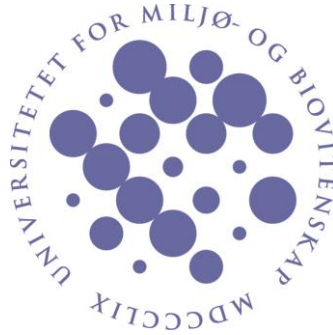


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## « Bonding practices between farmer and animals: a study in Organic and Conventional ovine farming systems from the South East of France »

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### Abstract

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Today animal welfare is at the centre of many societal interrogations and the place that farm animals hold in our society is under scrutiny. The human-animal relationship is acknowledged to be a major contributor to animal welfare; however, given the difficulty to assess this subjective bond, studying these interactions generally translates into evaluating the animals' level of stress. The objective of this work is to provide a characterisation of the values underlying the relationship between ovine farmers and their flock. It is argued here that there is a link between the Moral reasoning and the Bonding reasoning of the farmer which constitute Bonding Values. The secondary aim of the study is to assess the impact of an intensification of production on these Bonding Values and check the response of Organic systems. Results are based on a set of 32 interviews with ovine livestock farmers from the South East of France. There are 18 conventional farms, 12 certified Organic farms and 2 in transition. The corpus was analysed with Nvivo 10, a CAQDAS (Computer Assisted Qualitative Data Analysis Software) and the statistical software R. Two fundamental bonding practices were expressed: observation, to get to know the animals and assess their conditions, and building familiarity with the animals, to handle the flock. The occurrence of these bonding practices cannot be linked to the degree of intensification of the system. It is rather due to the individual himself with his vision of the ideal system and his practices in working with animals.

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**Keywords:** ovine livestock farmers, South East of France, human-animal relationship, organic agriculture, livestock farming systems, bonding values, work

# 1. Introduction

## ***A challenging context for livestock farming***

Livestock farming, although being one of the most ancient activity from which mankind has sourced food, is not straight forward anymore. Multiple debates around agriculture in general, and livestock farming in particular, gave rise to growing interrogations and criticism. As sustainable development is considered a major stake of our time, breeding animals for human consumption is seen as a poorly efficient food source with regards to the impact it has on natural resources. The FAO report, *Livestock's Long Shadow* (2006), points out the contribution of livestock on: soil and water pollution, a loss of biodiversity and high emissions of greenhouse gases contributing to global warming. For the authors of the *Livestock's Long Shadow* report, the industry of animal products is responsible for 18% of the greenhouse gases emissions, which is higher than what transports account for (FAO, 2006). The same report specifies that the development of animal production has it has occurred in the last 50 years is mainly due to the influence of industrial systems. The more traditional systems of livestock farms are decreasing and 80% of the growth of the animal products sector is achieved thanks to industrial systems. Another important issue has therefore become the use of arable land to produce feed, especially when food could be grown instead; it becomes even greater a problem as it often takes place in regions where food sovereignty is a pressing matter. The ratio of resources used to animal protein obtained is rather low as well, (Humane Society International, 2012). It is estimated that 7 proteins of plant origin are needed to obtain one animal protein (Chambres d'Agriculture, 2012).

