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# Norwegian cattle farmers' view on animal welfare

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# Preface

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This report is part of the Welfare Quality research project which has been co-financed by the European Commission, within the 6th Framework Programme, contract No. FOOD-CT-2004-506508. The text represents the authors' views and does not necessarily represent a position of the Commission who will not be liable for the use made of such information. More information on the Welfare Quality project can be found on the website: [www.welfarequality.net](http://www.welfarequality.net).

More specifically, this report and the underlying research are conducted as part of the Work Package 3.1 in the Welfare Quality research project, called "Barriers faced by producers". Similar studies of cattle producers have been undertaken in five other countries; France, England, Italy, Sweden, and the Netherlands. Major findings from the six studies are summarized in a separate report (Bock, B.B. and M.M. van Huik, 2006: *"Cattle farmers and animal welfare A study of beliefs, attitudes and behaviour of cattle producers across Europe"* Synthesis report published within the WQ-programme).

We are grateful to Ane Margrethe Lyng and Siv Karin Paulsen Rye, both at NILF, for conducting 10 interviews each. Also thanks to research colleague Agnar Hegrenes, for reading an earlier version of the manuscript, and generously helping with fact-finding and other types of guidance throughout the entire project period. Thanks also to Lars-Erik Ruud for sharing his knowledge about the cattle sector. Finally, thanks to Berit Helen Grimsrud for valuable assistance in making the manuscript ready for publishing.

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# 1 Introduction

This report presents the findings of a study of Norwegian cattle (dairy and beef) producers' view on animal welfare. The study has been carried out as a part of the EU-funded research project *Welfare Quality: Science and society improving animal welfare*. Similar studies have been conducted in Sweden, United Kingdom, France, Italy and the Netherlands. The overall purpose of the study is to gain an understanding of producers' beliefs, views, conceptions and attitudes with regard to farm animal welfare. More specifically, a core objective is to identify potential barriers to the development of animal friendly production, as perceived by the producers. Focus is particularly set on their relation to supply chains and willingness to enter animal welfare schemes. The study is based on qualitative interviews with 60 Norwegian cattle producers in the period from December 2005 to March 2006. The study shows among other things that most producers welcome an increased focus on animal welfare, and finds animal welfare to be important. However, quite many are ambivalent about the animal welfare regulations, particularly the ban on tied-stall housing, as they imply substantial financial investments, which might imply that many, especially smaller producers, will have to quit production. (For a summary of the report cf. appendix I.)

The structure of the report is as follows: In the remaining of chapter one, we will first give a short introduction to Norwegian dairy and beef production, including a presentation of the basic statistics of these sectors. Thereafter, we will briefly present the main public regulations, the animal welfare schemes as well as the animal welfare initiatives which have recently been developed by the Norwegian cattle production industry. In chapter two, the research design, sample and methods of the study are presented. The remaining chapters, except from the concluding chapter, present the results of our study. In chapter three and four, the producers' views on Norwegian regulations concerning animal welfare and animal welfare schemes are presented and analyzed, particularly emphasising the producers' compliance with and willingness to implement animal welfare requirements. In chapter three, the producers' view on specific animal welfare issues in the cattle industry will also be highlighted. In chapter five, an analysis of the farmers' understanding of animal welfare is presented. This analysis provides, inter alia, valuable insight into the cattle farmers' definitions of animal welfare. Chapter six looks into the animal welfare situation in the transport- and slaughterhouse sectors, as seen from the farmers' points of view. Chapter seven explores the farmers' perception of – and relationship to – other potential animal welfare actors; i.e. the consumers, animal welfare organizations, and retailers. In chapter eight, we summarize the analysis and draw the conclusions.

## 1.1 Introduction to Norwegian dairy and beef production

Cattle production in Norway consists of three production types: (a) dairy and beef production in combination, (b) specialized beef production and (c) fattening bull production. In 2004, there were all together 23386 cattle producers and 953976 animals.<sup>1</sup> 690, or 3 percent, of these are organic producers. The development through the last decades has been towards fewer and larger producers. In 1969 there were 92116 producers with cattle, in 1979 53793, in 1989 37584 producers, and in 1999 30130 producers with cattle (Statistics Norway 2003). However, the number of cattle has in the same time period been more or less stable around 950 000 – 1 million animals (ibid.).

The main production type in Norway is dairy production and beef production in combination.<sup>2</sup> Most of Norwegian beef production comes from dairy producers. The average life-time of a cow is 4.5 year (St.meld nr. 12 (2002–2003)). Dairy production is scattered all over the country, and is the major production type in Norwegian husbandry. In 2004, 17184 producers had dairy cows. The average producer had 15.8 cows. The development is now towards increasingly larger livestock. The by far dominating race is Norwegian Red (hereafter referred to as NRF). This is a race bred by the breeding organization GENO (earlier Norwegian Red). NRF is referred to as a “combination race” with qualities appropriate both for dairy and beef production (St.meld nr. 12 (2002–2003)).

The second production type is specialized beef production. This a production type in growth. For instance, from 1999–2003 the number of suckling cows (“ammeku”) increased with approx. 40 percent (Statistics Norway 2003). In 2004, 5881 producers had suckling cows. Still, the producers are small. The average producer had only 8.7 cows. 64 percent of the beef producers had less than 8.7 cows, 32 percent had between 8.7 – 30, and 4 percent had more than 30 cows. This production is often based on specialized beef breeds. Among registered beef breeds, the most common breeds are hybrids, Hereford, Charolais, Aberdeen Angus, Limousin and Simmental, in the mentioned order (Fagsenteret for kjøtt 2004:12).

The third production type is fattening bulls. In 2003 1945 producers specialized in the production of bulls which were fattened up to slaughter. The average producer had 16 animals.

There is no specialized veal or calf production in Norway. In 2004, 19391 calves were slaughtered, 761 of these were for the home market (Budsjettnemnda for jordbruket 2005a:69).<sup>3</sup> A typical producer of calf delivers only 4–5 calves per year (Svendsen 2006

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<sup>1</sup> All the statistics or numbers, if not specified otherwise, is from 2004, and have been produced from the subsidy production data base.

<sup>2</sup> Hereafter referred to as dairy production because the main production type is dairy production. However, the female calves that are not recruited to the milk production, as well as the bulls, are fattened up to slaughter, and become beef.

<sup>3</sup> If an animal is a calf or a bull/heifer is a visual judgment based on the meat structure, fat quality and features. A calf is usually 8 months old or younger.

[personal communication]). Veal production is not allowed, since according to the Regulations concerning the keeping of cattle, calves shall be given enough coarse fodder to develop a ruminant function. It is not allowed to feed calves in such a way that the haemoglobin level falls below 4.5 mmol/litre blood.

Most of the cattle farmers are self-employed producers who run their own farm and livestock, often together with his/her spouse. In the last years, however, the number of joint operations (“samdrift”) has increased in Norwegian dairy farming. A joint operation consists typically of two farmers who run a dairy production together, with joint responsibility. These are on average larger than regular farms. In 2004 there were 1236 joint operations in dairy farming, including 2782 properties (Budsjettnemnda for jordbruket 2005b:16). In 1995 there were only 146 joint operations (Knutsen 2004:1). Most of the increase can probably be explained by financial subsidies given to joint operations.

For more statistics about the Norwegian cattle sector, including import and export numbers, cf. appendix IV.

## **1.2 Animal welfare in Norwegian dairy and beef production**

Animal welfare was set higher on the Norwegian political agenda in 2002 when a parliamentary paper on animal husbandry and animal welfare was introduced (St.meld nr. 12 (2002–2003)). Since this report was issued, many of the specific regulations concerning farm animals have been revised in order to implement stricter animal welfare regulations. In 2004, a new regulation for the keeping of cattle was issued:<sup>4</sup> “Regulations concerning the keeping of cattle” (“Forskrift om hold av storfe”). The biggest and most debated change for the cattle industry was the demand for loose housing from 2024, and consequently a ban on tied-stalls. In organic production, the ban on tied-stalls systems will be effective from 2011 (Mattilsynet 2006). In 2004, it became also prohibited to build new houses with tied-stall houses or rebuild houses keeping a tied-stall system. As per today (2006), only 14 percent of the stocks have loose housing, and 25 percent of the animals are in loose-housing barns (Ruud 2006 [personal communication]). In 1997, a command for exercise and outdoor grazing in minimum eight weeks during summer was issued for cows and heifer. In the new regulation, all cattle, except uncastrated bulls, got even rights from 2013. Cows and heifers with less than two months from calving, shall have access to a lying area with a soft foundation and dense floor from 2006, which implies that Norwegian farmers have had to invest in soft mats for their cows unless they have a straw system (loose housing) (“talle”). Necessary dehorning and castration performed by veterinary with the use of anaesthesia, is allowed. It is not allowed to dehorn calves older than 6 weeks. From 2009, the farmers must be able to document sufficient professional knowledge of animal handling; a requirement which

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<sup>4</sup> Prior to 2004, the keeping of cattle was regulated by the “Regulations concerning the keeping of pig and cattle” which was issued in 1992. The regulation today is called: “Regulations concerning the keeping of cattle”.

shall be implemented in that the farmers must pass an animal welfare course approved by the Norwegian Food Safety Authority. The Norwegian regulation concerning the keeping of cattle includes provisions regarding calves. The Directive 91/629/EEC on calves (changed by Directive 97/2/EC and Directive 97/182/EC) has been adopted into this Norwegian regulation. According to Norwegian regulations, from 2005 calves shall not be tied up, and they shall be group-housed from 8 weeks of age. Also, the cow boxes shall give the calves the possibility to see and be in physical contact with other animals, and have a dense, soft floor. Many of the animal welfare measures were already suggested in the cattle industry's own Action Plan for Animal welfare, which was introduced in 2001.

Public regulations are the most common and important instrument for governing farmers' animal welfare practices in Norway. In addition, the cattle industry's own initiatives, and control systems regulate farmers' animal welfare practices. In 1975 a country-wide health card system for dairy cows ("Kukontrollen") was initiated. Every cow in this system<sup>5</sup> has its own individual health card with all treatments or fertility problems noted. This health card system, which is organized by the Norwegian dairy cooperative, TINE, has been important in the breeding of Norwegian Red, but also for preventive health measures, planning, development of statistics etc. Also for beef producers, a similar system has been initiated ("Storfekjøttkontrollen"), although only approx. 20 percent of the beef producers participate in the system (Fagsenteret for kjøtt 2004).

Animal welfare schemes, defined as any scheme that encompasses a module addressing animal welfare standards (cf. Leeuwen and Bock 2005 for definitions of different types of schemes), is not very common in Norway. This is probably related to the fact that animal welfare has traditionally been conceived of as a basic and a common undertaking for all involved parties, and not an appropriate domain for company-specific differentiation in the market (Borgen and Skarstad, unpublished). Nevertheless, there are a few initiatives relating to cattle production that fall under the definition of an animal welfare scheme:

(a) The major animal welfare scheme in Norway is *KSL* – Kvalitetssystem i Landbruket (Quality System in Norwegian Agriculture). *KSL* is a quality assurance scheme defined as schemes that contain an animal welfare module, but which also focus on other themes than animal welfare, such as food safety, product quality and traceability. Moreover, *KSL* should be characterized as a *basic* quality assurance schemes, because the animal welfare module do not go beyond national legal regulations, as distinct from top quality assurance schemes which include animal welfare modules well beyond national regulations. *KSL* covers all types of agricultural productions, including cattle production. Being a basic quality assurance scheme, the animal welfare requirements of *KSL* are on level with the requirements set in the Regulation concerning the keeping of catt-

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<sup>5</sup> 94.2 percent of the dairy producers participated in the health card system, or the Cow control in 2005 (Tine 2005).

le, and serves largely as an instrument for implementing Norwegian law and regulations. 81 percent of the Norwegian cattle producers – which includes 86 percent of the animals – participate in KSL.

(b) The organic scheme in Norway is called *Debio*. *Debio* is a privately owned agency that controls and certifies organic production in Norway. They work by authority delegated by the Ministry of Agriculture and Food and the related governmental control body Mattilsynet (the Norwegian Food Safety Authority). There were 690 organic cattle producers registered in Norway in 2004. Half of these (317 producers) are specialized beef producers, 313 are dairy producers, and 23 are fattening bull producers.

(c) Top quality scheme is the fourth type of quality scheme, following the categorization of Leeuwen and Bock (2005). There are no top quality assurance schemes in Norway as per yet, but there are currently initiatives which aim at developing such a scheme. This might indicate a future trend where different sales attributes (e.g. positive human health effect, unique taste, interesting geographical origin, excellent animal welfare conditions) are combined and presented to consumers as a coherent whole. To the extent that this type of top quality schemes is implemented, animal welfare may be assigned a more prominent role as conveyor of quality signals from producer to consumer (Borgen and Skarstad, unpublished).

## 2 Methods

The purpose of this chapter is to present the research design of the study, the sample, the representativeness of this sample and the status of our results.

### 2.1 Research design – methods for data collection

This study is based on a qualitative, semi-structured research design. The results of the study is based on the answers from 60 Norwegian cattle producers to questions specified in an interview guide that was used in all six countries participating in the study<sup>6</sup> (cf. appendix II). Following the explorative, qualitative design of the study, the questions were posed in an open manner, allowing the producers to phrase the issues in their own pace, structure and style. 30 of the interviews were conducted face-to-face, the rest were conducted by telephone. Whereas the face-to-face interviews were carried out in three parts of Norway in the areas around the three largest cities (Oslo, Trondheim and Bergen)<sup>7</sup>, the telephone interviews were spread all over Norway, allowing the sample to reflect the fact that cattle producers are spread throughout the entire country.

The producers were contacted by telephone, given information about the project, and asked whether they were willing to participate in the study. The individual producers

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<sup>6</sup> However, the interview guides were adapted in order to fit the national contexts.

<sup>7</sup> The face-to-face interviews were in addition to the authors conducted by two persons employed at Norwegian Agricultural Economics Research Institute. Thank you to Ane Margrethe Lyng and Siv Karin Paulsen Rye.

were selected randomly, in accordance with our sample criteria, from the national production subsidy data base (“produksjonstilskotsregisteret”). This is a data base of all producers in Norway providing information of producers’ name, age, location, gender, types of productions and number of animals. We were granted access to this data base for the purpose of drawing a sample. The barrier to participate in the study must be considered as high. 18 of the producers did not want to participate. Some of the producers that denied participation said they were too busy or in the process of exiting production. Others simply did not want to participate. Some of the producers that we contacted had already exited cattle production. Most of the producers were contacted and interviewed during their working day which probably increased their barrier to participation. None of the informants were compensated financially for contributing to the study. However, most of producers answered positively to our invitation without further need for persuasion. Our overall impression is that the producers willingly participated and that most producers found the questions relevant and generally easy for them to answer. Almost all of the interviews were tape-recorded.<sup>8</sup> The face-to-face interviews lasted on average 1 hour and 22 minutes, while the telephone interviews lasted on average 1 hour and 1 minute. The same interview guide was used for either category of interviews.

## **2.2 Analysis of the interview data**

Our data material consists of 60 semi-structured interviews with an average length of 71 minutes.

Clearly, it’s challenging to deal with this large pool of data. In order to get detailed and good interview records, notes were taken during the interviews. The answers were in most cases written directly into a tailor-made word-template. Some of the interviews (approx. 10) have also been almost fully transcribed. With regard to the telephone interviews, we have in most cases been able to follow the pace of the conversation, our notes reflecting the actual wording of the producers. The tape-recordings have served as help for getting exact quotes for the use in this report. During our writing process, the tape recordings have proved very useful in order to check out exact formulations and viewpoints. These checks gave us also a good reliability test for the whole material, because all of the formulations (approx. 120) we checked up against the tape showed that our notes reflected by and large the exact quotations of the producers.

In order to get a quick, reliable and systematic overview of our diverse data material, all of the answers to the various questions have also been registered in an excel-sheet. Mostly, our analysis of the material have been question-wise, looking for systematic patterns in the answers provided to the various questions, as well as questions that address the same topic (e.g. regulations). We have also tried to identify systematic variations in the answers from different types of producers, defined as different with re-

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<sup>8</sup> Two did not want to be tape-recorded. In the two other instances, the tape-recording did not work, or was forgotten.

spect to the selection criteria used for drawing the sample (cf. next section).<sup>9</sup> In accordance with the overall purpose of the project, we have particularly focused our analysis on detecting whether producers who participate in different kinds of animal welfare schemes, give systematically different answers to the various questions. In the Norwegian case, this means an analysis of the differences between conventional producers participating in a general animal welfare scheme (KSL) and organic producers, as there are no other animal welfare schemes in Norway.

## 2.3 Sample

The sample of 60 cattle producers has been chosen according to the following criteria or variables:

- Geographical location of the farm (Eastern, southern, western, middle, and northern part of Norway).
- Size of the farm: operationalized and registered as the number of animals (Large vs. small producers).
- Type of production (Dairy, beef and fattening producers).
- Degree of involvement and engagement in animal welfare schemes (conventional and organic).

Generally, our objective has been to get a representative distribution of the sample with respect to these four variables. However, in order to be able to conduct systematic analysis of differences among producers, some groups have been overrepresented (e.g. organic producers). The producers' gender and age has also been taken into consideration when drawing the sample, although it has not been a formal criterion. The variables listed above have been used as stratification criteria in all the six countries that partake in the comparative international study of cattle producers.

### *Animal welfare schemes*

As mentioned in section 1.3, and as documented in Borgen and Skarstad (unpublished), there are very few animal welfare schemes in Norway. In the cattle sector, there are only two animal welfare schemes; i.e. the general animal welfare scheme (KSL), and the organic scheme (Debio). 81 percent of all cattle producers participate in the general animal welfare scheme KSL. If only the dairy producers are included, the participation percentage is 87. Looking at the number of animals which is most relevant from an animal welfare perspective, 86 percent of the cattle are part of a KSL-livestock (Groven et al. 2004). Hence, it is among the smallest producers you will most likely find producers who do not participate in KSL. Taking into consideration that living up to the animal welfare-standards in KSL essentially means to follow Norwegian regulations, we decided that an extensive search for the few producers who do not participate in KSL would not be worthwhile. In addition, the group of producers not participating in KSL

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<sup>9</sup> E.g. gender, size of the producers, production types, geographic location, as well as age although this has not been a formal criteria for drawing the sample. If there are clear differences between different types of producers, this will be commented on (cf. chapter 8). However, as will be made clear, our general impression is that the producers' answers are more similar than different. However, this does not exclude the possibility that there can be systematic differences that we have not been able to investigate or reveal in our analysis.

has previously been studied. This study will be referred to later. However, it turned out to be four producers in our sample who did not participate in KSL. Two of them were organic producers. The two organic producers will in the systematic analysis be treated as organic. The other two producers will be treated as conventional. However, the four producers' motivations for not participating in KSL will be commented on. As we will see, these are not animal welfare related.

Hence, our sample with regard to participation in animal welfare schemes is as follows: 10 organic producers (8 of them participating both in Debio-scheme and KSL-scheme), 48 KSL-producers, and 2 producers who do not participate in any scheme. The organic producers are overrepresented. Most of the organic producers are located in the middle and eastern part of the country. They are on average more or less as the same size as the conventional producers. We have tried to incorporate this fact when drawing the sample.

