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Norwegian pig producers' view on animal welfare

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Preface

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.

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 pig 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: *"Pig farmers and animal welfare A study of beliefs, attitudes and behaviour of pig producers across Europe"* Synthesis report WQ 1.3.1.2, Deliverable D1.11, published within the WQ-programme).

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1 Introduction

This report presents the findings of a study of Norwegian pig producers' view on animal welfare. The study has been financed by and carried out as a part of the EU-funded research project *Welfare Quality: Science and society improving animal welfare*, and 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 faced by producers, focusing on their relation to supply chains, by i.e. looking into producers' willingness to enter animal welfare schemes. The study is based on qualitative interviews with 60 Norwegian pig producers in the period from November 2004 to May 2005. The study shows among other things that most Norwegian pig producers welcome the increased focus that has been put on animal welfare, and see animal welfare as important for improving production, maintaining a high consumer trust, which is furthermore conceived of as important for the survival of Norwegian agriculture. But the study also shows that there is a limit to the number and level of regulations that may be issued. For a summary of the report cf. appendix 5.

The structure of the report is as following: In the remaining of chapter one, we will first give a short introduction to Norwegian pig production, with a bent towards presenting statistics and some central regulations. Thereafter, we will present an overview of the animal welfare schemes and the animal welfare initiatives developed by the Norwegian pig production industry. In chapter two, the research design, sample and methods of the study will be presented. The remaining chapters, except from the concluding chapter, present the results of the 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 five we analyse the farmers' relationship to the animals. This analysis provides, inter alia, insight into the pig farmers' definitions of animal welfare, which actors the producers trust the most in animal welfare matters, and who they consider to be responsible for the animals' welfare. Their view on specific animal welfare issues in the pig production industry will also be highlighted in this chapter. Chapter six looks into the animal welfare situation in the transport- and slaughter-house sectors, as seen from the farmers' points of view. Chapter seven explores the farmers' relationship to other potential animal welfare actors: the consumers, animal welfare organizations, and retailers. In chapter eight, we summarize the analysis and draw the conclusions.

1.1 Introduction to Norwegian pig production

Through the last decade, Norwegian pig production has undergone larger structural changes than any of the other farm animal productions in Norway. The number of pig-

let producers has been halved during this period, and was reduced by 20 percent in 2000 (St. meld nr. 12 (2002-2003): 67).¹ The number of all types of producers holding sows has also been halved in the last ten years. On the other hand, the size of the average herd has virtually been doubled (Norsvinrapport 2004:8). Approx. 1.40 million fattening pigs are produced annually or approx. 108 thousand ton of pork. The production amounts to a first-hand value of NOK 2.20 billion per year. (op.cit.5).

In 2004, the year when this study started, 4126 pig producers were registered in Norway, 1897 of these being fattening producers and 2229 being piglet or combined producers (Norsvinrapport 2004). Combined producers fatten their own piglets up to slaughter. Fattening producers on the other hand buy piglets from piglet producers (or sometimes combination producers) at ca. 25 kg live weight and fatten them up to ca. 75 kg slaughter weight. Sow pool is a relatively new type of production in Norway, consisting of a hub that owns the sows, and several "satellites" of piglet producers which rent the highly pregnant sows from the hub. When the sows have farrowed and the piglets are weaned, they are transported back to the hub. In 2004, 1 of 8 sows in Norway were member of a sow pool (Svin 2/2005).

Notwithstanding this drastic reduction in the number of producers during the last ten years, as well as the fact that the average size of the herd has doubled, Norwegian pig production is, as judged by international standard, still characterized by relatively small producers. According to numbers from the National Pig Breeding Association (Norsvinrapport 2004:6) the average herd consisted in 2004 of 26.8 sows or 35 year sows.² 65 percent of the sows are found in herds with more than 31 sows. 34.8 percent of the sows are kept in herds with 31-50 sows. Most of the producers are very small. 557 producers have only 1-10 sows, and only 19 producers have more than 100 (ibid.). From an animal welfare perspective, these figures are important to keep in mind, because animal welfare is the welfare of the individual animal (cf. e.g. Forskningsbehov innen dyrevelferd 2005:30). Knowing in what type of herd the animals live is therefore important (cf. appendix 3 for tables of the pig production structure)

The same pattern can be observed for fattening pigs produced by specialized fattening producers. There are many small producers, leading to an average of 353 slaughtered fattening pigs per year. If we include only fattening producers producing more than 200 fattening pigs per year, the average becomes approximately 650. Numbers for 2004 show that most of the slaughter pigs (55.4 percent) are produced in fattening herds with more than 700 slaughter pigs produced. There are relatively few producers (17 percent)

¹ This drastic decrease in the number of piglet producers in 2000 is animal welfare related. From 2000 free-range-systems for (dry) sows became obligatory. Large investments were necessary to fulfil this requirement leading to many producers quit production.

² The year-sow-figure includes sows that have already farrowed at least one time, plus the number of animals from covering up to their first farrowing (Forslag til ny lov og forskrift om regulering av svine- og fjørfeproduksjonen 2002. Part II, ch. 3.)

that produce more than 700 animals. In other words: 17 percent of the fattening producers produce 55 percent of the total number of pigs produced (or: sent for slaughter) by fattening producers. At the other end of the scale, 61 percent of the producers of fattening pigs produce less than 300 animals per year, or only 15 percent of the total number of fattening pigs (ibid.).

The modest number of large producers as judged by international standards, must be seen in relation to the prevalent farm animal concession scheme (cf. Act concerning regulations of the swine- and poultry production) which is central to both Norwegian pig and poultry production. This law and the appurtenant regulation regulate how many pigs a farmer is allowed to produce without applying for specific permission. The purpose of the law is to ensure a proliferation of the production on more units (§ 1, Act concerning regulations of the swine- and poultry production). In 2003, the concession limits were increased by 50 percent to a maximum of 2100 pigs slaughtered in one year, or 105 sows per herd (Norsvinrapport 2004:7). Very few herds exceed these limits, the hubs in the sow pools being important exceptions.

One objective and consequence of the concession scheme has been the proliferation of pig producers around the whole country of Norway. However, there is now a tendency that pig production (or the pigs) is concentrated into certain geographic areas. Three areas, i.e. Nord-Trøndelag, Rogaland and parts of Austlandet, seem to take over increasing parts of the production, if we look at the volume (ton of pork) produced (Norsvinrapport 2004:9) (cf. appendix 4 for map). These areas are featured by rich farm land with grain production, a relatively mild climate, and they are situated in the south and middle part of Norway. These are also the main agricultural areas when it comes to other types of agricultural productions.

1.2 Animal welfare in Norwegian pig production

Animal welfare was put 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, including the Regulation concerning the keeping of pigs, have been revised in order to implement stricter requirements for animal welfare. The animal welfare act (Lov av 20 desember 1974 nr. 73 om dyreverv) is currently under revision.

Public regulations are the most common and important instrument for governing farmers' animal welfare practices in Norway. Animal welfare schemes, defined as any scheme including a module concerning animal welfare standards (cf. Leeuwen and Bock 2005 for definitions of different types of schemes), is not so common. In addition to the public regulations, the industries' own action plans for animal welfare which were launched in 2001 (e.g. Handlingsplan for dyrevelferd hos gris), as well as the new-

ly established competence courses in animal welfare, are animal welfare related initiatives that aim at influencing farmers' practices. The pig production industry was the first industry in Norway to develop a competence course under the name "Animal welfare pig", which started in autumn 2004. Participation is voluntarily, but the ambition is that all pig producers shall participate in future (cf. Skarstad et al. (forthcoming)).

There are a few initiatives relating to pig production that fall under the definition of an animal welfare scheme. The main animal welfare scheme in Norway is *KSL – Kvalitetssystem i Landbruket* (Quality System in Norwegian Agriculture).³ *KSL* is a quality assurance scheme defined as schemes that contain an animal welfare module, but which focus on other themes than animal welfare, such as food safety, product quality and traceability. Moreover, *KSL* may also 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 pig 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 pigs (Forskrift om hold av svin), and serves largely as an instrument for implementing Norwegian regulations. *Grøstadgris* is the name of another animal welfare scheme in Norwegian pig production. *Grøstadgris* is a product name developed by one single producer. The food label "A happy pig" signals a product produced with a high animal welfare.⁴ *Grøstadgris* is the only specific animal welfare scheme in Norway; i.e. schemes focusing primarily on animal welfare and including regulations that go well beyond national legal regulations. The organic scheme in Norway is called *Debio*. *Debio* is a privately owned agency that controls and certificates 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 only 19 organic pig producers registered in Norway in 2004 (*Debio*-statistics). 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, the private abattoir Prima Jæren Slakt in Rogaland being the most important example. In addition, animal welfare is one among several attributes that are highlighted by a few companies, particularly under the Speciality label (*Spesialitetmerke*) which is a governmental label given to products that have a unique quality and history. 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 this type of top quality schemes is implemented, animal welfare may be assigned

³ For a thorough introduction to *KSL*, cf. Borgen and Skarstad 2005.

⁴ *Grøstadgris* guarantees that the pigs can move freely both indoors and outdoors.

a more prominent role as conveyor of quality signals from producer to consumer (Borgen and Skarstad 2005).

2 Methods

The results of this study is based on the answers from 60 Norwegian pig producers to questions specified in an interview guide used in all six countries participating in the study.⁵ In this chapter the research design of the study, the sample of 60, the representativeness of this sample and the status of the results, will be elaborated on.

2.1 Research design

The study is based on a qualitative research design. However, a sample of 60⁶ informants is a large one in qualitative research, which made it necessary for us to develop a two-step-research process by distinguishing between an explorative phase and a more exploitative phase of the study.

Explorative phase

In order to gain knowledge of central animal welfare issues as seen by farmers and to get a thorough first impression of the various answers we could expect, the first phase of the interviews were carried out in accordance with an explorative, qualitative research design. 11 interviews were conducted face-to-face on the farms in the period from December 2004 to January 2005. As a starting point for conversation, an extensive semi-structured⁷ interview guide was used (cf. appendix 1). The interviews had the form of a conversation and lasted for 1.5-2 hours. In this first phase, our priority was to interview different types of producers, defined as different by the criteria we used for drawing the sample. The producers were contacted over telephone, given information about the project, and asked whether they were willing to participate. All producers stated their willingness to participate in the study.

All the interviews were tape-recorded. After having conducted the interviews, the interviews were transcribed, and analysed using the qualitative soft-ware-programme NVivo as a tool for organizing and commenting on the text-data.

Exploitative phase

⁵ However, the interview guides were adapted as to fit the national contexts.

⁶ The number of 60 was decided upon at the outset by the project leading. The number of informants interviewed is the same in all the participating countries.

⁷ Semi-structured interviews are by Britha Mikkelsen (1995:102) referred to as interviews where not all the questions are pre-prepared, and some are added and dropped during the interview.

Based on the extensive interviews with the 11 producers, we developed an interview guide for the second phase with telephone interviews (cf. appendix 2). These questions covered the same topics as the extensive interview guide, but some of the questions that did not function were eliminated, and others were added. Some of the questions were posed in a more concluding manner or less open, and less follow-up questions were posed, but still the producers were encouraged to phrase the issues in their own pace, structure and style. None of the questions were pre-coded, restricting the answers possible, in order to maintain a high validity of the study.

This phase of the study began in February 2005, and lasted until May. The producers were contacted over telephone, given information about the study, and asked whether they wanted to participate. Most of the telephone interviews were also tape-recorded, if endorsed by the producers. The telephone interviews lasted from 20 – 45 minutes, depending on how much the producers had on their minds and the pace of the interview. The answers were directly written into a word-template with the questions during the interview. After the interviews, the answers were written out, partly based on the notes made and partly based on memory. The tape-recordings have served as help for getting exact quotes for the use in this report. In addition, the answers have been written into an excel-sheet providing a quick overview of the answers given.

2.2 Sample

The sample of 60 has been chosen according to the following criteria:

- geographical location of the farm
- size of the farm (registered as the number of animals)
- type of production (fattening, piglet and combination production, plus multiplication herds)
- level of engagement in animal welfare schemes

Generally, the objective has been to get a representative distribution of the sample with respect to these four variables. Another principle established in the project has been to include only specialized animal producers. Hence, small pig producers have been excluded from the sample. The producers' gender 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. We will discuss the other criteria later in this chapter, but especially the last mentioned criterion, level of engagement in animal welfare schemes, deserves a more detailed comment.

As mentioned in section 1.3, and as documented in Borgen and Skarstad 2005, there are few animal welfare schemes in Norway. 81 percent of Norwegian pig producers participate in KSL, and 86 percent of the pigs are part of a KSL-herd (Groven et al. 2004:25). Among the 506 producers which produce both grain and pigs, the participation in KSL

is as large as 87.40 percent (op.cit.26). If looking at the upper third of the pig producers measured by number of animals, the participation is also 87.40 percent (op.cit 30). As already mentioned, our sample does not include the smallest producers. The percentage of animals living on a KSL-farm in our population is probably over 90 percent. Hence, finding producers not participating in KSL, proved to be difficult. Taking into consideration that animal welfare in KSL essentially means to follow Norwegian regulations, we decided that an extensive search for the few producers not participating in KSL, would not be worth the effort. In addition, the group of producers not participating in KSL has previously been studied by others. These studies will be referred to. Subsequently, the situation with respect to participation of pig producers in animal welfare schemes in Norway can be summarized as follows: “All” of the pig producers (of some size) participate in KSL, there is one producer only who has developed a specific animal welfare scheme, and there are only 19 organic producers. Hence, differentiating between producer-participation in animal welfare schemes was difficult, which may be considered a result of the study.

So how should we then be able to answer the question about farmers’ willingness to participate in animal welfare schemes? Our initial solution was to perceive producers participating in the mentioned animal welfare course, in addition to the organic producers, as a group of producers with a high level of engagement in animal welfare schemes. In this respect, we treated the competence course in animal welfare as a quasi-scheme. Producers participating only in KSL were treated as a group with a “basic” level of engagement. However, this stratification fell apart soon, as many of the producers initially selected out by virtue of being KSL-producers, had started to take part in the competence course. The stratification also did not seem to be expedient for our purposes. Thus, the sample must rather be seen as a homogenous unity when it comes to level of engagement in animal welfare schemes, with the exceptions of the two organic producers interviewed. However, this does not imply that we are unable to address issues about the farmers’ willingness to participate in *future* animal welfare schemes or programmes. We will return to this question in chapter four.

As mentioned earlier, there are three main geographical areas of pig production in Norway. Nord-Trøndelag and Nordland⁸ have 17 percent of the pig producers, Austlandet (Hedmark, Oppland, Østfold, Akershus and Vestfold) has 37 percent of the producers and Rogaland (Jæren) has 23 percent of the producers, all together 77 percent of Norwegian pig producers (Jordbruksstatistikk 2002) (cf. appendix 3 for map). Measured in terms of tons of pork produced, these three regions produce 85.2 percent (Norsvin, numbers from 2001). In our sample we have selected producers from these three regions. The distribution of producers indicates that of the sample of 60 producers, 29 of them should be from the region Austlandet, 17 from Rogaland and 14 from Nord-

⁸ In addition to the three main areas mentioned, we also included the region of Nordland, the third most northern region in Norway. Nordland has a substantial pig production, and was included to get a greater variation among the producers interviewed.

Trøndelag/Nordland. In our sample 17 are from Nord-Trøndelag/Nordland, 29 are from Austlandet, and 14 from Rogaland. This corresponds fairly well to the distribution of the population of pig producers in the country.

With respect to farm size, we have used the actual number of animals⁹ 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. Fattening producers, producing more than 650 pigs per year, are assessed as large. They are considered small when producing less than 650 pigs per year. For piglet and combinations producers, farmers having less than 26.8 sows are considered small, and vice versa. In our sample, 43 producers are large compared to the averages, and 17 producers are small. The average number of sows in the sample is 51.5 and the average number of fattening pigs produced is 1027. If we exclude the smallest and the largest producer, the average becomes 50.0 and 876, respectively. This skewed distribution compared to the averages in the entire population of pig producers is due to the decision of excluding very small producers. The distribution is also expedient from an animal welfare perspective in that more animals are being covered by the interviews. However, a group of 17 producers is a large enough group to be able to say something about a possible difference in the answers of small and large producers.