The development of modern systems has shaped the organisation and practices of farms previously based on the family unit. Modernising agriculture enabled to optimise and increase productivity of livestock farms, but can also encourage the adoption of practices unsuited to the natural context of the system and increase reliance on external resources (Toro-Mujica et. al., 2011). Moreover traditional livestock farming is still the prevailing image in people's way of thinking about our work relationship with farm animals. Such evolutions are therefore questionable in a context where sustainability is key, and the management of these systems is similar to any kind of company. A lack of transparency of most of these new systems integrated in networks is strengthening a deficit in the trust society grants to livestock farming. Fraser (2005) makes a link between the change of consideration towards animals, and the period during when animal production intensified; leading to different types of reaction. Some strong stances against livestock farming have been taken by the advocates for the freedom of animals. The movement for animal freedom, based on the work of Peter Singer (1975) is reinforced by other authors like Regan (1987). Their publications plead to establish a fairer relationship between human and animals which should be seen as equals. For Regan (1987) our inappropriate behaviour towards animals is coming from our system which wrongly sees animals as a resource that can be disposed of. Society got a hold on these issues as can be seen with the rise of '*moral vegetarianism*' (Hopkins & Dacey, 2008). Associations such as PETA (People for the Ethical Treatment of Animals) contribute to raising awareness on the issues through public actions. It wishes for the stop of all use of animals for human profit, whether it is as a food source or for entertainment. Eating meat is therefore no longer a natural act but the moral implications behind it matters to an ever growing part of the population in developed countries (Mouret, 2012b). Separated from the part of the society hoping to change the place of animals in our society; another part of the population is showing a total disinterest for the fate of farm animals (Tovey, 2003; Irvine, 2008). Fraser (2005) explains it by the widening gap between urban population and the agricultural sector; the animals are now first of all seen as pets by most. Many consumers also prefer to ignore where their meat comes from (Tovey, 2003 ; Stuart et. al., 2013).

Eating habits are changing upon moral and ethical considerations. Some consumers wish to find other protein sources that would be more suited to their requirements towards the environment or their conscience. The FAO considers entomophagy as a viable option, eating insects would be a lot more resource-efficient source of protein. Moreover there are real possibilities to incorporate insects in various existing culture rotations (De

Foliart, 1999 ; Katayama et. al., 2008). On a longer term, *in vitro* meat is currently being researched (Edelman et. al., 2005) and this later alternative would enable to spare animals from being killed or having to live in questionable conditions so they can be consumed by humans (Porcher, 2010 ; Mouret, 2012b).

The context is indeed unfavourable for livestock farming and society does not understand the substance of the livestock farmer's work which explains why the place of farm animals is questioned. These recent changes go against the construction of humane societies of which animals have been a part for thousands of years.

### ***The origins of Livestock farming***

Over ten thousand years ago, mankind was already tying its development to its interactions with animals. Pelt (2006) indicates that this domestication process occurred thanks to the mutual benefits found by each part. Haudricourt (1962) and Rindos (1980) specifically indicate that domestication supposes a symbiotic relationship between man and animals. Societies have evolved since the early hours of domestication but animals have always been a part of it as Midgely (1995) points out, taking different roles whether it is to be raised as companion, farm animal or just affected at various degree by Men. Towards these animals, men feel different levels of responsibility and connection. And in order to facilitate their cohabitation, animals have been selected throughout time to better fit the use by Men (Price, 1984; Diamond, 2002; Commission Animal et Société, 2008). Humans shaped the future of animals but Epstein (1955) explains that animals also strongly influenced the development of our societies, and of Men themselves. There are different points of view on the finality of domestication, some seeing it as purely in the economic interest of humans. However for others the importance of the relationship itself was the main factor; they advance that people could not have known in advance what they would gain from animals. Therefore the affective bond is often outlined as the main reason at the root for domestication (Lorenz, 1985 ; Serpell, 1996; Porcher, 2002).

### ***Development of modern livestock farming systems***

In the nineteenth century, the economic interest of domestication became obvious with the apparition of zootechny as the science to optimise animal productions (De Gasparin, 1843). This discipline played a major role in shaping the development of livestock farming after the Second World War. Its role can be compared to that of agronomy for crop production. The aim of zootechny was then to modernise and develop livestock farming by gaining a better understanding of the animal's functioning through its study (Jussiau & Montméas, 1999).