#### *Geographical distribution*

As mentioned earlier, dairy and beef production is located all over the country. The region (county) Rogaland in the south-western part of Norway is largest region when it comes to number of producers. 3282 producers are registered cattle producers in Rogaland. This is also the largest region with regard to other types of productions. At the other end of the scale, you find the northernmost region of Norway (Finnmark) with 221 producers. Following the structure of the Norwegian production, the distribution is as follows: 14 percent of the producers come from Rogaland, 27 percent come from the western part (Hordaland, Sogn og Fjordane og Møre og Romsdal), 18 percent of the producers come from Trøndelag in the middle part of Norway (Nord- og Sør-Trøndelag), 24 percent of the sample comes from the eastern part of Norway (Oslo/Akershus, Oppland, Hedmark, Østfold, Buskerud), 10 percent of the producers live in northern part (Nordland, Troms, and Finnmark), and 7 percent of the producers come from the southern part of the country (Aust-Agder, Vest-Agder, Vestfold, Telemark).

Correspondingly, in our sample there are 9 producers from Rogaland, 16 producers from the western part, 11 producers from Trøndelag (mid-Norway), 14 producers from the eastern part, 6 producers from the northern part, and 4 producers from the southern part of Norway.

#### *Type of production*

Type of production was another criterion for selecting producers. As told, there are three main production types in Norway. (a) Dairy and beef production in combination (or dairy producers) is the main production type. 17184 producers of a total of 23386 producers have dairy cows, as registered in 2004. There is a group of 1624 producers who are registered with both dairy cows and suckling cows (part of specialized beef production), 15560 producers have only dairy cows (66 percent of all producers) and may be said to be specialized dairy producers. (b) There are 4257 producers who are

specialized beef producers, and who only have suckling cows (18 percent of all producers). (c) In addition, there are 1945 fattening producers, or 8 percent of the producers. In order to increase the variation of the sample, we have overrepresented suckling cow producers and fattening bull producers.

In our sample, there are 37 dairy producers, 16 specialized beef producers, and 7 fattening bull producers. 5 of the specialized beef producers are organic, and 4 of the dairy producers. This is in accordance with the distribution of production types in organic production.

#### *Farm size*

With respect to farm size, we have used the actual number of animals<sup>10</sup> at the farm in question in proportion to the average number of animals, as an indicator of whether the farm is considered large or small. In 2004, the average number of cows in *dairy production* was 15.8 cows. Hence, 15 cows or less are counted as a small dairy producer, and 16 cows or more, are counted as large dairy producers in the sample. The largest dairy producers are in the eastern part of Norway (Østlandet) and in Rogaland. The smallest producers are located in the western and southern part of the country (cf. appendix of map III). We have also identified the geographical distribution of dairy producers. Hence, in the sample we have tried to select producers in line with these characteristics of the population.

With respect to farm size, the distribution of dairy producers is as follows:

Number of dairy cows	0–10	10–15.8	15.8–30	More than 30
Percentage of dairy producers	22% (3722)	36% (6127)	37% (6452)	5% (883)

Statistics produced from the production subsidy data base, 2004.

We have overrepresented the largest producers, in order to be able to explore possible differences among producers. In the sample there are therefore 18 small producers, 19 large producers; 9 of which have more than 30 dairy cows.

With respect to *specialized beef productions*, these producers are even smaller on average than the dairy producers. The average number of suckling cows is 8.7 cows. Hence, we define a small producer as having 8 or less cows, and large producers as having 9 cows or more.

Here too, the largest producers are located in the eastern part of the country. The average is lowest in the western part of the country as well as in Finnmark, which is the northernmost region of Norway.

The frequency distribution among specialized beef producers is as follows:

<sup>10</sup> as registered in the production subsidy data base of 2004.

<b>Number of suckling cows</b>	<b>0–9</b>	<b>9–30</b>	<b>More than 30</b>
<b>Percentage of specialized beef producers</b>	<b>64% (3773)</b>	<b>32% (1887)</b>	<b>4% (221)</b>

Statistics produced from the production subsidy data base, 2004.

Since we have overrepresented the largest producers, the sample becomes as follows: 6 producers have less than 9 cows, 5 producers have between 9–30 cows and 5 producers have more than 30 suckling cows. Hence, there are 6 small producers and 10 large producers in the sample. We have also looked into the geographical distribution of specialized beef producers in Norway. We have tried to select producers in line with this, so that the sample distribution to the largest possible extent reflects the distribution of the population.

The average number of animals in a *fattening bull production* is 15.5 animals. A small and large fattening bull producer is thereby defined as having 15 or less animals, or more than 16. The greater part of the fattening bull producers are located in Rogaland and in the western part of the country. The largest fattening bull producers are located in the eastern part.

The frequency distribution among fattening bull producers is as follows:

<b>Number of animals</b>	<b>0–15.5</b>	<b>15.5–30</b>	<b>More than 30</b>
<b>Percentage of the fattening bull producers</b>	<b>70% (1357)</b>	<b>18% (359)</b>	<b>12% (229)</b>

Statistics produced from the production subsidy data base, 2004.

Hence, since we have overrepresented the largest the producers, our sample become as follows: 5 producers have less than 15 animals, and 2 have more. We have also looked into the geographical distribution of fattening bull producers, and in the sample we have tried to select producers in line with this distribution.

#### *Other characteristics of the sample of farmers, farms and animals*

The described selection variables may be considered as “characteristics” of the Norwegian cattle production. These criteria have been chosen due to their expected relevance for animal welfare issue. In addition, it’s interesting to describe the background characteristics of our informants; such as age, education, family situation, gender, level of engagement in cattle organizations, and position within the farm. However, these variables have not served as selection criteria when drawing the sample, which implies that the sample is not necessarily representative when it comes to these individual background factors.

*Gender and age:* When it comes to age and gender, we have tried to draw a sample including most ages and both genders. In the sample of 60 informants, 13 of the producers interviewed are women and 47 are men. This is more or less in line with the distribution in the population as a whole. Looking at who are registered as owner of the farmers with cattle production, 19 percent are women and 81 percent are men. 4 of the women interviewed were organic producers. The average age of the producers was 48 in 2006

(i.e. s(he) was born in 1958) years old. The youngest producer we interviewed was born in 1980, the oldest was born in 1938.

*Education:* We also asked about how many years of education they had of education after the obligatory primary school. 5 informants reported that they had no formal education beyond primary school. 42 of the farmers had education at a so-called secondary school-level (senior high-school). Many of them were agronomists. 6 of the farmers had education from 1–4 years in a college or university, while 7 of the producers had 5–6 years of education from college/university. Some of these were graduate agronomists from the Agricultural University of Norway. One informant was an educated veterinary. All together, 36 of the farmers had agricultural educational background. The producers who were not educated in agriculture, had experience or were educated as carpenters, in business education, as electricians or in the military.

*Family status, type of farm:* Norwegian farming is generally characterized as “family agriculture”. There are different definitions of “family farming” (cf. e.g. Jervell 1999). Without adopting a strict definition of the term, family agriculture is often characterized by the fact that a family lives and works on their own farm. The farm is also often inherited (“odel”). Some definitions of family agriculture also include income derived from farming as a characteristic. That Norwegian agriculture is a “family agriculture” is also evident by looking at our sample. Almost all of the producers interviewed both own and run their own farm. However, there were a few exceptions. One of the producers leased the farm. Another producer owned and ran the farm, but his brother did most of the work related to the cattle. One producer was running and responsible for the livestock at an agricultural school. Four of the productions were organized as a joint operation (“samdrift”). In all cases we interviewed the person who was in charge of the production on a daily basis. A great majority of the farmers had also inherited their farm. Looking at the family structure of the producers interviewed, the average number of children at the farms is 2.3 children among all producers. The average is 2.9 children if you exclude the 12 producers who had no children. 41 of the farmers were married, 5 had cohabiters, and 14 were single/divorced.

*Work situation:* Approx. 42 of the farmers reported that they worked full-time on the farm. Sometimes their spouses also worked on the farm. However, this was not a full-time job with the cattle production. Approx. 17 of the producers reported that they also had work, or mainly worked, off the farm. Most of them were small producers. Many of the producers had part-time help on the farm, a so-called farm-relief worker (“avløser”), or extra help during summer. Many also had help from other members of the family. Very few (approx. 3) had permanent employees.

*Slaughterhouse/dairy affiliation:* The slaughterhouses and dairy processing plants play an important role in the food value chain. Especially the sales cooperatives Gilde (meat) and TINE (dairy), the nation-wide meat and dairy cooperatives, have dominated the

domestic meat and dairy industry for several years, and have been playing multiple political as well as economic roles. Gilde and TINE also play a vital role in the implementation of KSL (cf. Borgen and Skarstad, unpublished). The non-cooperative slaughterhouses' share of the first-hand market in 2004 was 25 percent, Gilde's share was 75 percent TINE's share of the dairy market was 97 percent, having only one competitor, Q-meieriet, in the raw milk market (Landbrukssamvirkets markedsandeler 2006, numbers from 2004). 35 of the dairy producers delivered their milk to TINE, the other two to the competitor Q-meieriet, which is located in two areas of the country. 45 of the producers reported that they sent their animals to Gilde. 8 sold their animals to Fatland, 1 to Prima slakt, 1 to Dullum slaughterhouse, 1 to Furuset and one to Midt-Norge. All of these are private slaughterhouses (In 3 cases information was missing). Very few cattle producers marketed their own products.

*Size of the farm, cultivated land:* The average size of the farm in Norway is approx. 19.5 hectare of cultural land (Norway Statistics 2006, numbers from 2005). The largest producers in our sample had approx. 110 hectare of cultivated land. The smallest had approx. 3 hectare.

*Animal race:* As previously mentioned, Norwegian red (NRF) has a dominant position in Norwegian dairy production. Among the 37 dairy producers, 26 had only the NRF-race. The other dairy producers had either other races, such as Jarlsberg, Holstein, hybrids, Aberdeen Angus, Hereford, Sida-Trønder, Yershire, Jersey, mostly in addition to NRF. In the specialized beef production, other races than NRF dominated. In the sample, the producers reported to have Limousin, Hereford, Aberdeen Angus, Simmenthal, Tiroler Grauvieh, NRF, or hybrids. All of the fattening bull producers had mostly or only NRF. This is probably due to the fact that they buy the races available for sale, which are mostly NRF-calves left over from the dairy production.

*Organization:* We also asked whether the farmers considered themselves active in organizational (professional) work related to their production. Approx. 25 of the producers defined themselves as active producers, which often meant that they were participating in producers meetings or having positions as elected representatives within farmers' organizations or cooperatives. The other producers did not consider themselves to be active in organizational work, or had been active earlier.

## **2.4 How to read the report: the possibility for generalizations<sup>11</sup>**

The overall purpose of the study is to gain an understanding of producers' believes, views, conceptions and attitudes with regard to farm animal welfare. This purpose indicates two aspects: Firstly, that the purpose is to get a deeper understanding of how producers reflect about animal welfare than we would have gained through a quantitative survey with pre-defined categories. The animal welfare field is in many ways a novel

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<sup>11</sup> This part is more or less similar to the reflections we made in a report of pig producers' view on animal welfare. This study has more or less the same research design.

topic, in the sense that new knowledge, new regulations and new practices are being established. This has made a qualitative in-depth study desirable. Hence, the research design of the study has been (semi-) qualitative: the questions have been posed in an open manner without pre-coded categories. Our analysis is an attempt to understand and interpret their answers, with a particular focus on any systematic patterns in their answers. However, on the other hand, the number of producers interviewed has been as many as 60 and we have operated with a *sample* which has tried to be representative on multiple selected variables. This indicates more of a quantitative research design, which brings us to a second point: The overall purpose also indicates that an objective is to infer something about *producers'* understanding of animal welfare, meaning not only the sample of 60, but Norwegian cattle producers in general. This makes the question of generalization important, and how the report should be read in that respect. A qualitative research design is best at exploring and providing an overview of e.g. the various understandings of animal welfare existing among producers. It's less suitable to indicate how many producers who think and mean the one or the other thing, in other words what understanding that is dominant or the relative distribution of the answers. Then, is it possible to infer something about a larger population of Norwegian cattle producers from a limited sample based on a qualitative research design? We will suggest two ways through which generalizations is possible.

First, whether generalization is possible or not depends on how one interpret patterns of the answers: as (a) accidental coincidences of insulated answers of independent actors, or (b) as established understandings of a group of actors and therefore patterns reflecting something more durable and solid. The French sociologist Daniel Bertaux has developed the term *saturation* as a principle of generalization of qualitative studies. Bertaux interviewed 15 bakers, but wanted to say something about the life course of the bakery workers. Bertaux asked how it is possible to generalize to the whole population of the bakery from information collected on a small (a few dozen) non-random sample. He suggested the following answer:

When the interviews bring again and again the same elements of a recognizable pattern, when subsequent interviews with new persons confirm its presence in very life, then the pattern may be considered not merely a fantasy of the researcher (in social-scientific language – mere hypothesis), but a structuring feature of the actual processes (Bertaux 1982:134).

In other words, Bertaux suggested that it is possible to reach a point of saturation, which is the point when new interviews do not add much new knowledge. For our purpose, this means that conducting interviews with more cattle producers is strictly not necessary if you have reached such a point. Already acquired knowledge is also relevant with respect to the possibility for generalization. Do the results make sense or get strengthened in relation to earlier, relevant empirical findings? If so, the argument for generalization has been considered to be strengthened, as implied by the term analytical generalizations which focus on the interplay between theory and data (cf. Yin 1994). But, there

is one crucial question left: Which pattern or conclusions can be generalized? We had quite early developed a rough understanding of the various types of possible answers to the questions we posed. Thereby, we reached a saturation point for the range of answers or types of answers. We would therefore say that it is possible to generalize the different answers or categories of answers to a larger population of cattle producers. Hence, we have good reasons for thinking that the type of answers we got by interviewing the 60 producers, is more or less the same in the larger population of cattle producers. Overall, the answers of the Norwegian producers were quite similar. However, in the cases of diverging opinions among the producers, where e.g. around half of the sample was positive to animal welfare schemes, while the other half was sceptical, we can only provide a description of these two groups, and not, as in quantitative studies say that the ratio is approximately 1:1 in the population as well. However, if there are diverging opinions, we can only generalize the categories of answers to a larger population. We cannot say anything about their relative distribution unless the answers are typical of a specific under-category of cattle producers. As we shall see in chapter 8, the investigations indicate that there might be some differences among groups of producers. When not specified, the producers should be considered as belonging to the same group. However, if a type of answer was clearly dominant in our sample, it is, according to the principles of saturation and analytical generalization, possible to say that this answer is most probably dominant among Norwegian cattle producers as well.

How the study shall be interpreted with regard to the relative distribution of answers is therefore necessary to specify. By choosing a qualitative design, as opposed to a quantitative research design, a richer understanding of the producers' perceptions of animal welfare was attained. The interviews had essentially the form of a conversation which means that our starting point for analysis has been a rich and semi-structured text. How can this rich material be summarized and contracted? Generally, we will present the study with the use of quotations we find prototypical or representative for a certain position. We will also use the terms "many" (more than approx. 30 producers), "some" (approx. 10–30 producers) and "a few" (less than approx. 10 producers) to indicate how many producers who have answered more or less the same. However, the terms are only an indication because of the complexity and difficulty in summing up the answers. This is also true for our indications in parenthesis throughout the report of how many producers that have answered in a specific manner. These are just indications, and also dependent on what questions we have included in the countings. Also, one should have in mind that the questions were posed in an open manner. When we indicate that for instance five producers claimed that transportation is an animal welfare problem, this does not mean that other producers necessarily disagree with these producers, but that they most probably are not very concerned about the issue, or at least they didn't come up with during the interview. However, posing open questions also means that when as many as e.g. 20 producers happen to mention the same problem or answer more or less in the same way, this is quite a large group.

### 3 Producers' view on animal welfare regulations

How do the cattle farmers evaluate Norwegian animal welfare regulations? Do they think that the public regulations ensure a good (enough) animal welfare? Do they find the requirements too strict, not strict enough, or are they generally content with the public regulations? And if not, what are they discontent with? How do they regard Norwegian public regulations in relation to the EU-regulations? These questions will be addressed in this chapter which investigates the producers' view on the animal welfare regulations. In Norway, public regulations are the most important instrument governing the cattle farmers' animal welfare practices. More specifically, most of the public regulations which concern the animal welfare on the farm are specified in "Regulation concerning the keeping of cattle". This was amended in 2004, and many new requirements were introduced (cf. section 1.2). In this context, posing the above-mentioned questions become highly relevant, because they explore the farmers' knowledge of the regulations, partly their compliance with them, and – not the least – their willingness to accept the coming as well as further animal welfare requirements.<sup>12</sup> However, the question of producers' willingness to accept animal welfare requirements should not mainly be interpreted as their willingness to improve animals' welfare or not. As we shall see, the producers' attitude to the regulations depended upon their established practices, economic costs, and what they considered as "good animal welfare".

#### 3.1 Farmers' evaluation of national public regulations

In this section, the farmers' evaluation of the overall animal welfare regulations, as well as their evaluations of specific requirements, will be presented.

##### *General attitude: Ambivalence*

In 2004, the new "Regulation concerning the keeping of cattle" was implemented. One of the new requirements was that cows and heifers with less than two months from calving shall have access to a lying area with a soft foundation and dense floor, which means that Norwegian farmers have had to invest in soft mats for their cows unless they have a deep straw system. This became mandatory from 2006. The biggest change will come in 2024 when tied-stalls will be prohibited, which in practice means that the producers will have to build new cow houses. The implementation of loose housing systems implies considerable investments. The farmers' attitude to the animal welfare regulations should be understood in this context.

With all this in mind, most farmers generally said they found the regulations to be reasonable. The producers, when asked about their opinion on the animal welfare regulations, as well as whether they believed the regulations would ensure a good animal wel-

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<sup>12</sup> In this respect, the answers to these questions are also relevant to the question regarding farmers' willingness to participate in animal welfare schemes. We'll return to this question later.

fare, often took their own on-farm situation as a point of departure for their answer. Hence, their attitude should be considered as contextual in the sense that they typically did not unconditionally state their enthusiasm for the regulations, but rather reflected on whether implementing the measure would function well in their house, and if it would be possible financially. Their attitude to animal welfare regulations seems to be dependent on a range of factors, such as economic and practical feasibility. Also, whether they believe the requirements will improve the welfare of the animals seem to be an important factor.

Consequently, many of the producers also made some comments which qualified their initial acceptance to the regulations. Some of these remarks concerned practical as well as financial challenges to the implementations of regulations, often of soft mats and loose housing. Some emphasised that the regulations should not become too strict or centimetre-oriented: “One must be able to look practically upon things, so you manage to get a good solution, even though one doesn’t follow the centimetres.” (13). A related point made was that the regulations seem to be invented by bureaucrats who lack the practical experience of running a farm. Both of these points are related to a third one which concerned the farmers’ motivation, as well as their rationality and wish to see things work well in their production: “We who have been in the business for a long time, [know that] things worked before, really. We don’t see the necessity of it. If we have been doing this for all years, we have understood that if the animals’ are going to be fine, we have to manage them well. But when we fill out the KSL-thing and all that, I’m telling, they think we are bandits” (25). A few of the farmers stated that they “had enough”, that they felt that there were too many changes coming too fast. One producer said that he wasn’t his own master anymore. He felt like a tenant farmer (19). Some of the producers also referred to the investments necessary in order to fulfil the requirements as a challenge. This was sometimes linked to a wider reflection regarding the development of Norwegian agriculture. One producer said that he expected a totally different agriculture, with fewer and larger units, after 2024 (15). This was supported by another producer who also feared the consequences of especially the ban on tied-stalls: “Today when you build a loose house, you cannot build for less than 40 cows. [...] Now 15 cows is the average, and many will have to cooperate. That will create big challenges. [...] What happens with the next generations when they don’t have a sense of belonging and don’t have a feeling for these common houses? Who’s going to run them? I think we will struggle a lot hereafter” (45).