”Type of production” was the fourth criterion for selecting producers. As indicated, 46 percent (1897) of the producers are fattening producers, and the rest, 54 percent (2229) are piglet or combination producers. It turned difficult to identify the percentage of piglet and combination producers separately. This is also a question of how many piglets one single producer may fatten, in order to be counted as a combination producer. In the sample there are 11 piglet producers, 28 combined producers, 15 fattening producers, and 6 of the producers had so-called multiplication herds.¹⁰ Hence, the number of fattening producer is too low compared to the number in the entire population. However, many of the fattening producers are very small. As many as 60.7 percent of the producers produce less than 300 animals per year, and only 15.4 % of the animals are fattened by these farmers.

It is also possible to describe our sample of informants according to other variables, such as age, education, family situation, gender, level of engagement in pig organizations, and position within the farm. However, these variables have not served as selection criteria when drawing the sample, so the sample is not necessarily representative when it comes to these variables. The average age of the producers was 46 years, ranging from 32 to 67 years. 13 of the producers in the sample are women, 47 of the producers are men. The greater part of the producers had 1-2 years of agricultural school, the

⁹ as registered in the production subsidy data base of 2003. Our averages are based on numbers from 2004. This discrepancy is not problematic for our purpose.

¹⁰ Multiplication herds carry out hybridisation and sell the hybrid races to ordinary herds/producers. There are approximately 110 multiplication herds in Norway today.

great majority of the producers were married (50 of 60), and most had children. All the producers ran their own individual farm, except for one producer who ran the farm together with another person. Most of the producers (54 of 60) worked full-time on their farm, the pig production most often being the main husbandry production. Some of the farmers were also dairy- and/or grain producers.

The slaughter houses play a vital role in the food value chain. Especially the sales cooperative Gilde, the nation-wide meat cooperative, has dominated the meat industry for several years, and has been playing multiple political as well as economic roles. The slaughter houses play a vital role in the implementation of KSL (cf. Borgen and Skarstad 2005). The private slaughter houses' share of the commodity market in 2004 was 25 percent, Gilde's share was 75 percent (Source: Landbrukssamvirkets markedsandeler). Most of the farmers (44) in the sample delivered their pigs to Gilde. The others sent their pigs to private slaughter houses (Midt-Norge, Primaslakt, Fatland, or Furuseth). Very few marketed their own products.

We also asked whether the producers were active participators in the National Pig Breeding association, Norsvin. Norsvin has 17 regional associations and 110 local associations distributed throughout the country and are owned by 2500 pig producers. They carry out the breeding of the three pig races in Norwegian pig production: Landrace, Duroc and Yorkshire, and are important in the professional counselling of farmers. Several of the producers (around 20) were active members of a Norsvin association by being part of the local or regional committee. This high number of producers must be seen in relation to the fact that most of the producers interviewed were quite large (by Norwegian standards) and situated in the main regions for pig production in Norway. Both in Rogaland, certain parts of Austlandet (especially Hedmark, Vestfold, Akershus, Oppland, Østfold) and Nord-Trøndelag there are active communities of pig producers. The high number of active producers must also be seen in light of our initial attempt to choose producers that had participated in the competence course "Animal welfare pig". The producers were generally chosen randomly from the register of national production subsidies recipients. However, some of the producers in the initial group with a high level of engagement in animal welfare schemes were chosen based on lists of participators in the competence course "Animal welfare pig". By partly choosing from these lists, we probably got a higher number of active organizational producers, than if the whole sample had been drawn from the production subsidy data bases.

Summing up, the sample should correspond fairly well to the population of pig producers (of some size) in Norway, but two aspects should be had in mind. First, the sample does not include the smallest producers which also may have excluded producers less active in organizational work. The investigation is a study of specialized pig producers of some size. Second, the study demanded active participation of the informants for approximately 30 minutes, which is a substantial time period for a telephone interview.

The threshold for participation in the study must be considered to be high. 7 of the producers did not want to participate, corresponding to 9 percent of the producers asked. All in all approximately 80 producers were asked to participate. 7 of the producers accepted to participate, but we were unable to interview them. In addition, 6 of the persons we contacted had closed down their pig production. Some of the producers that denied participation said they were busy or were going to quit production, others simply did not want to. Most of the producers were contacted and interviewed during their working day which probably increased the barrier to participation. None of the informants were compensated financially for participating. However, most of producers answered yes 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 to answer. There is no reason to believe that the 11 producers who did not want to participate would have changed the results, although one could imagine that they are more critical to e.g. established regulations than the average.

2.3 How to read the report: the possibility for generalizations

The overall purpose of the study is to gain an understanding of producers' beliefs, views, conceptions and attitudes with regard to farm animal welfare. This purpose indicates two things: 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 new topic, in 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 and the analysis has been based in an attempt to understand their answers and notice if there are 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 selected variables. This indicates more of a quantitative research design, which takes us to a second point: The overall purpose also indicates that an objective is to say something about *producers'* understanding of animal welfare, meaning not only the sample of 60, but Norwegian pig producers in general. This makes the question of generalization important, and how the report should be read in this 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, and less good at, as a quantitative survey, indicating how many producers mean the one or the other thing, in other words what understanding that is dominant or the relative distribution of the answers. Is it possible to say something about a larger population of Norwegian pig producers at some size from a qualitative research design? We will suggest two ways through which generalizations is possible.

If a generalization is possible or not depends on how you interpret patterns in the answers: as accidental coincidences of insulated answers of independent actors, or 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 (cf. also Glaser and Strauss 1967, ch. 3). 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).

Bertaux suggested in other words 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 pig producers is not necessary if you have reached such a point. Earlier, acquired knowledge is also relevant to the possibility of 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: What can be generalized? We had quite early (with 30 interviews of so) a rough understanding of the various types of possible answers to the questions we posed. 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 pig producers. Hence, we have good reasons for thinking that the type of answers we got by interviewing the 60 producers, is the same in the larger population of pig 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 pig producers, e.g. small producers. However, such differences between groups of producers were hard to find in our sample. 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 pig 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 more or less the form of a conversation which means that our starting point for analysis has been rich text. How can such a rich material be summarized and contracted? Generally, we will present the study with the use of quotations we find prototypical. 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. Sometimes a number in parenthesis will be referred to as to indicate approximately how many producers who have proposed an answer. However, the number is only an indication, and should not be interpreted literally, because of the complexity and difficulty in summing up the answers. Also, it should be had in mind that the questions were posed in an open manner. When we write that for instance four producers meant 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 it. However, posing open questions also means that when as many as e.g. 17 producers happen to mention the same problem, this is quite many.

3 Farmers' view on animal welfare regulations

How do the farmers evaluate Norwegian animal welfare regulations? Do they think that the regulations ensure a good (enough) animal welfare? Do they find the requirements too strict, too soft, or are they generally content with the regulations? And if not, what are they discontent with? How do they regard Norwegian regulations in relation to the EU-regulations? These questions will be thrown light upon in this section which investigates the producers view on the animal welfare regulations. The most important regulation governing the pig production is the Regulation concerning the keeping of pigs. The questions are vital, because they address the farmers' knowledge of the regulations, partly their compliance with them, and - not the least - their willingness to accept further animal welfare requirements.¹¹

Before exploring the answers, a short introduction to Norwegian regulations is necessary. The producers' view on the animal welfare regulations is difficult to interpret without some knowledge of the actual requirements (for a thorough introduction, cf. Borgen and Skarstad 2005).

¹¹ 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.

3.1 Introduction to Norwegian animal welfare regulations

Public animal welfare regulations are the main political instrument for improving and governing the farmers' animal welfare practices in Norway, which underlines the importance of studying the farmers' perception of the regulations. A comparison of the six participating countries participating in this producer study (cf. Leeuwen and Bock 2005), showed that Norwegian and Swedish animal welfare regulations for the pig production are stricter than the EU-minimum requirements, and also generally stricter than the other countries that participate in the study (the Netherlands, United Kingdom, France and Italy) on selected variables.

For the pig production industry, the Regulation concerning the keeping of pigs (Forskrift om hold av svin), contains the most important animal welfare-related requirements. This regulation is founded in the 'Animal Protection Act' (Lov om dyrevern av 20. desember 1974 nr. 73). Norway is not a member of the EU. However, in 1999, food- and veterinary issues were laid down in the EEA-agreement, through the so-called Veterinary Agreement. A consequence was that Norway, like the EU member-states, is obliged to implement the EU-directives regarding animal welfare (Veggeland 2002:56). However, Norway, as the member-countries, may issue stronger requirements for animal welfare than the standards set in the EU's minimum directives, which has been the case in some instances. Among the most important animal welfare-related regulations that have passed in recent years, is the demand for free-range-systems for sows from 2000. Stalling of pigs is generally prohibited (with some exceptions). The intention is that confinement of sows shall be totally prohibited in the future, also during farrowing (St.meld nr. 12 (2002-2003)). From August 2002, castration executed by the farmer without anaesthesia became prohibited. From this point, castration shall be carried out by a veterinary, with obligatory use of anaesthesia. From 2009 castration will be prohibited (cf. Borgen and Skarstad 2005). Norway has stricter area-requirements than the EU-minimum requires, and tail docking and teeth clipping is prohibited.

3.2 Farmers' evaluation of national regulations

This section presents the farmers' evaluation of the regulations, their attitude on specific animal welfare issues, and their view on animal welfare at a European level.

General attitude: Acceptance

Our impression is that most of the farmers found the animal welfare regulations acceptable, and that the regulations ensure a good (enough) animal welfare. The attitude seemed to be, to quote two of the producers: "The regulations concerning the keeping of pigs are fine enough", or "if everybody follows the regulations, I believe that the animals feel fairly well". A few producers (approx. 4) were not only accepting, but emphasized that the regulations should not get less strict. This generally accepting, positive attitude could be seen in relation to the fact that the great majority of the farmers com-

plied when being asked whether they thought the animal welfare situation is good in Norwegian pig production. Most of the pig producers seemed to be fairly satisfied with the pigs' welfare in Norway, as well as the welfare situation of their own animals (cf. section 5). A few seemed even rather proud of the animal welfare achievements made in the pig industry. However, there was also a substantial minority of approximately 15 producers who felt the regulations as a burden in their work and for their economy: "It is strict enough. Something stricter is not possible [...] If it gets' stricter, the production also surely becomes more expensive. It doesn't seem like any one is interested in that". As we will see, this group of producers did not, like most of the producers, think that Norway should maintain stricter requirements for animal welfare than the EU, but were more opposed to the idea that Norway should be "best in class".

Areas of improvement

Many of the producers could not point at any specific areas of improvement when being asked of what they considered to be weaknesses of the current regulations, partly due to lack of knowledge of the details, partly due to the general contentment with the regulations or that they could not offhand think of anything. However, although the attitude to the regulations was mainly positive, many of the producers, including the enthusiastic ones, did not agree with all the aspects of it. The following topics were only mentioned by a few of the producers:¹² A small group told that they found (approx. 3) the regulations too detailed, not leaving enough scope for the judgment of the farmer. According to a few (approx. 4), the regulations were not sufficiently grounded in an understanding of their agricultural practice. This attitude was sometimes also reflected in the answers to the question of whom the farmers trusted the most in animal welfare matters: Some said that they trusted farmers with practical know-how rather than bureaucrats without practical knowledge of how to run a farm (cf. section 5). One producer referred to the recent issued demand for a contagion barrier into the animal room as bothersome for combined production of pig and cattle, another claimed that the detention period for medicine in organic production is too long in Norway, leading to decreased animal welfare, contrary to the intention of the organic regulations. A few pointed to the lack of controls and two referred to the demand for an illness pen per every 50 animals as being unrealistic.

Attitude to specific animal welfare issues

In addition to asking the producers of what they thought about the regulations in general and areas of improvement, we also posed questions on specific animal welfare topics. This we did in order to get a better grasp of their welfare practices, their knowledge of the requirements, and their perceptions on these specific topics. One of the topics, the castration of piglets, we will come back to in the next section. The other questions were on the farmers' use of bedding material, their attitude to outdoor production, the imple-

¹² This does not necessarily mean that the other producers did not agree with the claims made by these few, but that they did not point to these topics when being asked what they considered as weaknesses with the current regulations.

mentation of a stable-group-system (“FTF (farrow to finish)”/“FTF-light (farrow to transport to finishing unit), the type of floor (slatted floor vs. solid floor), their view on the use of growth hormones and GMO in feed, and the use of comfort improving measures such as brush or shower.

Bedding material: The Norwegian *Regulation concerning the keeping of pigs* requires the use of bedding material for all pigs, including fattening pigs. We asked the producers what type of bedding material they used and why they did it (or did not). The following points were mentioned by the producers as reasons for using bedding material: The pigs should have something to play around with (approx. 37); the pen becomes clean, dry and nice – it looks nicer with bedding material (approx. 24); the pigs, especially the piglets, shall be warm (approx. 5), the pigs shall have something (soft) to lie on (approx. 5), and to eat and chew on (approx. 11). Most said they used wood chippings (approx. 28) or shavings (spon) (approx. 21), often in combination with straw (approx. 24), hay (approx. 7) or silo (approx. 6). Approximately 22 reported that they only used wood chippings and shavings. The use of bedding material seemed to be an integrated part of their daily farming practice. A few reported also that they used toys or other types of material (approx. 3). By the use of words such as “in order to keep it tidy and nice”, the use of bedding material seemed for quite many to be something they should do in order to be a good farmer, and also to thrive themselves.

Outdoor production: Outdoor production is not required by Norwegian regulations, and is not practiced to a great degree. Most of the farmers were also sceptical to such a production, reasons being given such as “too must work”, “it will lead to more contamination”, and it was by some characterized as a “messy production”. This last statement could maybe be seen in relation to some of the producers emphasis on keeping the pens clean and tidy. However, there were quite a few producers (approx. 17) who expressed their sympathy with such a production, although it is doubtful whether they all would have implemented it. 14 of the producers had tried to or still had some pigs outside, but some had quit due to practical problems.

Comfort-improving measures (shower or brush): As for outdoor production, neither shower system (for fattening pigs) nor brush is required by Norwegian regulations. And as for outdoor production, some of the producers were sceptical to implementing such measures (approx. 28), although more producers endorsed a shower system than a brush, probably because it was more familiar to them. A few (approx. 5) had a shower system, some reported that they did shower their pigs even though they did not have a shower system (approx. 4), and a few had considered buying one (approx. 7). Additional 9 producers liked that thought about a shower system.

Implementation of a stable-group system: The producers were asked if they had implemented a “from farrow until finish”-system (FTF), which is a pen system which allows

the pigs to stay in the same pen throughout their whole life. Approx. 14 in the sample did have a FTF or FTF-light system, either alone or in combination with regular pens. A few were negative to such a system, partly because of the higher price (approx. 7). The rest were slaughter pig producers, they did not have an opinion, they weren't posed the question, or they were positive to such a system.

The use of GMO and growth hormones: The producers were asked whether they endorsed the use of GMO and growth hormones. The question did not need any further explanation, because the two words seemed to awake a unison response by the producers: All of the producers, except three, strongly opposed GMO, and growth hormones. A few referred to it as to tamper with things, or nature (approx. 7). The three producers were not positive to the use, but also not negative. The answer to this question came fast, as a reflex. The general impression is, as also a few of the producers pointed out, that the producers did not have much knowledge of the topic.

Type of floor: The producers were also asked what type of floor they had, and if they wished they were allowed using more slatted floor. Most of the farmers told they had concrete. About 8 producers had a deep-straw-system (talle). Most of them were content with the amount of slatted floor allowed. Six producers, five of them being quite large, were positive to more slatted floor. Today the regulation says that there shall be a solid floor, deep bedding material system or systems with straw in the lying area, and the area must be large enough to allow all animals to lie at the same time. The rest of the pen can have a draining floor area.

Summing up, the producers seemed to be more sceptical to animal welfare measures not yet implemented, than the ones already part of the regulations. Saying that the Norwegian pig producers were generally positive to the regulations, does not indicate that they would welcome any additional requirements, but maybe they would accept it after some time. However, this is also not necessarily the case as will be shown in the next section on the castration of piglets. The answers to these questions on specific requirements also showed that some producers practiced beyond the minimum requirements set by the regulations. Our general impression is that the regulations are important in defining of what is considered good enough. This will also come to the forefront in the producers' view on Norwegian versus EU-regulations, which we will return to soon.