There has thus been a shift in the knowledge creation process. Previously, knowledge was gained through experimentation following a process described by Kolb's model of experiential learning (Kolb, 1984). Knowledge transmission from the 50's onwards generally followed a top-down approach and scientists were orientating farmers' practices thanks to their discoveries (Altieri, 2002). The modernisation of established systems was the prime goal and in animal husbandry; this meant that the work was to be automatized and mechanised (Jussiau & Montméas, 1999). The industrialisation of livestock farming was of prime importance to be able to produce more and meet the growing demand for animal products, as a result, the new systems were based on animals kept indoors and a concentration of the heads on a smaller number of unit (Fraser, 2005).

These changes along with an optimisation of reproduction cycles and breeding selection allowed for a steep increase in the productivity of animal units. The mortality rate of animals was also better controlled through the use of antibiotics, modern infrastructures and the optimisation of daily feed (Chambres d'Agriculture, 2012).

For all its benefits, these evolution of livestock farming do lead to worries on two points from the 70's onwards: the living conditions of the animals and the effect these changes had on the workers.

### ***Work conditions in Agriculture***

Numerous anthropological and ethological works showed the strong link between human and animals is nothing new (Ingold, 1994 ; Serpell, 1996 ; Mullin, 1999). In the 70's and 80's however, worries are expressed concerning the animals ability to cope with the systems changes, and the effect on the agricultural workers is also considered. In France Michèle Salmona explored thoroughly the question of work organization and its psychological effect. She blames work intensification for the suffering of the workers (Salmona, 1994). This suffering partly comes from the time constraint faced by agricultural workers which, amongst other things, prevent them from bonding with the animals they are taking care of.

Salmona and De Vries (1974) also disagree with the assumption that technological improvements are erasing the specificities of the livestock farmer's work. They even indicate that special affective dispositions are needed for the livestock farmer to succeed. The livestock farmer has indeed many roles, he is an entrepreneur that runs a small company, a caregiver towards its animals, a salesman (Rocheblave Spenlé in Salmona, 1994)... Haudricourt (1962, personal translation) illustrates this roles as such "sheep livestock farming as it is done in the Mediterranean area seems to be the model of direct positive action. It supposes a permanent contact with the animals (...) the shepherd choses the path the flock should take, (...) stay with it day and night, finds places for the animals to drink, carries the lambs in steep places, and protects them from the wolves". From this angle the positive attitude of the livestock farmer is determinant for the good functioning of the system. And this is conditioned by the organization of the work, which needs to allow time for the worker to exert his different roles. Salmona's and her colleagues work were let down by the research and development organisms for going against the modernization of agriculture until the years 2000s when others followed through (Porcher, 2002 ; Moneyron, 2003). This lack of interest for the working conditions has thus diverse origins: the fact that people were 'born' farmers rather than chose it, the fact it might have raised more pressing issues with modernization, and the zootechnical approach that focuses primarily on the animal (Mouret, 2012b). Science in general has trouble in accepting feeling and relationship, i.e. immaterial concept has subject of study (Comte in Fraser, 2009; Rollin in Fraser, 1995; Tinbergen, 1951). This further implies that the way the worker is evolving in his job is not of prime concern.

From this point of view it seems that there has been a rediscovery of the role of man in farm animals well-being through the notion of "animal welfare". A rediscovery since the plurality of roles of the shepherd has long been acknowledged as indicated by Haudricourt (1962) but the interest for the mutual benefits of man and animals working together is less well documented and researched (Salmona 1974, 1978, 1994 ; Darré, 1994 ; Porcher, 2003, 2011, Mouret, 2012a, 2012b). Animal welfare research is focused on the positive interaction of farmers and animals especially to facilitate handling (Dockès et Kling-Eveillard, 2003) but also to enhance productivity (Grandin 1998, Hemsworth, 2003 ; Bertenshaw & Rowlinson, 2009 ; Ivemeyer et. al., 2011).

