence milk purchaser (2%), no visit other company (2%), milk price (2%), corona (1%).

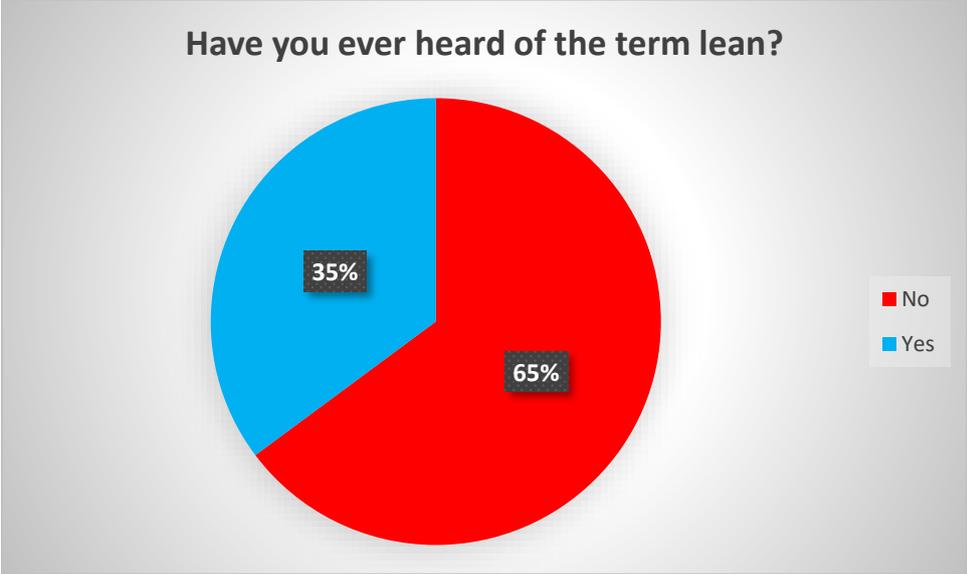


Figure 12 Dairy farmers knowledge on Lean

In figure 12 *Dairy farmers knowledge on Lean* the result of the question: “Have you ever heard of the term lean?”.

The majority of the dairy farmers do not know what lean will and could bring them. According to the results in figure 12, 65% of the dairy farmers answered no on the question ‘Did you ever heard of the term lean’. On the opposite, 35% of the dairy farmers do know what lean means.

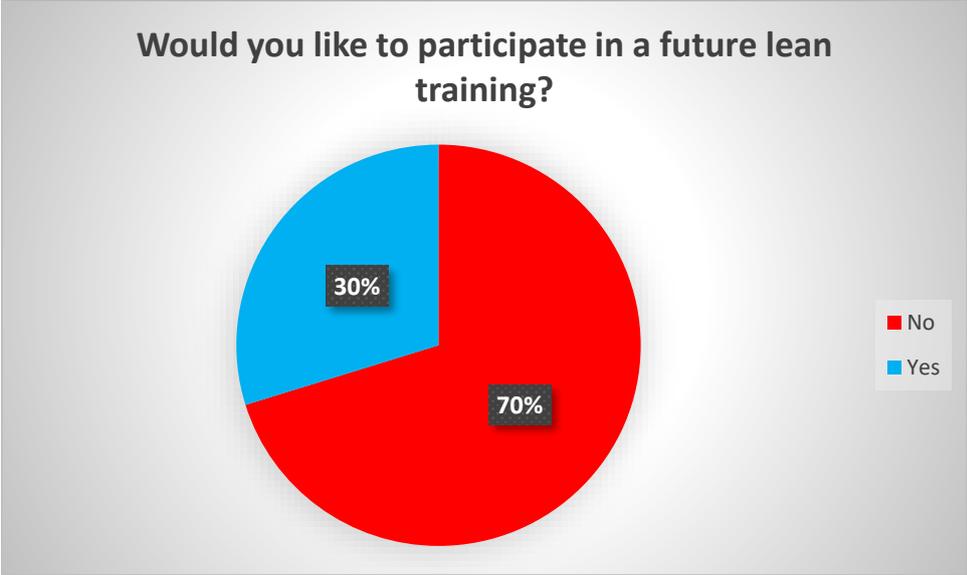


Figure 13 Dairy farmers interest in Lean

In figure 13 Dairy farmers interest in Lean the result of the question: “Would you like to participate in a future Lean training?”.

The results of figure 13 are as followed. The majority of the dairy farmers (70%) would not attend lean training. Wherever the minority of 30% would say yes to participate in lean training.

5% of the dairy farmers that said ‘yes’ in figure 12 that they are familiar or know lean. Do not want to participate in lean training at this moment in time.



Figure 14 Reasons for participating in Lean training

In figure 14 *Reasons for participating in Lean training* the result of the question: “Why or why would you not participate in lean training?”.

The results of figure 14 are as followed: for improvement results (33%), waste of time (23%), never heard of lean (16%), internal change needed first (12%), not the time available (7%), it was interesting (5%), paper program, not practical (5%).

### 3.3 What are the motivators or barriers for a dairy farmer to maintain lean implementations

In this section is the necessary information to answer sub-question three: “What are the motivators or barriers for a dairy farmer to maintain lean implementations?”.

The used methods for receiving information are desk research and an interview with dairy farmers that participated in lean training.

#### 3.3.1 Results literature research on motivation to maintain lean implementations

As mentioned by Hammond et al (2017), barriers to adaption tended to be behavioural rather than material. That comes forward in the theory of planned behaviour by the perception of control (Ajzen, 1991). Perception of control has an important impact on a person's behavioural motivation (Giles & Cairns, 1995). Intrinsic motivation is important to maintain long-term motivation (Hammond et al, 2017). With that known, day-to-day learning experiences are critical to maintaining motivation. Even if a dairy farmer is not achieving their long-term goal, consistently learning new things and exploring new technologies or techniques will ultimately feed their purpose. Building short-term gratifications into your daily life can help you stay motivated and focused on your long-term goals (Bateman, 2012).

#### 3.3.2 Results interview dairy farmers lean training 2019

In this section are the results of interviews with dairy farmers that participated in lean training in the year 2019. Six of the eleven dairy farmers that participated are interviewed for this research. The transcribed interviews are located in appendix four. In the results below all information received from the different interviews is encoded to give one clear answer to the interview question. The results provide a combination of all the answers of the six dairy farmers.

The complete and coded interview is located in appendix four.

#### **1) Which lean processes have you implemented to your company during the lean training?**

During the program, walking routes and increase of work efficiency are the main implementations (farmers 1, 2, 3, 4, 5). Next to efficiency, animal welfare improvements were implemented during the

lean training period. Examples are the elimination of Mortellaro disease (painful claw), and the feeding of new-borns (farmers 4, 6).

**1a) When not implemented any lean processes. Explain why?**

Not enough information was received, not attended all sessions so not enough knowledge to implement correctly (farmer 1).

**2) Have you been in touch with the course leaders or other participants for any questions about lean after the training?**

Two dairy farmers answered 'no' (farmers 1, 4). The other four dairy farmers answered 'yes' (farmers 2, 3, 4, 6).

**2a) Why or why not?**

Not attended all sessions, no questions due to not enough knowledge, and personal issues are the cause of no further contact after the lean training (farmers 1, 4).

The dairy farmers of the lean training are together in a WhatsApp group. Whenever dairy farmers have some progress on lean implementation a picture or video is made and shared in the WhatsApp group. However, this is not on a regular base and the interaction is decreasing. The dairy farmers regret a little that the sharing of information and contact with the other group members is decreasing over time (farmers 2, 3, 5, 6).

**3) Did you continue with the implementation of lean on your dairy farm after the lean training?**

Two respondents answered no, due to lack of information, and the other stopped after the Lean training was completed, he believed the majority of lean practises were already implemented (farmers 1, 2). The other respondents continued with the implementation of lean practises (farmers 3, 4, 5, 6).

**3a) Which ones**

The following are the result of lean training.

Replacing a gate, replacing gutters, making a week planning, reorganizing of multiple areas for optimization, for example, the young cattle stable, hygiene improvement, providing the new generation with the received knowledge providing interns and family with the information that is received during the training (farmers 3, 4, 5, 6).

**4) When you have not continued with the implementation of lean. What factor was the biggest influence for not continuing?**

Due to personal issues, it was not possible to attend all training meetings. Because of that, there was not enough information to implement lean probably (farmer 1).