Castration

There was one aspect of the regulations that almost all of the producers referred to as problematic, either by referring to it as the "biggest animal welfare problem", as a weakness of the regulations, or when being asked specifically about their view on castration of male piglets. In 2002, use of anaesthesia by castration of piglets became mandatory, and the farmers were no longer allowed to carry out the castrations themselves. This operation must now be carried out by veterinaries. This requirement is a transitio-

nal attempt to increase the welfare of the piglets before 2009 when a total ban on castration will come into force. The intention of the requirement for anaesthesia and the use of veterinary expertise are to ease the pain of the piglets, and thereby strengthen their welfare. However, according to quite many of the farmers (approx. 21) this has not been the case. According to these producers the demand for anaesthesia and castration performed by veterinaries, has not lead to a higher welfare, but even the opposite: a lowered welfare for the piglets: “They scream just as much today”.

Only three of the producers said they believed that the new castration regime had improved the welfare.¹³ Most of the farmers interviewed (approx. 56) were negative to the new demand for anaesthesia. The producers explained the lower welfare with extra handling due to the preparations necessary to perform the operations, two stings instead of one, and castration at a higher age than earlier¹⁴:

When I castrated, the piglets were castrated in the course of 2-3-4 days after birth. It was a very careful and fine, to the extent that you can say that...the operation went well. It was not much of whining and I believe, little pain for the pig. Today we think we do it gently, but I believe we do it in a poorer way to the pig. When the veterinary is going to do it, we gather the piglets [...] I believe it is worse for a three week old pig to be castrated with so-called anaesthesia than for a three-day old piglet without anaesthesia.

I do not believe that the piglets feel less pain. The pricks are not good. It is after all up and down and up and down a couple of times. You stress the piglet just as much as the pain [...] I cannot document it, but I believe that the stress level is higher today then earlier.

A study recently conducted by the Norwegian Meat Research Centre (Fredriksen 2005) also registered scepticism among producers to the welfare effect of the use of anaesthesia. This study was of both producers and veterinaries. Only 17 percent of the producers meant that the use of anaesthesia means a better welfare for the piglets, as opposed to 63 % of the veterinaries. However, the study also found that the producers are somewhat more satisfied with the system than they were in 2002 when the system was introduced. The study also shows that the veterinaries are overall more positive to the implemented policy than the producers. Back to this study, although not too many of the farmers (approx.11) directly mentioned this point, the increased costs of using veterinary, also probably contributed to the farmers’ discontent with the new castration-regime. The National Pig Breeding Association estimates the cost of using veterinary for castration

¹³ One of them was a small producer who had used veterinary for castration prior to August 2002. The other two were fattening pig producers. One was positive to the use of veterinary, because the job was now more social for him, and he did not have to do the job.

¹⁴ Many of the farmers told that they now castrate the piglets by two-three weeks rather than by 2-3-4 days as before, because by some weeks you have a group of piglets ready for castration. This delay has been made possible through a change in the regulations. Prior to 2002 you had to castrate the piglet before seven days of age. After August 2002 this time limit was increased to four weeks. However, a study conducted by Norwegian Meat Centre Research Centre (Fredriksen 2005) conducted among 264 pig producers and 211 veterinaries across the country, showed that the average castration age now is 10 days, as opposed to 9 days when the producers themselves carried out the castration. This does of course not mean the producers in this study reported wrongly about their own practice.

to be approx. 0.20 NOK per kilo meat, which amounts to 22 million NOK on a yearly basis (Norsvinrapport 2004:20). Two producers referred to the promised compensation, which they had not received. Some worried about what would happen in 2009 if meat with boar taint would enter the market.

Although many were opposed to the new castration regime, a few also stressed that the debate was lost and that they had to follow the regulations: “It is something we are imposed to do, and which we follow”. One producer told he had planned a protest video together with a local veterinary. This video would show that castration without anaesthesia performed by a trained farmer at four days was better than or just as good as castration with anaesthesia performed by three weeks. He had, however, changed his mind. He had realized that more objections from the pig industry in the castration issue could imply a bad reputation for the pig production industry. A few mentioned the consumers as a reason for using anaesthesia: “It did not look as if they were in pain, but for the consumers it is an advantage with anaesthesia”. A few (approx. 3) said that they did not know whether the welfare of piglets had gotten any better: “I doubted it, they scream anyway, but it is surely the right thing [...] I believe it, I really hope so. But it is surely painful to get stuck too”. Another producer referred to the challenge of “hoof-care”, as the hooves don’t get worn down on the mattresses.

EU vs. Norway

There was a general understanding among the pig producers in the sample that Norway has stricter animal welfare regulations and/or a better welfare than the EU. Quite many of the producers (approx. 24) reported that they endorsed this, partly because they considered animal welfare as a competitive advantage for Norwegian agriculture. High animal welfare was by many seen as a prerequisite for the survival of Norwegian agriculture, because these producers perceived good animal welfare as necessary to maintain political goodwill and consumers’ trust. A high animal welfare was considered as one of the possible ways of legitimizing the higher price of Norwegian produce, also if Norway enters the EU. “I think that Norway should have much stricter regulations [...]. For with all the contamination and illnesses and such things, I believe we can say that we produce clean, Norwegian food. It shall be a competitive advantage. We just need to accept that the food will be expensive”. These were also reasons which the farmers’ stated when asked why the pig production industry should be concerned about animal welfare. The rather frequent use of the pronouns *we/us/our* in the producers’ answers, a *we* which included both the farmers and the government, indicates that the farmers to a large extent identified with the welfare level set by the Norwegian regulations. This close relationship between the farmers and the government/regulations found also expression in most of the producers’ accepting attitude to the regulations.

While most meant that Norway should maintain stricter requirements for animal welfare or were positive to the strict requirements, some also meant that Norway and the EU should enforce the same regulations (approx. 15), especially in the case of a EU-

membership. However, since many of the producers considered the Norwegian regulations as already stricter, this indicated, as some of the producers said: that the agriculture in EU should “come up to Norwegian level”. There was also a group of producers (of approx. 6) who strongly opposed the established idea that Norway shall be best: “We are already associated with the EU through the EEA-agreement. Now it must be put an end to this idea of Norway always being “best in class”. I do not buy the scare campaign that everything in foreign countries is dangerous”. Most of these also saw the regulations as a burden. Some of the farmers referred to the lack of contamination in Norway as a reason for keeping the regulations stricter. Some pointed to animal density as being lower in Norway. However, few specified in what areas they considered Norwegian regulations as stricter, nor did they differentiate (with one exception) between various European countries. The EU was mostly seen as a homogenous entity.¹⁵ Our impression is that the producers consider Norway as having stricter requirements than the EU, and that the farmers’ knowledge of the EU regulations was fairly vague, although, as shown by Leeuwen and Bock (2005), the impression of Norway having stricter requirements (on selected variables) for animal welfare is to a large extent correct. However, some of the producers had first-hand knowledge of the welfare situation from visits in other European countries. All of the stories, except for one of them,¹⁶ told from these visits (especially from Denmark), have some version of “it was good to come home” as the main story-line. One of the farmers told a “horror-story” from a visit to an Italian farm. According to the farmer, grain feed was dropped from the ceiling, dead animals were lying around in the pig house, the fattening pigs were standing on steel slatted floor only, and when they had asked the Italian farmers about the regulations, they did not know of it.

Knowledge of the regulations

Although the producers’ knowledge of EU-regulations seemed rather vague, our impression is that most of the farmers seemed to possess some knowledge of the national requirements. They seemed to relate their day-to-day practice to the requirements by being aware of at least the most important restrictions. Their knowledge was not in any way tested, so our conclusion about their knowledge is grounded in our impression from the interviews, e.g. our conversation on specific animal welfare requirements. The National Breeding organization Norsvin, the abattoirs, colleagues, veterinaries and journals seemed to be important conveyors of information. As we will see, most of the farmers were also positive to taking the mentioned competence course in animal welfare.

¹⁵ But this can also be seen as a consequence of the question posed: “Do you think that Norway should have the same animal welfare regulations as the EU? Or should they be stricter or less strict?”. The question indicates a potential conflict between Norway and EU and does not take into consideration that Norway has to implement the same animal welfare regulations as the EU-members. However, none of the farmers objected to the implicit presuppositions in the question.

¹⁶ One of the producers meant that other countries in Europe were better at using toys in the pens. He was a large fattening pigs producers who was sceptical to the strategy of Norway being best in animal welfare.

4 Farmers willingness and motivation for participating in schemes

In order to find out about the farmers' willingness to enter animal welfare schemes, as well as barriers to entering them, several questions were posed. Two questions were on their existing membership in the quality assurance scheme KSL: What do you think of the quality scheme KSL? And what are areas of improvement?¹⁷ In lack of animal welfare schemes in Norway, the other questions concerned future animal welfare schemes: What is your opinion on a development towards larger differentiation in animal welfare (-requirements) by the creation of animal welfare schemes? We also asked whether they would consider entering such a future scheme, and whether they thought an animal welfare product would sell. As explained in section 2.2, we included also a question regarding the willingness to participate in the competence course "Animal welfare pig", as a substitute for the lack of "real" schemes. This section will say something about the farmers' willingness to enter schemes, as well as potential barriers to entering them.

4.1 KSL and the competence course in animal welfare

All the producers in the sample participated in KSL. KSL is a general quality system containing standards and demands for documentation which covers all aspects relevant to farming, and shall thereby be the only quality system necessary for Norwegian farmers. One of the producers had just unwillingly entered the scheme, at the time when being interviewed. In 2005, the financial incentive system of KSL was changed. From 2005 on, the farmers got a financial deduction of 1 kroner (approx. 12 cents) per kg if they do not participate. Hence, KSL is now considered a basic requirement for being an eligible supplier. Prior to 2005, the KSL-producers were offered a higher price than the producers who were not participating in KSL. Because of this new financial incentive, the producer in question had entered KSL, but he opposed KSL for political reasons, being an anarchist as he portrayed himself.

However, this producer was an exception. Most of the pig producers in the sample seemed to accept KSL. The general attitude to participation seemed to be: It's ok, it is something we "have to" participate in, and it has some value: "KSL is a little bit like voluntary coercion, but I believe it's good for us". The producers mentioned quality assurance, documentation vis-à-vis consumers, and the economic incentive as positive aspects of KSL. Only a few (approx. 4) producers were strongly opposed to KSL. The other producers were either fairly enthusiastic or did not utter any strong objections.

¹⁷ Most farmers seemed to find the questionnaire relatively easy to answer. The questions on animal welfare schemes were important exceptions to this. The term "animal welfare scheme" was not intuitively understandable to the farmers, which is natural due to the lack of such schemes in Norway. KSL is an important exception, but since the animal welfare requirements of KSL is on level with the public regulations, most farmers do not perceive KSL as an animal welfare scheme in its own terms. This should be had in mind.

The most common objection was that KSL is too much paper work. Other negative aspects of KSL mentioned by producers were unnecessary, rigid requirements, and the lack of control, making KSL “only a piece of paper”, referring to the lack of an effective sanctioning system. KSL demands that the producers themselves carry out an annual revision. In addition the producers might get inspected by KSL-auditors, but if the inspection rate does not get higher than today (5000 visits per year), the farms will only be inspected once every ten year (Groven et al. 2004:52). Few producers had been visited by a KSL-auditor. Two mentioned that the KSL-inspectors were not necessarily trained to observe things: “A persons who knows pigs, does not necessarily visit the pig producers. It is not necessarily a person who knows pigs at all. If you are going to control the animal welfare, you have to get rid of the KSL-auditors and get a direct control of the specific animal species.” Generally, most of the producers (approx. 41) found the control good enough, but approx. 12 of the producers thought the control could be better. They referred to the animal tragedies as an evidence of this or meant that the control is dependent on the person controlling. A few of those (approx. 9) who thought the control was good enough, underlined that they did not have knowledge of the control in other places, or qualified their answer by saying that the control was good enough for them. A few pointed to the veterinaries’ role as controllers.

Several opinion polls have been conducted for the KSL-secretariat on the farmers’ view on KSL. The opinion poll conducted in October/November 2004 (Undersøkelse i landbruksnæringen 2004), showed that 66 percent of the farmers (all types of farmers) agree with the statement that KSL has come to stay. 30 percent think that KSL demands too much extra work and should therefore be abolished. Among the pig producers, 74 percent agree that KSL has come to stay, and 23 percent think that KSL implies too much work and should be abolished. On a scale from “very useful” to “not useful”, 6 and 44 percent of all farmers find KSL “very useful” or “fairly useful”, respectively, while 32 and 14 percent find KSL “less useful” or “not useful”. The pig producers are the group of producers who find KSL most useful. 8 and 57 percent of the pig producers find KSL “very” or “pretty useful”. Only 23 and 9 percent find KSL “less” or “not useful”. Pig producers seem to be more enthusiastic or positive to KSL than most of the other types of productions. Among large producers there is also a higher acceptance of KSL than among smaller producers. The opinion poll also registered what the producers considered to be the most important area of improvement for KSL. 35 percent stated “less bureaucracy” among 8 alternative problems. Our finding seems to be consistent with this opinion poll. Most of the pig producers confirmed their acceptance to KSL.

Given the high percentage of the pig producers who participate, the willingness of the pig producers to enter the KSL-scheme may appear to be high. As mentioned earlier, most of the producers found participating in KSL to be “ok” (“det er greit”). The more enthusiastic producers underlined the importance of sufficient documentation vis-à-vis consumers, and consider KSL to function as a quality assurance. But these factors are

not necessarily the reasons why the farmers chose to enter KSL in the first place. In 2004, a thorough evaluation of KSL was carried out by Vestlandsforskning and SNF (two Norwegian research institutes). The reason for evaluating KSL was the low participation rate as compared to the goal of 100 percent participation among Norwegian farmers. This evaluation pointed both to the implementation of KSL - the farmers being “victims” of a not very well purposeful information - as well as weak cooperation among the abattoirs in the implementation of KSL, as explanations for the relative low support. KSL lacks a common enforcement system, and has left it to the abattoirs to punish those farmers that are not participating or adhering to the KSL-standard. Some of the abattoirs have not used price differentiation as a sanctioning instrument (Groven et al. 2004:7). According to the evaluation, the higher price received was one of the two main reasons farmers referred to when being asked why they participated in KSL. Just as many said they participated because the government/consignees expect them to do so. Moreover, the 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. The evaluation concludes that in order to stimulate these farmers to participate, price differentiation is insufficient: KSL must become simpler, more purposeful, and some unnecessary requirements must be removed (Groven et al. 2004:7). These advice also points to factors that are important to take into account when developing new schemes, seen from the farmers’ point of view.

The competence course “Animal welfare pig” (Dyrevelferd Gris) was introduced autumn 2004. Participation is voluntary, but the intention is that all pig producers shall participate in the future. The course could be interpreted as the industry’s attempt to fulfil the new requirement in the Regulation concerning the keeping of pigs, stating that farmers must be able to document sufficient knowledge of “the animals’ behavioural and physiological needs, of relevant management systems, and of the provisions of this regulation” (Regulations concerning the keeping of pigs, § 5). This demand for competence was initially proposed in the industry’s own action plan for animal welfare in 2001. The competence courses are carried out in local study groups. Through four gatherings, the producers discuss and do exercises specified in a study book developed for the course. In addition to giving an introduction to animal welfare related problems and issues relevant in the pig industry, the course ends up in an evaluation of the animal welfare status on their own herd. This evaluation is based on a registration scheme developed by the Health service for pigs (Helsetjenesten for svin), where the participants get a score dependent on their estimated animal welfare level. This score is so far only an indicator for the participants, but the registration scheme has also been developed for being used by advisers and consignees. In this respect, the competence course may be developed into an animal welfare scheme, with subsequent sanctions if the farmers do not get a specific score. Hence, in lack of other schemes, we decided to treat the animal welfare course as a quasi-scheme, and asked for the farmers opinions with respect to participating in such a course. Most of the farmers (approx. 40) were positive to taking

the course. Others (approx. 14) were lukewarm or generally positive, but sceptical as to whether they could learn something after so many years in business. Some of these thought a competence course could be a good idea for new pig farmers. A few producers (approx. 5) were negative, perceiving the competence-course as just another thing that you “have to do”, or they were being tired of all the courses. Only a few farmers (approx. 6) had not heard about the course. Four of these were fattening pig producers. The other two were small combination producers.