Most of the informants believed that the regulations would ensure a good animal welfare. However, a few farmers emphasised that the regulations could never actually ensure a good animal welfare, since it would be up to the farmer how (s)he implements them, or whether (s)he follows them. In this sense, it is important that the regulations are understood or accepted by the farmers, as one of the informants emphasised (13). In the same spirit, another producer emphasised the “cowman-factor” as important to animal welfare; i.e. emphasising that some farmers are good (i.e. clever, professional) with

animals, others are not. Other producers made similar points. Just one producer said explicitly that he didn't believe the regulations did ensure a good animal welfare. He claimed that cows are doing just as fine in a tied-stall house as in a loose-housing barn.

Some of the producers (approx. 13) did not express any serious objections to the regulations. They seemed to have an unproblematic relationship to it, and/or were in favour of the regulations and the changes. They found the changes important to the animals' welfare. Among these producers, eight were suckling cow producers. All of the *organic* suckling cow producers were among these. Seven of them were women. Hence, organic, suckling cow and female producers were overrepresented in this group, and vice versa, conventional, dairy and male producers were underrepresented. One should be careful in drawing too many conclusions from a relatively small sample. Nonetheless, a point that could be made is that the dairy production is the most regulated, the most intensive production, as well as where the changes will be most consequential due to novel public regulations and measures. It therefore makes sense that the public regulations are perceived of as most problematic in dairy production.

#### *Areas of improvement*

Next, we asked the producers whether they could point to any weaknesses or areas of improvement regarding the public regulations. Many of them could not at the spot refer to any specific requirements which they felt as being a burden, either because they generally did find the regulations to be acceptable, or because they could not think of a specific weakness (approx. 20). Some of the answers to this question were of a more general character referring to the economic costs of implementing new requirements, which possibly will lead to more cattle producers quitting, or the regulations as being too bureaucratic. One producer claimed that the requirements are implemented too fast, and that all of them were coming at the same time (12). One of the producers referred to the drive for efficiency as a weakness because it makes contact and time with the animals more difficult "It has become less and less time to care for the animals, both emotionally and hygienically [...] You must have so many animals that you don't have time for each animal. It becomes only a reproduction" (30).

However, there were producers who pointed to specific weaknesses or problems with the regulations. Some producers referred to problems of the functioning of some of the requirements. Many of their comments were related to the new public requirements. One producer referred to the increased challenge of claw care ("kløvstell") due to the implementation of soft mats, as the claws don't get worn down the way they did when the cows were standing on concrete floor (42). Three producers referred to problems with keeping the soft mats dry and clean: "If you put soft mats directly on a slatted floor, you get a water pool, and she [the cow] will lie in a wet environment. I'm not sure if that is better. You have fulfilled the requirements, but if you haven't got an optimal alternative, I'm not sure" (9). This quote is quite representative for the group of informants in the sense that it reflects many of the producers' attitudes to the requirements:

What is important is that they find practical solutions that function well at their own farm. This attitude was reflected by a producer who said the following: “If you see that things function very well in your own cow house, and then there is a rule telling you have to redo a part, but maybe you don’t believe that it will improve for the animals. That becomes a dilemma” (55). The wish and need to use the houses that you have, was also indicated by a producer who participated in a joint production (“samdrift”). They were forced to use a tied-stall for their heifers, but weren’t allowed to use their cow trainer. He thought it was better that the animals are dry and clean, with the use of cow trainer, than dirty. He underlined the importance of being flexible in transition periods, until the farmers have been able to build new houses (40). Besides the demand for soft mats, fire detecting systems now become a requirement. All houses with more than 30 cattle shall have a satisfactory fire detecting system from 2007. One producer found it strange that the public requirement was linked to the number of animals, and not to the type of buildings: “It is just as bad for me if 20 animals burn inside, or 30, 40 or 50 animals. You need to look at what type of buildings people have today [...]. I don’t have a fire detection system in my new house, but it is a building of steel. I have asked: What can burn here? Is 30 animals the rule, and that’s it?” (20). Another new demand in organic production was also commented upon. A new requirement from 2005 was that also bulls older than one year must have access to grazing areas or exercise area (Mattilsynet 2006). One of the organic producers strongly opposed to this as it, in his opinion was impossible: “An animal shall have as natural conditions as possible. But it is not normal to group them in such large stocks as we do today [...]. Picture me in three years, when I have 90 bulls in one field. I’m not going to be proud of that [...]. It is not possible. It is best for individuals to be outside, but all know there will be problems with rank orders” (8). A few producers were concerned about the emergency slaughter system, and underlined the importance of maintaining the current system. One producer made an interesting reflection regarding the functioning of the subsidy system in relation to the animal welfare regulations. Today, the subsidies are based on regular countings of the number of animals. According to this producer, one then get problematic situations with too high density of animals prior to the counting, especially for sheep and goats. He underlined the importance of finding a measure which would not jeopardize the animals’ welfare, but rather encourage it. He suggested harmonizing the animal welfare legislation with the subsidy grants by basing the subsidies on the amount of quality meat delivered: “If you deliver a P-beef [referring to the classification system for meat quality at the abattoirs], at least a Norwegian Red, they couldn’t have had much access to good food and water” (22).

#### *Attitude to specific requirements*

By asking the farmers about their attitudes to animal welfare issues, we hoped to gain an understanding about their willingness to implement new measures, as well as obtaining an insight into their specific practices. We didn’t only ask about their attitudes and experience, but also whether they had actually implemented the measures in question. Some of the measures we listed during the interview are part of the public regulations,

but has either recently been made a demand (soft mats), or will be made obligatory in some years (loose housing). The remaining measures are not mandatory by the conventional regulations. In the cases where the farmers were positive or already had implemented these measures, this should be considered as attitudes or practice above legislation or “the expected level”. The measures were chosen based on our general knowledge of the field, gained partly through consultations with professionals in the cattle sector, as well as an animal welfare organization.

*Soft mats/soft surface:* As mentioned above, a soft surface, which typically imply soft mats (such as e.g. mattresses) became obligatory from 1.1. 2006. We interviewed most of the farmers in the winter months of 2006, so this requirement was brand new at the time of interviewing. Consequently, this was also a good opportunity to investigate to what extent the producers follow up the requirements in due time, as one of our questions was whether the farmers animal welfare practice was on/above/or below the legal requirements (cf. also section 5.2). However, as the requirement for soft surface are only valid for cows and heifers with less than 2 months from calving, the requirements did not affect the fattening bull producers. Also, a few of the producers had installed a deep straw system (“loose housing”), which qualify as soft surface. Most of the producers reported that they had invested in soft mats (approx. 30). A few told that they had used this for several years. Some producers (approx. 12) reported that they hadn’t put in the soft mats at the time of interviewing. Among these, 3–4 said they had planned to, but there were also 2–3 who were negative to the soft mats which might explain why they hadn’t invested in it yet. These producers pointed to problems with moist and cleaning.

Overall, the farmers seemed to be positive to the requirement for soft surface. Most of the producers (approx. 41) reported that they were in favour of the requirement, and/or had good experience with it. One reason in support of the soft mats was that the cows lie longer then earlier, and hence, they milk better. Another reported advantage was fewer problems with teat trampling (“spenetråkk”). Moreover, some pointed to the increased comfort, since the animals feel better when they lie on soft mats: “One could just try oneself to lie down at concrete” (12). Although being generally in favour of the soft mats, the farmers also had worries. The greatest concern was with regard to the animals’ claw health, which also implies extra work and costs for the farmers. Another concern mentioned was the danger of bedsore.

*Loose housing:* The requirement for implementation of loose housing, or in fact the ban on tied-stall systems from 2024, is the largest and most consequential animal welfare change in Norwegian cattle sector. For the farmers, it means that they will have to build new houses. As per today (2006), only 14 percent of the stocks have loose housing, and 25 percent of the animals are in loose-housing barns (Ruud 2006 [personal communication]), which means that considerable investments need to be made before 2024. The exception is for calves, which from 1.1.2005 (defined as animals from 0–6 months)

were not allowed to be tied-up, and shall not be kept in single pens after 8 weeks of age (Regulations concerning the keeping of cattle, §23). In the sample, 15 informants reported to have loose housing, 26 said they didn't. For the rest, we lack information. Among those who said they had loose-housing; large, suckling cow and organic producers were overrepresented. Among the milk producers who had loose-housing, all of them were classified as large. Two of them had joint productions ("samdrift").

We asked the producers what they thought about the requirement for loose-housing. Most of them said they were positive to a ban on tied-stall houses (approx. 38 producers). 14 of the producers were strongly or mainly against it. It is difficult to see whether these producers systematically differ from the rest. Among those informants who supported the requirement, many also saw problems with it. Hence, the producers can be described as ambivalent about the recommendation; i.e. positive to the requirement in most respects, but negative in others.

What are the positive effects of loose housing and what are the negative effects, according to the producers? One positive consequence mentioned was the fact that the animals don't need to stand tied up the whole winter. One producer referred to the animals' natural needs: "Animal welfare is to take care of animals' natural needs, and in my opinion a natural part of an animal's life must be to move. But traditionally that has not been focused on" (24). The increased freedom of the animals to be able to do as they feel like, was also mentioned. The animals can go and eat when they want to (25). Overall, loose-housing were considered as better for the animals.

The negative aspects of implementing loose housing were linked both to the animals and farmers. Quite many producers argued that loose housing is not necessarily better for the animals and pointed to the animal welfare problems in loose housing, such as difficulty in keeping a clean house, increased problems with claws and increased bullying (approx. 14). One mentioned the problems of the transition to loose housing, as the animals are used to stand in tied-stalls. Another meant that calves are doing better in tied-stalls since they then are cared for individually. He also thought that illness is easier to detect when the calf is in a tied-stall than when it is in a pen (47). Another aspect mentioned is that things have worked well before. "They have been standing there forever. If you care for them well, I do not see the problem with them being tied up" (16). But not only animals might become worse off with loose-housing. Also Norwegian agriculture might be affected negatively, according to some of the producers (approx. 10). Due to the large investments, many producers will have to exit from cattle production. A few farmers were then concerned about the decreasing number of producers: "I don't think that the costs balance reasonably in relation to the gains achieved. I can imagine a totally different agriculture after 2024, if this is going to be carried out [...]. Then I think about the structure and where there still will be animals" (15). According a few of the producers, especially smaller producers will fall off. A couple were particularly concerned about this: "Then two or more will have to merge in order to continue, I think it

is a pity that the attitude is that everything is going to be companies, not farms.”(29). Or as another producer phrased it: “You will get an industry-like agriculture such as in England. There will be big industry, and then you will get cow madness. [...]. We who live in northern-Norway, we only have hay harvest once a year, we don’t have the 2. or 3.time harvest. A minimum requirement for having a loose-housing barn is 16–20 cows. I don’t run in that large scale, and I don’t have the fields for it either” (32). Another producer pointed to the large investments necessary, but which economically will be a bad investment. You invest 1 million, and afterwards you earn just as much as before (14).

*Suckling:* In suckling cow production, the cows suckle their mothers for several months. In milk production, however, the calves are usually separated from their mother shortly after birth. In organic production, however, the requirement is that the calves suckle their mothers in at least 3 days. We asked how the producers would consider a requirement for – and/or practice of – suckling in milk production also. Only a few of the milk producers had tried this before. Quite many of the producers emphasised some positive aspects of this requirement (approx. 25). Many of them were suckling cow producers or fattening bull producers. A few pointed to the possibility of having so-called “suckling cow aunts”; which are poor milking cows whose task is to feed the calves. However, most of the producers saw problems with such a practise or were against it (approx. 32). The main problem pointed to were the difficulty of splitting up the calf and the mother after some days: “It is good for the calf, but bad for the cow. The longer they get marked by being a mother, the more difficult it becomes to be separated” (45). “It is simply animal abuse, because then the cow gets attached to the calf.” (46). Other referred problems were related to the housings systems, extra work for the farmer, as well the lack of interaction with human beings in the first days: “They get crazy if you approach them [...]. From Oslo, it seems very nice to see that the calf suckle the cow, but if you come near them, you risk to get bashed, and that’s a thing you don’t think about when it looks nice” (52). A few underlined the importance of giving the calves colostrums right after birth, which is regulated by law (§21), this being more important the suckling itself.

*Teat- or bucket-feeding:* A related question concerned the farmers practice and attitude towards teat-feeding, for example a milk-bar-system or a teat bucket versus feeding them from a bucket. In the organic production, teat feeding is mandatory in the first month. The advantages of feeding the calves with teat buckets, as mentioned by the farmers, is that the calves get their need for suckling satisfied. Also, the amount of milk is given in smaller doses, which leads to less diarrhoea. Most said they were teat-feeding the calves, at least in the beginning. 10 said they used bucket. Most (approx. 25) very also positive to teat-feeding, although not necessarily as an obligatory demand. It was also remarked that everything doesn’t need to be regulated. Some measures are self-regulating: “If feeding the calves with teat buckets is the thing needed to keep the calf free of diarrhoea, teat-feeding systems will be something the farmers will wish for [...]. It is important for the farmer to give the calves a good start. I think the farmers are

able to judge these things themselves, and it is very difficult to issue a requirement that to such a high degree is impossible to control” (34). Some informants were also negative (approx. 12), among which many didn’t use it today. The problem most often referred to was the difficulty in keeping the teat buckets clean and free of contamination. One mentioned that some calves don’t get enough milk, because they loose in the competition with others.

*Outdoor-area:* According to Norwegian regulations, cattle shall be grazing outside for a minimum of 8 weeks per year. The exception is for uncastrated bulls which don’t need to be let out. According to the organic regulation, cattle in tied-stall houses must have access to, or be let out, at least 2 times per week. The exception is if they are in a loose housing barn. Then they don’t have to have access to an outdoor area (Mattilsynet 2006). We asked the producers if they would endorse a requirement for outdoor-access for all animals all year, and whether they would consider letting the bulls out as well. Some of the farmers emphasised the advantages of an outdoor-free-range-area (approx. 25). The ones who were positive, were positive on behalf of the animals. A few were in favour of making it a requirement: “There are many things which imply extra work that maybe is not being done, [...], so sometimes you need regulations so that things get done in practice” (33). A few (approx. 8) also had an outdoor-area. However, the majority were rather reluctant, as they expected practical problems (approx. 30). As one producer precisely phrased it: “Yes, it would be a good thing if some one would like to pay for it” (28). Some pointed to climatic problems of rain and cold, and the extra work if you have the animals in a tied-stall system. One producer said that he thought it would be stressful for the animals. The eventual reluctance was related to the practical part of it. The greater part of the informants was negative to a requirement for outdoor access.

But what about letting the bulls out? A great majority of the producers were negative to this (approx. 39). Also, among the 10 organic producers interviewed, most were negative or ambivalent about this new demand. The producers were negative mainly due to security problem of keeping the many hundred kilo animals under control: “I’m not going to have my bulls out once a week. That is at the risk of one’s life.” (26) According to the producers, the bulls are too strong and dangerous. But there were a few producers (approx. 9) which were positive or did see some positive aspects of it. One of the organic producers (specializing in Hereford cattle) was in favour of it. “I think the demand is OK (Interviewer: Not all organic producers do?) No. But then I tell them they must get Hereford, so he will be calm” (37). One pointed out that when they get used to go outside, they are just as calm as other cattle. Another commented that they are also in need of it.

*Cow trainer:* Cow trainers are often used in tied-stall houses. A cow trainer is a tin or wire structure supported a few inches above a cow to prevent her from soiling the platform of her stall by administering a gentle electric shock if she arches her back to urinate or defecate while too far forward in the stall (US Environmental Protection Agency

2006). Hence, the cow trainer helps the farmer to keep the stalls cleaner. Numbers from 2002–2003, show that the cow trainer was still in use in approx. 85 percent of all Norwegian houses with a tied-stall system (St.meld nr. 12 (2002–2003)). However, from an animal welfare perspective, the cow trainers are controversial. The use of the cow trainers, as well as the type of cow trainer allowed, is regulated by law. We asked the producers if they were in favour on a total ban on cow trainers, as has been issued in e.g. Sweden. Some of the producers (approx. 18) were either against the cow trainer, or were sceptical to it. Among these, suckling cow, organic, as well as producers with loose-housing systems, was overrepresented. Only three milk producers with tied-stalls were among the sceptical ones. Most of the producers (approx. 31) reported that they saw cow trainers as a “necessity”, as many phrased it, in order to keep the stalls clean: “I use it, and I believe it is necessary, at least the way the situation is now. Otherwise it gets so dirty, and I think they are worse off with that” (21). Some emphasised that they used the cow trainer according to the regulations: “But we do use it with sense. We take it away from sick animals, and for animals that are going to calve. We don’t use it everyday. There may be 2–3 days that we don’t use it. I don’t want a ban on it, but it should be used with sense” (9). One person linked the use of cow trainer to food safety, another to animal health. A few pointed out that cow trainers are a “tied-stall-phenomena”.

*Cow brushes:* We asked the producers about their opinion on cow brushes, which are brushes which are installed in loose housing barns which enables the animals to scratch and groom themselves. Only a few of the producers (approx. 8) reported that they have installed brushes. This is a type of system which is only possible in loose-housing systems, as underlined by the many of the farmers. It is not made mandatory by regulations. Many of the farmers knew of it, had seen it in catalogues, commercials or at farmers with loose-housing. And a great majority of the producers (approx. 44) were in favour of such cow brushes: “Yes, I believe that is good. Those who have loose housing, I have seen such rollers. And I have seen commercials for such brushes” (18). “Yes, it’s on the wish list – a rotating one. We have seen how they thrive with a fixed cow brush. That is good welfare. Then they can use some time to groom themselves” (39). Some pointed to the thriving of the animals, others to a related factor, to get rid of mite and louse. Some (approx. 17) said that used to scrub their animals in the stalls manually with a brush. The farmers experience that this is something the animals like, which is the reason why they are in favour of it. A couple underlined that they don’t want the measure to be regulated: “I think it is better that the farmers themselves see what needs to be done. [...]. If there are a lot of demands, there will be resistance. It is better if the farmers see the necessity of it” (16).

*Summing up,* most of the farmers appear to be somewhat ambivalent towards changes related to animal welfare regulation, although most seem to accept them. They are not necessarily negative in the sense that they don’t see any positive aspects of changing, but their attitudes are based on their personal experiences of what has functioned well at their farm so far. Their attitudes seems to be particularly linked to the “material structu-

re” of the farm, in the sense that their houses (particularly the cowsheds) to a large extent limit and shape their opinions regarding what is perceived of as possible and realistic changes. Most changes are costly, and the farmers don’t necessarily believe that changes will improve animal welfare. Most farmers seem to be content with the current welfare situation at their farm, and don’t have much impetus to change (cf. section 5.2). As illustrated in the case of cow brushes, the farmers have experienced that this measure enhances animal welfare, and hence, are more positive to implementing it if/when they convert to loose housing. Subsequently, cow brush will not represent much of an extra cost.

### **3.2 Knowledge of animal welfare and animal welfare regulations**

How do the farmers assess their own level of knowledge when it comes to animal welfare? Are the farmers familiar with the regulations? How do they assess their own knowledge about the national legislation, as well as the legislation in the EU? From what sources do they gain knowledge? Who informs them about animal welfare issues? What role does the veterinary play in this respect? These are the questions to be addressed in this section.

Most of the producers (approx. 39) evaluated their knowledge as “good”, “fairly good”, or “good enough, sufficient”. Some assessed their knowledge as “average” or emphasized that they could be more knowledgeable. Only a few (approx. 4) meant that their knowledge is insufficient.