**5) How would you rate the program lean training? (1= not good, 5 = very good)**

The average score given by the respondents is 4.1 out of 5.

**5a) Why this rating?**

Overall the dairy farmers were positive about the amount of information that is received from lean training. The training leader has sufficient knowledge on the topic, and it gives a different view of the company for where improvement is possible.

The information is also still used by the majority of dairy farmers. Because of that, the information that is received in 2019 is still helpful nowadays for dairy farmers. The received information is long term applicable what was positive according to the dairy farmers.

It was according to the dairy farmers, not perfect training, that is the reason for not give the training a score of 5 (farmers 2, 3, 4, 5, 6).

**6) What is your opinion on lean training? Mention at least one positive and one negative point.**

The positive points are as followed. The explanation is very clear, group size was good, practical solutions at locations, good colleagues with the same mindset and motivation towards the topic (farmers 2, 4, 5).

Some points of improvement according to the dairy farmers. The distance for some of the respondents is a point of improvement (farmers 1, 4). Furthermore, theoretical is not always suitable to implement in a practical manner for a dairy farmer. Also, the motivation for implementing lean is present however, the theory is not always financially possible for a dairy farmer (farmer 3). The last point is that a dairy farmer could feel attacked when the lean training mentor is negative about the company and give multiple bits of advice on how it could be improved (farmer 6).

**6a) How could this be solved?**

To decrease the travel distance because that is for some respondents a barrier. The suggestion is to create a cluster of dairy farmers from a particular region or province that will participate in training together (farmer 1). This will decrease the distance and travel time.

Another given suggestion is to simplify the theoretical step of lean. Because the general information about lean is very low under the dairy farmers. The step is sometimes too big to understand the received information (farmer 2).

**7) Was the information received during the lean training sufficient enough?**

All respondents except one that did not participate in the whole training said that the received information was sufficient. The one respondent that did not participate in the whole training could not answer if it was sufficient enough (farmer 1).

**7a) Why or why not?**

The overall result that a were given is that the training gives sufficient information on Lean. The information theoretical as well as practical is very clear and good (farmer 4). The respondents learned a lot from the lean training and received sufficient information. The information is still used and lead to lean implementations (farmers 3, 4, 5, 6).

## 4.0 Discussion of results

The objective of this research is to find what the trigger is for dairy farmers for lean in terms of motivation and barriers. To understand the motivation or barrier the usefulness of lean is described. Next to that, dairy farmers are asked about motivation and barriers to participating in the training. Last, how to maintain motivation for dairy farmers to continue with lean.

Written in this section of the research is the discussion of all major findings of the results. The results from desk research are compared with the findings from the respondents of interviews and surveys. This research is not a reflection of the entire sector of dairy farmers. No generalization can be made since only a small number of dairy farmers is questioned compared to the total amount of dairy farmers in the Netherlands.

The chapter 'Discussion of results' is placed in the same order as the sub-questions.

### 4.1 The relevance of lean for a dairy farmer

Lean is one of the most powerful strategies for optimization in a company (Jadhav et al, 2014). However, some implications come across. Lean is widely used around the globe in all sectors imagined on some topic more than another. In the case of dairy farmers research on lean implementation and the relevance of lean for dairy farmers is very limited. Very little research is done with the relevance specific of Lean in a dairy farm, which also is published online.

The major bottleneck for lean is that it is seen as a project with a beginning- and end date. Lean is a philosophy that needs to sustain in day to day activities to be successful. A long term goal is needed for the successful implementation of lean (Nielsen & Pjetersrup, 2018). That lean is more a philosophy than a project is also acknowledged by other researchers. Whenever it is not seen as philosophy the change of success viewing lean as a set of tactics rather than embracing it as a philosophy decreases the change of successfully implement lean initiatives (Bhasin and Burcher, 2006) (Rich, 2004) (Jack et al, 2014). This is results in that two-third of the lean initiative fails (Jadhav et al, 2014).

On the other hand, there are also lots of positives of lean for dairy farmers. For lean size does not matter, for a small-scale farmer or a large-scale farmer lean as possible. However, the farmer needs to be open to a change. The result will be positive for the dairy farmer, the optimization gives a more structured psychosocial work environment which is less stressful for the farmer (Andersson & Eklund, 2012).

Furthermore, in figure 2 a list is visualized with all the benefits of implementation of lean and continuous improvement (Hocken, 2019). The positive outcomes differ from better-engaged staff to happier cows and a better place to work to increased work. As shown by Hocken (2019), lean is not

only useful for eliminating wastes and optimizing the farm. Lean will indirectly increase work satisfaction and animal welfare. Lean approaches all areas on a dairy farm.

The importance of dairy farmers is that they should be convinced that lean is a way of working not just a project. Whenever the dairy farmers see it as a philosophy of continuous improvement. Lean can be very useful to decrease wastes and optimize a dairy farm. This will lead to a decrease in production cost which will generate a higher profit margin.

Lean is thus a very useful method to eliminate waste and improve all areas on a farm. However, the dairy farmer that wants to implement lean on their farm needs to understand that it is not just a project. It needs to get in the daily routine of a farmer and become part of its work to be successful and useful.

#### 4.2 The motivators and barriers for participating in lean training?

A potential constraining influence on the received answers is the covid-19 pandemic. Participation in training with a group of people is not possible due to that. This could have influenced the view of dairy farmers on participation in training with other people. To be sure of that implication, certain interview questions could be asked whenever the covid-19 pandemic is over.

Results from all the different sources, surveys, interviews, and online desk research. Noticeable from all these sources came forward that farm a demonstration farm, increase the motivation of a dairy farmer for participating in lean training. There is a curiosity under dairy farmers to see other dairy farms and how their working routine goes. Dairy farmers are more likely to participate in lean training when they can see it in practice at a demonstration farm. The social interaction with farmer colleagues is also important, to share and discuss problems.

The motivation for dairy farmers next to interaction on a farm with farmer colleagues. Is the opportunity to receive information on how to optimize work. The majority of the dairy farmers that are interviewed answered that optimize and ease of the workload is the most important motivation for participating in lean training.

Dairy farmers are willing to work harder to prevent losses especially in areas where they find problems (Kahneman, 1997). Financial incentives are always a point of motivation for a dairy farmer to participate in training. For some of the dairy farmers, the financial barrier to participate in training due to travel and time is higher than for dairy farmers. On the other hand, if the dairy farmer had more knowledge about what lean could benefit them. The financial incentive would decrease and the dairy farmers like the ones that participated. See the long term financial benefit or reward instead of the short term financial barrier.

As mentioned before, there is a lot of pressure for the dairy farmers, in terms of sustainability, greenhouse gasses, social pressure from the consumer, etc. Listed in the Theory of planned behaviour by Ajzen (1991). Social pressure is one of the factors for people intent or to change behaviour. However, in the case of dairy farmers is this not the case. During interviews, the dairy farmer did not mention that the community is a major influence to participate in certain training. The same for the survey results, in figure 10 *essential factors*; only 2,2% of the dairy farmers mentioned social pressure as a reason for participating in the training. The major influencer for dairy farmers is to improve the farm or themselves with knowledge. So, the subjective norm of the theory of planned behaviour is the least important for dairy farmers. The attitude and perceived behaviour control form major importance for a dairy farmer to have the motivation to participate in training. If the suspected desired results are according to the attitude of a dairy farmer is not what it is, the majority will not participate. From the data received via the survey, for some dairy farmers, training is not useful and the milk price should be increased as a helpful solution for their problems. This belief influences their attitude towards lean training, to not useful.

Two other barriers according to the dairy farmers are time and distance. The majority of the dairy farms in the Netherlands are family farms and have no employees to take over the work. To spend one or multiple days for training is not always possible. This is a big implication for participating in lean training. The barrier time, is in terms of time and travel distance, when the dairy farmer comes back after a long day of training and receiving knowledge, they still have to do all the work on their company. This is a barrier that has the majority of the dairy farmers according to the received information.

Another barrier for dairy farmers is that they are unknown to the term Lean. Because of that dairy farmers do not know what benefits it could create. The unknowing of benefits decreases the motivation for a big group of dairy farmers to apply for lean training. Dairy farmers would like to optimize their farms, but from the same survey results, they do not want to follow lean training. This is however the same, but because of a lack of knowledge, the motivation for lean is rather low under dairy farmers.