4.2 Future schemes

In order to learn about farmers’ willingness to participate in schemes, we also asked whether the producers would consider entering a hypothetical *future* animal welfare scheme, introduced to the producers as an animal welfare scheme with requirements at a level well above the national regulations. Such a scheme would include an animal welfare label that informed the consumers that the product in question was based on a high animal welfare standard.

The producers were first asked what they thought of a development towards larger differentiation in animal welfare due to the introduction of various animal welfare schemes. A little less than half of the farmers (approx. 23) welcomed such schemes and/or were positive to entering them. A few of them (approx. 4) mentioned it as a possibility for receiving a higher price of their products (cf. also their motivation later in this section). One producer said that he then could get more paid for the extra animal welfare measures he already had implemented. Another producer welcomed such a scheme because it would be an opportunity for those who did not want to produce organically, but nevertheless wanted to do something “extra” such as having the pigs outside. One producer saw it as an extra challenge, two of the producers meant that a brand would be a good way of communicating how good Norwegian production is, compared to the production in foreign countries. The others did not specify why they were positive. Some were positive, but sceptical as to whether the slaughter houses would be able to work out differentiation in their slaughter lines.

But most of the producers (approx. 35) were sceptic towards such a development. Various reasons were given for the scepticism. Some meant that to claim that a product was produced with a high animal welfare, was equal to communicate that the rest was produced with a low or not so high animal welfare: “We should rather see to that all producers are brought to an acceptable level, and get a uniform and high quality, instead of slipping through “second-quality goods”. That will in a way kill all of us”. Others pointed out that the welfare level in Norway already is high, indirectly questioning the necessity of animal welfare schemes:

No, we have a good set of rules as a basis. Then we do not need more of that [...]. If they tempt us with higher prices, we will enter. But if we have good regulations and

everybody follows that [...]. It is more important that everybody has a good welfare, than that some one gets paid for having it better.

Or as another producer stated: “The pigs welfare is already good, it hard to differentiate”. For some the scepticism to differentiation seemed to be based in a loyalty to the farmer cooperatives or to a norm of quality, shown in the following two quotes: “I do not find it interesting, I am a cooperative oriented man”, or

I think it is dangerous to walk down that road. I understand that from the consumers’ point of view they have started to focus on such things. But firstly, there is no need for it in Norway, because I believe that the animal welfare is good already [...] They will claim that they are an elite with regard to animal welfare, and will thereby claim that the rest of us are operating on the edge of the law.

Others pointed to the welfare of the animals as a reason for their scepticism “all animals should be treated well”, or the small size of the Norwegian market. A few of the producers were negative to entering schemes because they questioned whether the consumers would pay extra for animal welfare. One meant it could mean more paper work.

Generally, these producers seemed content with the current status for animal welfare and the lack of welfare schemes, which partly supports the analysis of Borgen et al. (2004) claiming that animal welfare so far has been, and still is, conceived of as a basic and a common undertaking for all involved parties, and not considered an appropriate domain for company-specific differentiation in the market. But as mentioned earlier, some of the producers would be willing to enter an animal welfare scheme, although their willingness and positive attitude could just as much be based on a willingness to join a niche-production, rather than being based in an analysis concluding that differentiation in animal welfare is desirable. Some of the producers associated this type of scheme with niche production.¹⁸

We also asked what would be a motivation for entering an animal welfare scheme. For a few it was not going to happen (approx. 6), they did not know (approx. 3), or they just repeated a version of their first answer to the question on a development towards animal welfare schemes. A few saw it as an extra challenge or they had to consider the requirements. 13 producers did not answer this question. The others (approx. 26) referred to some extra payment as a condition (either alone or in combination with another motivation) for entering such a scheme: “It has to be an economical gain”. Seven of these were indirectly expressing that their wish for some economic benefits were not due to a wish of making big money, but rather a just wish to receive some payment for their work: “well, that had to be an economic motive; in a pressured market it is incredible what you do”.

¹⁸ Even though there are few products in Norway that use animal welfare as a quality attribute, more and more other products are developed which signal high quality based in e.g. traditional production methods, referring to a local area/region, a certain taste, or often a combination of these elements.

The third and last question on animal welfare schemes were whether the producers thought an animal welfare brand would sell. Approximately 12 of the producers thought so, the main reason being because they thought the consumers are interested in animals' welfare. Approximately 14 of the producers believed that an animal welfare brand would appeal to some of the consumers, but only a smaller niche. About 15 of the producers did not believe an animal welfare brand would sell, the reason being that they considered the consumers as being mostly concerned with prices. The rest thought that an animal welfare product would sell if it also carried with it other attributes, such as higher quality meat. A few said they did not know.

5 Pig producers' understanding of animal welfare

What do the farmers understand by the term animal welfare? We found it important to address this question for several reasons: First, the contrast between the farmers' understanding of animal welfare and other actors' perspectives (e.g. consumers, animal rights organizations¹⁹), offers a picture of the potential conflicts as well as the potential for communication among different groups. Second, the farmers' understanding of animal welfare may indicate what type of animal welfare issues/measures that are being part of their established practice, and the types that they are willing to select and implement - and vice versa – what issues they neglect or do not pay attention to. Third, the farmers' understanding of animal welfare shows how they relate to the animals. The following questions were posed in order to grasp the farmers' understanding of animal welfare: What do you understand by animal welfare? What do you understand by good and bad animal welfare? When are the animals feeling well, and what should be done to improve their welfare? We also posed related question on their conceptions of the animal welfare field in Norway today. How do you consider the animal welfare situations in Norway, and the welfare situation of your own animals? What do you consider as the biggest animal welfare problem in the pig production industry in Norway today? Who do you trust the most for the assessment of animal welfare? Who is responsible for animals' welfare?

5.1 Pig producers' definition of animal welfare

The most frequent answer to the opening question: “What do you understand by animal welfare”, was that animal welfare means “that the animals are fine and thrive”. This answer was specified by references to elements or conditions that should be present to ensure a good animal welfare and what elements that characterize a situation of bad animal welfare. These elements were therefore part of their definition of animal welfare,

¹⁹ Which are investigated in other work packages of the Welfare Quality project

serving also as indicators of what they considered to be good and bad animal welfare. Also, what should be done to improve the welfare was part of their specification. The producers' understanding of animal welfare may be said to consist of four, closely inter-linked overall parts.

Farmers' understanding of animal welfare

Good ventilation²⁰ (approx. 16), suitable temperature (approx. 16), enough space (or not too dense) (approx. 28) and bedding material (approx. 20), were elements many of the producers mentioned as necessary to obtain a state of good animal welfare: "They need plenty of food and water, good temperature, suitable pens with enough bedding material and straw". These components refer to the technical devices or environmental factors many of the farmers referred to as necessary to ensure a good animal welfare and their understanding of animal welfare may therefore firstly be said to be *environmentally or resource-based*. The Regulation concerning the keeping of pigs determines requirements for many of the resource-based elements. A few (approx. 8) farmers also referred explicitly to these requirements when being asked about what they considered to be good animal welfare. Another central component of the farmers' understanding of animal welfare may be referred to as being *practice-based*. Carrying out their day-to-day practices or management in a good way ("godt stell") were emphasized by producers as necessary to ensure a good animal welfare. Some of the farmers referred explicitly to caring for the animals in good way, as necessary to animals' welfare (approx. 25): "You have to take care of them in a good way, you are dependent on that if you want a good economy". Although some of the farmers did not specify what "good caretaking" was, elements such as spending a lot of time with the animals to e.g. spot if anything is wrong (approx. 10), to keep the pens clean and the animals clean and neat (approx. 19) as well as providing enough food and water were referred to as important: "Bad animal welfare is when you compromise with both feeding, care-taking, the time used and when you do it, if you do it only one time a day, if the cleaning is bad, and there is no bedding material". These day-to-day practices were interwoven with another component of their understanding of animal welfare, which may be referred to as the *bodily* functioning of the pig. Many of the producers mentioned the animals' health condition (approx. 12), and the basic fulfilment of their needs with regard to sufficient access to food and water (approx. 41), as important to their welfare. These are welfare elements that are based in the body of the animal. Most of the farmers, when asked, found it quite easy to identify when the animals are feeling well. This was also observed from the animals' behaviour and their looks: when the pigs are not stressed, they seek contact and are fit, and when they have a curly tail, are shiny, clean and stout, they feel well, according to some of the farmers. Again, these are elements that refer to the body of the animals, but also to their "well-being", which indicate that the farmers' understanding

²⁰ The specific elements (such as good ventilation) we will include in this section were referred to by at least 10 producers, most often in combination with other specific elements. They seem therefore to be elements the farmers consider as necessary in order to ensure a good welfare, and therefore also elements they consider as necessary to perform/obtain in order to be a good farmer.

of animal welfare also included the animals' subjective state, as also shown in their initial definition of the term. But all of the mentioned elements did not only lead to a good animal welfare, according to the quite many of the farmers. Many of the farmers (approx. 18) also held that good animal welfare lead to good production: "All animals shall be fine and thrive. [...]. One will get something in return, not least economically if you manage to maintain the well-being". Many also held this when being asked why the pig industry should be concerned about animal welfare (cf. section 8). In this sense, the elements ensuring a good animal welfare, will also lead to a good production. This provides a better understanding of why animal welfare was considered by the farmer as integrated in their day-to-day practices, or in their production. The producers' understanding of animal welfare seemed also to be considered as compatible with what they also regarded as furthering the production. What was considered good for their production was also mainly considered as good for the animals' welfare, and vice versa, although there were exceptions to this. As we will see, this compatibility was also shown in the farmers' answer of the importance to maintain consumer trust. Conflicting interests between farmer and animal were not very often or explicitly acknowledged by many, although there were exceptions. The understanding of animal welfare seemed therefore also to be *economically-based*, which for a few farmers implied that high production became an explicit indicator of high animal welfare. This was formulated by one of the producer like this: "Animal welfare is to take good care of the animals. That's what I have been doing if you look at my results, they say".

Summing up, the farmers' understanding of animal welfare seemed not to boil down to *one* "thing" or "one single factor". Our interpretation of their understanding and enacting of animals' welfare is that the animals' welfare is a result of many factors. The farmers' definition of animal welfare seemed to be closely related to their everyday practices within the walls of the pig house, and may overall be characterized as *production-based*. Hence, animal welfare was mostly not by the farmers considered as something "new", or as a topic introduced from "outside". When being asked if they had taken measures to improve animal welfare, some producers (approx. 9) answered: "Animal welfare is a part of what we do". (Taking care of) the animals' welfare seemed to be conceived of by the farmers as an integrated and natural part of their everyday practices. However, although the farmers seemed to be fairly co-ordinated in their understanding of animal welfare, and what practices they considered as necessary to achieve such a state, which again seemed to be corresponding well with what is required, there were also some differences in their practices. The most common examples to this were producers who mentioned examples of practices that went beyond the regulations. Some had birth-to-slaughter-pens, a few had a shower system, and some reported that they had larger pens than required. The definitions of animal welfare did not tell anything about how much straw and how much food and type of food they considered as necessary in fulfilling a state of welfare for the animals. Therefore it is natural to assume that what was considered as production-related and "good enough" also to some extent varied

among the producers. Most of the producers (approx. 50) considered the animal welfare situation in their pig houses as good (five weren't posed this question). However, since their practices varied to some extent, this indicates that also their own practices influenced their reflections regarding the animal welfare standard.

Alternative understandings of animal welfare

A good way of providing a clearer picture of the farmers' understanding of animal welfare is to identify what animal welfare means to other groups, or is defined in other instances. This would give us a better idea of the alternative ways by which animal welfare may be defined, and thereby singling out what is special or unique to the farmers' understanding. Duncan and Fraser (1997, referred to in *Forskningsbehov innen dyrevehelse*, p. 26) distinguish between three perspectives on animal welfare which emphasize different parts of the life quality of the animal: 1) the biological functioning of the animal (which means that the welfare is good when e.g. the animals are healthy, experience little stress, or produce well) 2) the animals' subjective experience of their own situation (which means that the welfare is good when the animals don't suffer and/or when they feel well) 3) a "naturalistic" understanding of animal welfare where focus is set on the animals' possibility to perform their species-specific needs or natural behaviour.

As indicated above, the bodily functioning of the animals as central to the farmers' understanding of animal welfare. But also the second perspective suggested by Duncan and Fraser appeared to be prevalent in the farmers' understanding of animal welfare. This came to the forefront when the farmers referred to animal welfare as "when the animals feel well and thrive". However, the farmers did not specify the animals' well-being by elaborating on the animals' subjective experience, or other mental states, although most of the producers (approx. 44) meant that the pig have feelings (cf. section 5.2). What about the third perspective, i.e. the animals' abilities to perform their species-specific needs, or to perform their natural behaviour? Approximately 10 of the producers referred to the animals' ability to perform their natural behaviour when defining animal welfare. Both of the organic producers were among these 10. The other 8 did not seem to diverge from the other producers when specifying how to achieve animal welfare or in their attitudes to specific animal welfare issues. Generally this perspective was seldom part of the farmers' explicit answers in their definition of animal welfare, if natural behaviour means to be able to roam around and be "free". However, the third perspective may be interpreted as being indirectly prevalent in the farmers' answers on their attitudes towards specific animal welfare issues. When the farmers were being asked why they supplied the pigs with straw, many of the producers said (approx. 40) that they did so in order to bring the pigs something to play around with. Hence, many of the farmers seemed in this sense to some extent to acknowledge the pigs' need to rummage. The demand for playing material was incorporated into the Norwegian regulations in 2003. Most of the producers (approx. 40 of 45) were (now) also positive to the implementation of free-range-systems of sows which came into force in 2000. However,

the question of performing species-specific needs is also a question of degree. One of the organic producers referred to the lack of a stimulating environment for the pigs as the biggest animal welfare problem in Norway, and the other organic producer referred to the lack of movement in a natural environment as the biggest problem. Being asked about their attitude towards outdoor-production, few producers emphasized the animals' possibility to perform their natural behaviour by roaming around, although there were a few producers (approx. 17) who expressed their sympathy to outdoor production, including the two organic producers. Approx. 14 of the producers had tried to or still had some pigs outside, but many of those who had quit had done that due to practical problems. A few of the producers held that the pigs are also living fine indoors. Outdoor production may represent a danger of infections, which are relevant to the animals' health, as highlighted in the first perspective of Duncan and Fraser. A possible conflict between different understandings of animal welfare, and also between economy and animal welfare, found also expression in some of the farmers' negative attitude to a total ban on fixation of sows.²¹ Fixation is considered bad for the welfare because it restrains the sow in her desire to build nest prior to farrowing. A few of the farmers claimed that fixation sometimes is necessary because it is good for the welfare of the piglets which do not get squeezed underneath the sow if she is uneasy.

The animal welfare situation in Norway according to the farmers

How did the farmers evaluate the animal welfare situation in Norway, and what did they consider as the largest animal welfare problem? These questions were posed in order to get a better grip on the farmers' concerns regarding animal welfare. We mentioned that most of the farmers (approx. 50) held the welfare situation of their own animals as good. The rest pointed to the fact that the welfare situation could always be improved: "optimization is almost never achievable". No one considered the welfare of their own animals as bad. One person meant that it was only on average, as his pig house was pretty old. However, most considered the welfare situation as good, and according to the great majority of the producers (approx. 46 of 50) this also held true of their evaluation of the welfare situation in Norwegian pig production industry as a whole: "Yes, the animal welfare situation is good, there is no doubt about that". Ten producers were not posed this question, the rest believed that the animal welfare is good on the whole, but may vary. The two organic producers seemed to agree that the welfare situation was fairly good, but both were critical to the lack of movement and stimulation. One of the organic producers proposed the following analysis of the animal welfare situation in Norway:

²¹ The question regarding the producers' attitude to a total ban on fixation was not systematically posed. Hence, we do not have an impression of the producers' attitude to this question. Some were positive. 12 reported that they were negative to such a ban.