The typical response from the farmers to our question of whether they are familiar with the regulations was as follows: “I know them, by and large. Not in detail, but the most important changes.” Most of the producers (approx. 46) were of the opinion that they were knowledgeable of the regulations, although not in detail. They told they don’t know them by heart, but either they know where they find them, they are familiar with them to some extent, and/or they know of the regulations which are relevant to their own practice: “Now, I don’t know it in detail, but I know where to find it” (23); I don’t know it that well, but generally I believe I am fairly well oriented” (11). A few informants reported that they knew them to the letter. Only a few (approx. 9) emphasized their own lack of knowledge. But all in all the producers meant they are quite familiar with the regulations. This was also our impression from discussing with them. Regarding the EU-legislation our impression was the opposite, which was confirmed by the producers. Some emphasized that they didn’t know the EU-legislation, and none reported that they were familiar with it (cf. also section 3.3).

Just as interesting, however, is how they justified their knowledge and from what sources they sought new knowledge. Who informs them? How have they gained knowledge? The answer to this question indicates what type of knowledge the producers consider as relevant and important to the issue of animal welfare. Among the most impor-

tant sources of knowledge appeared to be the sales cooperatives (TINE and GILDE) and the farmer organisations (Bondelaget). Both the meetings and study groups they organise, as well as the written information and guidelines they make, were referred to by the farmers as sources of knowledge and advisory services. Journals were also referred to as a source of information, as well as conversations with other farmers. In addition, governmental offices, such as the Food Safety Authority was reported to be a source of advice, particularly when it comes to interpreting the regulations. The veterinary is also a person some reported to consult. We also asked the producers explicitly whether the veterinary played a role in advising them in animal welfare issues. Most of them told that the veterinary was someone they consulted and listened to (approx. 34). A few said they didn't use veterinary very often. There was also a group of producers (approx. 15) who told that the veterinary didn't play an important role in consulting them, as they seldom gave advice. This was explained by the fact that the veterinaries are usually too busy, that maybe they don't dare to advise them, or that they are too little experienced. Some of the producers (approx. 12) referred to their own experience as farmers in support of their judgment of being knowledgeable: "You gain practical experience after a while, you see more things, you get experienced" (29). It is also interesting to look into the sources or type of knowledge the farmers didn't refer to. A couple of times, the farmers' practical knowledge were contrasted to scientific knowledge, or educational knowledge. Generally, although most of the farmers were educated as agronomists, very few of them referred to their own education as a basis for knowledge. The following quote exemplifies the contrast: "I don't have agricultural education, but I have 40 years of practice. I believe I'm on level with those who have been educated in that way" (11). Or as another producer stated: "Animal welfare is really not that difficult. You don't have to be a professor to understand that. You can see it. I have grown up on this farm, and I have been managing animals since I was a boy. You get a certain experience with animals. You don't have to go to school to learn animal welfare. It comes automatically". (26). Only two of the producers referred to books or knowledge of animal behaviour or natural behaviour. A couple of them referred to media, and one producer to conversations with consumers. No one referred to animal welfare organizations as an important source of information. Summing up, actors who possess practical knowledge about how to run a farm are perceived of as the major source of knowledge when it comes to animal welfare. Scientific or other types of knowledge-relations to animals were not consulted.

### **3.3 Norwegian regulations in a European context**

Norway is not a member of the European Union. However, due to the Veterinary Agreement, which was negotiated in 1999 as part of the more general EEA-agreement (European Economic Area), Norway has to implement the animal welfare legislation of EU (Veggeland 2002:56). But, since the EU-regulations are minimum directives only, the national regulations may be stricter and cover more areas than the EU-legislation. This

holds true in the case of Norway, since there is legislation only for calves in the EU, and not for all cattle.

Many of the Norwegian farmers reported that they were not familiar with the EU-legislation, or the animal welfare situation in the EU (approx. 24). Therefore, they were either reluctant to communicate their opinion on the relationship between the Norwegian legislation and EU-legislation, or emphasized that they expressed a belief rather than a well-informed standpoint. More specifically, we asked whether the Norwegian regulations were conceived of as sensible as compared to the legislation of other countries, and if the farmers thought that the legislation should be more or less the same/harmonized across nations.

Most of the producers believed that animal welfare legislation is stricter in Norway than in the EU (approx. 32). Either they were confident in it, or they only had the impression of it. Some phrased it saying that Norway is “one step ahead”, others based their opinion on the lack of regulations, or poorer conditions in the EU. A few informants told stories from visits in the EU, or from pictures from transport. No one believed that the welfare situation or the regulations are stricter in the EU-area, although there was one farmer who believed that the regulations are stricter in some respects, less strict in others (50). But there were a few farmers in our sample (approx. 5) who didn’t believe that the animal welfare conditions/regulations are poorer or less strict in other countries in Europe. There were also a few producers who assumed that the welfare regulations are already the same across Europe: “The regulations are EU-standard, aren’t they? Isn’t it an EEA-standard?” (55).

Among those who believed that the Norwegian regulations are stricter, the majority approved of this (approx. 19). Different reasons were given. A couple of farmers referred to the survival of Norwegian agriculture, and the use of animal welfare as a competitive advantage of Norwegian agriculture: “Stricter regulations make it easier to get acceptance in the population” (10). Two other producers linked it to food safety: “It is food that we are producing. It should look pretty fresh” (11). For others it seemed to be linked to a national pride of being “ahead” or “best in class”. One producer linked the level to the issue of animal welfare: “The regulations should be so strict that they ensure that the animals are fine. I think that the Norwegian regulations are.” (53)

But there were also producers who were more in favour of harmonization of the regulations (approx. 11), mainly in order to ensure similar conditions in the case of more open boundaries. Today Norwegian agriculture is protected by high toll tariffs, but in future this might change. As one producer argued: “I think it’s sensible that the regulations are more or less the same in the different countries if they not already are, because it has something to do with the external conditions. The production will be moved to countries with a poorer animal welfare, if they somewhere are too strict” (21). However, these producers were not necessarily in favour of less strict regulations in Norway: It is sel-

fish to say that we should be better, it should be the same. But the standards “downwards” should be raised, we are somewhat better today” (8). Their opposition to a strategy of having stricter requirements than the EU, should therefore not be interpreted as if these producers are in strong opposition to the current welfare level and regulations.

There were also a third group of producers (approx. 8) which underlined the importance of adapting animal welfare regulations to the specific situation in different countries. The differences in climate, as well as in the size of the livestock, were pointed to: “We have other conditions for production. It is not sensible that we *should* have the same regulations, but we *could* have it. But one should consider what the specific needs are in Norway, and evaluate the existing rules” (59).

### **3.4 Control of animal welfare**

In Norway, the Food Safety Authority – a governmental body – as well as local Animal Protection Boards with voluntaries is responsible for carrying out animal welfare inspection and control. In addition, the basic assurance scheme KSL carries out control in which animal welfare is one of several components. These controls are carried out on a regular basis, but if the inspection rate is kept at the current level, each farm will only be visited once every tenth year (Groven et al. 2004:52). The organic producers are controlled once per year by Debio; i.e. the organic certification body. Most producers reported that they had been controlled by one or more of these agencies. Most reported that they had at least one control, a few told they had had more controls, but the number and by whom seemed to vary. Just one complained about too much control. A few pointed out that they hadn’t had much or any control of the animal welfare.

We asked the producers what the different inspectors had actually controlled. Those who had been visited by KSL-controller reported that most aspects of the farm had been controlled; such as animal welfare, documentation and fertilizers, as well as the security. A few farmers pointed out that the inspectors seemed to be most interested in the papers (written documentation). One told that they had only examined the paper, and had not been in the cow house. Those who had been visited by the Animal Protection Board told these inspectors had investigated the air quality, the space of the animals, the cow trainer, the length of the rope which ties up the animals, and that the regulations in general were fulfilled. The Debio-control was also reported to be a general inspection of both animal welfare and other aspects such as what type of fertilizers they used, and type of fodder bought. The Food Safety Authority concentrated their control on the regulations with regard to stalling, cleaning and whether the soft mats were installed. Most of the producers experienced the control as being a “real” and “serious” control, and as a few pointed out, as tough if you don’t have things done properly. However, a few producers (approx. 4) didn’t experience KSL-control as very strict or serious, or as a little quibbling. One farmer remarked that the inspectors had been overly concerned with the papers (I.e. the written documentation).

When we asked them about possibilities of improvements, quite many of the producers pointed to weaknesses of the current control regimes, and suggested potential measures. Some of the points were related to the importance of conducting a real control, rather than controlling written documentation: “You come far vis-à-vis the controlling agencies today as long as you have your papers in order. [...] Maybe one should conduct more practical investigations? [...]. If a system is going to market Norwegian agriculture, it has to be a real system; it shouldn’t be only something that we say we do” (3). A few farmers pointed to the need for more surprise-based (unexpected) inspections. Other informants asked for more control. One producer who was himself a member of an Animal Protection Board formulated himself as follows: “One should use more time for spontaneous inspections. And don’t let it become too much paper. It is a rule of red tape of another world. Today there are becoming longer distances between the farmers. You are not allowed to visit one another as before, which leads to a reduced level of self-control. If you could get rid of a little bit of that “death stamp”. Earlier the Animal Protection Boards were equal to death [...] (Interviewer: Are there few surprise controls today?) Yes, I believe that are terribly few. We get a tip, and then there are lots of paper and hubbub and hubbub” (22). One producer called for a system of feedback for the veterinaries, so that they can more easily report their findings. One called for less negative control, but improved guidance and encourage as to how the producers could improve. The need for more practically-oriented and better educated controllers was also referred to: “The Food Safety Authority has inspectors who lack the necessary competence that they are there for. At least not all. Because the Food Safety Authority is swept together. They are visiting both shops and farms. There were two here, one of them was such a “refrigerated cabinet man”” (49). One producer meant there are too tight bonds between the farmers and the controllers. There were also some who couldn’t think of anything, mostly because they thought that the control system works fine today (approx. 15).

## 4 Animal welfare schemes

There are only two well-developed animal welfare schemes in use in Norwegian cattle production. The greater majority of the producers participate in the basic quality assurance scheme KSL. In addition, organic producers are members of the organic scheme Debio. Hence, the differences between the producers regarding participation in schemes, reflects by and large the difference between conventional and organic producers. These types of productions are governed and enforced by different regulations. Participating in KSL, means from an animal welfare perspective, to follow the Norwegian public regulations. The organic production is regulated by the EU-regulation for organic production, which is specified in a Norwegian guide (“veileder”). However, to participate in a scheme has further ramifications for the involved farmers; such as quality assurance, control, and paper work. We asked the producers of their experience with the schemes, their motivation for participating, how they gained knowledge of the scheme,

as well as whether they would consider entering a future specific animal welfare scheme, or if they would object to a development towards more schemes.

#### **4.1 Participation in current schemes**

This section presents the producers' experience with their current scheme-affiliation.

##### *Recruitment – knowledge*

All of the producers we interviewed, except two, participated in an animal welfare scheme; either KSL or Debio, or both. Most of the organic producers take also part in KSL. However, in our sample there were two who only participated in the organic scheme. KSL was initiated in 1995, but the auditing and the quality assurance scheme as we know it today, started first in 2001/2002. The farmers were recruited and were informed about the scheme through a number of channels. Material was sent out, information given through “agricultural-media”, and study circles were arranged. Around half of the producers have participated in a KSL-study group (Solbu 2006 [e-mail communication]). The abattoirs were the most important actors in conducting the recruitment-work. Whereas most of the dairy producers have participated from the beginning, suckling cow producers have entered gradually (ibid.). The one producer we talked to who didn't participate in any scheme, was a suckling cow producer. A couple had just recently entered because of the new financial system from 2005 which impose the producers a price deduction from not participating, instead of a premium price.

##### *Motivation for participation*

Why do the producers participate in KSL? According to the producers' answers reported here, it's not first and foremost due to their enthusiasm for the scheme as such, but rather because they are expected to participate, and/or because of the financial incentive built into the scheme: “The situation has become such that if you are delivering milk or meat you have to participate in KSL. You can remain outside, but then you get a lower price.” (11). A few producers (approx. 2) underlined that participating in this respect is a prerequisite for being able to deliver. The fact that all other businesses have some kind of control, makes it natural that there is also some kind of quality control in the agriculture, was also mentioned by a few (approx. 4). There were also a few producers (approx. 8) who emphasised positive aspects of KSL as reasons for participating; such as the quality assurance it provides and the information and overview one gets. But all in all, the impression is that the producers participate because they feel they have to. A couple of the conventional producers, as well as two of the organic producers, had chosen not to participate. The two conventional producers were both “freethinkers”, and were generally opposed to the increased control and bureaucratization of society. One pointed out that it would be better to appeal to the producers' own rationality and thinking. The other pointed to the “extra economy generated in the game”. The two organic producers, who didn't participate, considered participating in KSL and Debio as overlapping. In 2004, a thorough evaluation of KSL was carried out by Vestlandsforskning

and SNF (two Norwegian research institutes). This evaluation showed that the farmers who have chosen to stay outside of KSL, do so either because they find KSL too bureaucratic, or due to dissidence with the KSL-system (Groven et al. 2004). The two conventional producers that didn't participate may be said to be of the last kind.

What about the organic producers: why do they participate in Debio? In other words: why have they decided to become organic producers? Their motivation reflected that they have had a choice whether to enter or not.<sup>13</sup> Most of the organic producers said they had become organic because it corresponds with the way they want to run a farm, especially with regard to the use of pesticides and artificial fertilizers. Stricter requirements for animal welfare were not mentioned as a reason for converting to organic production methods. Two of the organic producers referred to extra payment (premium prices) as a motivation for becoming organic.

#### *Pros and cons of being a member of schemes*

The greatest barrier and disadvantage of KSL, according to the producers, seems to be the extra work and time that follows from membership. This work is probably experienced as extra problematic to the extent that the producers don't experience it as useful for themselves. A few pointed to some of the requirements as being unnecessary and redundant. A couple referred to KSL as reflecting "the greater society's decision of how things should be done, without necessarily having been in a cow house" (3). A few pointed to the lack of control, and problem if KSL becomes an "office desk bureaucracy" where it is more important how your papers are filled out, than how your cow house looks like. Some of the producers (approx. 19) also claimed that being part of KSL did not affect how they carried out their production: "KSL are things you already do" (6).

However, many of the producers did see advantages with KSL. These producers pointed to the information KSL provides, the increased overview that they get, the extra motivation that it gives them to get things done, the control, the extra focus on e.g. security, the documentation and quality assurance it provides, as well as the extra payment. A few of the farmers also pointed out that the system has become simpler, and that it was something they had to get used to. Some told that being part of KSL influenced their practice: "It makes you more alert" (20). Besides, most of the producers experienced that KSL or schemes in general are something that farmers have to participate in today. Even though there are possibilities of still standing outside schemes, in practice, there is not because of the financial punishment of not being a member: "Up till now there has been possible to stay outside. But it seems like the Government doesn't want that. In the end, a demand will probably come which says that you can't deliver without being a member" (20).

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<sup>13</sup> However, in this context it should be mentioned that for many conventional producers it is an explicit choice to be a conventional producers. However, when asking the producers about their motivation for entering KSL, we didn't, as for the organic producers' decision to enter Debio, ask about their motivation to become conventional producers.

A few producers had suggestions as to how KSL could be improved. More control and improved coordination were mentioned: “There has to be a lot of money in the system when two-five persons can come and control each other, and don’t trust what we are doing [...]. The control is necessary, but not that they come and control each other. One man, who controls everything, is enough” (19). Two of the organic producers pointed to improved co-ordination between KSL and Debio as they felt these schemes overlap. More focus on quality and ethics, was suggested: “That I have to write what day I’m started to cut grass, and how many days here and there has got nothing to do with product quality, and nothing to do with ethics” (48). Easier forms, more practically oriented controllers, as well as the importance of time-lag between new requirements, were more general points referred to.

Many of the same points were made by the organic producers and their experience with participation in Debio. Of the advantages, good information as well as the good control was pointed too. The costs of being a member, as well as a little too much bureaucracy and pedantic rules, were negative aspects referred to.

## **4.2 Future schemes**

Schemes are not a common way of organizing animal welfare requirements in Norway. But one could imagine a future in which specific animal welfare schemes were developed, and animal welfare became an area of differentiation among producers in order to benefit from higher price in the market. Would the producers consider entering an animal welfare scheme? What do they think of a development towards more animal welfare schemes? What would make them enter such schemes? Do they think that an animal welfare-brand would have appeal at the market?

### *Motivation for implementing stricter requirements/entering an animal welfare scheme*

Some producers could be interested in entering an animal welfare scheme, others were more sceptical, or didn’t want to. Few seemed to have given the issue a lot of thought as animal welfare schemes are rare in Norway. Among those who did find participation interesting (approx. 21), this was something they could consider if there wasn’t too much work or it depended on the premium price. One producer claimed that there was too much bulk production in Norwegian agriculture, and was interested for this reason. One informant would consider it if it meant that the animals’ conditions would improve. Among those who were negative (approx. 25), or reluctant, several reasons were stated: The public regulations were conceived of as strict enough, hence, there is no room for schemes; things are fine today; participation might lead to more bureaucracy, more paper work; the consumers think only about prices; branding is negative; or for practical reasons such as need for large investments, entering a scheme wasn’t feasible in their situation. As a familiar example of a scheme with stricter requirements for animal welfare, we introduced the organic scheme Debio. Negative aspects of organic production

were therefore also brought up as reasons for not entering a scheme with stricter requirements for animal welfare.

Better payment for their animals, was the motivation that most frequently were mentioned by the producers as to what could make them consider entering an animal welfare scheme. They were also asked explicitly whether a premium price would be a requisite for entering schemes. This contributed to bringing up the issue of payment in their answers. However, a few of the producers (approx. 8) also mentioned better welfare for the animals as a motivation for entering a scheme with stricter animal welfare requirements: “I hope I have the attitude that it is not dependent on the economy. If I see that an animal is not doing well, and I’m not well, I do it independently of whether this or that is the price” (42). No particular groups were overrepresented among those. One producer mentioned the pride in his work as a motivating reason for entering. A few underlined that it wasn’t an issue of whether the regulations are strict enough, and that they were content with status quo (approx. 7).

#### *Development towards more schemes*

Do the producers welcome a development towards more competition on animal welfare through the establishing of animal welfare schemes that go beyond the law and public regulations? Their answer to this question may also illuminate their willingness to enter schemes. This question was quite complex, as the producers had to offhand reflect on an unfamiliar topic. Few of the producers had given the issue much thought, and the interpretation of the question might also have varied. A few didn’t know what to answer. Some of the producers were positive to a development towards more schemes or increased competition (approx. 19). Some didn’t explain their attitude. A few (approx. 4) pointed to the motivational factor that such a competition would represent: “It would be something to stretch for” (33). Others pointed to niche production as something positive – better prices, information to the consumer as well as increased interest among consumers – as reasons for their positive attitude towards animal welfare schemes. However, roughly just as many producers were more sceptical to or against a development towards greater competition (approx. 17). A range of causes for this scepticism was referred to, among others that schemes may create an A- and B-team among both farmers and animals. It’s to be preferred that all animals are doing equally well. This was clearly phrased by a couple of producers, as exemplified by this young producer: “In Denmark you have different brands for pigs, from those who are mistreated, to a little less mistreated, and up to good. Interviewer: Is a common standard more desirable? Yes, isn’t it? But I believe it will come. I think my generation is very interested in it” (8). Another producer pointed to that to fulfil specific demands doesn’t necessarily indicate good welfare and vice versa: “Schemes has the disadvantage that by introducing a branding for nicely treated animals, it is implied that those who are not branded don’t treat their animals that well. I don’t like this line of thought. It creates an A- and B-team of animal management. Such a scheme will surely be linked to many specific demands. But I believe that the animals can do fine even though some of the requirements are not

fulfilled. It can be stalling technical conditions or other things, which means that for these producers they cannot afford to make use of such a branding. Then they are marked as having poorer animal welfare, although it is rubbish. So this is not a product that I want in our agriculture” (34). Others were sceptical to branding and claimed that more brands make things more difficult to control, which open up for abuse. A small Norwegian market, loyalty to the farmers’ sales co-operatives, as well as difficulties in differentiating milk production in schemes, were other problems that was mentioned by our informants.