In figure 4 *appealing topics for dairy farmers* the most chosen option is work efficiency (48%) this appeals the most. Lean management is almost the lowest at only 3%. This is, on the contrary, work efficiency is improved by lean management. This figure shows that the understanding of lean is not well known among dairy farmers. This barrier made the result of figure 12, only 35% of the dairy farmers have heard of lean, where only 30% would like to participate in lean training. what again

contradicts with figure 4 *appealing topics for dairy farmers*. As stated in figure 4 only 3% of the dairy farmers chose lean management.

#### 4.3 How to maintain motivation for lean?

The lean training was back in 2019, some information that would be useful in this research could be forgotten by the dairy farmers. This would be an implication of the research method that is used for finding all the necessary information.

As mentioned before, lean is seen as a philosophy and not as a project with a start and end date. Long term goals are needed to successfully implement Lean on a dairy farm. To reach those long term goals and sustain the lean implementations. Maintaining the motivation of a dairy farmer is needed, whenever there is no motivation for continuing with Lean it will fail.

The major influence according to desk research to maintain motivation is the behaviour towards lean. This is in line with the Ajzen theory of planned behaviour (1991). In the theory of planned behaviour, the perception of control is a major influence on your behaviour. Whenever a dairy farmer does not believe in it that he or she can accomplish it. The behaviour towards lean will decrease and motivation will not be maintained. The outcome of the interview made clear that the dairy farmers who had chosen to follow lean training had a positive reaction to lean and the implementations. The information that was received was sufficient and practical. In this way, the dairy farmers knew how to implement lean on their farm. Beforehand they knew not all information received is to implement in one day, but whenever a new problem occurs they have lean come back on the table as a discussion point to solve the problem.

A barrier to maintain motivation for lean is more behavioural than material, which is in line with the outcome of Hammond et al (2017). To eliminate this barrier, a day to the day learning experience is necessary. When learning and improving every day even without reaching your long-term goal will maintain motivation. One of the respondents uses now a week plan that is visual for the whole company. With that, they use their spare time to fix small things that are mentioned in the weekly planning. This is instead of thinking about what to do next or wait till new handling needs to be done. The respondents all share a WhatsApp group, when a member of the group implemented a new lean practice it will be shared in the group. All the respondents like the opportunity to share their new lean implementations. This social interaction and contact with other dairy farmers keep the motivation to continue and get reminded of lean.

The majority of the dairy farmers that continued with the implementation of lean did this together with family, interns, or employees. This was for the majority of the participants the way for continuing with the implementation of lean. They combined knowledge and skills to come with lean

solutions to implement on the dairy farm. The motivation for them is to implement lean together as a team, with the information input from employees, interns, and family.

However, not all respondents were able to participate in the whole lean training program. The barrier for that was the distance that was needed to travel for participating. Another comment of a respondent 'for this time it was okay to travel, but for future training, I would not travel more than 45 minutes'. For this training it was not a barrier however, if this barrier occurs for more dairy farmers maintaining motivation to participate is rather difficult.

The overall score of the training was 4.1 out of 5 given by six of the eleven dairy farmers. The respondents were all positive about the lean training, and the majority continued with the implementation of lean on their dairy farms. A positive mindset and knowing how to implement and knowing that you are able by yourself to implement lean, lead to maintaining the motivation of lean. This is in line with other literature research. Day to day activities is needed to stay motivated and change behaviour to stay motivated for lean.

#### 4.4 Implications research methods

One implication in this research is that not all participants of the lean training are interviewed. Potentially more barriers and more motivators will be discovered whenever the remaining participants will be questioned on the experience of lean training. What could also be influencing the overall score of 4.1 for lean training.

Another implication has to do with the online survey. It is easy to use and to receive lots of data via a survey, however with open questions, not all the information that is received will be useful. Some of the answers received from dairy farmers had nothing to do with the topic. Instead, they answered something they do not agree with, for example, milk prices or the nitrogen emissions regulations. For future research only closed questions will be more efficient for receiving data. However, then the received data could be limited.

For the interviews with the dairy farmers, some implications came across. The first one is to get in contact with the dairy farmers. Dairy farmers do not always have time for an interview because of the workload. Or they simply do not take up the phone because of an unknown number or other personal reasons. Furthermore, the processing of data from interviews takes much more time than from an online survey. Because of these implications, not all of the dairy farmers are interviewed.

A substitute for an interview would be an online survey with open questions. This would take less time for processing all data. Instead of contacting all the different dairy to plan an interview moment, they can plan whenever they want to fill in the survey. This could potentially lead to more data if

more dairy farmers fill in the survey. On the other hand, during an interview, it is possible to ask more from the dairy farmers and ask them to give examples, what is more elaborated.

One last implication has to do with the literature research. All the literature sources mentioned in this research are from before the Covid-19 pandemic. Certain relevant lean practises that were mentioned in the literature could contradict the nowadays situation with the Covid-19 pandemic.

## 5.0 Conclusion and recommendations

### 5.1 Conclusion

For this research, the main objective is to find out why or why not dairy farmers participating in lean training, and what will keep the motivation for continuing implementing. To understand this the relevance of lean for dairy farmers needs to be explained. Furthermore, the motivation for participation in training and the additional barriers need to be required. As of last the motivation and barriers for maintaining and implementing the received information gained during lean training are required. After finding this information the main question ‘What will motivate Dutch dairy farmers to participate in lean training and keep the motivation for continuing the implementation of lean?’ can be answered. Before that, a threefold of sub-questions need to be answered.

As first sub-question one ‘What is the relevance of lean for a dairy farmer?’.

Lean will just like in other industries optimize, and eliminate wastes. It is suited for all different sizes of dairy farms. Despite that it is one of the most effective optimization methods, it also fails a lot when lean is not implemented correctly. Lean is a method based on continuous improvement with no start and end date. This way of thinking should be accepted by a dairy farmer, and more be seen as a way of working, to improve little by little every day.

Thus lean could be relevant in all areas in a dairy farm, however, if a dairy farmer does not see it as a new way of working it will fail. Because of that lean is only relevant for a dairy farmer if he is willing to change his working method.

Sub-question two ‘What are the motivators or barriers for a dairy farmer to participate in lean training?’.

The major motivation for dairy farmers to participate in lean training is the optimization of their farm and clarify their business blindness. During lean training multiple practical methods are shown on how a work routine also could be done, this clarified dairy farmers their business blindness. Participation in training is because they want to receive new knowledge to support the farm and prepare for the future. They believe lean has a lot of benefits, that will improve the farm for now and for the future. Another major motivation is the use of demonstration farms, to have a direct and

clear visual picture of the usefulness of lean. From all different sources, online research, survey, and interviews came forward that a demonstration farm is a motivation for dairy farmers to participate in lean training.

Barriers for dairy farmers are lack of knowledge, time, and financial resources. The lack of knowledge changes the attitude of a dairy farmer towards lean training. Due to the lack of knowledge, the dairy farmer does not know the benefits of lean implementation. With not knowing the benefits of lean, the dairy farmers do not see the usefulness of participation in lean training. This is the major reason why dairy farmers do not participate in lean training. If the dairy farmers know lean training could help to work more efficiently they would be motivated to participate. Furthermore, dairy farmers that did not participate have foremost time and financial resources as a major barrier to not participate in lean training.

Dairy farmers that participated in lean training know about the benefits of lean. With that knowledge, they are willing to eliminate barriers such as time and financial resources. They knew that the benefits of the training will be high. The motivation for participating in lean training is to optimise their dairy farm and receive new and more knowledge for improvement.

As last sub-question three 'What are the motivators or barriers for a dairy farmer to maintain Lean implementations?'

Day to day activities, learning, and the involvement of employees, interns, or family with lean to work as a team results in the maintaining of lean. This creates a positive attitude towards lean and that is a major influence on the motivation for dairy farmers for maintaining lean. This positive mindset is created via the knowledge of the benefits of lean, what is received during lean training. With the received knowledge dairy farmers know how to practically implement lean. Creating benefits with these day to day activities in lean implementations create a positive attitude towards lean what keeps the motivation to continue.

The barriers according to the information received by the dairy farmers are knowledge, time, and financial resources. For one case the dairy farmer did not continue with the lean implementation after the last training day. This particular dairy farmer said that after the last training all lean things were implemented on his dairy farm. They felt that it was sufficient enough and that no more lean implementations were needed. This is contrary to the findings from literature research, which says that lean should be implemented on a day to day basis to keep the motivation and to successfully implement lean. Not all the dairy farmers that participated, continued with lean. This was due to not have enough knowledge due to not all sessions attended. However, the majority had no barriers that kept them from not continuing with lean but it was a barrier that made it sometimes more difficult

for them. Though, they eliminated these barriers and look at the bigger picture to work more efficiently.