There are clean and neat animals in Norway - the technical care-taking, or what the farmer can do through his care-taking holds a high standard. That is high ethics. It is an old tradition that the animals shall be fine and clean. It seems to me that that is important to many. But I think that there is a systematic lack of welfare because the animals are too much indoors [...]. The biggest animal welfare problem is the lack of movement in a natural environment.

The contentment with the animal welfare situation also appeared in some of the producers answers to what they considered as the largest animal welfare problem in Norway. 18 of the producers had either problem answering the question because they could not think of anything offhand, or because they could not see any more problems (approx. 12): “No, the way I see it, after the readjustment [the implementation of free-range-systems for sows] and new regulations for stalling and keeping animals, I see no larger problems”. The animal welfare problem most often referred to by the producers (approx. 11) was the drive for efficiency in the industry or a development towards “factory-production”, which was a phrase a few of the producers used. According to these farmers, the problem with such a development is partly that the margins have gotten/will get smaller and the time per animal less, and partly that the pressure for infections has gotten or will get higher: “The greatest welfare problem is the drive for efficiency, the lower prices we get, the less time per animal. If everything become numbers. When a sow no longer is a sow to me as a producer. We must not loose the contact with the animals. That is my greatest fear when I think about the animal welfare in the future”. One producer referred to “Danish conditions” as a horror-scenario for Norwegian pig production. A related problem pointed out by four of the producers was the development towards fewer slaughter houses, and therefore longer transportations. Other welfare problems mentioned by the farmers were the castration of piglets with the use of anaesthesia. Five producers referred to this operation as the largest animal welfare *problem*, contrary to the intention of the regulation which is to increase the welfare. Six producers referred to animal density as a problem area. Three producers mentioned the animal tragedies, or the “exceptions”, as the biggest animal welfare problem. The rest pointed to piglet loss, lack of sufficient cleaning, tail biting, pack problems which follow from the use of deep-straw systems, umbilical hernia, free-range-systems, infections, and managing the feeding systems as problematic areas to the animals’ welfare. The two organic producers and one conventional producer mentioned the lack of stimulating environment and the ability to stay outside, as the biggest welfare problem.

Trust and responsibility

Who do the farmers trust the most in animal welfare matters, and who has the responsibility for animals’ welfare, according to the farmers? These questions were posed to get a better understanding of what type of knowledge the pig producers considered as relevant in assessing animals’ welfare, and what actors they relate to in animal welfare matters.

Some of the farmers (approx. 16) answered a combination of themselves or other farmers and the veterinary when being asked who they trust the most in matters concerning animal welfare. Approximately 10 answered only the veterinary, while circa 11 referred only to the farmer. Not all of the farmers stated their reasons for trusting one or the other, but those who did (approx. 12) underlined the practical knowledge of the farmers if mentioning the farmer. Some said this negatively in that they underlined their lack of trust in persons who “work in offices”, or “bureaucrats”, which may partly explain why so few mentioned the Food Safety Authority or governmental institutions as the ones they trusted. Only one farmer mentioned the government or the Food Safety Authority as an instance of trust. The veterinary seemed to be a person many of the producers applied to if having problems: “The veterinary see the things the farmers are blind to”. Their trust in veterinaries and other farmers or themselves may also reflect that they are the ones most farmers relate to in their daily practice. Also the Health Service for pigs (approx. 7) and the advisory service at the slaughter houses (approx. 10) were mentioned by some of the farmers, either alone or in combination with other groups, as actors they trusted the most. Only one, an organic producer, trusted a specific person in an animal welfare organization (Live Kleveland Karlsrud). The other organic producer also mentioned animal welfare organizations, but included also farmers, ethologists and veterinaries; because he thought that a multidisciplinary group could provide the most balanced picture of the welfare situation.

Who, according to the farmers, is responsible for the animal welfare situation? Although very few of the farmers referred to the government as the instance they trusted the most, many (approx. 18) found the government (the Ministry of Agriculture and Food, the Food Safety Authority or the local Animal Protection Boards (dyrevernemnd)) as having the responsibility for animal’s welfare. However, the most frequent answer was that the farmers themselves are responsible for animal’s welfare (approx. 24). Approx. 8 of the producers answered a combination of farmer and government as being responsible. The rest saw a combination of more actors, such as veterinaries (approx. 3), the slaughter houses (approx. 2), or people in general (approx. 1), in addition to the farmers and government, as responsible for the welfare situation.

The farmers’ relationship to the veterinary

The veterinary seemed to play a vital role for many of the producers. The general importance of the veterinary profession has been documented by others. According to Kari Tove Elvbakken (1997) the veterinary profession has traditionally been central as legitimate regulators of a relatively un-politicized “animal welfare”-field. Approx. 36 of the producers referred to the veterinary (alone or in combination) when being asked who they trusted the most in animal welfare matters, or who they considered to be most knowledgeable of animal welfare matters. Some also praised the veterinaries in the Health Service for pigs, when being asked of whom they trusted the most. The piglet and combination producers get visited by their veterinary at least every time the sows

have farrowed to carry out the castration. In order to get a better understanding of the farmers' relationship to the veterinary, we asked whether they thought the veterinary knew what good animal welfare is.

Most of the producers (approx. 39) believed that veterinaries know what good animal welfare is, which underlines their central position. Four of the producers did not answer this question. However, this leaves us with a group of approx. 17 producers who either raised doubt about the veterinaries' approach to animal welfare, or in other ways qualified their answers.²² These remaining producers had different reasons for their ambivalence. Some of the reasons are especially interesting because they refer to more systematic differences or problems than the ones who answered that veterinaries' competence varies. A few of the producers (approx. 7) referred to the customer relationship between farmer and producers as being problematic. These producers feared that the veterinaries do not dare to or avoid pointing to the problems they see, due to fear of developing a bad relationship to the producers, and thereby losing them as customers. One producer mentioned that the veterinaries were "cold" after many years of tough economic competition with other veterinaries. Another reason, given by three of the producers, is also interesting. These producers proposed that the veterinaries are not sufficiently attentive to the pigs' environment, only their health condition, which also indicates possible differences in the veterinaries and the farmers' approach to animal welfare. As we saw, the farmers' definition of animal welfare combined several elements, the biological functioning of the animal being only one of them:

She [referring to one specific veterinary] is very concerned with the environment, and that the pigs shall thrive, and that you should do this and that if they have bad legs. And here comes the veterinary [referring to other ordinary veterinaries] and gives them 6 millilitre of antibiotics, and there is no talk of that you could provide more bedding material, or remove the pig from the pen. They examine and get it done.[...], and they are on their way. But maybe they don't dare saying anything. Because I find that when there is pig with bad legs in a pen, I am thinking: aren't you going to tell me that it would be smart to remove him, which I am going to, but he could say so - but they never do.

A few (approx. 3) pointed to the fact that the competence between veterinaries varies, that many veterinaries do not have a sufficiently specialized knowledge of pig production (approx. 2), or enough practical knowledge (approx. 2).

²² Although 8 of these had mentioned the veterinary, sometimes one specific veterinary, when answering who they trusted in animal welfare matters.

5.2 The relationship between farmer and animal

How do the farmers perceive the relationship to the pigs? How do they relate to the animals? Furthermore, do they believe that the animals have feelings and allow for individuality? Subsequently, do they feel sad when their animals are sent to the slaughter house?

Most farmers told that they have a good relationship to their pigs when they were asked about their relationship to the pigs. However, this is a rather vague statement. Many producers underlined their good contact with the pigs (approx. 32) when being asked. Some of these just said that their relationship to the animals was good, without any further explanation. The others answered more in detail, and reported a pretty close relationship to their animals. A few emphasized how they knew the animals, or how they knew each other: “I have a good relationship to the sows. I have very calm animals [...] The sows know you, and you know them”. Another few used the term confidence in describing their good relationship (to each other): “It is a good relationship. We trust each other”. A third small group of producers told when describing their relationship to the pigs that they talked to them.

However, there were also quite many producers who emphasized that their relationship to the pigs was work-based and that they did not have a personal relationship to the pigs (approx. 28). While a few of the producers (approx. 4) left it at that: “it is mainly a job”, two aspects or clarifications were added by the others. These are also aspects which are relevant to the first group of pig producers.

First, some of the farmers distinguished explicitly between fattening pigs and sows, and also between pigs and cows and sometimes pets, when characterizing their relationship to the pigs.

They reported that they did not develop a close relationship to the fattening pigs as opposed to the sows, and some also reported the same for pigs as opposed to cows: “Cows you keep longer, and you do not have that many. You don’t get such an individual relationship to pigs. Those who only have fattening pigs do at least not develop a relationship. But we have sows that we have a relationship to in compare with others sows. There are differences”. The more distanced relationship to the fattening pigs and the closer relationship to the sows (and sometimes boars) were also evident in the answers of producers who, when referring to their work-based relationship indirectly referred to fattening pigs, and when referring to their good contact with the pigs, indirectly referred to the sows. Hence, the producers’ relationship to different animals seems to vary. There are differences between animals, and these differences are central to the relationship you develop to them. The distinctions seemed to be related to their different roles in the production. The sows are most important in the production process. In addition, they are fewer in number than the fattening pigs, and they live longer, all aspects pointed out by

various farmers as reasons for the special position of the sows. Some of the producers also distinguished between pigs and cows, pointing to similar aspects. They reported that they developed a closer relationship to the cows because they keep them longer. This also held true for the gilt. Sometimes the farmers keep a “consultant” gilt with the only task of serving as an inspiration to the sows. The gilt is not directly part of the meat production. The farmers also sometimes referred to situations in which the animals were taken out of the production process, such as when they were sick or they got the status of a pet for the kids. One producer referred to a sow that denied entering the slaughter truck and ran back into the barn. In all these cases when the animal was “out of place”, the producer seemed to develop a more emotional relationship to the animal. But this was also the case with the sows, which are at the centre of the production. One of the organic producers also reported on different relationships to different, individual animals: “I am very fond of my pigs. But there are differences. Some one touches your heart [...] others become more part of the production”. The other organic producer emphasized that his pigs were almost wild.

Second, another aspect that farmers referred to in describing their relationship to the pigs, was that even though they perceived them as production animals, and their relationship was not personal, they did have a good relationship to their animals: “I am not the one who loves my animals that much [...] but one does not need to have bad feelings, anyway. It is after all your job, and when you work with live creatures there are sorrows and pleasures”. Or as another producer stated: “We have a good relationship [...] I am generally fond of animals, but you never develop a personal relationship to a pig, as opposed to for instance a horse. A pig - it stays a pig.” Seen from these producers points of view, and maybe also of the others, either statement seemed to hold true: They have a good relationship to the pigs, *and* they relate to the pigs as production animals. Consequently, there are no perceived contradiction between having a good relationship to the pigs, and having a relationship to them as production animals. In section 5.1 we talked about how most of the farmers perceived the relationship between the animals’ welfare and their own economy as complementary. This interrelation was also evident in the farmers’ description of their relationship to their animals, which shows how the farmers’ relationship to the animals is intimately linked with their understanding of animal welfare.

Most of the farmers stated that they did not find it sad to send the pigs to the slaughter house (approx. 40). Some said that they did not develop “such a relationship to it”. Others (approx. 7) considered it as a part of “the course of Nature”, or “as part of the game” since human beings eats meat. However, the necessity of distinguishing between different animals found also expression in these answers. A few (approx. 7) of the producers who did not shed any tears when sending pigs to slaughter, said they did find it sad when cows or other animals (horses, pets) died. However, there was also a substantial group of approximately 17 producers who reported that they found it sad when the

slaughter truck came (3 did not answer this question). A few (approx. 5) referred to the sows when expressing their sadness: “I don’t feel sad for the piglets. But the sows. When you have so few sows as I do. You put in a lot of work with the sows. Every animal has its own personality. Some animals are worse to send off.” A few said they had gotten used to it, but that it was sad in the beginning of their careers as farmers. Others said that they found it sad, or that it was dreary to send off some specific pigs they had developed a closer relationship to. One person found it particularly difficult. She said she felt like an executioner, and found it hard to look the pigs in the eyes before they were sent off.

Most of the producers (approx. 44), when being asked, meant that the pigs have feelings: “Yes, he show when he is happy and when he is not happy. They are wise animals [...] You do not have to do an operation several times before he sees and understands it“. Some defined feelings by referring to their ability to feel pain, a few answered that the pigs have “thoughts and feelings like we have [...] they understand how they are treated“. Some pointed to the individual differences between the animals, and/or the contact between the animals, and/or their own contact with the animals, in defining the animals’ feelings. The rest were unsure whether the pigs have feelings, or they were not posed the question (approx. 4). They insecure ones meant that the pig can feel pain, but seem to hesitate using the term feelings. A few (approx. 3) underlined that there was a difference between human beings and animals: “Yes, but they do not have human feelings [...] All creatures have feelings. At the National Veterinary Institute they have so clear answers that one may wonder who they have brought them out. They have so many feelings that they are more like babies than pigs. They can say that by virtue of their position and instruments. But I do not want to give them human feelings. To say it brutally, we have them in order to destroy them and to eat them.” Two differentiated between physical feelings and psychological feelings. But there were just as many (approx. 4) who underlined the similarities between human beings and the pig: “Yes, there are great individual differences, just like among human beings”.

Summing up, most of the farmers did not consider an emotional binding to the individual animals as a necessary ingredient for having a good relationship to the animals. Neither was it part of their understanding of good animal welfare. However, this doesn’t mean that they did not emphasize having contact with the animals or that no kind of emotionality was present. This was evident in cases when the producers referred to “factory”-production in other countries where they, according to some of the farmers, have no relationship to their pigs. The analysis also shows that there are differences in the farmers’ relationship to different animals, that they do believe that the animals have feelings, but that this acknowledgement does not prevent the animals from being sent to slaughter. However, some of the producers did find it sad to send them off to the slaughter house, although most did not.

6 Animal welfare off the farm – animals during transport and in the slaughter house

The time on transportation is by Norwegian regulations limited to maximum 8 hours, with additional 3 hours in certain cases, as for instance for transport in the three northernmost counties of Norway (Forskrift om transport av levende dyr). 283 pigs died during transportation in 2004, or 0.021 percent of the animals. If we include the animals stalled in the slaughter houses before slaughtering, the number is 509, or 0.038 percent (Kjøttets tilstand 2004).

6.1 Transport

Two questions related to transportation were posed to the producers. We asked how they – as producers - evaluated the animal welfare situation during transport, and who they saw as responsible for the welfare situation during transport. Most of the producers found the welfare situation during transport to be satisfactory (approx. 42). As mentioned, most of the producers interviewed lived in central agricultural areas. The distance to the slaughter houses in these areas are therefore relatively short, as pointed out by some of the farmers. A few underlined that the transport has gotten better, that the drivers are calm, and that the trucks are clean, as reasons for their satisfaction. But there were also some of the farmers (approx. 15) who were critical to aspects of the transport, not necessarily because they found the transport of their own pigs as censurable, but partly because they were sceptical to the longer transport distances in other parts of the country, or a development towards longer distances due to fewer slaughter houses. Three of the critical producers lived in the northern part of the country. During the last 10 years, the meat-cooperative Gilde has closed down 10 slaughter houses (Gilde-slakt av 15 slakterier), and additional five are decided to follow, the abattoir in the city of Bodø in the northern part of the country being one of them. One producer was critical to the transport in sow pool systems, one emphasized that the transport is good, but the media should not film every pig. Four producers pointed to the long transport when being asked of what they considered as the biggest welfare problem.

However, the general impression is that most of the farmers seemed reassured that the animal welfare is sufficiently good during transportation. All the producers, except one, claimed that it is the driver who is responsible for the pigs during transportation, which is indeed the case according to Norwegian regulations (Forskrift om transport av levende dyr). With regard to the loading, the producers saw it either as their own responsibility or as a common responsibility between farmer and driver. Where the producers considered their own responsibility to end, seemed to be vary according to the technical arrangements made for loading the pigs on the truck.