#### *Would an animal welfare brand sell?*

If the producers don’t believe that an animal welfare brand would sell, this might also affect their willingness to enter schemes or their attitude to the development of schemes. Quite many producers (approx.30) did believe that an animal welfare brand would have appeal in the market, but most perceived it essentially as a niche product. The producers did not necessarily sympathize or identify with this group of consumers. A few pointed to that “conservationists” might buy it, or people in the cities, people with higher educations which can afford to. A few emphasised that people in general are more concerned about animal welfare, as a reason why a brand might sell. There were also a group of producers (approx. 20) who didn’t believe that an animal welfare brand would sell. Two main reasons were given for this: first, people trust Norwegian agriculture and believe it is good already; second, people are mainly concerned about product prices.

## **5 Cattle farmers’ understanding of animal welfare**

What is animal welfare, according to the farmers? How do they describe their relationship to the animals? Do they name their animals? Do they consider them as objects (“machines”) or subjects with feelings? In this chapter, such questions will be addressed. Answering these questions is important in order to understand how the farmers reflect upon the issue of animal welfare, which again is important in a number of other respects; to understand their willingness to implement new measures, to understand their animal welfare practices as well as their motivations.

### **5.1 Definition of animal welfare**

*Farmers’ definition of animal welfare: Practice-oriented.*

The most common answer the farmers gave when asked to define animal welfare, was that good animal welfare is a situation when the animals are fine, when they thrive, and when they are as good as possible when alive (approx. 30). Most of the farmers, when asked about their definition of animal welfare, as well as what they considered to be good animal welfare, referred to specific farming practices, as well as technical measures that are important to ensure animal welfare. This is interesting in its own right, as

the farmers thereby acknowledge their own role as vital to the animals' welfare. It indicates that the farmers' animal welfare discourse centres on specific and practical animal welfare measures. Focus is predominantly set on what can be *done* to improve animal welfare, not necessarily what good animal welfare *is*, or how to *know* what good animal welfare is. It's important to identify these specific practices, because they indicate how animals' welfare is *done*, not only talked about. This doesn't mean that the producers' are necessarily good at or actually carry out the practices they referred to, but they consider these practices as important, as something they *should do* in order to ensure good animal welfare. We will return to these practices below.

In addition to defining animal welfare by referring to farming practices, a few of the producers referred to the overall paragraph of the Animal Welfare Act in Norway which says that "animals shall not suffer needlessly". However, their overall definition implies that they do not first and foremost have a negative definition of animal welfare, but a positive one: "Good animal welfare means that the animals don't suffer and that they are well" (19). Some of the producers (approx. 16) linked animal welfare to the animals' possibilities and abilities to perform their specific or natural behaviour: "My understanding of animal welfare is that the animals are able to live out their natural needs, and that they are well" (27), or as another producer stated "The animals must be able to act on their own premises. At home, the animals are mainly in charge" (46). Among these, organic and suckling cow producers were overrepresented. However, a few informants underlined the balance between the animals' natural needs on the one hand, and the considerations necessary to run a production: "Animal welfare means that the animals are able to unfold their natural needs, but that is quite a cliché. It is like the budgie, it is not natural for him to sit in a cage either. [...]. The pig should have been outside, right, but you have to compromise. They must not suffer needlessly, as what it says in the Animal Welfare Act. The goal should be that they are as well off as possible" (48). Another producer underlined that the "naturalness" is limited by what is possible in a production: "Animal welfare means that the animals are as close to what is natural as possible in a modern production" (56). In some instances, the well-being of the animals seemed to be directly linked the animals' ability to grow or produce: "Animal welfare is when the animals are fine. If they are going to produce, they must thrive. Then they produce the most" (43). A few linked animal welfare to lack of illness (approx. 9).

Multiple measures were conceived of as important to ensure a good animal welfare. The measure most often mentioned as important for animal welfare, was to provide for/or that the animals get sufficient food and water (approx. 27). Both enough food and the right kind of food were mentioned as important. Good and sufficient care, or good care-taking or managing ("godt stell") was also referred to as vital to animals' welfare by many producers (approx. 20). This answer can be interpreted as a general word for the practices of the farmers, such as providing for enough food. Sometimes good management more explicitly referred to using time with the animals, to inspect them in order to detect if anything is wrong, to be mentally at place with the animals, as well as the art of

managing animals, particularly emphasising the significance of behaving calmly. A few farmers referred to lack of time as a greater problem than earlier: “It is very important to care for them, not the least to use time in the cowshed. Unfortunately, this is becoming a greater problem. Firstly, we manage to make rational units, which make it simpler to be in the house. We spend less time at the job we are doing. At the same time, we need to go out and make money outside the farm, which makes the management the simplest thing to sub-contract or refrain from doing. The animals are as fine as they used to be, but to walk and talk and polish them and such things, that is more gone, at least for my part” (28). Another producer underlined the importance of full-time farming: “A cow that are going to calve needs to be looked after, I think it is wrong to go to work (outside the farm)[...] I am up during the night to look. Many of those I’m in contact with go to bed in the evening. They cut it out, they take a seat in the car, go off to work, and cut off from the things at home” (17).

The stalling of the animals was also considered as important to animal welfare. This issue was most often linked to loose housing. Most of these producers considered loose housing or the animals’ ability to move as being important to animals’ welfare (approx. 15). A related measure referred to by some producers, were the animals’ ability to be outside and graze during the summer (approx. 6). One producer said that many producers don’t fulfil the demand for eight weeks of grazing for the animals: “I know that there are people who have their cows permanently inside, they don’t fulfil the demand for minimum 8 weeks of freedom. I believe that there are more of that in the country than we believe [...]. No one wants to unveil this.” (31) A good lying area was also one of the measures often mentioned. This referred partly to the importance of having a soft surface, specific measures being a deep-straw-system (“talle”) or soft mats, a dry surface as well as having enough lying area. A related measure that was mentioned was the importance of clean animals (approx. 9). In a few of the instances this was related to food safety and the outbreak of an E.coli-disease during the winter months in 2006. Some producers (approx. 6) emphasized the importance of preventing damage and claw care to animals’ welfare. In addition, the importance of a motivated farmer (approx. 1), a close contact between farmer and animals (approx. 1), good ventilation (approx. 2), as well as lack of stress (approx. 1), as well as practising in line with the regulations (approx. 4), was mentioned by a few producers as important to the animals’ welfare.

We also asked the producers what they considered to be bad animal welfare. The answer to this question indicates what the producers perceived of as “minimum” requirements for animal welfare. If these conditions are not present, the state of welfare is bad, according to the producers. Especially the producers’ emphasis on clean houses and clean animals came to the forefront in this context. Dirty animals were by some producers (approx. 17) considered as an indicator of poor management and poor welfare. In addition, three other aspects were most often referred to as minimum conditions, either as vital to ensure animal welfare, or as indicators of bad animal welfare. These were lack of food and water (approx. 23), lack of management (approx. 13), as well as bad

stalling of the animals, such as in tied-stalls (approx. 11). These aspects coincide well with the farmers' definition of good animal welfare. Also, ventilation (approx. 2), stress (approx. 3), a fine lying area (approx. 2) damages (approx. 3), an unnatural life (approx. 2), if you don't treat illness (approx. 2), were mentioned by a few producers. Both a life spent all year inside (approx. 1), as well as a life spent all throughout the year outside in cold and wet conditions (approx. 1), were mentioned as examples of bad animal welfare. Animal tragedies were also referred to as examples (approx. 2).

*What features are considered as most important for animal welfare?*

According to the producers, what are the most important features to ensure good animal welfare? In addition to posing multiple open-ended questions, we also addressed one closed-ended question on their definition of animal welfare. Here, the farmers were asked to select the three aspects they considered to be most important to ensure animal welfare, from a list of 8 measures or freedoms (cf. table below). We also asked them to rank between these three (in most important, second most important, third most important). The quantitative results are as indicated in the following table:

Freedoms	Most important 1	Second most important	Third most important	Total
1. Lack of hunger/thirst	46	6	2	55
2. Lack of damage	0	13	5	18
3. Lack of illness	1	9	11	21
4. Lack of pain	2	6	6	15
5. Natural social behaviour	1	5	11	17
6. Natural behaviour (play etc.)	2	0	0	2
7. Human-animal relations	2	6	9	17
8. Lack of fear and stress	4	6	10	20
Missing/other	1 missing + 1 couldn't choose between 1 and 4	4 missing + 4 combination of 2,3,4. + 1 couldn't choose between 1 and 4	3 missing + 1 combination of 3,8 + 1 combination 2,3 + 1 everything is important	

The results are not statistically significant and therefore not possible to generalize in a statistical sense. Hence, they only give an indication if there are clear underlying patterns. Lack of hunger/thirst is clearly the aspects that the producers found as most important. 55 of the producers mentioned (or 56 if we include the one who cannot choose between 1 and 4) lack of hunger/thirst as one of their top three, and 46 of them ranked it on top. All of the others, except natural behaviour (play etc.) were mentioned by more or less the same number of producers.

Moreover, we also asked the farmers to explain and motivate their ranking, which may throw light upon the quantitative results. Many of the producers pointed to the fact that

these aspects are interrelated and found it difficult to choose between them. They found that all of the aspects are important to the animals' welfare. Setting up the ranking was to the farmers a question of finding out what is "most basic" reflecting upon what aspect or condition is a precondition for the others. Some farmers also seemed to take as the starting point what they considered as their most important tasks, implying that this is also most important to the animals: "it is most important that we give them food, that they feel safe, and that we treat them if they are ill" (55). Some farmers were more explicit in that they took the animal as a starting point for reflection: "Food is most important in the long run, because they take risks in order to get food and water" (56).

Lack of thirst and hunger was considered by most farmers as most fundamental, as a primary need, as a basic condition, and hence ranked as being most important: "I think that it [lack of thirst and hunger] is a precondition for the other things to function in a good way" (39). The three measures: Lack of pain, lack of illness and lack of damage, were considered as interrelated. Lack of damage was considered as important because damage might lead to pain and illness, and vice versa. Damage was related to the technical environment of the animals. Lack of pain was mentioned as something mental. Some mentioned that illness affects the production quality and quantity, and is therefore important to avoid.

The following explanations were given by the farmers who selected natural social behaviour as one of their top three. In general, these producers focused on interaction between the animals as being important to animals' welfare. One producer pointed out that they are gregarious animals, another that they animals are not dependent on human beings for their welfare. Although important, there were also a few of the producers who underlined that the animals' social needs are inferior to their physical needs. One producer referred to Maslow's hierarchy of needs. One producer pointed to the fact that natural needs are flexible, and that animals, as humans, can adapt. "People are flexible, they live in blocks, some live in a mountain cabin. Animals are very adaptable" (15).

The producers' perspective on a good human-animal relation as a precondition for animal welfare, is interesting. Some producers pointed to this aspect as being (very) important, while a few others underlined that they did pay much attention to this aspect. Those who did emphasis the human-animal relationship justified this point by referring to it as a precondition for the lack of stress and fear. One said that if you are in a bad mood, the animals may be affected by that. The farmers, who claimed that the human-animal relationship was not important to them, emphasized that the animals don't need a lot of contact with humans if the other preconditions are sufficiently fulfilled. Hence, a close contact, cuddling etc. is not important to animals' welfare: "The last thing they need is contact with humans. If they are fine within the group, contact with humans is not a basic need of the animals" (51). Among those who emphasized the importance of a good human-animal relationship, smaller producers were overrepresented, and vice versa, those who didn't emphasize it were mostly large producers. As a hypothesis, the

size of the livestock may be relevant to explaining why some farmers put more emphasis on this contact than others. This makes sense, in that smaller producers probably have more individual and close contact with the animals, than larger ones.

Lack of fear and stress was considered as interrelated with a good human–animal relationship. It was considered important because it affects meat quality. Calm animals are easier to care for, whereas fear and stress typically will lead to damage, illness and pain.

*Summing up*, good animal welfare was by the producers considered as an outcome of many interrelated factors. There were difficult to see any differences between organic and conventional producers in their ranking. Also, the analysis of this question suggests that physical needs were considered as more fundamental than social needs. However, the “mentality” of the animals, as shown in the farmers’ emphasis on pain and stress, were also acknowledged as important. However, the emphasis on stress does not necessarily indicate an emphasis on the animals’ subjective experience of being stressed, but was also linked to easier management and improved meat quality.

#### *Indicators of animal welfare*

How do the producers know when the animals’ welfare is good or bad? What indicators of a good or bad animal welfare do they use? The indicators they used can be said to have been of two, interrelated kinds: (a) they were partly animal-based, either by being related to morphological traits, the animals’ behaviour, or to their production capacity, or (b) they were indicators based in the farmers’ practices or the environment of the animals. A good human–animal relationship, cuddling and talking to the animals, was an example of this second type of indicator which was referred to by a few of the farmers (approx. 7). Evidently, a good relationship to the animals was for some of the farmers an indicator of a situation of good animal welfare. A dry and warm lying area was mentioned as another indicator (approx. 3) of the second kind. In addition, the stalling system, as well as when the animals are outside were mentioned (approx. 8). This second type of indicator imply that if the farmers carry out their practices in a good way, and the environmental conditions are good, the animals’ welfare will also be (considered as) good.

In most instances, the indicators were referred to as animal-based, although these types of indicators also reflect the farmers’ practices and opinions. The two types of indicators are related. Many of the farmers referred to the animals’ behaviour as indicators of their state of welfare. Again, food turned out to be an important aspect of welfare. If the animals don’t have appetite, they are thin this was taken to be an indicator of poor welfare, or vice versa, if they eat well, this was taken as a sign of good welfare (approx. 16). Many referred to calm, peaceful animals as an indicator of good welfare (approx. 18): “If there is quiet in the pen, and they lie peacefully and ruminates, then I believe they are pretty fine” (6). Some pointed out that the animals tell, by lowing, if they are fine or not. The animals’ ability to produce was also by some farmers taken as an indicator of

good welfare (approx. 16), both the volume of milk produced, as well as their growth: “You see it on the milk production, it is very measureable. A cow that does not thrive and is not in good shape, she milks of course much less. [...]. The bulls will not grow” (28). Illness was also mentioned as an indicator (approx. 6). According to a few of the producers they could detect immediately when an animal is sick or is becoming ill. Also, observable damage was also mentioned (approx. 5). That the animals are clean or not dirty was also taken as an indicator by a few informants (approx. 7). Not surprisingly, many of these indicators coincide well with what the farmers define as good or bad animal welfare.

However, not all farmers were able to linguistically express or specify how they knew when the animals are fine or not. As one producer said, some of this knowledge is of a tacit nature. Or as another producer stated: “You see it on their behaviour. If you are managing animals, [...] I can see it on them if they are not fine. No doubt. Maybe this is silly, but it is a feeling I get when I come into the house” (22). Some producers pointed to the animals’ behaviour generally as an indicator of welfare. If they behave differently or are restless, or if they are e.g. standing in a corner and gape, this indicates that something is wrong. Opposite, if their behaviour is fine, they thrive, this is an indicator of good welfare. A few producers took playful, social behaviour as an indicator of good welfare (approx. 2). Also, some of the farmers pointed to morphological traits as indicators of welfare. Sometimes this was done quite generally: they could observe it from the animals’ posture, their face expression, or whether they look nice or happy. Some farmers were more specific. A few farmers pointed to the animals’ fur. Whether the fur is glossy and fine was used as an indicator (approx. 4). Others (approx. 5) pointed to the ears (if they stand straight up), and/or the eyes (if they are big), as indicators of stress.

#### *Animal welfare in relation to other goals*

What is a good farmer, according to the producers? Is taking good care of animals included in the definition of a good farmer? Or do the farmers emphasize other activities and goals? At the beginning of the interview – before we talked about animal welfare – we asked the farmer what they define as a good farmer.

As a few of the farmers explicitly defined the term (approx. 6), being a good farmer is to be competent and good at a range of factors. As one farmer said, being a good farmer is to be a “man-of-all-work” (“Jack-of-all-trades”). Although the answers varied, some issues were repeated. The version of the following answer was typical: “A good farmer is one who takes care of his animals and soil, and who manages to make an income out of it” (12). To take care of the animals (approx. 25), and soil (approx. 14), and to make a living out of it (approx. 17), or to “manage well” (“drive godt”) were factors that were mentioned by many producers. Both economy, animal welfare, and environmental factors were in this respect considered as important and mutually supportive goals by many of the farmers. These goals need to be balanced, as one pointed out. A few pointed in this respect to their stewardship responsibility of taking care of the farm for the coming

generations (approx. 7): “A good farmer is one who maintain the farm and sets it in no worse shape than it was when he took over” (46). Also certain qualities a good farmer should have were pointed to: A good farmer takes interest in his work and like his job (approx. 13) and keeps him/herself updated, were the qualities most often mentioned. A few farmers also pointed to taking active part in organizational life (approx. 4) as well as being flexible and well at handling and following up demands from regulations and quality schemes. A few farmers remarked that the image of a good farmer had changed: “Earlier a good farmer was one who had big and nice cows that milked so and so many litres of milk per year. I believe that in the future a good farmer is one who manages to find his niches” (24). A farmer who produces safe food, and one who is a full-time farmer, was also referred to as part of the producers’ definition.

The interplay of several goals and aspects were confirmed at the end of the interview when we asked the farmers to rank the relative importance of five aspects; i.e. animal health, animal welfare, economy, environment and food safety. The results, which are presented in the table below, show that the farmers find all of these aspects important. The results are not statistically significant or possible to generalize statistically. Hence, they only give an indication of an underlying systematic pattern. The *importance* of all these aspects is in itself a clear pattern. This pattern does not preclude the fact that there are different practices, or different opinions on how to achieve these “goals” or “issues”.

	Very important	Important	Neither	Unimportant	Not important at all
Animal health	83% (50)	17 % (10)	0	0	0
Animal welfare	63% (38)	37% (22)	0	0	0
Economy	57 % (34)	43% (26)	0	0	0
Environment	42% (25)	53% (32)	5 % (3)	0	0
Food safety	71% (43)	27% (16)	2% (1)	0	0

In order to get an improved understanding of the reasons why the farmers considered the issues as important/not-important, we also asked them to reflect upon their motivation underlying the answers. Generally, the farmers said they find all the aspects important. That is partly because they considered them as being interrelated, as necessary pre-conditions for each other. Especially animal health, animal welfare and economy were considered as interrelated. Good animal health leads to/or is an important component of animal welfare. Good animal welfare/health is important for their economy. Looking at each of the aspects, animal health was considered as important because it leads to good production. Besides, it was underlined that poor animal health will lead to high medical expenses, the farmers themselves don’t thrive when the animals are sick, and the animals suffer. Animal welfare was considered important for some of the same reasons. It was by some farmers interpreted as a wider concept than animal health, others underlined the similarities between the concepts. Economy was also considered as important, but quite a few pointed out that it is only important to the extent that is a prerequisite for the other aspects. Hence, it was typically not acknowledged as a goal in itself, but necessary in order to survive as a farmer and to ensure the animals’ health and welfare. A

couple of farmers pointed to the fact that if they considered economy to be very important, they wouldn't be farmers. Environmental aspects were considered important, but the producers did not elaborate so much on this. It was considered as a goal/aspect not so much related to the issue of animal welfare, but was rather linked to caretaking of the cultural landscape, as well as pollution and taking care of the interests of the coming generations. Food safety was considered as crucial in order to maintain consumer trust. Some referred to this as important in the long run, as a competitive advantage. The background for this comment is that there haven't been any major food safety problems in Norwegian agriculture. However, during the course of the interviews there was a serious outbreak of E.coli-bacteria which gave the question a different context and underlined the importance of food safety.