With all the sub-questions answered, the main question can be answered 'What will motivate Dutch dairy farmers to participate in lean training and keep the motivation for continuing the implementation of lean?'

It is mainly due to the lack of knowledge about lean that influences the attitude of the dairy farmer that determines whether he or she is or is not motivated to participate in lean training, because of that the motivation for lean training is very low under dairy farmers. On the other hand, dairy farmers would rather like to work more efficiently, but the dairy farmer does not know that lean could improve efficiency on their dairy farm. There are some other barriers, such as time and financial resources. However, if dairy farmers look at the bigger picture and whether the dairy farmer sees problems in that area of work they change their motivation on lean training. When the motivation for lean training is not so high, this is mainly due to the lack of knowledge that the dairy farmer has about lean. The motivation for participating comes from the knowledge that it will benefit the dairy farm with the optimization of the dairy farm.

Maintaining the motivation for lean is necessary through continuous improvement. Taking small steps every day towards the long-term goal. The dairy farmers mainly do it together with family, workers, or trainees. By including everyone, they continue to implement lean and are constantly on areas for improvement for the dairy farm. The dairy farmers who have done lean training now have a positive attitude and see the potential of lean. Which keeps their motivation and they even share their lean knowledge and improvements with their social environment.

## 5.2 Recommendations

As concluded the main barrier is the attitude of the dairy towards lean. This is a result of the lack of knowledge about lean. Resulted from the survey, dairy farmers are willing to participate in training on optimization. However, the same group of dairy farmers did not want to participate in lean training. The unknowing that it is the same, cause that dairy farmers are not participating in lean training. To solve this problem dairy farmers should get more in touch with the term lean. Because of that, recommended is to do more promotion on lean and use synonyms like 'optimization' in it to give it a direct and clear meaning so that every dairy farmer knows what it means.

When more dairy farmers know the meaning of lean, they will change their attitude because they see what kind of benefits it will provide for them. This can be highlighted with more promotion by the positive results and opinions of the dairy farmers that have already participated in lean training.

From the results, a quarter of the dairy farmers are triggered by a positive word from a colleague dairy farmer. So promotion by other dairy farmers could increase the number of dairy farmers.

With a larger group of dairy farmers participating in lean training the barrier of time needed for traveling to follow training could be solved. Whenever the group of participants grows, there could be a cluster made or a group in each province to decrease the travel time for all dairy farmers. When the group of participants increases also the effects of lean training will be more clear. To potentially attract even a bigger group of dairy farmers.

For future research, the potential is there to create a marketing campaign for dairy farmers about lean. The motivation and barriers are known, however, what is the most effective and lean way to promote or market lean training towards dairy farmers?

Another point of recommendation is to have a demonstration farm where lean implementations are already applied. Dairy farmers like to see other colleague dairy farmers. Which creates a visible idea for their dairy farmers. This could also be in a video, to have a tour in a demonstration dairy farm.

As last point, for future research is to focus on the group of dairy farmers that have participated in lean training. It would be useful to create an overview of the paper on the results in time, money, and labour that is saved with lean. A tangible and clear overview could send to dairy farmers to entusiast them for participating in lean training.

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## Appendix

### Appendix 1. Questions first group semi-structured interview

- 1) What factors play a major role for you to participate in a training?
  - a. Explain why these factors are so important
- 2) What appealed to you the most about the LEAN training?
  - a. Was it clear to you what it would be about?
- 3) What was the motivator to participate in LEAN training?
- 4) Were there any barriers you had to eliminate before participating?
  - a. If yes, which ones?
- 5) Which LEAN processes have you implemented to your company during the LEAN training?
  - a. When not implemented any LEAN processes. Explain why?
- 6) Have you been in touch with the course leaders or other participants for any questions about LEAN after the training?
  - a. Why or why not?
- 7) Did you continue with the implementation of LEAN on your dairy farm after the LEAN training?
  - a. Which ones
- 8) When you not continued with the implementation of LEAN . What factor was the biggest influence for not continuing?
- 9) How would you rate the program LEAN training? (1= not good, 5 = very good)
  - a. Why this rating?
- 10) What is your opinion on the LEAN training? Mention at least one positive and one negative point.
  - a. How could this be solved?
- 11) Was the information received during the LEAN training sufficient enough?
  - a. Why or why not?
- 12) Do you have any tips, advice, comments, or recommendations regarding the LEAN training?

## Appendix 2. Questions second group semi-structured interview

- 1) What factors play a major role for you to participate in a training?
  - a. Explain why these factors are so important
- 2) What appealed to you the most about the LEAN training?
  - a. Was it clear to you what it would be about?
- 3) What was the motivator to participate in LEAN training?
- 4) Were there any barriers you had to eliminate before participating?
  - a. If yes, which ones?
- 5) What will you expect to learn from this LEAN training?
- 6) Do you have tips, advice, or comments about the training provided by RBL? Or is there anything missing?

## Appendix 3. Third group survey questions

- 1) Which topic of training appeals the most to you? (LEAN , Leadership and management, safety, animal welfare, work efficiency, circular farming and open space for other option).
- 2) What kind of training did you participate in before?
  - a. What motivated you to participate in this training?
- 3) In what kind of training would you like to participate in?
  - a. Why this type of training?
- 4) What objectives need to be in a training before participating?
- 5) What factor is important for choosing a training?
- 6) What is for you the most common barrier(s) for participating in a training?
- 7) Have you ever heard of the term Lean ?
  - a. Yes/No
- 8) If yes for question 6, would you like to participate in Lean training in the future?
  - a. Why or why would you not participate in Lean training?
- 9) Do you have tips, advice, or comments about the training provided by RBL? Or is there anything missing?

## Appendix 4. Interviews with dairy farmers lean training 2019

In appendix four all the interviews with the dairy farmers that participated in 2019 in the Lean training. There is a total of 6 dairy farmers interviewed with the objective to find out motivation and barriers for participating in Lean training.

### Interview one

#### **1) What factors play a major role for you to participate in a training?**

Om zelf beter te worden, kennis te verbreden voor het bedrijf. Het is vooral toekomst gericht dingen leren en willen leren.

##### **A) Explain why these factors are so important**

Het is voor de toekomst van het bedrijf.

#### **2) What appealed to you the most about the LEAN training?**

Efficiënt werken en veiligheid. Veiligheid vind ik erg belangrijk. En ik zie ook wel dat er niet altijd veilig wordt gehandeld op melkveehouderijen. Omdat we het werk natuurlijk al zo lang doen. Uiteindelijk had Lean in de studiegroep de overhand. Iets meer veiligheid was leuker geweest. Maar dat is persoonlijke voorkeur. Het is natuurlijk logisch dat Lean de overhand had.

##### **A) Was it clear to you what it would be about?**

Ja, over optimalisatie en efficiënter werken. Ook een deel veiligheid wat erg aantrok naar mijn eigen situatie.

#### **3) What was the motivator to participate in LEAN training?**

Veiliger werken, efficiënter werken. Hierdoor kan het bedrijf verbeterd worden.

#### **4) Were there any barriers you had to eliminate before participating? If yes, which ones?**

Afstand erg groot. Hierdoor heb ik maar enkele sessies kunnen volgen. Wat wel jammer was omdat het erg interessant was. De Afstand is erg groot, hierdoor lange reistijden.

#### **5) Which LEAN processes have you implemented to your company during the LEAN training?**

Niet van toepleaning.

##### **A) When not implemented any LEAN processes. Explain why?**

Ik heb geen dingen toegepast. Door dat ik maar paar keer ben geweest heb ik te weinig informatie opgedaan om Lean en andere processen goed te kunnen implementeren.

#### **6) Have you been in touch with the course leaders or other participants for any questions about LEAN after the training?**

**A) Why or why not?**

Nee, omdat niet vaak ben geweest. Geen vragen omdat ik er geen kennis over had.

**7) Did you continue with the implementation of Lean on your dairy farm after the LEAN training?**

Niet van toepassing

**A) Which ones?**

**8) When you not continued with the implementation of LEAN . What factor was the biggest influence for not continuing?**

Er zijn geen processen of iets dergelijks met betrekking tot Lean toegepast. Door persoonlijke omstandigheden en de afstand is niet de hele studiegroep gevolgd. te kort deel genomen dus niet gedaan.