6.2 Slaughter house

Most the farmers (approx. 40) also had a good impression of the welfare situation in the slaughter houses. Two of the slaughter houses (Fatland and Gilde at Rudshøgda) have recently renewed their slaughter line. According to some of the farmers who delivered their pigs to these abattoirs, this has improved the welfare situation. Five producers said that they did not know the welfare situation. The rest of the producers (approx. 7) were more ambivalent about the welfare situation at the slaughter houses. They meant that the welfare varies, or emphasized that a slaughter house is never a jolly place. But just two of the producers were critical to the slaughter houses and their practice. One found the pace of the slaughter line too high. Another producer meant that they are too occupied with money. Three did not answer this question.

7 Market and consumer relations

7.1 Producers' view on consumers

The consumer is in greater request than ever. The newly launched Action Plan for Consumer Orientation of Food Policy as well as the established Food Policy Consumer Panels through which selected lay people throughout the country get a channel directly to the political leadership in the Ministry, indicates that the consumer is more important than ever. This new focus of the agricultural politics has been coined "a consumer turn", evidently not only in Norway, but also in other European countries (cf. e.g. Brand et al. 2004; Kinsey 1999).

Even though animal welfare at a first glance seems to be primarily based in the care for animals, the consumer is also an important actor/figure when it comes to animal welfare. The pig production industry underlines higher trust from consumers as one of the reasons for focusing on animal welfare (Handlingsplan for dyrevelferd hos gris). The parliamentary report on animal welfare (St.meld nr. 12 (2002-2003):154) also emphasizes the importance of consumer communication, documentation and openness. The regard for the consumer has become an important way of legitimizing policies and actions in the agricultural industry. What the farmers' perception of the consumer is, may be important to study if trying to understand what guides agricultural actions and the potential for communication between producers and consumers. The producers' perception of the consumers' opinions in animal welfare issues may also be informative with respect to the producers own focus on animal welfare, their motivation for implementing animal welfare measures, and their future perceptions of the food value chain. How they relate to the retailers, is also an indication of their food value-chain orientation.

Consumers

The following questions were posed to the producers on their perception of the consumers: In your opinion, what is the consumers' perception of Norwegian pig production? Are the consumers concerned about animal welfare? And finally: How do you perceive

the consumers' knowledge of animal welfare? In relation to their willingness to participate in schemes, we also asked whether they thought an animal welfare brand would have appeal at the market.

Many farmers (approx. 35) held that the consumer had limited knowledge of animal welfare. Only a few (approx. 2) held that they had sufficient knowledge. Another fairly common opinion (approx. 21) was that consumers are only concerned about animal welfare when being asked or when they read about animals' suffering in the media. In the store, on the other hand, they act on price, or they forget about the animals when the media's limelight is turned off. But the producers' perception of the consumers was not a simple black-and-white interpretation. Some producers also believed that the consumers are really concerned about animals' welfare (approx. 17), and quite many (approx. 23) uttered that they believe consumers have confidence in Norwegian pig production industry. Only a few producers (approx. 7) reported that they believed that the consumers are not concerned about the animals' welfare. However, there was a few who meant that the consumers have a wrong impression of the production, either because they had a too romantic picture of the production, or because of media's skewed picture. The producers' relationship to consumers can be described as harmonious or at least accepting. The producers seemed to be more critical of media's role. Some called attention to media's role as agenda placer, and a few (approx. 3) pointed to that the media only focuses on the negative, which may mislead the consumer with respect to the welfare situation. If drawing a map of the producers' relationship to different actors placing these actors in a "like" and "dislike" camp, the consumers were not labelled as "bad", as opposed to the media and, as we will see, the retailers and animal welfare organizations.

Many producers underlined the importance of satisfying the consumers by keeping a high animal welfare. As mentioned, the pig production industry has developed an action plan for animal welfare. In this plan, consumer confidence is referred to as an important motivation for focusing on animal welfare. This was also evident in the answers of the pig producers. When asked why they thought the pig production industry should be concerned about animals' welfare, quite many (approx. 24) producers mentioned consumers confidence in Norwegian pig production as an important reason for focusing on animal welfare. Hence, consumer confidence seems to be a motivational factor for focusing on animal welfare, but first and foremost in a particular setting. Note that the producers' frame was *Norwegian* pig production. Maintaining a high animal welfare in order to maintain consumer confidence was by the producers linked to the survival of Norwegian agriculture in the case of an EU-membership or other circumstances that may drastically change the conditions for Norwegian agriculture. The hope uttered was that consumers will continue to buy Norwegian products, even if they are more expensive, if consumers know that the product is produced with a high animal welfare and is safe.

The producer as consumer

When discussing the producers' relationship to the consumers, one could be left with the impression that a vast gap exist between the two groups: producers on the one hand, and consumers on the other. But, more precisely, who is the consumer? According to Jacobsen (2003) there are no consumers, only consumption. An analysis of the consumer is only meaningful if seen in relation to the practice of consuming. This also holds true for the producers. A producer is only a producer in so far as he or she produces. After having managed the pigs, or carried out the production-related activities, the producer may take his car to the grocery store to do the weekly grocery shopping, and thereby the producers become consumers. The producer as consumer was the topic of the last consumer-related question we asked: What do you emphasize when you do your grocery shopping? Do you pay attention to animal welfare issues when you buy your meat? Various reasons were given by the producers for their choice of food. The most frequent answer (given by approx. 23) was that they attached importance to that the product was Norwegian or produced by Gilde – the national meat cooperative. Buying Gilde or Norwegian equalled quality to many, and also indirectly a high animal welfare, although very few of the producers (approx. 3) mentioned animal welfare as important in their choice of food. These producers avoided chicken. The second most frequent answer was quality. Only five of the producers answered that they chose meat based on the price of the product.²³ The remaining farmers did not buy meat in the shops. Instead, they bought meat from their neighbour, got their own pigs back from the slaughter house, or they based their choice on the presentation of the meat. Comparing the producers' perception of other consumers with their own consuming behaviour, there seem to be coherence, although the producers seems to believe other consumer are more sensitive to prices than they are themselves, and hence, indirectly being less concerned with animals' welfare.

7.2 Retailers

Retailer chains in Norway has not, as for instance in Great Britain, played a visible role regarding animal welfare, by being initiator to animal welfare schemes or in other ways made demand on the production methods relevant for animals' welfare for accepting farm produce for distribution.²⁴ This is essentially due to the traditionally weak vertical integration of the food value chain in Norway. Norwegian retailers have been very careful not to take risks associated with food safety and food quality (Jacobsen 2004). Concerning meat and meat products, this involves a dominant strategy of selling pre-packed manufacturer branded goods. As a result, Norwegian retailers have relatively weak competence on food safety and quality issues (Jacobsen and Kjærnes 2003). In these

²³ Only 47 of the producers were asked. The question was introduced first when starting the telephone interviews.

²⁴ The retailer chains focus on health, environment, ethics and quality by having their own programmes and demands for ensuring these areas. None of the chains mention animal welfare, although organic production is marketed by two of the retailer chains.

fields they lean heavily on their suppliers and a highly trusted public food safety system (see also Poppe and Kjærnes 2003).²⁵

The retailer chains' limited role in animal welfare matters was also reflected in the producers' answers to the question of how they considered the role of retailers in animal welfare. Just one of the producers reported that he believed that the retailer chains are concerned about animals' welfare. The retailer chains were rather portrayed as profit-maximizing (by approx. 27 producers): "It is almost like I believe that they only think about price". A few (approx. 7) underlined the power of the retailer chains. But the answers also revealed an experienced distance between producers and the retailer chains. The producers' answers to this question were not "ready at hand" as the case was for many of the other questions. Some of the producers felt unsure what to answer. Only a minority had an opinion of the retailer chains diverging from the ones already mentioned. A couple emphasized the retailers' role regarding the presentation of the products. Others (approx. 3) pointed to the retailer chains having an indirect role concerning animal welfare: if they push the prices, this makes it harder to produce with a high standard of animal welfare.

7.3 Animal welfare organizations

The producers were also asked about their evaluation of animal welfare organizations.²⁶ A great majority of the producers (approx. 51) were negative to animal welfare organization. Their scepticism was usually not based in their own bad experiences with organizations, nor is their negative attitude based on activists' criticisms of the pig production industry. The producers referred sometimes to stories from actions towards the fur industry. Many concluded: "When they let loose mink. They can impossibly know what they are doing". From this statement, two things may be deduced: First, many of the farmers were first and foremost negative to the animal welfare activists' *methods*. Some referred to the activists as being too "extreme" (approx. 17). In this respect, the more militant activists seem to ruin the reputation of all animal welfare organizations. Second, the producers' scepticism suggested also a possible clash in the two groups' approaches to animals' welfare. A few of the producers referred to the animal welfare organizations attitude as too "pet-like", that they had too little knowledge and being in need of a more practical comprehensive knowledge, or that the activists put animals over human beings. A conflict between producers' and animal welfare activists' understanding of animal welfare has also been documented by Maria Guzmán (2003).

²⁵ This first part about the retailer chains draws heavily on Jacobsen 2004 and Skarstad et al. (forthcoming).

²⁶ The first Norwegian animal protection organization was established in 1859 and was named "Forening Mod Mishandling av Dyr" (Guzmán and Kjærnes 1998:126). Today the organization is called "Dyrebeskyttelsen" (The Norwegian federation for animal protection). Other central animal protection organizations in Norway today are Dyrevernalliansen (The Norwegian animal protection alliance), and NOAH-for dyrs rettigheter (Animal rights organization). In addition, a division of the militant group Animal Liberation Front has been operating.

Guzmán (2003) has pointed out that there is an ongoing battle of the hegemony of animal welfare between the producers and the animal rights advocates. A few felt also misunderstood by the animal welfare organizations: “They think we only care about the money”. As the case was for the producers’ relationship to the retailers, the producers’ answers also indicated an experienced distance to the animal welfare organizations. Internationally it has been pointed out the animal welfare organizations have been city based, and hence, traditionally more focused on pets than on farm animals (Noske (1999), Thomas (1983) referred to in Guzmán and Kjærnes 1998:127). The city-country dimension may be worth paying attention to in animal welfare-related disputes (also in the relationship between consumers and producers), which again may be related to different uses of nature and animals. A few of the producers referred to this dimension. However, there were also a few producers (approx. 9) who were more positive to animal welfare organizations in that they – inter alia - emphasized that they have a role as a “watchdog.”

8 Conclusions

What do the farmers think of the increased attention to animal welfare? And why, in the farmers’ opinion, should the pig production industry be concerned about animal welfare? These two concluding questions were posed in order to get an overall impression of the farmers’ appreciation of the increased focus that has been put on animal welfare, and their evaluation of the importance of the issue.

Generally positive attitude to animal welfare

The first major conclusion to be drawn from our study is that almost all of the producers said they welcomed the increased focus that has been put on animal welfare: “I think that is fine. We have to put up with that”. This positive attitude was by many producers specified further in their answers to the question of whether the pig production industry should be concerned about animal welfare. The producers proposed two main reasons for why the pig production industry should be concerned about animal welfare. The first main reason (mentioned by approx. 22) was **ethically** grounded, and concerned the animals’ welfare and the producers’ responsibility for taking care of the animals “It is first and foremost for the sake of the animals” (FP). However, taking care of the animals and the well-being of the animals, did not exclude another element many of the producers pointed to as a reason for why the pig production industry should be concerned about animal welfare. The main second reason was more economically grounded, and concerned the **farmers’ own welfare or economy** and the survival of the Norwegian agriculture. This reason was based on two separate arguments. The first argument was that the farmers should maintain a good animal welfare because otherwise they will not get any good production results: “If the animals feel well, they produce”. Hence, most of the farmers claimed that there is no clash of interests between their economy and the animals’ welfare. Rather, animal welfare was thereby by many perceived of as a pre-

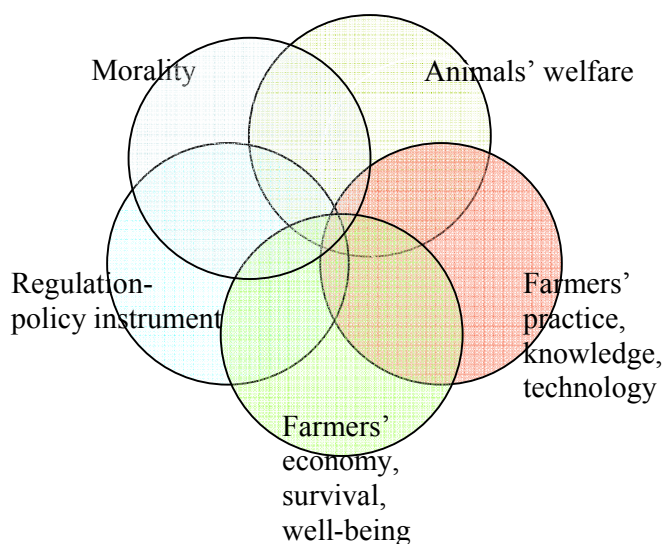
quisite for good economic results. The reason for this interrelationship was typically not very detailed; it was rather assumed to be self-evident. Nevertheless, some producers referred, when being asked, to the reasons that the pigs grow faster if they thrive, and that the sow gets more piglets if she is not under stress. This link between good animal welfare and good economic results was also shown in the farmers' **production- and practice-based** definition of animal welfare and can therefore be said to be contingent on this understanding (cf. section 5). The second argument for focusing on animal welfare was also linked to the farmers' economical situation, but in a somewhat wider sense: The animal welfare has to be good in order to maintain consumer trust. In this context, animal welfare was being conceived of as a quality attribute important in order to appeal to the market and to maintain consumer trust. Avoiding bad media coverage was one element some producers pointed to in this context. However, as mentioned earlier, the argument about maintaining consumer confidence seemed to be a motivational factor for focusing on animal welfare first and foremost in a particular setting. Maintaining consumer trust by ensuring a high animal welfare was by the producers linked to the survival of Norwegian agriculture in the case of an EU-membership or other circumstances that may drastically change the conditions for Norwegian agriculture. Their hope was that consumers will continue to buy Norwegian products - even if these are more expensive than imports – as long as consumers know that the product is produced with a high animal welfare and is safe. Most of the producers' acceptance of the Norwegian **regulations**, and their fairly positive attitude to keeping strict regulations, at least stricter than the EU, can be interpreted in such a setting. But there was substantial minority of producers who were critical to the high level of Norwegian regulations, and who opposed the idea that Norway should be best in animal welfare. There were also some who considered the relationship between their economy and the animals' welfare as difficult. Generally, it was hard to find a co-relation between background variables and view in animal welfare issues. In some instances the organic producers seemed to have diverging understanding of the animals' welfare, but this must be further investigated.

The ontology of the farmers' animal welfare world.

As seen from the emphasizing in bold types, a number of elements seem to be of importance and condition the farmers' (positive) attitude or relationship to animal welfare. These elements are intimately related in the sense that they are partly contingent on each other and not mutually exclusive. As seen from our analysis, these are elements the farmers referred to when defining or talking about animal welfare, their production and practices. We also saw how these elements were part of what we referred to as their understanding of animal welfare, but they do also to a large extent sum up the entire report because they relate both to regulations, schemes and consumers. Hence, they are the elements or spheres that seem to condition and shape the farmers attitude, understanding and practice with regard animal welfare. In this sense the spheres or elements may be considered as ontological spheres or the "ontological space" in which the

farmers' understanding and enacting of animal welfare practices seems to be conditioned and shaped. In the figure below we have referred to these elements as: (a) regulations-policy instruments; (b) farmers' economy, survival and well-being; (c). farmers' practice, knowledge and technology; (d). morality; (e). and lastly the animal or the animals' welfare.

*Elements shaping the farmers' understanding, attitude and practice with regard to animal welfare.*²⁷



Limits and challenges to the farmers' understanding of animal welfare

How these elements, alone and in relation, condition the field of animal welfare are important to consider for two reasons: First, as already mentioned, the farmers' arguments for focusing on animal welfare, or their positive attitude to animal welfare, were contingent on and based in these elements or a specific understanding and working of these, as well as their interrelation. Secondly, there were also many producers who were positive to the increased focus, but who also qualified this further: The focus on animal welfare should not become too extreme. Two were also mostly negative to the increased focus on animal welfare. This is the second major conclusion to be drawn from our study: Notwithstanding the fact that the producers were generally positive towards animal welfare measures – this positive understanding was, as we have seen, not unconditional. The elements are also important to consider in that they also point at the limits of the producers' world when it comes to animal welfare. Or said with other words: They point at the barriers to improving animals' welfare, as considered from the world of the producers. Let us take a closer look at the elements in question and their interrelation, before we will finally draw some consequences from this analysis, by pointing to the challenges and limits of the farmers' understanding of animal welfare.