### ***Farm animals living conditions***

In 1964, Ruth Harrison published *Animal machines*, this book had a significant impact on public opinion. It contributed in triggering the enquiry leading to the Brambell report on farm animals' living conditions in industrialised systems. This report indicated that five 'freedoms' were required to ensure an acceptable standard of living to the animals. They have to be free to stand, to lie down, to turn around, to wash themselves and to move around (Brambell, 1965). In France similar concerns arose a few years later with the work of Dantzer (Dantzer & Mormède, 1979) and books like *Le Grand Massacre* [the great massacre] (Kastler et. al., 1981). This book aimed to show with illustrations how industrialisation denatured what livestock farming was originally about. For them modernising the animal production sector meant altering the natural behaviour of animals. Indeed as the herd sizes increased a particular focus has been put on reducing the proliferation of diseases. Porcher (2007) points out that in these modern models, hygiene is the prime concern.

These concerns around animals' well-being contributed to the build-up of the notion of "animal welfare" as it is currently known. This in order to provide a minimum standard of quality of life to animals in farming systems.

### ***Animal welfare as a growing public concern***

When looking into the existence of the link between animal and Men in agriculture; it is most often related to the notion of animal welfare (Grandin, 1998 ; Hemsworth, 2003 ; Goddard et. al., 2006 ; Waiblinger et. al., 2006 ; Dockès & Kling-Eveillard, 2007...). The notion of animal welfare as it is intended today builds around the living conditions of animals, the practices and treatments they receive which have an influence on their overall mental and physical health (Fraser, 1999 ; Rousing & Waiblinger, 2004 ; Ivemeyer et. al., 2011...). Amongst the subject dealt with by 'animal welfare' there are: social isolation, being in tight and/or enclosed spaces, overcrowding, lack of ability to express natural behaviour, stress during handling and transportation (Harfeld, 2010). This researches clearly showed the importance of positive interactions to facilitate the worker's everyday tasks (Hargreaves & Hutson, 1990 ; Tallet et. al., 2009). If it is impossible to measure the degree of happiness of the animal, animal welfare specialists suggest the use of objective and quantifiable indicators through tests such as the flight distance or the avoidance test (Rousing & Waiblinger 2004 ; Botreau et. al, 2007 ; Veissier et.al, 2009). Stress is of particular interest for livestock farming, indeed human contact is most often a source of stress for the animals (Grandin, 1998) and it has been shown that it impacts negatively on animal's productivity (Hemsworth, 2003) and positive interaction are more favourable to good health (Ivemeyer et. al, 2011).

This lead to the publishing of numerous guides for good practices in the various industries of livestock farming ([www.oie.int](http://www.oie.int); [www.ftp.fao.org](http://www.ftp.fao.org); [www.reconquete-ovine.fr](http://www.reconquete-ovine.fr)...). These guides deal with best practices for livestock farmers in terms of identification, medication, feed distribution, water availability, milking organisation and the maintenance of the buildings and their environment (Bouissou, 1992 ; Hemsworth, 2003 ; Fraser, 2009).

Improving animal welfare can be seen as an attempt to address two different societal demands: improve animal's living condition to please consumers and meet at least partly the demand of animal liberators (Mouret, 2012b). Animal welfare is therefore an unavoidable question to address in livestock farming as public opinion got a hold of it (Lang, 2010 ; Mouret, 2012a) and numerous scientists decide to explore it both in France and internationally (Dantzer & Mormède, 1979 ; Grandin, 1998 ; Fraser, 1999 ; Hemsworth, 2003 ; Vaarst et. al., 2004 ; Waiblinger et. al., 2006 ; Veissier et. al., 2009 ; Welfare Quality Comity, 2009...). For Blockhuis et. al. (2003) the quality perception of the food is not only due to its intrinsic properties anymore, but the welfare status of the animal it is coming from is also taken into account. Consumers want meat that is obtained from « happy animals » living in conditions as close as possible to their natural environment (Buller & Morris, 2003). But the lack of knowledge about the reality of the livestock farmer's work and customers' expectations tends to create a stigmatisation of livestock farming as a whole (Porcher, 2003 ; Serres, 2011 ; Mouret, 2012b). The various sanitary crises of the previous years like the 'Mad Cow disease' did not help in building trust and understanding between the two ends of the chain (Smith et. al. 1999). To address this issue the EU required traceability of goods for human consumption and meat is under particular scrutiny (Charlier & Valceschini, 2008). To better prevent biological risks, extended herds are kept inside which however goes against the expression of natural behaviour of animals; a very important contributor to animal welfare (Sorensen, 2006). That explains why the current notion of animal welfare is often seen as going against the place seen as legitimate of animals in their natural environment and that modern systems can be seen as unethical (Farrachi, 1993). Ethics specialists, in an attempt to bring some light on these issues, advanced some solutions.