## 5.2 The practicing of animal welfare

The farmers' definition of animal welfare informs us about the farmers' norms regarding what is good for the animals. The farmers' evaluation of their actual practice, what they have done to improve welfare, what animal welfare problems they have, as well as the welfare status in Norway, informs about the practising of animal welfare. In principle, their actual practice may or may not coincide with their definitions.

### *The producers' animal welfare practice*

Most farmers' evaluated their own animals' welfare as good (approx. 33). Another group of producers were mainly content, and evaluated their animals' welfare to be mainly good, but nevertheless pointed to possibilities for improvement, or specific aspects that they were not so content with (approx. 17). A small group of producers (approx. 3) were more critical to their own conditions. Why do the farmers think that their welfare situation is mainly good? By and large, the producers' referred to the same elements as in their definitions of good animal welfare. Some reported that they had a nice and soft lying area, good animal health, natural conditions, good human-animal contact, good feeding, tidy animals and stalls, animals outside, or they told that they fulfilled the demands set by regulations (approx. 5).

What aspects were the producers less content with? What did they see as areas for improvements in their own livestock? Old buildings, too dense buildings, tied-stall housing instead of loose housing or better furnishing, were the area of improvement most often mentioned by the producers (approx. 8). As one producer stated: "There are some things that I'm not satisfied with. I'm not content with the fact that my suckling cows are in tied-stalls, but they seem fine and function well within this frame." (31). Cleaner animals or cleaner houses were another area mentioned (approx. 7). In addition, a couple referred to the need for more variation in feed, claw care, plus more time to care for the calves, as areas of improvement. One producer referred to the challenge of grouping the animals, so the weaker ones don't loose in the battle for food. However, despite some challenges, these elements didn't preclude the producers' overall evaluation that

the animals are fine. Maybe their evaluation reflects the way of thinking as one producer revealed: “We have tried to follow up the most of the regulations, but one have to consider the ethical problem when “enough is enough”” (45). In other words: Even though things could be better, this doesn’t mean that the animals are not fine.

The question on how they evaluated the welfare situation in their own livestock, is related to another question we posed. What do the producers consider as the largest animal welfare problem? Many of the producers couldn’t point to any specific problems, mainly because they couldn’t observe any (approx. 18). Naturally, most of these farmers considered their animals’ welfare to be good. Also, as we saw, pointing to problems or challenges doesn’t mean that the producers don’t evaluate their animal welfare status as good. As indicated above, most of the producers referred to problems with their stalling or houses as the largest problem (approx. 16). Approx. 4 of these producers were not content with having tied-stall housing, but saw loose housing as more optimal. Approx. 5 of the producers pointed to too little space, often in an old house, as a problem: “The calves are worst off. When the house was built, there were totally different demands for pen space than there are today [...]. I use the old house for the calves, but it is not optimal for the calves yet.”(59). A few referred to their old house as not being optimal: “The largest problems are the limitations that the old house represents” (53). A couple referred to their free-stalls in the loose-housing area as not being optimal. One producer had been given a wrong advice from the agricultural office, namely to put the eating area and free-stalls in the same place, and experienced problems with that as the animals got stressed. But the investment was already made. A few of the producers pointed to keeping the animals clean, or wet and dirty outside area, as the greatest problem (approx. 8). More time to look after the animals was mentioned as a challenge by a few (approx. 3). All of these were part-time, small producers. In addition, problems with rank orders, a soft lying area (hadn’t put in the soft mats yet or had slatted floors), damages (claw care, teat trampling), as well as diarrhoea, were mentioned as problems (by approx. 1–4 producers). A couple of the producer referred to the economic constraints or demand for efficiency as the largest problem.

What have the producers done to improve their animals’ welfare? Many of the producers referred to their daily care-taking or management when describing what they have done or do to ensure a good animal welfare (approx. 16). A few farmers underlined the importance of spending time with the animals, a few said they talked to them: “I use time to polish them, to brush them, keep them clean, and clean the stalls, the feeding spot, drink troughs, and such things. I believe it is important to use some extra time” (21). Some underlined that they follow the regulations (approx. 10) when explaining what they do to ensure the animals’ welfare. A few said they had put down soft mats or in other ways provided a soft surface for the animals (e.g. deep-straw system) (approx. 9). This indicates that the regulations seem to be important in defining what the producers consider to be important to ensure welfare. Some told they had upgraded or built new buildings (approx. 12). Only approx. 5 farmers told that they provide food and water for the animals. However, this probably doesn’t indicate that the others don’t, but

rather that providing food and water are considered as self-evident or basic task. A few informants referred to cleaning, a couple told they had put in fire detecting system, and one reported that he had installed cow brush for the cows' comfort. A few stressed that they let the animals go outside during the summer.

Do they do more than the regulations require? Some of the producers' answers to what they did to improve their animals' welfare, referred to measures that are not required by legislation, others referred to actions that the farmers are obliged to do, for examples such as providing a soft surface. Generally, some of the producers (approx. 18) reported that their practice and installations are beyond the minimum requirements set by the regulations. A few reported that they have more space than required, a few told they have the animals outside for more than 8 weeks minimum per year, and those who have loose-housing barns today (in 2006), are above the legal minimum because loose housing are not required until 2024 in conventional agriculture, and from 2011 in organic production. Others reported that they lived up to the legal requirements, neither more nor less (approx. 13): "I am at the norm, I would think. I am not the one who lives in the cow house, I do what I'm going to do, and a little more, and then I'm done" (32). A few (approx. 9) said they were not even at minimum, or struggled to be there. The problems were mostly related to enough space, or too many animals in old houses. A couple told their animals weren't outside as long as they should be. However, overall, their answers show that many of the producers do have an idea of whether they are above or beneath the legal requirements, although there were some producers who couldn't specify why or seemed uncertain what to answer.

There were some producers who had specific plans for improvements or had set up improvements on their wish-list. This related mainly to the building of new houses, or to invest in loose-housing barns (approx. 11): "You daydream, right. I would like to build a loose-housing system with robotic milking system, but those are the things you only dream about, right? (Interviewer: The economy puts some limits?) Exactly" (19). A few told that they could use more time to care for the animals (approx. 4). Time and economy, which are also related factors, were the greatest hindrance for the producers with respect to improving their conditions. As one producer said: "I believe loose housing is a positive thing. I have tied-stalls, and I would like to have had loose-housing, but it is a huge economic effort. So I don't think I will have the possibility. But even though the ideal is loose housing, I believe they are also fine in tied-stalls." (21) Other barriers referred to were uncertain external conditions and practical considerations. Some producers didn't see any or didn't consider any changes (approx. 12), either because they didn't recognize any need for it or they couldn't think of anything offhand.

Most of the producers (approx. 40) told that animal welfare is a topic they are concerned about, and/or an issue that the producers discuss with each other. Some producers told that they discuss it because of the new regulations, and decisions they have to make regarding what type of solutions they are going to choose: "We discuss it. I have taken

part in study groups that TINE and Gilde have been responsible for. We mainly agree, but many think that the regulations are forced upon them. It is mainly economical conditions that prevent one from following up a matter.” (56). A few farmers told that it has to be an issue, otherwise the animals will not produce. Others pointed to their own conscience. There were also a few producers (approx. 9) who said they had not discussed the issue very much with other farmers or their family.

#### *The animal welfare status in Norway*

Most of the producers considered the welfare status in Norway as generally good (approx. 44). These producers pointed to the strict regulations (compared to other countries), the emphasis put on animal welfare from the farmers cooperatives, the small units, and skilful farmers as reasons for this. Overall, from the producers’ point of view, there exist no significant discrepancy between their definition of good welfare, and the way animal welfare is practiced by Norwegian producers, including their own practice. This coherence might indicate that the farmers’ practices to a large extent are important in defining what they consider to be good welfare.

But there were also a few producers (approx. 8) who were more uncertain of the welfare status, who claimed that the status of animal welfare varies, or had some concerns about the welfare status in Norway. Also, many of the farmers who judged the welfare status to be generally good referred to some more general challenges. Many of these challenges were the same as the ones they mentioned as problems in their own livestock. A few pointed to old buildings with maybe too many animals, as a challenge: “Many have bad solutions for buildings, because it was those buildings that were recommended 10, 20 or 30 years ago. A change costs, and will take time, but I believe the new animal welfare regulations are quite sensible” (6). A few pointed to dirty animals as a problem (approx. 5). One pointed to too intense milk production as another problem. Also, the more general development in Norwegian cattle production, of larger units, less time per animals, and tighter economy, were a concern to some of the producers (approx. 6). A weak economy means that people will have to apply for jobs outside the farm, they have to take up big loans in order to invest, and come under financial pressure: “Generally I believe that the animals in Norway are fine. But your farm have to become larger and larger, the government demands so much from you. From a fiscal point of view, only big numbers count. If you think about the joint productions today, they are going to have 10–12 million Norwegian kroner in debt when the next generation is going to take over the farm. Will some of his kids be willing to take over such a debt?”(17). One producer also referred to problems with loose-housing barns in this context: “The animal welfare is good, but it is under pressure. It is related to the “time-squeeze”. This will be easier with more efficient houses with loose-housing, and then the farmer will get more inspection. But the consequences will be much larger if you become asinine in a large house. That is a danger with a fully mechanized system. It becomes a pretext for doing less” (48).

The producers were also explicitly asked what they considered to be the largest animal welfare problem in Norwegian cattle production. The problems referred to were the drive for efficiency, the poor economy and the lack of time (approx. 15): “The largest problem is that things are too busy. You don’t have enough time to interact with the animals. It is the way things have been, everything is following the stop watch. [...] It becomes a pure production” (30), or as another producer stated: “The ones who care for animals have to manage more and more, “the piecework schedule” gets tighter, and this might effect the animals” (60). Old, too small buildings were a recurrent problem that was referred to (approx. 9). In addition, too much indoor life (approx. 4), claw problems (approx. 5), longer transportations (approx. 2), too intense milk production, slatted floors and too large veterinary districts, were pointed to as systematic problems. Some of the producers, however, (approx. 11) couldn’t think of any problems.

### **5.3 Farmers’ relationships to their animals**

How do the producers describe their relationship with the animals? Is it a personal or professional relationship?

Most of the farmers characterized their relationship to the animals as good (approx. 33). Only a few characterized their relationship as professional (approx. 8). Among these, large producers, as well as fattening bull and suckling cow producers were overrepresented. This might not be a coincidence, as one of them, who had been a milk producer, told that he used to have a closer relationship to his animals. The calves get tamer when they are fed by a human hand, then by their mother, according to this producer. One of them told that he had a closer relationship to the animals when he didn’t have that many animals “There was much more engagement with each individual animal before. Now, this is rationalized away [...]. The first year I was running, I was very engaged, I named them and cuddled them.[...] If I lost some one it became much tougher. I’m much more professional with the animals now. And it has something to do with size” (48). Now, he had between 25–35 cows. Size, and also the time they keep the animals on-farm, were referred to as factors for explaining the “professional” relationship by the others. One fattening bull producer referred to keeping distance as a necessity: “You have got a relationship to them, and then you don’t. Because you cannot develop too close a relationship. It is food” (50).

There were quite many producers who seemed to have a close relationship to their animals. Also, the fact that among half of the producers felt it sad to send the animals to the slaughterhouse shows that the interaction with the animals makes an impact (cf. section 5.2). Some of the producers (approx. 13) told that they had a personal relationship to their animals, referring to their feelings, or used words referring to a close relationship, such as “cosy”, “petting”, etc when describing their relationship to the animals. Among these producers, women seemed to be overrepresented. However, this doesn’t necessarily indicate that they have a closer relationship than men to the animals. A few farmers referred to husbandry production as a lifestyle, when explaining their good rela-

tionship to the animals (approx. 4): “It is not a production for the sake of having a production. It is just as much a lifestyle to us. Having animals is an important aspect because we live on a farm. It’s difficult to imagine a situation when we should be forced to quit. I feel privileged to be able to have animals around me” (31).

The producers’ relationship to the animals was not considered a one-way relationship only. This was evident from the producers’ answers which referred to the animals’ action when describing the relationship. Some told that the animals wait for them, the animals know them, and/or they react differently with strangers. One producer phrased the symmetry very explicitly: “I prefer to keep a distanced relationship to the bull. Both ways. They have enormous powers. I have a great respect for him, and he for me.” (5).

In other words, the farmers’ relationship to the animals is also dependent on the actions and behaviour of the animals. According to most of the producers, the individual animals are quite different from each other. Consequently, the farmers develop a different relationship to different animals. According to some of the producers, the animals have different temperaments. Some are calmer, more playful, some are leaders, some are aggressive, some more afraid than others. Also, there are differences between races, according to a few producers. A couple referred to family traits, such as similarities between mothers and daughters. Some told they develop a closer relationship to the cows than the bulls. Only a few (approx. 4) told that they relate to their animals in the same way.

“Dagros” is a typical cow name in Norway. Every year the “Dagros-prize” is handed out to a producer who is treating the animals particularly good. But does Dagros still exist? Or is she called “691”? Approx. half of the producers told that they give their animals names, although often only the cows, the bull, or specific individuals: “I have names for the cows. But I believe I’ll soon be the only one around here who have it. It is probably on its way out, I have to admit that” (13). A little less than half told that they “only use numbers”, which has become obligatory. A few of these told that they used to have names, before it became compulsory to use numbers.

Almost all farmers believed that the animals have feelings, without much hesitation (approx. 51). The rest were uncertain whether “feelings” was the correct word to use, or they had no clear answer. . A few of these farmers were hesitant to use the word “feelings”, because this means to humanize the animals too much (approx. 4). However, the great majority did not hesitate. There were, nevertheless, great differences with respect to how the term “feelings” were defined. A few farmers incorporated all kinds of feelings and compared the animals with human beings: “they have feelings, absolutely, just like us. Those are dependent on how they are on that particular day.” (24) Other farmers restricted their definitions to include what a couple referred to as “physical feelings”, like the ability to feel pain. Others were uncertain what type of feelings to include: “I’m not sure if they can feel sorry. But I’m convinced that animals can be grumpy, peevish,

and in a bad mood (9). Overall, the producers' seemed to experience that the animals are not "objects", but subjective creatures that react and show and communicate their state of mind.

## **6 Animal welfare off the farm**

### **6.1 Transport**

Most of the farmers found the transport of their animals to be good. They were content with the work of the driver. They experience that the transport cars are clean and fine. The aspect of greatest concern to the farmers regarding the transport was the increased distances and time for transport due to fewer slaughterhouses. Quite many (approx. 23) reported that they considered the transport time as too long: "The driver and cars that come here seem fine, they are clever, but the system is that it is so far. Here it is not so bad, but in the (less central) districts it becomes much worse" (22). Among the farmers concerned about the long transport distances, smaller producers, as well as producers from less central regions of Norway were slightly overrepresented.

When we asked the producers what they considered as important to ensure good animal welfare during transport, many pointed to the transport time as a central factor. Other factors were density of animals, the conditions during loading, clean cars with air condition, as well as the actions and temper of driver.

The producers were also asked if they had suggestions for areas of improvement during transport. Some farmers could not think of any specific improvements, or did not explicitly answer the question. Shorten the transport distances were pointed to. In addition, some specific measures were referred to, such as soft mats and straw during transport and to build cow houses for resting. A couple referred to mobile slaughterhouses as a possibility. More controls of the transport time, and fines if the slaughterhouses violate the 8-hours rule, were other suggestions. Maximum transport time is by Norwegian regulations 8 hours. Some of the producers referred to this rule in the course of the interview.

### **6.2 Abattoir**

The producers were less knowledgeable of the animal welfare situation at the slaughterhouse. Many reported that they did not know whether the animal welfare situation was good, nor could they suggest any area of improvement. However, most of the producers said they believed or trusted that the animal welfare situation is good at the slaughterhouse. Typical answers are the following: "I don't know much about it, but I assume that things are done in accordance with the existing laws and regulations, because there are seldom scandals in the media about the slaughterhouses" (54). "It seems fine. I trust them. I know there are many inspectors in place" (13). Some had visited the slaughter-

house and said it looked fine. Some pointed to all the regulations that slaughterhouses have to keep, as a foundation for their belief, others to the strict control. The Norwegian Food safety Authority is present at all the slaughterhouses, and controls the activity and the animals. Only a couple of producers were explicitly critical to the activity at the slaughterhouses. One of them was a conventional producer, but also a veterinary. This producer referred to an incidence where electricity had been used on the pigs (24). The other producer believed that the cows weren't milked in the morning if they had stayed overnight and that they didn't get enough food. This was a conventional producer married to a veterinary (48).

The producers were also asked what they considered as important for the animals' welfare at the slaughterhouse. A range of answers were given. A few producers referred to the pace of the production line, as well as the importance of slaughtering the animals as soon as possible after they arrive at the slaughter house. If the animals have to stay over night, the cows should be milked, get enough food and water, and the stalling conditions should be good, not too dense and there should be good hygiene. Others emphasized the animals' mental condition: The animals should not become stressed, they should not witness that other animals get slaughtered, they should not know or experience what was going on, or be in pain prior to slaughter or when slaughtered. The importance of a well-functioning emergency slaughter-system, as well as good co-operation between the inspectors and the drivers, were also referred to by the farmers. A couple of the producers meant that one should have the possibility of using electricity if necessary: "That we are not allowed to use electricity to drive animals is in reality quite ridiculous, for what is the alternative if the animals don't want to move? Should you pull them with a winch, is that better for the animals? Is it to kick their legs, beat them over their back. We can of course go and drink coffee, and hope that it will happen in one hour or two, but that is not the reality. But you do what you can to make the animal move. If you have regulations that prevents you from using effective means, that makes you use the ones that are not so specifically prohibited...[...].than the regulations are out of position. An electrical driver is something the animals are used too. Used with sense it means less pain compared to the alternatives" (34). This quote illustrates well the possible conflict between pace/economy and animal welfare; between the fact that the animals shall die, but shouldn't be in pain.

Do the producers feel sad when the animals are sent for slaughtering? Approx. 25 producers said that they didn't feel sad, and just as many reported that they did find it sad. The rest said that it was sad to send some animals, or that in some instances they were happy. In other instances, however, they felt sad. The group of producers who did not find it sad, motivated this standpoint by referring to it as something "natural", as something they had learned to do. Other arguments were that there is a difference between a dog and a production animal; that it's a part of the business and something they lived by, or as just the way it was. The producers who did find it sad especially pointed to cows they have had on-farm a long time as difficult to send off. One referred to emer-

gency slaughter as particularly difficult because he had to watch, others that emergency slaughter was easiest as the animals are relieved from pain. One farmer found it particularly difficult if an animal had died in his cowshed. That made him feel responsible. Another told a story when he had to send off an animal which milked well, which he experienced as a sad incident.

## 7 Market and consumer relations with animal welfare

How do the producers think that the society at large and the consumers in particular evaluate their production? How could other actors support the farmers to produce in an (more) animal friendly way? How do the producers perceive the retailers' and the animal welfare organizations' role? An animal welfare friendly product and society is produced in interaction with several actors. What is the relationship between them, and is there a basis for cooperation?

### 7.1 Farmer – consumer/society

Most of the producers (approx. 39) thought that the public generally trust and have a good impression of the cattle sector in Norway. From the farmers' point of view, the relationship between society at large and the producers is harmonious. In support of this interpretation, the producers referred to people's appreciation of open cultural landscapes, grazing animals, live districts, and a small production with good welfare. A few farmers underlined that people now seemed to have a better view of the farmers than some years ago. A few couldn't answer the question (approx. 5). Only a very few producers (approx. 3) believed that society's picture of Norwegian cattle production is negative. Then there were more farmers who believe that people don't know much about agriculture (approx. 16). Some of these pointed to the increased distance to farming. A few pointed to people, and especially city dwellers', ignorance of where milk and meat come from, and that they distance themselves from this: "People know very little. There has become a great distance to the end-user. They hardly know how the meat is produced. Many children don't understand that a chop some days ago has been a live animal" (24).