**9) How would you rate the program LEAN training? (1= not good, 5 = very good)**

Het zou niet eerlijk zijn als ik een cijfer geef omdat ik niet alles heb mee gekregen.

**A) Why this rating?**

**10) What is your opinion on the LEAN training? Mention at least one positive and one negative point.**

Afstand is te groot voor sommige melkveehouders.

**A) How could this be solved?**

Een cluster groep maken van melkveehouders. Bijvoorbeeld met alleen melkveehouders uit de provincie Noord Holland.

**11) Was the information received during the LEAN training sufficient enough?**

Niet van toepassing

**A) Why or why not?**

**12) Do you have any tips, advice, comments, or recommendations regarding the LEAN training?**

Overkill aan studiegroepen omdat iedereen heeft andere raakvlakken heeft. Wordt wel aangeraden om te volgen. Er wordt genoeg gedaan vanuit Leerdammer voor ondersteuning aan de melkveehouder. Veel geïnvesteerd om uiteindelijk een beter product te krijgen.

## Interview 2

**1) What factors play a major role for you to participate in a training?**

Nou het begint met de interesse die ik heb voor iets. Regelgeving en overheid speelt ook wel een beetje maar dat probeer vooruit te lopen om te kijken wat er gaande is. Ook vind ik het erg leuk om studiegroepen te volgen.

**A) Explain why these factors are so important**

Dat ik wat meer efficiënt kan krijgen en werken op de boerderij.

**2) What appealed to you the most about the LEAN training?**

Met name efficiëntie in het werk. Dat je werk volgorde en tijdsbestek wat strakker op orde zijn.

**A) Was it clear to you what it would be about?**

Ja het was duidelijk waarover het zou gaan. Redelijk duidelijk voorafgaande de studiegroep. Toen hebben we een rondleiding op de fabriek gehad en verdere uitleg. Toen werd het goed duidelijk gemaakt wat de bedoeling was van de studiegroep.

**3) What was the motivator to participate in LEAN training?**

Efficiency. Dat ik er een boel van kon leren.

**4) Were there any barriers you had to eliminate before participating? If yes, which ones?**

Barrières, waren er niet. Qua afstand was het te doen wij wonen in het midden van het land. Alle bedrijfsbezoeken waren goed te doen.

**5) Which LEAN processes have you implemented to your company during the LEAN training?**

Werk opdelen in tijdsbestekken. Wij praten hier over het boost momentje. Normaal gesproken gaan we aan een stuk door en dat is te veel en te lang. Dan heb je geen zin meer. Dan pakken we 10 minuten rust en dan gaan we weer. Dat wordt nu nog steeds veel tot dagelijks toegepast.

**A) When not implemented any LEAN processes. Explain why?**

**6) Have you been in touch with the course leaders or other participants for any questions about LEAN after the training?**

Ik ben met Jan in contact geweest zo nu en dan. Het ging om vragen hoe je iets toe moet plannen. Of dan zat hij met hoe ik de koeien kon doen als het erg heet weer is. Of wat voor een type slang het best gebruikt kan worden. Dan app of bel je hem even. En dan krijg je antwoord op je vraag. Ze zijn goed beschikbaar ook nog na de studiegroep.

**A) Why or why not?**

Vragen over implementeren Lean

**7) Did you continue with the implementation of Lean on your dairy farm after the LEAN training?**

Na de studiegroep niet veel meer. Tijdens de studiegroep als je zo'n dag gehad had. Dan kijk je thuis meteen hoe het daar zit. En dingen toeplanen en kleine dingen veranderen. Na de laatste dag van de studiegroep heb je het meeste wel toegepast.

**A) Which ones?**

**8) When you not continued with the implementation of LEAN. What factor was the biggest influence for not continuing?**

Niet van toepleaning

**9) How would you rate the program LEAN training? (1= not good, 5 = very good)**

De score geef ik een 8,5

**A) Why this rating?**

Het was een leuke studiegroep erg plezierig. Ook heb ik er best wel veel aan gehad. Ik heb het gevoel dat ik efficiënter werk. Het is puntjes op de i zetten. En dat heeft daadwerkelijk ook nog echt effect. De begeleiders hebben een andere kijk naar de efficiëntie op een bedrijf. Ook tijdens de eerste dag op de fabriek. Dan zie je het in een andere setting hoe het wordt toegepast. En hoe er over wordt nagedacht. Soms moet je je eigen gedachtegang veranderen of vernieuwen om het te zien.

**10) What is your opinion on the LEAN training? Mention at least one positive and one negative point.**

Het is best vooral aan het begin erg zware stof. Moeilijke materie om het te begrijpen. Met name de stappen die je nodig hebt voor Lean . Het is wel een flinke schakeling. Om alle processen te begrijpen als je het voor het eerst te horen krijgt. Het Lean en green om te zetten in processen op je eigen bedrijf. Maar daarnaast het positieve punt is dat ze het erg goed uitleggen en dan wel goed komt. Maar vooral in het begin is het wel even schakelen.

**A) How could this be solved?**

Je duikt meteen de Lean en green materie in. Iets kleinere stap zal wenselijker zijn.

**11) Was the information received during the LEAN training sufficient enough?**

Ja de informatie was voldoende.

**A) Why or why not?**

Veel geleerd tijdens de studiegroep.

**12) Do you have any tips, advice, comments, or recommendations regarding the LEAN training?**

Ik vind het vooral jammer. Ik heb het idee dat RBL wel veel moeite en energie erin doet voor die studiegroepen. En dat er zo weinig respons op is vanuit de melkveehouders. Het is voor veel melkveehouders een gemiste kans vind ik. En dat is wel jammer omdat Leerdammer daar wel zijn best voor doet. Maar het is wel heel moeilijk om een boer over de streep te krijgen om wel te gaan volgen. Dat is een proces eerder dat je een verhouding als melkfabriek met je melkveehouders nodig hebt. Als dat moeizaam loopt. (melkprijs problemen) dan heb je meteen dat melkveehouders een studiegroep niet gaan bezoeken. Want dan zijn ze er klaar mee. Ik denk als je een hele goede verstandhouding hebt met de melkveehouders. Dat zulke groepen beter gaan lopen. Ik vind wel dat het voor een gros van de melkveehouders een gemiste kans is. Dat je voor niks heel veel informatie kan krijgen. Je hebt drie groepen, voorloper die doet vaak mee aan de studie groepen. Dan de volgers die komen daarna over de streep. En dan een groep die alleen in wetgeving geïnteresseerd is. Vooral doorgaan met de studiegroepen. Voor niks kunnen we informatie krijgen en dat wordt zeer gewaardeerd.

### Interview 3

**1) What factors play a major role for you to participate in a training?**

Vooral de interactie, je kan veel van elkaar leren. Het is mooi om bij een andere melkveehouder te gaan kijken hoe die het doet. Door naar elkaar te kijken kan je veel leren en ook jezelf verbeteren.

**A) Explain why these factors are so important**

Dat was vooral de verschillen met elkaar delen.

**2) What appealed to you the most about the LEAN training?**

Vooral vanwege het verbeteren en het efficiënter werken.

**A) Was it clear to you what it would be about?**

Ja was duidelijk. Allemaal goed geregeld. Er waren meerdere studiegroepen waar ik naar keek maar Boost sprak mij het meeste aan.

**3) What was the motivator to participate in LEAN training?**

Je doet altijd hetzelfde op je eigen bedrijf. Als je dan bij een ander gaat kijken vergelijk je het met je eigen en dan denk je vaak dit of dat kan beter. Dan zie je ook of hoe je het wel wil of juist niet wil doen op eigen bedrijf.

**4) Were there any barriers you had to eliminate before participating?**

Het was soms wel erg ver weg. Maar de andere keer moest de ander verder rijden. Het kan natuurlijk niet allemaal dicht bij elkaar zijn. Wat wel makkelijk zou zijn. Maar op zich ging dat wel en leverde het niet een barrière op om niet te komen.

**A) If yes, which ones?**

Afstand

**5) Which LEAN processes have you implemented to your company during the LEAN training?**

Het kijken van elkaar wat al Lean wordt gedaan en de looplijnen. En hoe je met externe arbeid beter kan werken. Sneller is niet altijd beter. Maar het voornaamste de looplijnen en hoe je zo efficiënt mogelijk kan werken. Tijdens de bedrijfsbezoeken zie je dan dat het ook zo kan. En dit neem je mee en pas je toe op eigen bedrijf.