### ***Animal ethics***

For Harfeld (2010) the ethical issues posed by farm animals come from the concept of free markets economies. Animals are seen as a commodity and not for sentient and living beings; this allows to use a language and

attitudes that do not grant an ethical consideration of animals. Various solutions are advanced to help improving the situation. Chamberlain (in Fraser, 1999) indicates that animal ethics matters require to be dealt with compassion and sensitivity, which is natural to people but has been altered by our modern societies. He therefore suggests reflecting with compassion on the role of animals in order to develop systems that are more respectful of them.

Other ethicists suggest more practical approaches that could be implemented straight away to make industrial animal farming more ethical for the animals. The poultry sector is particularly concerned. Thompson (2001) for example, realised during an experiment that blind chickens support better overcrowding, he thus suggests to breed blind chickens. This solution, he argues, is more « humane » if considering the welfare of the chicken that is raised in an industrial system. Burruss (1993) pictures a future of poultry where brainless birds are grown and Rodgers (1997) indicate that objectively the selection process taking place is leading towards getting passive birds to avoid complications with boredom and overcrowding. These anthropocentric solutions are here gearing towards adapting the animals to our existing industrial systems rather than rethinking our systems to better take into account the needs of the animals.

Taking these suggestions into consideration, the 'animal welfare' specialists are trying to provide improvements to the living conditions of animals in farming systems.

#### ***« Animal Welfare » in livestock farming : scientific experiments and the farmers' role***

A better understanding of the bond tying the farmers to their animals should enable to gain knowledge enabling to improve the welfare of these animals but would also benefit the farmers for their own wellbeing (Waiblinger et. al., 2006). The consequence of this interest for animal welfare is the willingness to educate farmers on the way to handle their animals (Hemsworth, 2003). However livestock farming being a millenaries old activity, with knowledge being passed on from a generation to the other, the need for such education is questionable. And if the importance of positive interactions is outlined in the research about animal welfare, it does not go further and leave aside the question of the relationship itself which is only explored by a handful (Fiorelli, Porcher, Mouret...). As De Passilé and Rushen (2005) show, assessing the quality of human-animal relationship is highly complicated and this is why it is left aside in the standard requirements for animal welfare. Stott et. al. (2005) further indicate that identifying and quantifying the components of animal welfare in systems of different intensification level proves to be hard. Moreover livestock farmers themselves do not insist and express much about the human-animal relationship aspect of their work, which can mistakenly translate in a message of indifference for outsiders (Lamine, 2006). If research has seldom deepened the question of this relationship between farmer and farmed animals, nevertheless numerous authors recognised this bond. The Animal and Society Commission (Commission Animal et Société) gathered by the government in 2008 for example states that « the farmer establishes a particular bond with the product which leads in most of the cases to caring for them with the greatest attention, and in some cases to establish a very strong relationship » (Commission Animal et Société, 2008).

Recommendations provided in the standards for an industry come from experiences made in controlled environment where it is not the farmer that takes part in but an agent. The farmer is thus in these experiences an artefact. Is it then still possible to grasp this way all the sides of the farmer's work? Reducing the role of the farmer to an agent that is only there to perform a specific activity at a specific time, is it not to omit a fundamental aspect of the livestock farmer's job and gives the farmer meaning to his work?