We also asked the producers how they think people *as consumers* view the Norwegian cattle production. Most farmers believed that consumers have a good impression of the Norwegian cattle production, and that quite many consumers are concerned about animal welfare, and want the animals to be fine. Some qualified their statement by emphasizing that they are concerned about animals' welfare to some extent or in some situations, but when they go grocery shopping they think essentially about the prices (approx. 9). A few farmers pointed again to people's lack of knowledge, also about what is good animal welfare, as well as their wish to maintain a distance between their food and the animals: "The consumer wants really to have minced meat on their pizza,

but not to slaughter the bull” (50). The greater distance between producers and consumers seem to worry some of the producers. A few pointed out that consumers are not one homogenous group, and the degree of interest and knowledge of animal welfare vary.

Almost all the producers believed that people in their neighbourhood have a good impression of their production (approx. 45). They had not received any negative reactions, but had experienced that people like to see animals outside and that there are farms in their surroundings. A farmer, whose farm was located close to a city, told that his neighbours were just waiting for the animals to come out. A few (approx. 6) were more reluctant as to whether their production was perceived as fine. But their concerns were not related to their animal production.

What can the farmers do to encounter an increased interest or focus on animal welfare in society? What are the farmers’ and farmers’ organizations responsibilities in this respect, according to the producers? The suggestions and actions most often mentioned were to maintain a good animal welfare, to follow the regulations and to be open and inform about the production, for example through having “open farms”. One organic producer went further than open farms and information to the consumers: “We cannot sit at each side of the fence, the producers running their farm the way they want it and the consumers who gets offered to buy food. It shouldn’t be like that. The consumers should be able to tell that they want it like this or that, but then I expect them to really mean it, and don’t go and buy what is cheapest in the next minute” (3). In addition, a few pointed to the importance of having good control, to discuss the issue and to provide guidance within the farmers’ organizations, as well as arguing for a mutual coherence between economy and animal welfare: “The most important thing is to make an awareness of the fact that there is a relationship between good animal welfare and good production economy. That is the best motivator for those who are trying to be reactionary, and don’t see the point with it [animal welfare measures]” (39). A few farmers pointed to the importance that the farmers engage in discussions of animal welfare issues with other actors, and show what is possible to accomplish.

The farmers also had reflections on how society can help them to produce animal friendly. One factor was considered as crucial, namely economy. According to the producers, the consumers must be willing to pay for the goods: “I cannot expect cheaper and cheaper food and better animal welfare, that is not possible” (56). The consumers should also buy Norwegian: “The consumers should pay the price it costs” (15). Other producers referred to the production subsidies and the government as the instance of responsibility in providing good economic external conditions. The economic conditions were both related to the time the producers can spend with the animals, the number of animals they can have (“If we get the double for the kilo, I didn’t need to have that many animals and they get more space, but if you keep the pens too full, you don’t earn any money on it either”, 52), the farmers’ motivation, as well as the possibility for

making animal welfare-friendly investments. Some pointed to the current economic pressure from the retailer chains and for cheaper food, as well as the drive for efficiency as possibly affecting the welfare negatively: “You need to give the farmer status. Not only money-wise, but appreciate what he is doing. The drive for efficiency, that you are going to make money on everything you do, conflicts with animals’ welfare. 20 years ago, being a good farmer, to have nice animals and good piece of land, had a value for its own sake. It doesn’t today” (50). A few pointed also to having good regulations and providing support, not the least moral support, as being important. More knowledge of husbandry production among consumers was also pointed to.

## **7.2 Farmer – retailers**

While the producers’ relationship to the consumers and society at large may be described as harmonious and relaxed, the producers’ relationship to the retailer chains must be described as distanced and as partly sceptical, partly distrusting. Many of the producers expressed such an attitude (approx. 32). An opinion that was frequently presented was that the retailer chains only care about making money, and that they are only concerned about the animals’ welfare to the extent that it could be profitable: “The retailer chains take in goods from “east and west” as long as they can make money” (17). A few pointed to the pressure on prices as leading to poorer animal welfare: “Their role is unfortunately too big. They push the economy all the time, which means a tougher pressure on the farmers’ working situation, less earnings to the farmers and abattoirs, which will lead to factory production and less time to take care of the animals” (36). There were some farmers who, although they didn’t experience that the current retailers play an active role with respect to animal welfare, did point to their potential role and power in presenting and market products. One farmer pointed to their potential role as a channel for consumer opinion. A few (approx. 3) pointed also to retailers who have played a role in the marketing of organic or local products.

## **7.3 Farmer – animal welfare activists/organizations**

While the producers were sceptical to the retailers’ motivations, the producers’ picture of the animal welfare organizations was in many instances more ambivalent or nuanced. There were quite many farmers who were mainly negative to the organizations (approx. 27), mainly pointing to their lack of knowledge and extreme methods by e.g. letting mink out. However, there were just as many farmers who did see the animal welfare organizations’ role in society as a watchdog and as agenda setter, and which partly agreed with them in some instances, but which also reacted to their methods. The following quote is typical: “I think it is fine that someone takes the role as a watchdog, but the extremists that let out the fur-bearing animals, only leads to suffering. I think it is fine that such organizations that push things to the extremes exist, I accept that, but their methods are sometimes totally unacceptable” (22). One referred to their lack of understanding: “Many of them have little understanding for us who are running a food production with live animals. It is quite sad to take an animals’ life, but we have chosen to

do that. Everything that will improve the animals' lives is fine within certain limits. Maybe it is those limits that becomes hard to set" (12). One underlined the great distance to them: "They are so extreme. If I had met some one who comes here, rings the bell, and say that my cows are doing awfully. I wouldn't have been able to talk to her. I feel that they are on a different planet!" (13). A few made comments to how human beings relationship to animals is different, and how this shapes their concerns: "I think that they are too extreme, they react on fox and mink in cages and a cow in a tied-stall, but a cat with stereotypic behaviour in a small block in Oslo, that's fine. Because that cat is not going to be eaten and die.[...] Have human beings ever had animals, for the sake of something other than themselves?" (24). Or as the following said: "They have maybe a perception of animals as human beings. If I have had those attitudes, I couldn't have had farm animals" (49).

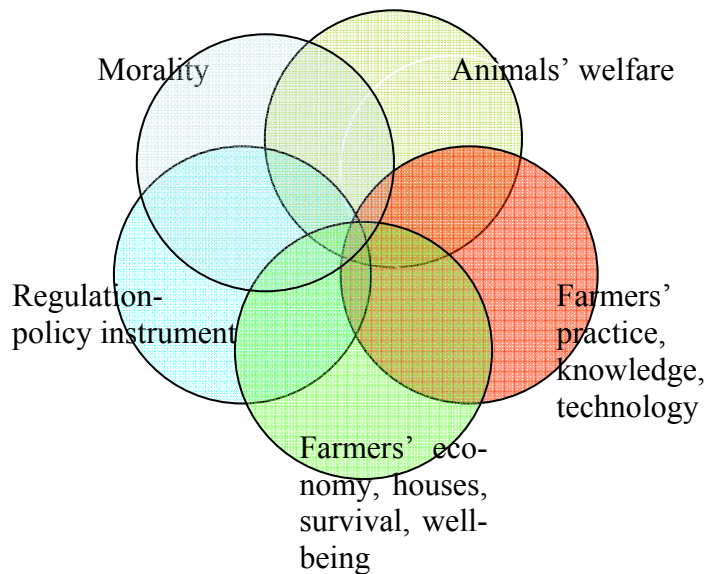
## 8 Conclusion

### 8.1 Summary of major findings

In this final chapter, the major findings of our study are summarized. The overall purpose has been to gain an improved understanding of the Norwegian cattle producers' beliefs and attitudes with respect to farm animal welfare.

In general, our interviews with a sample of 60 cattle farmers demonstrate that multiple factors must be included in an understanding of the cattle farmers' attitudes towards animal welfare. Thereby, our analysis confirms the image of animal welfare as a complex field (Cf. Skarstad and Borgen, unpublished). A wide range of elements affect, and are being affected by, farmers' attitude to animal welfare. Hence, there is no simple solution to the problems of animals' welfare, and not one single barrier that must be exceeded in order to improve the animals' welfare. The pivotal point in our study is what the cattle farmers consider as a "good enough" animal welfare, given – among other factors – their existing insights about the theme and their financial constraints. To be more specific, then, what factors should be included in order to develop a good understanding of the cattle farmers' relation to animal welfare? To a large extent, this study of cattle farmers confirms the pattern that emerged in a similar study of Norwegian pig producers (*ibid.*). In either studies, the most influential factors can be summarized in the following broad categories: (a) The cattle farmers' economy, survival, well-being (b) Their practice, knowledge, technology, (c) Their perception of the regulatory framework (d) Their morality (i.e. their interpretation of what it means to be a proper farmer), and (e) Animals' welfare. These elements seem to condition and form the cattle farmers' attitude, understanding and practice when it comes to animal welfare. The elements are partly contingent on each other, and not mutually exclusive. Moreover, these factors may be considered as the "ontological space" in which the farmers' understanding and enacting of animal welfare practices are conditioned and shaped.

*Elements shaping the farmers' understanding, attitude and practice with regard to animal welfare.*



Most of the producers were also positive to the increased focus that seems to be set on animal welfare in the public. Quite many of the producers warned, however, that the focus most not become extreme, referring to the animal welfare activists as having such an extreme focus. Some farmers also feared that some of the animal welfare regulations seem to become too detailed or non-realistic, making it impossible for farmers to follow up, not the least in financial terms.

As found in the study of pig producers (ibid.), our study of cattle farmers concludes that the Norwegian farmers in general express a positive attitude towards animal welfare measures. Summing up their response, good animal welfare is important for the farmers for three reasons: (1) First, because the animals shall be fine and not suffer. The farmers feel morally responsible for taking care of their animals. (2) Second, maintaining a good animal welfare is important for the farmers' own sake. They feel bad and don't thrive if the animals are not well. A good animal welfare leads to a good economy, or good production. As formulated by one farmer: "Good animal welfare is important so that they will produce as much as possible, and because I shall thrive with being in the farm house". (3) Third, a few farmers underlined that keeping a good animal welfare is important in order to maintain consumers' trust.

However, the cattle farmers' generally positive evaluation of existing and novel animal welfare measures was not without further qualifications. In particular, their attitudes appeared to be associated with a ban on the tied-stalls for cattle, and the subsequent need to install loose housing. According to Norwegian regulation concerning the keeping of cattle, the tied-stall system is prohibited from 2024. This is by far the largest and most consequential animal welfare change within the Norwegian cattle sector. This re-

quirement implies that many farmers must build new cow houses and/or modernize their existing facilities, typically at a substantial cost. This particular requirement and its related need for investment, represented a substantial challenge for many of our informants.

Hence, an important lesson from our study, is that, when asked about their opinion on the animal welfare regulations, as well as whether they believed the regulations would ensure a good animal welfare, the cattle producers usually took their own on-farm situation as a point of departure for their answer. Hence, their attitude should be considered as contextual in the sense that they typically did not unconditionally state their enthusiasm for the regulations, but rather reflected on whether implementing the measure would function well in their cowshed, and if it would be possible for them financially to implement the measures in question. It's therefore no surprise that many cattle farmers paid most attention to the ban on the tied-stall housing and the subsequent need to build new houses with loose housing.

A further purpose of this study was to explore in more detail the cattle farmers' attitude to animal welfare schemes. As mentioned earlier in this report, schemes have so far not been a common way of organizing animal welfare requirements in Norway. There are today only two well-developed animal welfare schemes in use in Norwegian cattle production. The greater majority of the producers participate in the basic quality assurance scheme KSL. In addition, organic producers are members of the organic scheme Debio. Hence, the differences between the producers regarding participation in schemes, essentially reflects the difference between conventional and organic producers. These types of productions are governed and enforced by different regulations. From an animal welfare perspective, participating in KSL means to follow the Norwegian public regulations. The cattle farmers further remarked that they participate in KSL because they are expected to participate by the receivers of their products, and/or because of the financial incentive built into the scheme. A few producers emphasised the positive aspects of KSL as reasons for participating; such as the quality assurance it provides and the information and overview that follows from membership. But all in all, therefore, the impression from our study is that the cattle producers participate in the KSL-scheme because this membership functions more and more as a prerequisite for delivering to the major customers. Most of the *organic* producers told they had become organic producers because such principles correspond with the way they want to run a farm, especially with regard to the use of pesticides and artificial fertilizers. Stricter requirements for animal welfare were not mentioned as a significant reason for converting to organic production methods.

The cattle producers referred to multiple pros and cons of being a member of schemes. The greatest barriers and disadvantage of KSL, according to the producers, seems to be the additional work and use of time that follows from the membership. This work is probably conceived of as extra problematic to the extent that the producers don't expe-

rience it as useful for their own farm practice. On the other hand, many producers referred to several advantages associated with their KSL-membership; such as the information KSL provides, the increased overview that they get, the extra motivation it gives to get things done, the control, the extra focus on e.g. security, the documentation and quality assurance it provides, as well as the extra payment.

Given the gradual liberalization of Norwegian agriculture, one could easily imagine a future in which specific animal welfare schemes come to play a more important role. To a larger extent, animal welfare may become an area of differentiation among producers in order to benefit from higher price in the market. Then, what do the cattle producers think of a development towards more animal welfare schemes? Do they think that an animal welfare brand would sell in the domestic market? Our study shows that quite many producers (approx.30) did believe that an animal welfare brand would have appeal in the market, but most of them nevertheless perceived “superior animal welfare” as a niche product. It’s also worth noting that the cattle producers did not necessarily sympathize or identify with the group of consumers that demanded an animal welfare brand. A few cattle farmers thought that “conservationists” might buy such products, or people in the cities, people with higher educations who can afford to pay the necessary price premium. A few cattle farmers emphasised that people in general are more concerned about animal welfare, as a reason why a brand might sell. There were also a group of cattle producers who didn’t believe that an animal welfare brand would sell at all. Two main reasons were given for this: First, that consumers trust Norwegian agriculture and believe it is good as it is. The second reason was the assumption that people are mainly concerned about product prices.

## **8.2 Systematic differences between the cattle producers**

As mentioned in chapter two, we have tried to identify systematic variations in the answers from different types of producers, defined as different with respect to the selection criteria used for drawing the sample. As probably noticed, we have throughout the chapters paid particular attention to groups of producers that have been overrepresented in their response to selected questions.<sup>14</sup>

When we have reported that a particular group is overrepresented in their answer to a specific question, this means that the group of e.g. small producers has been relatively larger than what would be expected if taking into account the ratio between small and large producers in the sample. Sometimes, these overrepresentations have not been considerable, and the investigation cannot verify the differences with any statistical significances. Since we haven’t operated with operationalized definitions, the classification is

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<sup>14</sup> We haven’t analyzed all the questions for systematic differences among producers, but have selected out questions that investigates the producers’ attitudes to various measures, as well as questions which can say something about their different definitions and approach to animal welfare. Less attention is paid to questions that reveals their experiences with e.g. being a scheme-member, or facts-questions which asks for information on e.g. how many times they have been controlled.

based on our interpretation of the producers' answers.<sup>15</sup> Nonetheless, it would still be interesting to see, through summing up these overrepresentations, if it is possible to observe any systematic patterns in the material between various kinds of producers. If these patterns make sense, or are possible to explain, these differences would be candidates for further study. The following table sums up the overrepresentations we have reported throughout the chapters:

<b>Fattening bull producers</b>	<b>Suckling cow producers</b>	<b>Organic producers</b>	<b>Small producers</b>	<b>Large producers</b>	<b>Dairy producers</b>	<b>Female producers</b>
	More positive to regulations	More positive to regulations				More positive to regulations
	Have more often implemented loose housing	Have more often implemented loose housing		Have more often implemented loose housing		
Positive to suckling in dairy production	Positive to suckling in dairy production					
	More positive to ban on cow trainer	More positive to ban on cow trainer				
		Different, more ethically based decision to enter their scheme than KSL-producers				
	More "natural" definition of animal welfare	More "natural" definition of animal welfare				
			Put more emphasis on human-animal relationship			

<sup>15</sup> In other words, we haven't set any formal definition or developed word-lists in order for a producer or an answer to be classified in certain category, or is named in a certain way. One could have imagined that in order to have a professional relationship to the animals, the use of words such as professional, distance, etc. has to be used by the producer. However, our interpretation of the answers is based on what they tell us, or the semantic meaning of their answers. However, often our classifications are triggered by the use of words such as professional etc. Furthermore, they are usually classified as having a natural definition if words such as "natural, needs, the animals' premises" are used. A personal relationship is often triggered by the use of words such as "personal, talk, fond of etc".

			Report a greater challenge of having time for the animals			
More professional relationship	More professional relationship			More professional relationship		
						More personal relationship
			More concerned about greater distance in transport			
			More sceptical to the drive for efficiency.		More sceptical to the drive for efficiency	

With all the qualifications indicated above in mind, this table shows that suckling cow and organic producers have similar approaches in some respects. They are more positive to the regulations, to a ban on cow trainers; more often than others they have implemented loose housing, and also have a more natural definition of animal welfare. Together with fattening bulls and suckling cow producers' more positive attitude to suckling in dairy production, these findings indicate *that the type of stalling system used, and the established practices of the producers, to a large extent influence the attitudes, or at least go together with specific definitions, attitudes and approaches to animal welfare.* A hypothesis would therefore be that the implementation of loose housing goes together with a more "natural" definition of animal welfare, which makes sense to the extent that animals can be said to be more "free", or interacting with their species in such systems. That is to a large extent the animal welfare justification for such systems. Vice versa, to have such systems, makes you more negative to measures linked to tied-stall systems, such as cow trainers. The greatest changes, which partly follow from animal welfare requirements such as the ban on tied-stalls, are taking place in the dairy production, which might explain why organic and suckling cow producers seem to be somewhat more positive or less ambivalent to the regulations. Also, dairy producers and small producers were more sceptical to the drive for economic efficiency, and a development towards larger "factory farms", which makes sense because especially smaller, dairy producers with tied-stalls are the ones who are "most threatened" due to the regulatory and economic pressure.

Another interesting aspect which seems to be linked to the implementation of loose housing is a more professional relationship to the animals, although it can also be linked to size because the large producers more often have loose housing. Also, smaller producers seem to pay more attention to the significance of a good interaction between human

and animal. Gender might also be relevant to the relationship as indicated by the fact that the female producers were overrepresented among those who reported to have a personal relationship to their animals. Large producers, suckling cow and fattening bull producers were overrepresented in defining their relationship as professional. This indicates that the stalling system and size of the livestock contributes to shaping the farmers' relationship to the animals.

Since we are especially interested in the difference between producers participating in various schemes, it's interesting to observe from the above-mentioned table that there might be some differences between organic and conventional producers regarding the attitude to specific requirement as well as definition of animal welfare. This might be linked to different regulations and stalling systems. The organic producers had more often loose housing, and were more positive to suckling in dairy production which in organic production is a requirement for at least 3 days after birth. Regarding the choice of scheme, the organic producers had a more positive and self-motivating reason for entering Debio than the conventional producers were for entering KSL. However, while the scheme-participation for organic producers reflects their choice of becoming organic producers, participation in KSL doesn't reflect the producers' choice to produce conventionally. Hence, the difference in motivation of becoming organic or conventional wasn't systematically investigated.