Je zit met een groep op een ander bedrijf. Dan krijg je er ook meteen een verhaal bij waarom deze persoon het zo doet. Dat is ook het bijzondere geen enkele boerderij is hetzelfde. Maar na een paar keer dingen toepleanen dan merk je wel dat je toch de tijd er voor vrij moet kunnen maken. Efficiënts en Lean sprak mij zeer aan. Maar om meteen 3 of meerdere dingen te doen lukt niet. Want het gewone werk moet ook doorgaan.

**A) When not implemented any LEAN processes. Explain why?**

**6) Have you been in touch with the course leaders or other participants for any questions about LEAN after the training?**

**A) Why or why not?**

We krijgen zo nu en dan een mailtje. En in een whatsapp groep krijg je af en toe een bericht van een melkveehouder die iets nieuws heeft toegepast. En dat vind ik wel erg leuk .

**7) Did you continue with the implementation of Lean on your dairy farm after the LEAN training?**

Ja bepaalde dingen wel. Willen en kunnen maakt het soms wel lastig. Je kan wel alles willen toepleanen maar dat gaat niet lukken. Elk jaar pleanen we wat Lean toe op de boerderij.

**A) Which ones?**

Oud hek vervangen die wel open kan, dakgoot ergens opgehangen, jongveestal zijn we aan het optimaliseren, kalveren onder de middag water geven. Maar het financiële plaatje moet daar ook bij pleanen

**8) When you not continued with the implementation of LEAN . What factor was the biggest influence for not continuing?**

**9) How would you rate the program LEAN training? (1= not good, 5 = very good)**

Ik geef de studiegroep een 8.

**A) Why this rating?**

Ik vond het heel leerzaam. Je hoeft niet overal mee eens te wezen. Maar ook de praktijk en theorie gaan niet altijd samen. Maar ik vond het erg leerzaam. Je kan altijd wel een reden bedenken om niet te gaan. Maar ik heb zoveel mogelijk geprobeerd om het wel te doen. Ook van luisteren naar anderen kan je veel leren.

**10) What is your opinion on the LEAN training? Mention at least one positive and one negative point.**

Dat is wel een lastig punt. De theorie klopt maar het past niet altijd op alle bedrijven. Wij hebben niet een af kalver hok, en om daarvoor meteen een nieuwe stal voor neer te zetten. Dat zou ik wel graag willen maar dat kan natuurlijk niet zomaar. Willen en kunnen is soms wat lastig toe te pleanen voor sommige melkveehouders. Het is dan roeien met de riemen die je hebt.

**A) How could this be solved?**

**11) Was the information received during the LEAN training sufficient enough?**

Ja.

**A) Why or why not?**

Ik gebruik het nog steeds op mijn bedrijf.

**12) Do you have any tips, advice, comments, or recommendations regarding the LEAN training?**

Je moet er zelf voor open willen staan. Ik zeg altijd ik heb geen geheimen en het kan altijd beter. Sommige hebben dat niet. Het is moeilijk te zeggen hoe je het aantrekkelijker moet maken. Je moet het zelf willen en doen dat is met heel veel dingen. Het struikel blok is wel, we moeten al zoveel in

deze tijd en er komt steeds meer bij. Dat maakt het soms lastig om voor iets anders bijvoorbeeld een studiegroep tijd vrij te maken. Je kan wel zeggen als je dit doet daar heb je veel aan. Maar als iemand niet wil gaat het niet gebeuren. De uitnodiging ligt er, maar je kan een ander natuurlijk niet verplichten. Iedereen had goede ervaringen zowel begeleiders als melkveehouders. Daarnaast moet het ook pleanen in de agenda. Ik moest er ook wel eens 1,5 uur eerder voor uit en dat moet je wel willen. Je kan veel dingen bedenken om ergens niet heen te gaan. Reclame is het beste en als mensen mij vragen ik zal het aanbevelen. Ik zit elke dag op mijn bedrijf en het is erg interessant om bij een andere te kijken.

## Interview 4

### **1) What factors play a major role for you to participate in a training?**

Uiteindelijk wat is op dat moment hot. Waar wordt die lezing overgehouden, hoe ver is het en heb ik er die dagen in die weken tijd voor. Past dat in het agrarische kalender. Uiteindelijk als je nergens naar toe gaat ben je ook een echte boer. En je moet wel eens een keer ergens aan meedoen. En het is ook gezellig en erg leerzaam en uiteindelijk welk onderwerp. Je wordt nooit dommer van een lezing of studiedag.

#### **A) Explain why these factors are so important**

Je moet blijven innoveren en vernieuwen en met zulke dagen is dat goed. Echter moet dat wel in je programma pleanen. We kunnen niet elke week 1 a 2 dagen op stap.

### **2) What appealed to you the most about the LEAN training?**

Je wordt blind op een gegeven moment. En wij kijken altijd dezelfde kant op, op de boerderij. En een vreemde gaat vragen stellen waarom doe je dat. En wij denken daar niet over na. Die persoon stelt in ons eerste optiek domme vragen. Maar uiteindelijk is het heel verhelderen dan wordt je wakker gemaakt. En met zo'n dag van de studiegroep was dat gewoon leuk.

#### **A) Was it clear to you what it would be about?**

### **3) What was the motivator to participate in LEAN training?**

Was niet speciale keuze voor deelname. Je wordt een soort verplicht om aan een studiegroep deel te nemen. Dan kies je een thema waarvan je denkt dat is het meest leerzaam.

### **4) Were there any barriers you had to eliminate before participating?**

Voor in de toekomst gaan we niet meer zo ver rijden. Het liefst maximaal 45 minuten rijden.

#### **A) If yes, which ones?**

Meer als een uur rijden dan heb je ook files en kost veel tijd. Want als je thuis komt moet je ook gewoon weer aan het werk.

### **5) Which LEAN processes have you implemented to your company during the LEAN training?**

Geboorte van kalveren nuchterheid en de voeding ervan, looproute en hygiëne kwesties vooral. Tijdens de studiegroep werden er voorbeelden vanuit de praktijk getoond. En zodoende is dat mee naar huis genomen. En de resultaten waren positief, vooral voor welzijn van de dieren want dat staat voorop.

**A) When not implemented any LEAN processes. Explain why?**

**6) Have you been in touch with the course leaders or other participants for any questions about LEAN after the training?**

Nee ben niet meer in contact geweest.

**A) Why or why not?**

Door persoonlijke omstandigheden niet meer de tijd ervoor gehad.

**7) Did you continue with the implementation of Lean on your dairy farm after the LEAN training?**

We hebben het met het gezin en arbeiders nog wel eens over. We blijven over problemen praten en dan komen we uiteindelijk met een conclusie en dan pakken we dat aan.

**A) Which ones?**

**8) When you not continued with the implementation of LEAN . What factor was the biggest influence for not continuing?**

Niet van toepleaning.

**9) How would you rate the program LEAN training? (1= not good, 5 = very good)**

De score is een 7,5.

**A) Why this rating?**

We komen daar nog steeds elke dag of elke week dingen van tegen. En zodoende ga je door met implementeren.

**10) What is your opinion on the LEAN training? Mention at least one positive and one negative point.**

Groep was groot genoeg. Op locatie kan je het praktisch zien wat goed helpt. Afstand was wel lastig

**A) How could this be solved?**

**11) Was the information received during the LEAN training sufficient enough?**

De informatie was genoeg.

**A) Why or why not?**

Het moet niet te basaal zijn op zo'n dag. Dan gaat je hoofd vol zitten en onthoud je niks meer. Je kan wel veel informatie over je heen krijgen maar je blijft een mens en je kan niet alles tot je nemen. En als je op een bedrijf rondloopt ben je ook aan het rondkijken en met andere dingen bezig.

**12) Do you have any tips, advice, comments, or recommendations regarding the LEAN training?**

Uiteindelijk moet de boer er wel voor open staan om een dag op stap te gaan en iets bij te wonen en te leren. Ik ben samen met mijn vrouw gegaan, wij doen veel samen zodat we samen leren. Sommige staan overal voor open en sommige doen omdat het verplicht is en andere staan er helemaal niet voor open. Ik zou geen tip kunnen geven. Het gaat puur op interesse.

## Interview 5

### **1) What factors play a major role for you to participate in a training?**

Moet vooral zelf het idee hebben dat vanuit dat onderwerp winst is te halen.

#### **A) Explain why these factors are so important**

Het is voor het bedrijf, en winst maken.