²⁷ In this concluding part and figure we distinguish between animal welfare as referring to the field of animal welfare which includes all of these elements, and the animals' welfare which refers specifically to the welfare condition of the animal.

The farmers' economy, survival and well-being were by many producers referred to as important reasons for focusing on animal welfare. Most farmers established a complementarity between the *animal's welfare* and their own economy. This was made possible due to a specific understanding of animal welfare as being production based, and as - inter alia - concerning the bodily functioning of the animal. This understanding was again well grounded in the farmers' own established *practices* which again seemed, especially in the question of the survival of the Norwegian agriculture, to be linked to the national *regulations* which most of the farmers seemed to accept. However, the farmers' practices, as shown in the figure, seem also to be influenced by their conception of what is good for the welfare, their moral responsibility, what is considered as profitable, and also what is relevant technology. The farmers considered their relationship to the animals as good, and many report a good contact with their animals. Many believed that the animals have feelings and quite many referred to it as a moral obligation and responsibility for the farmers to taking good care of the animals' welfare. The moral and economic sphere seemed therefore to a large extent to overlap in that they both can be summed up what is to be a "good farmer".

Finally, what can we learn from the investigation and these findings? *First*, we can learn that economy considerations are clearly important to the farmers, in multiple ways. Economic considerations seemed to be an important way of legitimizing animal welfare practices, as indicated in the farmers' reasons for why the pig production industry should be concerned about animal welfare. However, the farmers talked just as much about their survival as farmers as a wish to earn profit. A wish to make money was rather the farmers' characterization of the retailer chains. The farmers often did not find any conflict between their own economy and the animals' welfare, which should indicate that new animal welfare regulations should always be applauded. However, this was not necessarily the case (why will be explained in the next point). Economic costs were also mentioned by some farmers as a barrier to carrying out animal welfare practices, and a few producers mentioned that they found it hard to balance the concern for the animals' welfare with the economic costs.

Second, not all animal welfare measures were considered by the farmers as costly, since this depended largely on what the farmers considered as profitable measures. Maintaining consumer trust in a situation of higher international competition was one of two ways by which the farmers legitimized animal welfare practices. The second was through the animal body and their production. How animal welfare measures are legitimized, and if they are made economical relevant or not, therefore appears to be of relevance for the farmers' willingness to perform them.

Third, the animal welfare measures to which the farmers objected the most, were not or just recently made obligatory by Norwegian regulations. Hence, these measures had not established themselves as necessary practices in order to be a good farmer. To the extent

that the farmers consider it as important to practice in accordance with the regulations, the regulations may influence what the farmers consider to be good (enough) for the animals' welfare. However, to what extent is in need of further investigation.

Fourth, another characterization of some of the new welfare measures that the farmers seemed to have most trouble with - namely the use of anaesthesia by castration, a total ban on fixation of sows, outdoor production and the implementation of brush and shower system - was that they all intend to improve the animals' comfort or reduce their pain, and also to make them able to live more in accordance with their species-specific needs such as rummaging around outside looking for food, or building nest prior to farrowing. As seen in section 5 these welfare elements were not so explicitly part of the greater majority of the producers' understanding of animal welfare. Hence, economic considerations may not be the only barrier when implementing new animal welfare measures, but also conflicting understandings of animal welfare (which is again related to what is considered as economical). This also may indicate that there are certain types of animal welfare measures that first will be sacrificed in the case of economic hardship or that may not be attended to, namely those measures falling beyond the farmers' established conception of what is good for production. However, as we have seen, what is considered as good for production is neither obvious nor fixed, but may change due to new regulations, increased consumer-orientation etc.

Fifth, the farmers' own practices and production (which are influenced by the other elements: regulations, the animal's welfare etc) seemed to a large extent to function as a reference point for what is considered to be good animal welfare. This was evident in that the farmers' practices seem to vary to some degree, but that almost all of the producers considered their animals' welfare as being good. In other words: the farmers' understanding of animal welfare was not so often based in aspects outside of their own practices and production, as for instance nature or the animals' subjective state, although especially the last element was present. Having established practices as a measure can be problematic if the "status quo" or a state of "normality" makes the producers blind to improvements. However, the consumer's trust (+ regulations) was such an "outside" element functioning as a measure for many of the producers. This indicates that a consumer-orientation may alter established practices in so far that appealing to the consumers' trust means to emphasize other welfare elements than the established ones

Sixth, that the farmers' knowledge was situated and dependent on their practice, is not surprising. All knowledge is situated. However, this insight is important in that it points to the importance of adjusting the communication and policy instruments vis-à-vis farmers to their practice and production. Talking about "freedom" or "nature" is not necessarily useful to the farmers in their day-to-day practice, although it may open up new perspectives.

Seventh, regulations are the most important instrument for governing animal welfare practices in Norway today. Animal welfare schemes are another policy instrument for improving animals' welfare. Some of the producers were willing to enter such schemes, but quite many were sceptical. The reason seemed not to be that they were negative to improving the animal welfare, but rather that they considered schemes as to break with a cooperative spirit of the Norwegian pig industry in that animal welfare schemes would indirectly classify non-scheme-food and animals as second quality. Some also argued that they couldn't accept this for the sake of the non-scheme animals. These producers' scepticism points to the importance of considering the suitability of the policy instrument itself if wanting to improve the animals' welfare.

Finally, the producers' relationship to the pigs was by most described as harmonious. Some of the farmers used phrases like "we play on the same team", "we work together", "we trust each other". Hence, some established symmetry between the farmer and animal, although others did not. Many saw it as their own (moral) responsibility to improve and take care of the animals' welfare, and most considered the animals as having feelings. These last items points to most of the farmers' determination to maintaining a good relationship to their animals, and that the farmers' relationship to the animals is not only pure economic in a reductionistic sense. In one respect, this harmonious tie between farmer and animal can be problematic if the farmers do not allow for the animals being different and having opposing interests. However, for the farmers' motivation it may be a good idea not to tamper with the conception that the farmer and animal play on the same team.

Overall, the analysis shows that the animal welfare field is complex. The field of animal welfare does not only concern animals' welfare, but a wide range of elements that are being affected by and affect the animals' welfare. The pivotal point is what the farmers consider as a *good enough* animal welfare. Hence, there is no simple solution to the problem of animals' welfare, and not one single barrier that must be exceeded, in order to improve the animals' welfare.

Literature

Act concerning regulations of the swine- and poultry production. Forslag til ny lov og forskrift om regulering av svine- og fjørfeproduksjonen (2002). URL: <http://odin.dep.no/lmd/norsk/dok/hoeringer/020051-990053/dok-bn.html> [Reading date 25.07.05]

Borgen, Svein Ole, Eivind Jacobsen and Anne M. Jervell (2004): *Animal welfare as a food quality attribute*. XI World Congress of Rural Sociology. Trondheim, Norway, July 2004.

Borgen, Svein Ole and Guro Å. Skarstad (2005): *Introduction to animal welfare regulations and schemes in Norway*. Deliverable, Welfare Quality project. (unpublished)

Bertaux, Daniel (1982): The Life Course as a Challenge to the Social Sciences”, ch. 6 in tamarka K. Hareven & Kathleen J. Adams: *Ageing and Life Course Transitions: An Interdisciplinary Perspective*. Tavistock.

Brand, Karl-Werner et al. (2004): *Von der Agrarwende zum Konsumwende? Perspektiven entlang eines Szenarios*. Diskussionpapier Nr. 4. URL: http://www.konsumwende.de/downloads_fr.htm [Reading date 13.09.05]

Debio-statistics, 2004. Report 5. Production per producer. URL: <http://www.debio.acos.no/rapport4.asp?Print=> [Reading date 13.09.05]

Elvbakken, Kari Tove (1997): *Offentlig kontroll av næringsmidler. Institusjonalisering, apparat og tjenestemenn*. Bergen: Universitetet i Bergen. Institutt for administrasjons og organisasjonsvitenskap. Rapport nr. 50-1997.

Forskningsbehov innen dyrevelferd i Norge. Rapport fra styringsgruppen for dyrevelferd. – Forsknings- og kunnskapsbehov. Oslo: Norges forskningsråd, 2005

Fredriksen, Bente (2005): Erfaringer med dagens kastreringsordning for gris. URL: <http://www.fagkjott.no/article1962.html> [Reading date 08.09.2005]

Gilde-slakt av 15 slakterier. Published 25.05.2005. URL: www.nationen.no/naeringsliv/article1599648.ece? [Reading date 25.05.2005].

Glaser, Barney G. and Anselm L. Strauss (1967): *The discovery of grounded theory: strategies for qualitative research*. New York: Aldine de Gruyter.

- Groven, Kyrre et al. (2004): *Evaluering av Kvalitetssystem i landbruket (KSL)*. Vestlandsforskning: Sogndal/Bergen. Rapport 8/04.
- Guzmán, Maria A. and Unni Kjærnes (1998): *Menneske og dyr: en kvalitativ studie av holdninger til kjøtt*. Oslo: Statens institutt for forbruksforskning. Arbeidsrapport SIFO 6-1998.
- Jacobsen, Eivind (2003): *Forbrukerhensyn, helsemessig trygg mat og nytt Mattilsyn*. Oslo: Statens institutt for forbruksforskning. Oppdragsrapport SIFO 11-2003.
- Jacobsen, Eivind (2004): *Animal welfare concerns and schemes in Norwegian retailing: A preliminary survey*. SIFO.
- Jordbruksstatistikk 2002. Published by Statistics Norway.
- Kinsey, Jean D. (1999): The Big Shift from a Food Supply to a Food Demand Chain. *Minnesota Agricultural Economist*. No. 698 Fall 1999.
- Kjøttets tilstand 2004. Published by Fagsenteret for kjøtt. URL: http://www.fagkjott.no/files/57-58_stat_kt.pdf [Reading date 13.09.05]
- Landbrukssamvirkets markedsandeler. Source: Norsk landbrukssamvirke 2004. URL: http://www.landbruk.no/aktueltall/pop_stat.cfm?news=430 [Reading date 13.09.05]
- Leeuwen, Freek van and Bettina B. Bock (2005): *Review of socio-political and market developments of animal welfare schemes*. Synthesis report WQ 1.3.1.1.
- Mikkelsen, Britha (1995): *Methods for Development Work and Research: A Guide for Practitioners*. New Dehli: Sage Publications.
- Norsvinrapport (2004): *Norsk svinekjøttproduksjon ved et evt. EU-medlemskap*. Norsvinrapport pr desember 2004.
- Noske, Barbara (1997): *Beyond Boundaries. Humans and Animals*. Black Rose Boos. Montreal/New York/London
- Poppe, Christian and Unni Kjærnes (2003): *Trust in Food in Europe. A Comparative Analysis*. Oslo: Statens institutt for forbruksforskning. Professional report SIFO 5-2003.
- Skarstad et al. (forthcoming): *The welfare of farm animals in the food value chain. An introduction*. Report NILF/SIFO.
- St.meld nr. 12 (2002-2003): *Om dyrehold og dyrevelferd*. Ministry of Agriculture.

Svin 2/2005. En av åtte purker i ring.

Undersøkelse i landbruksnæringen 26. oktober – 1. november 2004. Opinion. URL: http://www.ksl.no/WEB/files/KSL-undersokelsene/okt_04_resultatene.pdf [Reading date 02.08.2005]

Veggeland, Frode (2002): Matpolitikkenes internasjonale rammebetingelser. Chapter 2 in Hilmar Rommetvedt (ed.): *Matmakt. Politikk, forhandling, marked.* Oslo: Fagbokforlaget.

Yin, Robert K. (1994): *Case study research. Design and Methods.* Revised edition. Thousand Oaks, Calif: Sage publications. Applied Social Research Methods Series. Volume 5.

Appendix 1

Interview guide: On-farm interviews

General

- Type of production (fattening, piglet, mixed, sow breeding)
- Number of animals, size of the farm
- Why did you start with pig production?
 - When?
 - Heritage rights?
 - Do you have any employees?
 - The development of the production. Future investments.
- The organization of the marketing.
 - To what slaughter house do you deliver/sell your animals.
 - Direct sales?
- Are you active in farmer/pig organization?

The definition of animal welfare

- The relationship between farmer and animal:
 - How would you describe the relationship between you and the animals.
 - Do the pigs have feelings?
- What do you mean by animal welfare?
- In what way is animal welfare an important issue? Why should the pig production industry be concerned about animal welfare?
- What do you see as the biggest animal welfare problem in the pig production industry today?
- Animal welfare on the farm
 - How do you consider the welfare of your animals?
 - What have you done to improve the welfare of the animals?
- Who do you trust the most for the assessment of animal welfare?
- How do you consider your own knowledge of animal welfare? Is it sufficient?
- Who is and should be responsible for animals' welfare?

Regulations

- What are the most important barriers/weaknesses of the prevailing regulations?
 - What could be improved?
 - Are the regulations sensible from your point of view?
- What is your opinion of EU's regulations and role in matters regarding animal welfare?
 - Should Norway follow the same norms/rules for animal welfare as the EU?
- To what extent do you operate beyond the minimum requirement? Specify.

Animal welfare schemes

The AWS in which the farmer participate.

- Do you participate in any animal welfare schemes? (//explanation)
 - KSL
 - The competence-course Animal welfare pig (//quasi-scheme)

- Debio (organic scheme)
 - Others
 - Why do you participate?
 - What are the pros and cons of being a member?
- Future schemes*
- Do you know the others schemes?
 - To what extent would you be interested in entering an animal welfare schemes? Why/why not?
 - Is it possible to run a meat production today without thinking of the welfare of the animals?

Specific animal welfare requirements

- Discussion/attitude to:
 - Use of bedding material. What type of bedding material do you use? Why do you use bedding material?
 - The implementation of an outdoor free range area
 - Castration of pigs: Use of anaesthesia and the ban on castration from 2009.
 - The implementation of a stable-group system
 - The use of comfort-improving measures such as a brush, and shower.
 - The use of GMO feedstuff, and the use of growth hormones
 - Teeth clipping
 - Solid floor vs. use of slatted floor.
 - others?

Inspection/control

- In what way are the specific animal requirements of the AWS controlled?
- How often have you been inspected? Was the inspection tough?
- Do you think there are enough inspections?

Veterinary

- What is the role of the veterinary in your decision-making processes regarding animal welfare?

Transport/slaughter house

- Do you think that the animal welfare is good during transportation?
- Who are responsible for the welfare of the animals during transportation?
- What is your opinion of the welfare at the slaughter house?

Market and consumer

- In your opinion, what is the consumers' perception of Norwegian pig production?
- What wishes do the consumers have regarding animal welfare?
- To what extent is animal welfare an issue in the market? Does it sell?
- What is your opinion of the animal welfare organizations? What types of people support these organizations?
- What is your perception of the role of the retailers in animal welfare matters?
- In which ways could consumers, government and chain partners support farmers to produce more animal friendly?
- In which way should communication between producers and consumers be improved? How do you perceive the consumers' knowledge of animal welfare?
- Should farmers be oriented towards the demands of consumers and the market?
- What role does animal welfare play when you do your grocery shopping?

Conclusion

- What do you think of the increased focus on animal welfare?
- Why should the pig production industry be concerned about animal welfare?
- About the farmer:
 - Age
 - Education (type and number of years)
 - Family situation
 - legal status of the farm
- Are there something that you would like to add or emphasize?

Appendix 2

Interview guide: Telephone interviews

General

- Type of production (fattening, sow breeding, mixed, piglet)
- Number of pigs?
- Other types of productions?
- Fulltime/part time – employees?
- Why did you start with pig production (when, heritage rights, future)
- Organization of the marketing: To what slaughter house do you deliver/sell your animals?
- Organizations: Are you active in any pig/farmer organization?