Summing up, there seems to be interesting co-relations between the type of production, stalling system, definition of animal welfare, and human-animal welfare relationship. This implies that more issues are at stake in the transition from tied-stall housing to loose housing, and through the implementation of animal welfare measures generally, than the animals' welfare. The questions at hand are whether implementation of animal welfare measures implies a different agriculture, a more professional relationship to animals, larger farms, more naturally-oriented understanding of animals' welfare? In this respect, dairy and small producers may seem to be more ambivalent about this trend than other types of producers, because their practice is most remote and most threatened by such a development. Also, it implies substantial economic investments for them. What is feasible economically plays a major role. This indicates that the established practice and existing stalling systems of the producers contributes significantly to shape their attitudes and definitions.

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# Appendix I

## SUMMARY TABLE

Questions/aspects	Answers
Evaluation of national public regulations	Most farmers generally said they found the regulations to be reasonable. However, most of the farmers appeared also to be somewhat ambivalent towards changes related to animal welfare regulation, due to great financial investments. Most changes are costly, and the farmers don't necessarily believe that changes will improve animal welfare. Most farmers seem to be content with the current welfare situation at their farm, and don't have much impetus to change. Especially the ban on tied-stall houses was met with ambivalence, although most told they were overall positive to a ban on it. Most are satisfied with the implementation of soft mats.
Knowledge of national public regulations	Most of the producers evaluated their knowledge of animal welfare and the national animal welfare regulations as fairly good. Their type of knowledge typically comes from actors with a practical experience, or who gives advice about how to practically run a farm. Consumers, animal welfare organizations and "pure" scientists/biologists were seldom mentioned as sources of information.
Areas of improvement in the national regulations	General points were made relating to the economic cost of implementing the regulations, their too bureaucratic character, and too many regulations coming simultaneously. More specific weaknesses/problems that were mentioned were problems of keeping soft mats clean and dry, fire detecting regulations that take the buildings into account, the problem of letting bulls out as demanded in the organic regulation, and lack of harmonization between the subsidy system and the animal welfare legislation.
EU vs. Norway	Most of the producers believed that animal welfare legislation is stricter in Norway than in the EU. However, most producers said they were not knowledgeable about the EU-legislation. Among those who believed that the Norwegian regulations are stricter, the majority approved of this. But there were also producers who were more in favour of harmonization of the regulations mainly in order to ensure similar conditions in the case of more open boundaries.
Motivation for scheme-participation	In the sample, 10 participated in the organic scheme, 48 were member of the basic assurance scheme, KSL, and two were not member of any schemes. The KSL-producers participate not first and foremost due to their enthusiasm for the scheme as such, but because they are expected to participate, and/or because of financial incentives. Most of the organic producers told they had become organic because it corresponds with the way they want to run a farm, especially with regard to the use of pesticides and artificial fertilizers. Economic incentives were also mentioned. The two conventional producers, who didn't participate in any schemes, were generally opposed to the in-

	creased control and bureaucratization of society.
Pros and cons of being a scheme-member	Major advantages mentioned were: increased information and overview, quality control, increased motivation, extra payment. Major disadvantages were: Extra work, don't see the point with it, increased bureaucratization, too little and poorly coordinated control.
Motivation for implementing stricter requirements/development towards more schemes	Among those who found participation interesting, this was something they could consider if there wasn't too much work, and/or if the premium price were sufficiently high. Motivation for entering schemes mentioned were better payment, better welfare for the animals, pride in their work, and increased motivation. Among those who were negative or reluctant, several reasons were given: The public regulations were conceived of as strict enough, hence, there is no room for schemes; things are fine today; participation might lead to more bureaucracy; the consumers think only about prices; branding is negative; schemes will lead to an A- and B-team of animal care, or for practical reasons such as need for large investments, entering a scheme wasn't feasible in their situation.
Definition of animal welfare	Most of the farmers, when asked about their definition of animal welfare, as well as what they considered to be good animal welfare, referred to specific farming practices, as well as technical measures important to ensure animal welfare. The farmers' animal welfare discourse centres on specific and practical animal welfare measures: or what can be <i>done</i> to improve animal welfare, not necessarily what <i>is</i> good animal welfare, or how to <i>know</i> what animal welfare is. Some of the producers linked animal welfare to the animals' possibilities and abilities to perform their species specific or natural behaviour. In some instances, the well-being of the animals seemed to be directly linked to their prosperity. Enough food and water was considered as the most important or fundamental aspect of ensuring a good animal welfare.
Indicators of animal welfare	The indicators can be said to be of two interrelated kinds: (a) They were partly animal-based, either by being related to morphological traits, the animals' behaviour, or to their production capacity, or (b) They were indicators based in the farmers' practices or the environment of the animals. Peaceful animals, healthy, clean and shiny animals with good appetite were specific indicators often referred to.
Producers' animal welfare practice	Most farmers' evaluated their own animals' welfare as good. Another group of producers were mainly content, and evaluated their animals' welfare to be mainly good, but nevertheless pointed to possibilities for improvement. Old buildings, too dense buildings, tied-stall housing instead of loose housing, were the area of improvement most often mentioned by the producers. Many producers couldn't see any particular welfare problems in their own livestock. Problems with their stalling or houses were most often referred to. Most of the producers told that animal welfare is a topic they are concerned about, and/or an issue that the producers discuss with each other.
The animal welfare status in Norway	Most of the producers considered the welfare status in Norway as generally good. The general problem most often referred to were the drive for efficiency, the poor economy and the lack of time.
Farmer-animal relationship	Most of the farmers characterized their relationship to the animals as good. Only a few characterized their relationship as

	<p>professional. Around half of the producers name their animals, mostly the cows. Almost all believe the animals have feelings, although their definitions of feelings varied.</p>
Transport	<p>Most of the farmers found the transport of their animals to be good. They were content with the work of the driver. They experience that the transport cars are clean and fine. The aspect of greatest concern to the farmers regarding the transport was the increased distances and time for transport due to fewer slaughterhouses.</p>
Abattoir	<p>The producers were not very knowledgeable about the animal welfare situation at the slaughterhouse. Many reported that they did not know whether the animal welfare situation was good, nor could they suggest any area of improvement. However, most of the producers said they believed or trusted that the animal welfare situation is good at the slaughterhouse.</p>
Consumers/society	<p>Most of the producers thought that the public generally trust and have a good impression of the cattle sector in Norway, and that people in their neighbourhood have a good impression of their own production.</p> <p>In order to meet higher demands and interest in animal welfare, the producers mentioned the following points: maintain a good animal welfare, to follow the regulations and to be open and inform about the production, for example through having “open farms”.</p> <p>Society can help the farmers to produce animal friendly by providing good economic conditions, either through buying Norwegian and pay the price it costs, or through increased governmental support. Moral support was also mentioned.</p>
Retailers	<p>The producers’ relationship to the retailer chains can be described as distanced and as partly sceptical, partly distrusting. According to the producers, the retailers only care about making money.</p>
Animal welfare activists/organizations	<p>There were quite many farmers who were mainly negative to the organizations, mainly pointing to their lack of knowledge and extreme methods by e.g. letting mink out. However, there were just as many farmers who did see the animal welfare organizations’ role in society as a watchdog and as agenda setter, and which partly agreed with them in some instances, but which also reacted to their methods.</p>
Animal welfare focus	<p>Almost all of the producers experienced that there has been an increased focus on animal welfare. Most of the producers were also positive to the increased focus, or to putting an increased focus on animal welfare. Quite many of the producers qualified their answer by pointing to the fact that the focus most not become extreme, referring to the animal welfare activists as having such an extreme focus. Some also feared that the regulations become too detailed or non-realistic, making it impossible to the farmers to follow up, not the least financially.</p>
Why is animal welfare important?	<p>Good animal welfare is important for the farmers for two reasons: First, because the animals shall be fine and not suffer. The farmers feel morally responsible for taking care of their animals. Second, maintaining a good animal welfare is important for the farmers’ own sake. They feel bad and don’t thrive if the animals are not well. And a good animal welfare leads to a good economy, or good production. In addition, a few pointed to keeping a good animal welfare as important to maintain consumer trust.</p>

# Appendix II

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## Interview guide

### GENERALLY

- *What type of production do you have? (dairy, suckling cow, fattening bull)*
- *What type of breed do you have?*
- *The farmers' position (owner, runner, both)*
- *How many hectares of agricultural land do you have?*
- *How many animals do you have? (Number of cows, number of bulls produced).*
- *How large is your production (litre of milk, quota, number of animals slaughtered per year)*
- *What dairy or slaughterhouse are you affiliated with?*
- *Do you have any direct sales? Any contract production?*
- *Have there been any major changes in the farming in the last years? How many years have you been running the farm?*
- *Do you consider yourself an active farmer in organizational work?*
- *REMEMBER NOT TO MENTION ANIMAL WELFARE: What do you consider to be a good farmer?*

### DEFINITION OF ANIMAL WELFARE

- *How would you define animal welfare?*
- *What is good animal welfare?*
- *What is poor animal welfare?*
- *How would you judge the welfare of your animals, also in relation to other farms in the country?*
- *How do you know their state/that they are feeling well (indicators)?*
- *What do you consider to be the largest animal welfare problem in your own livestock?*
- *How do you evaluate the animal welfare in Norwegian cattle production in general?*

- *What do you consider to be the largest animal welfare problem in Norwegian cattle production?*
- ***What have you done to ensure/improve your animals' welfare?***
- *Do you practice above the legal requirements/"minimum"?*
- *What more can you do? Do you have any specific plans for improvements? What are the barriers for improving animal welfare?*
- ***How would you describe your relationship with your animals?***
- *Is there a difference in this regard between the animals you have?*
- *Do you name the animals?*
- *Would you say that the animals have feelings?*
- *Is animal welfare an issue you have been taken an interest in and have discussed with others? E.g. has it been a topic of discussion in your family?*

#### **PUBLIC REGULATIONS**

- ***How do you evaluate the national animal welfare regulations?***
- ***Do the regulations ensure a good (enough) animal welfare?***
- *Should they be stricter, less strict or as today?*
- *What are the areas of improvements/are there any weaknesses?*
- *Are the national regulations fair in compare to regulations in other countries?*
- *Is it sensible that Norway should follow the same regulations as in the EU?*

#### **ANIMAL WELFARE SCHEMES**

- *Do you participate in any animal welfare schemes (Debio, KSL)*
- *When approximately did you become a member?*
- *How did you learn about the scheme?*
- *Why do you participate in the scheme? What was your originally your motivation?*
- ***What are the pros and cons of being a member?***
- ***Should the scheme be improved, and what could that be done?***
- *Would you be interested in entering a "tougher" scheme (e.g. organic scheme)?*
- *What would motivate you to implement stricter requirements for animal welfare?*

**- Is a higher price of your products decisive for your willingness to engage more in animal welfare practices/become a scheme-member?**

*- Are you positive to an increased differentiation into animal welfare brands?*

**- Do you believe an animal welfare brand would sell?**

**- Is it possible for farmers to stay out of animal welfare schemes/quality schemes today? Why/why not?**

*- Does participation in the scheme affect you and the farm management? In what way? (in relation to: Generally, freedom to run the way they want, work load, production costs, transaction costs, marketing opportunities).*

*If you are not a scheme-member:*

*- Do you know about the animal welfare schemes?*

*- Have you ever been a member? If yes: **Why and when do you quit?** If no: *Why not?**

*- Are you interested in becoming a member? Why/why not?*

**- Is a higher price of your products decisive for your willingness to engage more in animal welfare practices/become a scheme-member?**

## **SPECIFIC ANIMAL WELFARE REQUIREMENTS/MEASURES**

**A. Have you implemented the measures? B. Are they desirable? C. Are they feasible?**

*- Soft mats for cows and heifers?*

*- Loose-housing system?*

*- That the calf shall suckle the cow also in dairy production?*

*- Teat- or bucket-feeding?*

*- Establishing a yard outside for exercising also during winter time?*

*- Exercise/grazing requirements for bulls also?*

*- Ban on cow trainer?*

*- Installation of cow brushes for increased comfort?*

## **CONTROL SYSTEM**

**- How often has your farm been inspected?**

**- What did the inspectors do?**

**- Is/was the control serious/tough?**

**- What are strengths and weaknesses of the control system? What would be improved?**

## **KNOWLEDGE AND COUNSELLING**

- *How do you assess your knowledge on animal welfare?*
- *Do you know the actual animal welfare regulations in Norway and in the EU? Do you e.g. know future changes?*
- *Who informs you and advise you on animal welfare issues? With whom do you discuss animal welfare questions?*
- *To what extent do the veterinary influence your ideas and behaviour regarding animal welfare matters on the farm?*

## **TRANSPORT AND ABATTOIR**

- *What is good animal welfare during transport?*
- *How do you evaluate the transport today?*
- *What could be improved and how?*
- *What is good animal welfare at the abattoir?*
- *How do you evaluate the animal welfare at the abattoirs today?*
- *What would be improved?*
- *Do you find it sad to send the animals for slaughter?*

## **SOCIETY, MARKET AND CONSUMERS**

- *How do you think that cattle production is perceived by "society"?*
- *How do you think people perceive your production? (Neighbours, friends, other farmers etc.).*
- *How do you think that the consumers assess the animal welfare in the cattle sector?*
- *What do they want in your opinion?*
- *What is the role of the retailers?*
- *What is your opinion of animal welfare activists/organizations?*

## **FUTURE, SUMMING UP**

- *Do you experience that there is an increased focus on animal welfare? What do you think about that?*
- *Why do you find a good animal welfare important for your own animals?*
- *Should the cattle sector be concerned about animal welfare? Why/why not?*

- *What should farmers and the farmers' organizations do to anticipate this increasing concern for animal welfare?*

- *How could consumers, government and others support farmers to produce more animal friendly?*

- *Could you indicate how important the following matters are for your farm?*

*Animal health*

5 Very important    4 Important    3 Neutral    2 Unimportant    1 Very unimportant

*Animal welfare*

5 Very important    4 Important    3 Neutral    2 Unimportant    1 Very unimportant

*Economy*

5 Very important    4 Important    3 Neutral    2 Unimportant    1 Very unimportant

*Environment*

5 Very important    4 Important    3 Neutral    2 Unimportant    1 Very unimportant

*Food safety*

5 Very important    4 Important    3 Neutral    2 Unimportant    1 Very unimportant

*Why do you rank the matters this way?*

- **Which features are, according to you, the most important for animal welfare?**

(Indicate your top three: 1 = important, 3= less important)

- Lack of thirst and hunger
- Absence of injuries
- Absence of diseases
- Absence of pain
- The animals can express normal/natural social behaviour
- The animals can express normal natural other behaviour (e.g. play)
- Good human-animal interaction
- Lack of fear and stress
- Other things

*Why do you rank the features like this?*

- *Do you want to add anything or do you have any questions?*

**BIOGRAPHICAL DATA**

- *Age*

- *Education beyond ground level*

- *None*
- *Senior high school/secondary?*
- *College/University, less than 3–4 years – bachelor level*
- *College/University, more than 3–4 years – master level*

- *Do you have agricultural education? If not, what type?*

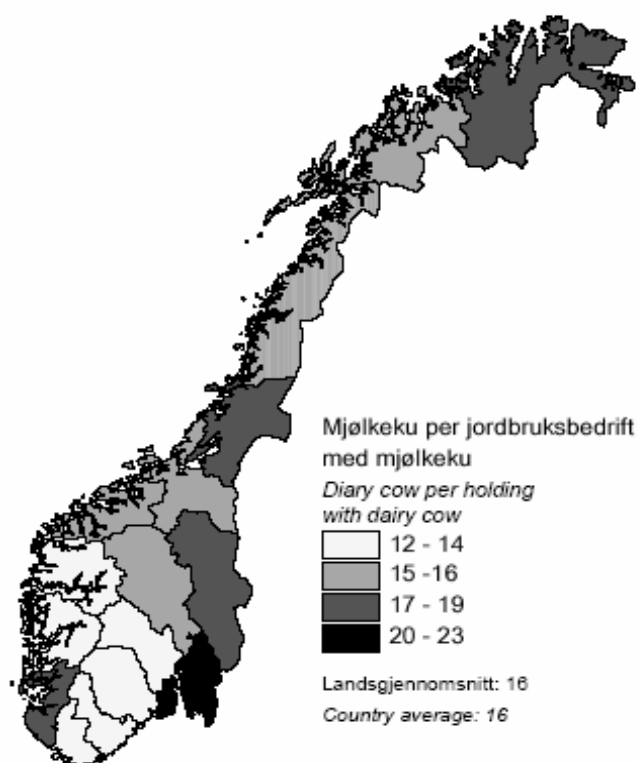
- *Marital status: Married, co-habiter, single*
- *Number of children?*
- *Man-year on farm, is the farmer full-time or part-time employed at the farm?*
- *Is the farm interested in receiving information about the results?*

# Appendix III: Map of dairy production in Norway

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Figur 3.4. Mjølkeku per jordbruksbedrift med mjølkeku, etter fylke. 2003  
*Dairy cow per holding with dairy cow, by county. 2003*

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Source: Norway Statistics, Agricultural Statistics 2003.

# Appendix IV

## Statistics, numbers from 2004

### DAIRY

*Number of dairy farms: classified according to number of dairy cows per farm 2004*

Farm size	1-29	%	30- 69	%	70 - >	%	Total
	16301	94.9	845	4.9	38	0.2	17.184

*Key figures for dairy farming and the use of land*

Aspects	Norway - figures
Number farms with dairy cows	17.184
Number of dairy cows	271.736
Average number of dairy cows/farm	15.8
Average milk yield per cow per year (kg)	6150 (*)
Total number of hectares in use in dairy farming	Approx. 300.000

*Production and trade*

x 1000 ton

Collection of cow's milk	1.560
Production of cheese	96
Export of cheese	18.22
Import of cheese	7.43
Production of butter	14.7
Export of butter	1.64
Import of butter	0.40
Production of lean milk powder	3
Export of lean milk powder	0.0006 (600 kg)
Import of lean milk powder	0.11
Production of non-lean milk powder	2.4
Export of non-lean milk powder	0.0 (7 kg)
Import of non-lean milk powder	0.0005 (550 kg)

Production of condensed milk	Not available
Export of condensed milk	Not available
Import of condensed milk	Not available
Litre of consumption milk sold	503 million litres, (or 539 mill. litres including yoghurt)

(\*) 6108 liter. 1 liter = 1.03 kg

## BEEF

*Number of cattle farms according to number of suckling cows per farm 2004*

Farm size	1-29	%	30-69	%	70 - >	%	Total
Norway	5660	96.2	213	3.6	8	0.2	5881

*Key figures for beef production*

Aspects	Norway - figures
Number farms with suckling cows	5.881
Number of suckling cows	52.980
Average number of suckling cows/farm	8.7
Number farms with bulls only	1945
Number of other cattle (except suckling and dairy cows)	615318
Average number of bulls/farms with bulls only	16

*Production and trade*

x 1000

Gross domestic production (all cattle including calves)	86541
Live imports	-
Live exports	-

x 1000 ton

Imports meat and meat products	5.3 (or 5364229 kg.)
Exports meat and meat products	0.4 (or 377977 kg.)
Available for consumption	91.4
Consumption per capita (kg)	19.9

**CALF***Key figures for calf production*

	<b>Norway - figures</b>
Number farms with calves	Not applicable
Number of calves slaughtered	18600
Average number of veal calves/farm	Not applicable
Percentage of farms with more than 1000 veal calves	Not applicable

*Production and trade*

x 1000

Gross domestic production, calf only	2025
Live imports	-
Live exports	-
Imports meat and meat products	Not available
Exports meat and meat products	Not available
Available for consumption	Not available
Consumption per capita (kg)	0.5