### **2) What appealed to you the most about the LEAN training?**

Ik vond het prettig om met elkaar en bedrijven onder de loep te nemen. Andere manier met je bedrijf bezig zijn. Met een nieuw concept te kijken op een andere manier bezig te zijn met je bedrijf.

#### **A) Was it clear to you what it would be about?**

Ja.

### **3) What was the motivator to participate in LEAN training?**

Optimalisatie, ik ben erg creatieve brein en dat zijn niet altijd de mensen die het meest georganiseerd zijn.

### **4) Were there any barriers you had to eliminate before participating? If yes, which ones?**

Barrières, nee dat niet echt, het is compleet iets nieuws, je kan niet uitgaan van ervaring van anderen. Daar zijn jullie nu mee bezig om ervaringen te inventariseren en andere hiermee te enthousiasmeren. Als je dat weet van voorgaande ben je eerder geneigd om mee te doen.

### **5) Which LEAN processes have you implemented to your company during the LEAN training?**

Bepaalde arbeid dingen, wat je doet en hoe is de manier van werken. Het is inmiddels een jaar geleden, ik kan niet alles meer reproduceren wat we daar gedaan hebben. Maar de benadering daarvan om kritisch naar je arbeid invullingen te kijken heb ik er wel aan overgehouden.

#### **A) When not implemented any LEAN processes. Explain why?**

Niet van toepleaning.

**6) Have you been in touch with the course leaders or other participants for any questions about LEAN after the training?**

**A) Why or why not?**

Nee, enkele keren wordt er in de Whatsapp groep wat gedeeld als een melkveehouder iets nieuws gedaan heeft. Als we het daarover in de studiegroep gehad hebben wordt daar een foto van gemaakt en gedeeld met de rest van de deelnemers en begeleiders. Laatst heb ik een plan bord gekocht op marktplaats. En daar heb ik een hele week planning op gemaakt en dit heb ik gedeeld met de groep. En zo heeft iedereen wel iets wat gedeeld wordt. Het contact verwaterd over de jaren wel een beetje maar in principe blijft het nog wel.

Het dingen delen met elkaar motiveert wel weer een beetje om verder te gaan en ook die dingen die collega melkveehouders toepleanen. Te gaan toepleanen op eigen bedrijf

**7) Did you continue with the implementation of Lean on your dairy farm after the LEAN training?**

Ja.

**A) Which ones?**

Een plan bord met week activiteiten, kalverafdeling is helemaal anders gedaan waardoor beter leven keurmerk kan worden verkregen. Sommige ruimtes opnieuw indelen en daar alle opslag voor de kalveren neerzet en dat is mede ontstaan tijdens de studiegroep Boost op de boerderij. Zo ebt het wat door met dingen die moeten worden gedaan. Het staat nog wel op het lijstje maar het kan niet allemaal in een keer gedaan worden. Daarom heb ik nu ook dat plan bord, dan kan ik even kijken wat moet er nu gedaan worden en kan ik eventueel mijn stage loper dit laten doen. Dat is voor hem ook makkelijker dat er een lijst klaar ligt met dingen die moeten gebeuren. Dan zorg ik voor de materialen en dan kunnen we daar mee aan de slag. Het moet in mijn systeem gaan zitten dat ik zo naar processen ga kijken om te zien waar tijd vermindering is te behalen. Dat heb ik vooral overgehouden en geleerd tijdens de studiegroep Boost op de boerderij.

**8) When you not continued with the implementation of LEAN . What factor was the biggest influence for not continuing?**

Niet van toepleaning.

**9) How would you rate the program LEAN training? (1= not good, 5 = very good)**

Ik vind het wel een 9 waard.

**A) Why this rating?**

Het is geen 10 want het is nooit perfect. Ik kreeg een advies om te sproeien in plaats van dippen. Maar uiteindelijk koste dit advies meer tijd en materiaal voor mijn bedrijf. Want uier ontsteking kwam weer terug. Toen ben ik weer terug gegaan naar dippen, natuurlijk niet elk bedrijf is hetzelfde dus niet alle adviezen kunnen goed zijn voor elke onderneming. Verder ben ik zeer tevreden over de studiegroep.

**10) What is your opinion on the LEAN training? Mention at least one positive and one negative point.**

Geen verbeter punten. Het was wel soms wat verder rijden. Maar als je je ernaar zet dan heb je een hele leuke dag met goede lunch erbij. De lunch zorgt voor een goede pauze waardoor je weer verder kunt. En de begeleiding was goed en de mensen die mee deden ook. Dat is erg belangrijk. Het is nodig dat je deelnemers hebt die hetzelfde gestemd zijn om dingen te leren. De deelnemers deelde dingen met elkaar en zo motiveerden wij elkaar ook in het onderwerp.

**A) How could this be solved?**

**11) Was the information received during the LEAN training sufficient enough?**

De informatie die is verkregen is zowel theoretisch als praktisch voldoende en zeer verhelderend.

**A) Why or why not?**

**12) Do you have any tips, advice, comments, or recommendations regarding the LEAN training?**

Die dagen die je investeert in het volgen van de studiegroep die verdien je weer terug als je elke dag een kwartier bespaart tijdens het werk. Ik heb er wel tijd in geïnvesteerd maar ik heb ook meer tijd over per dag. Als je dat in beeld kan krijgen wat er als winst te behalen valt. En het wat tastbaarder of absolute maakt dan alleen een verhaaltje en het zo voorlegt aan melkveehouders. Dan krijgen ze ook een beeld van zo hebben ze dus dingen verbeterd.

## Interview 6

**1) What factors play a major role for you to participate in a training?**

Wat voor mij de grootste trigger is om mee te doen aan een studie groep van Leerdammer. Ik wil graag redelijk goed geïnformeerd zijn. Met wat er te koop is, wat er te doen is en hoe andere melkveehouders er naar kijken. Dus toch ook wel het sociale aspect is van belang. En bij blijven met kennis met de actuele onderwerpen en de meeste studie groepen zijn wel vernieuwend. Voor duurzaamheid en wat we in de toekomst nodig hebben om melk te kunnen blijven leveren.

**A) Explain why these factors are so important**

Het is belangrijk om in de toekomst te kunnen en mogen blijven leveren van melk. En ook het sociale gebeuren, hoe kijken mijn collega's tegen deze problemen en onderwerpen aan. De interactie met de collega's vind ik nog net zo belangrijk als de informatie van de cursus begeleider.

**2) What appealed to you the most about the LEAN training?**

Ook de interactie met andere. Hoe doen de andere melkveehouders het tegenover wat ik doe. Hoe de bedrijven zijn ingericht. Met de heftige discussies die we hebben gehad tijdens de cursus over het oplossen van een probleem. Dat was heel erg leerzaam.

**A) Was it clear to you what it would be about?**

Ja, voor mij wel. Dit komt vooral omdat het mij altijd al heeft aangetrokken. Ergonomie, werk planning, orde en optimaliseren. Wat kan ik hier nou val leren. Ik ben altijd al geïnteresseerd in hoe je makkelijk kan werken en niet onnodig veel moeten lopen.

**3) What was the motivator to participate in LEAN training?**

Ik zit zelf ook in de klankbord groep. En dan heb ik overleggen met RBL. En dan bespreken we wat nu aan de orde is met RBL en daarvoor een groep te gaan maken. Dan ben je zelf ook alweer vaak een deelnemer voor de studiegroep.

**4) Were there any barriers you had to eliminate before participating? If yes, which ones?**

Nee voor mij niet. Voor veel andere wel heb ik begrepen dat afstand een barrière was. Ik vind het heel fijn om in uithoeken van Nederland te kijken en te kunnen vergelijken.

De barrières zoals tijd en reizen is ook zo bij andere studiegroepen. Hier heb ik echter geen last van omdat ik het interessant vind om naar andere plekken te gaan.

**5) Which LEAN processes have you implemented to your company during the LEAN training?**

De effectieve manier van bestrijding tegen mortellaro. Dat is een probleem van de poten bij de koeien. Ik wist dat er een veearts was als cursusleider. Daarop heb ik mijn vragen aangepast zodat ik dit probleem kon oplossen.

**A) When not implemented any LEAN processes. Explain why?**

**6) Have you been in touch with the course leaders or other participants for any questions about LEAN after the training?**

We hebben een whatsapp groep met alle deelnemers. Als iemand wat groots heeft aangepakt wordt dat gemeld met de groep. Deze problemen zijn tijdens de studiegroep aan bod geweest. En hier wordt veelal positief op gereageerd door de andere deelnemers. Toch wel jammer is dat dit nu een beetje wegvalt.