Definition of animal welfare

- What do you mean/understand by animal welfare?
- What is good animal welfare? How can animals' welfare be improved? When are the animals feeling well?
- What is bad animal welfare?
- How do you perceive the animal welfare situation in Norwegian pig production industry? What do you consider to be biggest animal welfare problem in Norwegian pig production industry today?
- Animal welfare on the farm
 - How do you consider the welfare of your animals?
 - What have you done to improve the welfare of the animals (that maybe exceed the minimum requirements of the law)?
- How would you describe the relationship between you and the animals? Are you attached to them?
- Do the pigs have feelings?
- Who do you trust the most for the assessment of animal welfare?
- Who is and should be responsible for animal welfare?

Legislation/regulations

- Do the regulations ensure a good (enough) animal welfare? Should the regulations be stricter/less strict?
- What are the most important barriers/weaknesses of the prevailing regulations?
- Should Norway follow the same norms/rules for animal welfare as the EU?

Animal welfare schemes

- Do you participate in any of the following schemes/("quasi-schemes"): KSL, competence-course, Debio, others
- Why do you participate?
- What are the weaknesses of the schemes?
- Are you positive to taking the competence-course in animal welfare? Why?
- Are you positive to an increased differentiation into animal welfare brands?
- What would make you enter such a (future) animal welfare scheme?
- Do you believe that an animal welfare brand would sell?

Specific animal welfare requirements

- Discussion/attitude to:
 - Use of bedding material. What type of bedding material do you use? Why do you use bedding material?
 - The implementation of an outdoor free range area
 - Castration of pigs: Use of anaesthesia and the ban on castration from 2009.
 - The implementation of a stable-group system
 - The use of comfort-improving measures such as a brush, and shower.
 - The use of GMO feedstuff, and the use of growth hormones
 - Solid floor or use of slatted floor.
 - Group-housing? A total ban on confinement of sows, also during farrowing?

Inspection/control

- How often have you been inspected? Who inspected you?
- Do you think there are enough inspections? Is the control good enough?

Veterinary

- Do you think that the veterinaries are able to assess whether the animal welfare is good?

Transport/slaughter house

- Do you think that the animal welfare is good during transportation?
- Who is responsible for the welfare of the animals' during transportation?
- How do you perceive the animal welfare in the slaughter house?
- Do you think it is sad to send the animals to the slaughter house?

Market and consumer

- In your opinion, what is the consumers' perception of Norwegian pig production?
- Are the consumers concerned about/think about animal welfare?
- How do you perceive the consumers' knowledge of animal welfare?
- If the consumers had good knowledge of the pig production industry? Do you think that they would find the animal welfare to be good? What would they respond to?
- What is your opinion of the animal welfare organizations?
- What is your perception of the role of the retailers concerning animal welfare?
- What role does animal welfare play when you do your grocery shopping?

Conclusion

- What do you think of the increased focus on animal welfare?
- Why should the pig production industry be concerned about animal welfare?
- About the farmer:
 - Age
 - Education (type and number of years)
 - Family situation
 - legal status of the farm
- Are there something that you would like to add or emphasize?

Appendix 3

Herd structure

Structure among herds with sows, per 1/1-2004.

No. Sows.	Producers	%	Sows	%
1 til 10	557	25,0	2662	4,5
11 til 20	472	21,2	7285	12,2
21 - 30	422	18,9	10778	18,1
31 - 50	539	24,2	20734	34,8
51 - 100	220	9,9	14483	24,3
> 100	19	0,9	3719	6,2
SUM	2229	100,0	59661	100,0

Structure among specialized fattening pig producers, per 1/1-2004.

No. of fattening pigs producers per year	Producers	%	Number of fattening pigs	%	Average
0 - 100	712	37,5	16231	2,4	23
101 - 300	441	23,2	87220	13,0	198
301 - 500	269	14,2	105059	15,7	391
501 - 700	152	8,0	89916	13,4	592
> 700	323	17,0	370433	55,4	1147
SUM	1897	100,0	668859	100,0	353

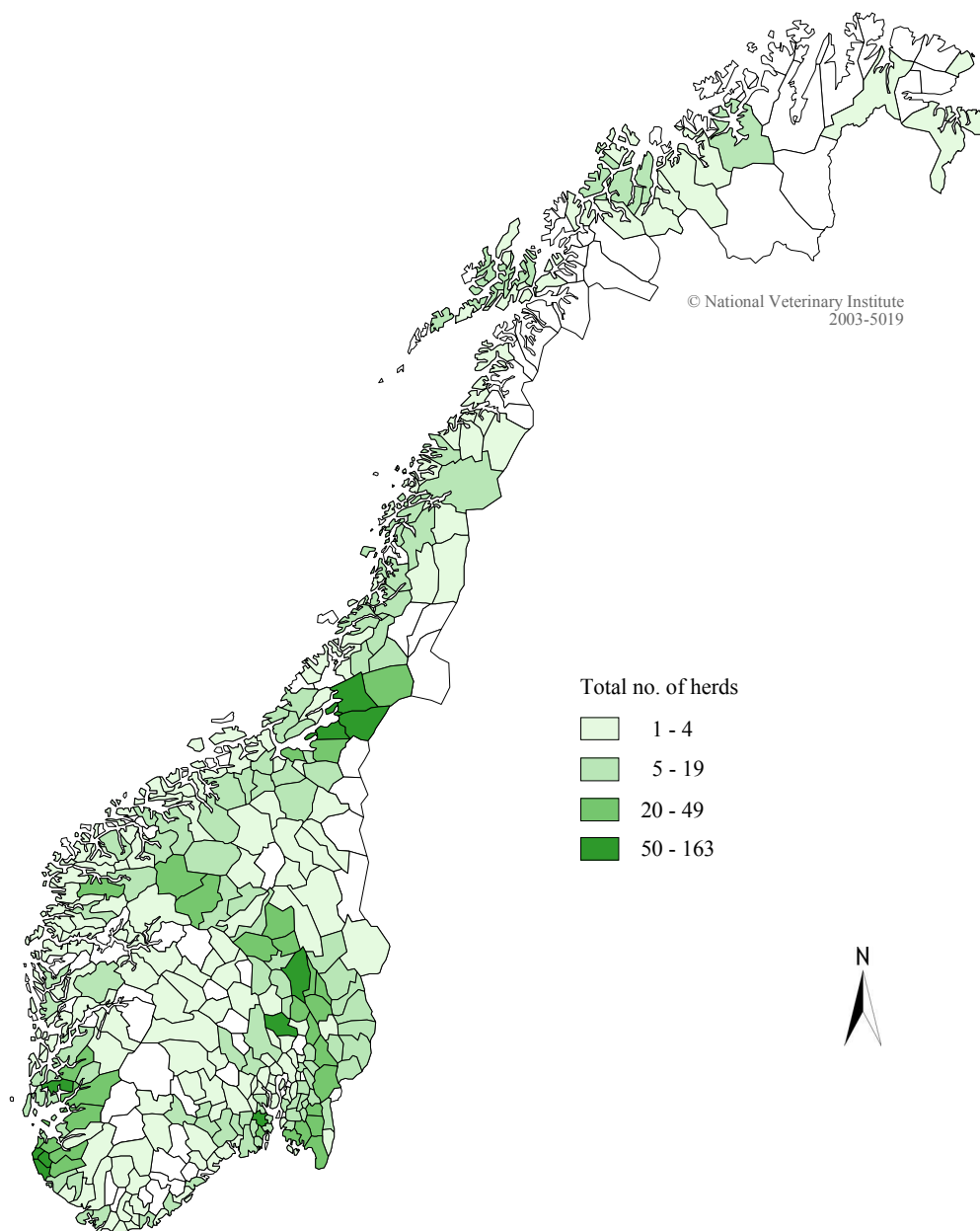
Production of pork per county among herds with sows in 1.1.2004

	Producers	Sows	Average	% of the production.
Østfold	153	4716	30,8	7,9
Akershus	110	2649	24,1	4,4
Hedmark	193	6897	35,7	11,6
Oppland	227	5767	25,4	9,7
Buskerud	39	1259	32,3	2,1
Vestfold	128	4334	33,9	7,3
Telemark	35	1063	30,4	1,8
Aust-Agder	13	293	22,5	0,5
Vest-Agder	27	744	27,6	1,2
Rogaland	468	13460	28,8	22,6
Hordaland	78	970	12,4	1,6
Sogn og Fjordane	71	1068	15,0	1,8
Møre og Romsdalen	72	1174	16,3	2,0
Sør-Trøndelag	96	1821	19,0	3,1
Nord-Trøndelag	362	10346	28,6	17,3
Nordland	103	2176	21,1	3,6
Troms	39	696	17,8	1,2
Finmark	14	228	16,3	0,4
SUM	2229	59661	26,8	100,0

Source: Report from the Norwegian Pig Breeding Association (Norsvinrapport 2004) which bases the statistics in the Production Subsidy data bases.

Appendix 4

Geographical distribution on municipality level of the swine herd population in 2003



Appendix 5

Summary Table

Topics	KSL-producers (58 of the producers)	Organic producers (2 producers)
Evaluation of national regulations	<p>Majority: Accepting attitude, and believe that the regulations ensure a good animal welfare (if being followed)</p> <p>Minority: Regulations are too strict or should at least not become any stricter.</p>	
Areas of improvement	<p>Many could not mention any specific area. Areas mentioned by a few producers were:</p> <ul style="list-style-type: none"> - Too detailed regulations - Not sufficiently grounded in agricultural practice - Contagion barrier into animal room as bothersome for combined production. - Illness pen per every 50 animal as unrealistic. - Lack of control - Castration regime. 	<ul style="list-style-type: none"> - Detention period for medicine too long. - Climatic conditions important to take into consideration when designing regulations for pigs.
Farmers' knowledge of the regulations	Seemed to have little detailed knowledge of the EU-regulations. Seem to have knowledge of the Norwegian regulations.	
Evaluation of specific animal welfare issues		
Bedding material	<p>Providing bedding material seemed to be an integrated part of their daily farming practice. Mentioned by quite many as important to animals' welfare. Most use wood chippings or shavings, sometimes in combination with straw, hay or silo. The farmers provide bedding material – inter alia - because they animals get something to play with, and because the pens get clean and “nicer.”</p>	
Outdoor production	Most sceptical because of work-load, contamination problems, and because of the “mess”. But a substantial minority expressed	

	their sympathy with such a production.	
Comfort-improving measures (brush, shower)	Many sceptical to implement, but some had considered or were not negative to a shower system. Brushes were not so familiar to the farmers as a comfort-improving device for pigs.	
GMO/growth hormones	Almost all were strongly opposed.	
Type of floor	Most had concrete, some had a deep-straw-system. Most were satisfied with the ratio solid vs. slatted floor.	
Castration	The issue the farmers seemed most engaged in. Most of the farmers strongly were opposed to the demand for anaesthesia and veterinary. According to quite many it has lowered the welfare of the piglets.	No strong opinion or agreed with the KSL-producers.
Operation beyond minimum requirements	Some reported that they have a farrow-to-finish-system (FTF), that they had larger space then required, had a shower system, had tried to have their animals outside, and that they implemented a free-range-system prior to 2000. Very few reported that they did not follow the requirements. Some or a few seemed to systematically fixate the animals during farrowing.	
EU vs. Norway	General understanding that the animal welfare regulations and level is better in Norway. Quite many endorsed this, seeing animal welfare as a competitive advantage of Norwegian agriculture. A substantial minority opposed this and meant it is important to have a similar level, but that the EU then has to come up to Norwegian level.	
Schemes		
KSL	Accepting or positive attitude to KSL. 65 percent of the pig producers find KSL useful (Groven 2004). Largest barrier seem to be “too much bureaucracy” (Groven 2004), or “too much paper work”. Other problems referred to: Rigid,	

	<p>unnecessary requirements, lack of effective sanctioning system.</p> <p>Reason for entering KSL (cf. Groven 2004):</p> <ul style="list-style-type: none"> - Higher price received <p>Government/consignees excepts it.</p>	
Competence course in animal welfare	Most farmers were positive to taking a competence course in animal welfare. A minority was lukewarm or negative.	
View on a development towards animal welfare schemes	<p>Most of the producers were sceptical towards such a development. Schemes seem to break with an established norm of equality because it creates an A- and B-group of producers/goods. Better to keep strong regulations. In addition, all animals shall be treated well. A substantial minority welcomed schemes and/or was positive to entering them.</p> <p>The most frequent motivation for entering schemes mentioned was a higher payment (or their own survival).</p>	
Understanding of animal welfare	<p>Overall the understanding may be referred to as production-based. Animal welfare considered as an integrated and natural part of their everyday practices.</p> <p>Four components of their understanding.</p> <ol style="list-style-type: none"> 1) Suitable environment. Environmentally- or resource-based 2) Good care-taking. Practice-based. 3) Good health and enough food and water. Bodily-based. 3) Good animal welfare leads to good production. Economically based. <p>Alternative understandings that sometimes were referred to, was an understanding basing animal welfare in Nature or more explicitly in the animals' subjective state, although the animals' subjective state was conceived of as important in that the farmers intuitively referred to animal welfare as a situation in which the animals thrive.</p>	A different understanding of animal welfare more based in Nature and the animals' ability to perform species-specific needs?
The animal	According to most of the farmers the welfare	

welfare situation in Norway	situation is good on the whole, and also for their own animals	
The greatest animal welfare problem	Some could not think of any problem offhand or did not see anymore problems. The problem most of referred to was the drive for efficiency or “factory production”. Other welfare problem mentioned by a few farmers were: <ul style="list-style-type: none"> - Too long transportation - The demand for anaesthesia by castration - Animal density - The animal welfare tragedies - Piglet loss - Tail biting - Pack problems - Umbilical hernia - infections 	The lack of stimulation environment and outdoor movement.
Trust	The farmers trusted most the veterinary and him/-herself or other farmers, either alone or in combination, in animal welfare matters.	Both referred to animal welfare organizations, but one of them trusted the most a interdisciplinary group of actors in which animal welfare organizations are one of several actors
Responsibility	Most considered it their own responsibility. Many considered also the government as responsible or a combination of farmer/government.	
The position of the veterinary	Play a vital role. Many trusted the veterinary. But a minority pointed to the customer-relationship between farmer and veterinary, and the veterinaries’ lack of focus on environmental welfare factors, as being problematic.	
Relationship between farmer and animal	Different relationship to different animals. Distinctions were made between sows and fattening pigs, and sometimes between sows and cows/horses/pets. Most considered the relationship as good.	One had a close relationship to individual animals, the other emphasized that his animals were almost

	<p>Some reported a close relationship, others emphasize that their relationship is work-based</p> <p>Most believed the animals have feelings.</p> <p>Most did not find it sad to send the pigs to the slaughter house, but a substantial minority was ambivalent about this.</p> <p>Most did not seem to consider a personal and emotional relationship to the individual animals as necessary to have a good relationship to animals.</p>	“wild”.
Transport	<p>Most farmers considered the animal welfare situation as good during transport. A minority was ambivalent. Most found the welfare situation during transport as the drivers’ responsibility.</p>	
Slaughter house	<p>Most of the farmers believed that the welfare situation is good in the slaughter houses. A minority was ambivalent.</p>	
Consumers	<p>Many held that consumers have limited knowledge, and also wrong knowledge, partly due to media focusing solely on negative welfare aspects.</p> <p>Some also held that the consumers are concerned about animal welfare only when they read about animals’ suffering in media, but in the store they act on price. However, almost just as many said they believed that the consumers are indeed concerned about animal welfare.</p> <p>Some reported that they believed that the consumers trust Norwegian pig production industry. No one reported the opposite.</p> <p>Consumer confidence was by quite many reported as an importance reason for focusing on animal welfare.</p> <p>The farmers were split in their opinion on whether they thought an animal welfare brand would sell or not.</p>	
Retailer chains	<p>Most farmers portrayed the retailer chains as either profit-maximizing (only caring about profit, not about animal welfare), or powerful.</p>	

	There seems to be an experienced distance between producers and retailers.	
Animal welfare organizations	Most farmers were negative to animal welfare organizations, referring partly to their methods, and partly to their lack of knowledge or other aspects which indicates that there might be differences in the two groups' approach to animal welfare. Quite many referred to actions towards the fur industry when referring to the animal welfare organizations.	