**A) Why or why not?**

Niet van toepassing.

**7) Did you continue with the implementation of Lean on your dairy farm after the LEAN training?**

Ja ik ben eigenlijk altijd al hier in geïnteresseerd geweest. Dus ik probeer het ook altijd te blijven doen. Lean is natuurlijk heel mooi, maar je kan een boerderij niet vergelijken met een proces in een fabriek. We proberen het wel zoveel mogelijk aan te plannen voor op het bedrijf. We proberen continue dingen te verbeteren en optimaliseren.

**A) Which ones?**

Ik geeft de informatie ook door aan mijn stagiaires en zoon die ook in het bedrijf zit. Altijd iets in je handen hebben als je ergens heen gaat lopen. Het is belangrijk om de informatie door te geven.

**8) When you not continued with the implementation of LEAN . What factor was the biggest influence for not continuing?**

Niet van toepassing

**9) How would you rate the program LEAN training? (1= not good, 5 = very good)**

Ik geef de studiegroep een 8

**A) Why this rating?**

Ik hou er niet van om hele hoge cijfers te geven want dan denkt iedereen dat alles goed is. Het is een ruim voldoende. De cursus leiding zijn dure mensen die worden ingehuurd. Ik vind het wel nodig dat er een gerichte groep aanwezig is die ook echt iets met de informatie willen gaan doen.

Het is een hele goede groep en ik snap niet dat er niet meer mensen aan mee doen. De mensen die hier niet aan mee doen vind ik niet verstandig.

**10) What is your opinion on the LEAN training? Mention at least one positive and one negative point.**

Een persoon met een rotzooi op het bedrijf zal zich vrij snel aangevallen voelen door de begeleiders. En dan zal hij denken wat doe ik hier. Het is natuurlijk een advies om het te doen, maar ik snap dat een melkveehouder zich aangevallen kan voelen.

**A) How could this be solved?**

Het onderzoek wat jij nu maakt kan gebundeld worden met de studiegroep wat melkveehouders graag willen qua onderwerp. Zo kunnen er groepen deelnemers bij elkaar worden gezocht en daar speciaal advies voor worden gemaakt of een studiegroep.

**11) Was the information received during the LEAN training sufficient enough?**

**A) Why or why not?**

Ja, ik heb veel geleerd. En ik geef het door aan stagiairs.

**12) Do you have any tips, advice, comments, or recommendations regarding the LEAN training?**

Kort in de regio een cursus voor deelnemers die niet vaak mee doen. Anders zullen ze zich heel snel afmelden wat weer onnodig geld kost voor Leerdammer. Het is goed dat ze nu geld vragen zodat ze niet last minute afmeldingen krijgen.

Alle studiegroepen die kunnen nu toch niet door gaan. Reserveer dat geld dan voor iets anders als alles weer kan. Zodat als alles voorbij is er iets leuks geregeld kan worden voor de melkveehouders. En niet ervoor zorgen dat de familie Bel meer geld krijgt.

## Appendix 5 results questions dairy farmers lean training 2020

In appendix five are the results of the questions that were asked to dairy farmers that were supposed to participate in Lean training in 2020. Unfortunately due to the Covid-19 pandemic.

### Dairy farmer seven

**1) What factors play a major role for you to participate in a training?**

Bij blijven met alle ontwikkelingen.

**A) Explain why these factors are so important**

Scherp blijven en ideeën op doen.

**2) What appealed to you the most about the LEAN training?**

Wij werken met personeel en dat is een behoorlijke aanslag op onze liquiditeit dus het zou mooi zijn als dat efficiënter kan.

**A) Was it clear to you what it would be about?**

Ja, arbeidsprocessen efficiënter laten verlopen.

**3) What was the motivator to participate in LEAN training?**

Arbeidskosten verlagen en meer werkplezier creëren.

**4) Were there any barriers you had to eliminate before participating?**

Nee

**A) If yes, which ones?**

**5) What will you expect to learn from this LEAN training?**

Makkelijker van een afstand naar arbeidsprocessen kijken om deze beter te kunnen beoordelen op efficiëntie.

**6) Do you have tips, advice, or comments about the training provided by RBL? Or is there anything missing?**

Nee

## Dairy farmer eight

### **1) What factors play a major role for you to participate in a training?**

Bij blijven met de sector en blijven doorleren.

#### **A) Explain why these factors are so important**

Ik wil niet achter de feiten aan lopen.

### **2) What appealed to you the most about the LEAN training?**

Inzoomen op arbeid, is een knelpunt op ons eigen bedrijf.

#### **A) Was it clear to you what it would be about?**

Niet helemaal, contact over gehad met Leerdammer

### **3) What was the motivator to participate in LEAN training?**

Arbeid is een knelpunt op eigen bedrijf dit zouden we met de studiegroep graag verbeteren.

### **4) Were there any barriers you had to eliminate before participating?**

Nee

#### **A) If yes, which ones?**

### **5) What will you expect to learn from this LEAN training?**

Tips op efficiënter te werken.

### **6) Do you have tips, advice, or comments about the training provided by RBL? Or is there anything missing?**

Kan er niet een stukje online doorgaan, en waarom staat hij er voor volgend jaar niet bij?

## Dairy farmer nine

### **1) What factors play a major role for you to participate in a training?**

Waar je jezelf voordeel mee kunt doen.

#### **A) Explain why these factors are so important**

Tijd is kostbaar, we hebben kleine marges en proberen er zoveel mogelijk van te maken.

### **2) What appealed to you the most about the LEAN training?**

Kijken hoe ik tijd kan besparen dingen gemakkelijker kan doen en dingen delen waar je tegen aanloopt op je eigen bedrijf.

#### **A) Was it clear to you what it would be about?**

Ja, Verspillingen voorkomen in tijd, geld, energie en materiaal.

### **3) What was the motivator to participate in LEAN training?**

Werkroutines bespreken, tijdwinst behalen en je scherp stellen

### **4) Were there any barriers you had to eliminate before participating?**

Ja

#### **A) If yes, which ones?**

Tijd is het voornaamste punt.

### **5) What will you expect to learn from this LEAN training?**

Efficiënter werken op ons eigen bedrijf.

### **6) Do you have tips, advice, or comments about the training provided by RBL? Or is there anything missing?**

Meer verhaal maken wat er te koop is.

## Dairy farmer ten

### **1) What factors play a major role for you to participate in a training?**

Van en met elkaar leren.

#### **A) Explain why these factors are so important**

Eigenondernemerschap en daarmee onderneming verbeteren.

### **2) What appealed to you the most about the LEAN training?**

Verliezen beperken in materiaal, tijd en geld.

#### **A) Was it clear to you what it would be about?**

Ja, het beperken van verliezen op welk vlak dan ook.

### **3) What was the motivator to participate in LEAN training?**

Bedrijfsblindheid ophelderen.

### **4) Were there any barriers you had to eliminate before participating?**

Ja

#### **A) If yes, which ones?**

Tijd is wel een punt maar je doet er ook voordeel van, ik ga er van uit dat het wat oplevert op den duur.

### **5) What will you expect to learn from this LEAN training?**

Minder te verspillen en daarmee bedoel ik vooral tijd.

### **6) Do you have tips, advice, or comments about the training provided by RBL? Or is there anything missing?**

Het zijn randzaken van de melkfabriek. Ik vind dit positief. Maar RBL moet de melk tot het uiterste goed ver markten dat is waar ze mee bezig moeten zijn. Dit frustrereert veehouders je krijgt het koekje van eigen deeg idee.

## Dairy farmer eleven

**1) What factors play a major role for you to participate in a training?**

Om nieuwe dingen te leren.

**A) Explain why these factors are so important**

Zo kan ik op het eigen bedrijf mijn voordeel ermee doen.

**2) What appealed to you the most about the LEAN training?**

Efficiënter werken.

**A) Was it clear to you what it would be about?**

Nee

**3) What was the motivator to participate in LEAN training?**

Efficiënter werken.

**4) Were there any barriers you had to eliminate before participating?**

Nee

**A) If yes, which ones?**

**5) What will you expect to learn from this LEAN training?**

Mogelijk om een bedrijfsonderdeel efficiënter te laten werken.

**6) Do you have tips, advice, or comments about the training provided by RBL? Or is there anything missing?**

Nee.