Originally Organic farming was created to provide a new outlook on agricultural systems and help building more sustainable models. Does it also have another outlook on livestock farming giving more space to human-animal relationship in animal welfare?



### ***Organic Agriculture as an alternative to industrial agriculture***

Organic farming develops in the twentieth century to provide an alternative approach to the modernisation taking place with the Green Revolution. This know-how is formalised and broadcasted from the 20's onwards by Steiner, Lemaire, Muller, Howard, Rusch or Fukuoka (Shi-Ming & Sauerborn, 2006). In France the first official guidelines for OF come from *Nature et Progrès* (Nature and progress) in 1972 and since then it has evolved with a national guideline before an European homogenisation of the requirement for organic certification in the early 2000's (FNAB, 2013). OF however lacks credibility as it is well criticised for the low yields obtained and seen as unfit to meet the growing demand for food (Connor, 2008).

It is now under even more criticism since the transitions to OF have been encouraged by economic incentives, this led to the rise of organic farms converting for economic profits rather than convictions and belief in the founding lines of the movement (Christensen, 1998). The early Organic farmers and pro-organic regret this loose legislation that enables the development of Organic agriculture as an industry with large scale operations and they now blame the current OF label for this chosen path (Woodward et. al, 1996 ; Pollan, 2001 ; Ganis, 2002 ; Brady, 2006). To meet higher standards regarding Organic production and values, farmers join new private labels such as *Biocohérence* (2011). Their aim along with brands such as *Nature et Progrès* or *Demeter* is to certify to the consumers an approach and practices that goes much further than the basic European requirements for OF certification. The alternative approach to industrialised agriculture brought by OF is not as clear and the label itself is subject to criticism from both pros and against OF. Reaffirming some core values could be a way to mitigate some of this criticism.

### ***Organic livestock farming***

From the agronomical point of view, the ideal farm in OF would be a mixed farming system, with as little inputs to the system as possible. Farm animals are very important pieces of such a system as they take a prime place in the nutrient cycle, enable an optimum use of the resources, increase biodiversity and help maintaining the balance of the overall agricultural system (Hermansen, 2003).

IFOAM (*in* Lund, 2002) defines Organic farming as a system based on the symbiotic relationship interactions between land, plants and animals, respectful of the physiological and behavioural needs of the animals ; using organic feed or natural resources as fodder. The role of man in this system, which will be the one ensuring the symbiosis between the different animal is not precisely outlined here. Men are a clearly part of the agricultural system (Checkland, 1981; Bawden, 1995) but their role is often undermined including when it comes to assessing animal welfare in conventional but also in Organic Agriculture. Even if Organic farming as a more systemic approach to agriculture, there are no evidence that its approach to animal welfare is. Lund (2011) explains that based on the organic principles a restricted approach of animal welfare focusing on the health of the animal should be rejected for an approach that is not limited to what is easily quantifiable in the actual state of scientific knowledge. The Human-Animal bond should therefore have its place when considering animal welfare in Organic farming. However when looking at the requirements for certification this is not that obvious.

The main specifications to be Organically certified in France are the standards of the European Union certification and some private brands with higher standards such as *Nature & Progrès*, *Biocohérence* and *Demeter* have different approaches of the relationship between the farmer and its animals.

In the FNAB (National Federation for Organic Farming) and *BioCohérence* specifications the mention made of farmed animals specify that they should be cared for with « the necessary respect of the physiological and ethological needs » and a « sound state in terms of alimentation and finished product » is also required (*BioCohérence*, 2012 ; FNAB, 2013). In these requirements for organic livestock farming, there is no mention made of the particular relationship of the farmer with its animals, the definition of animal welfare is there similar to that of conventional agriculture.

In the standards required by Nature & Progrès, we found mention of the bond between farmer and animals in the part relating to the transport of the animals to the slaughter house. It is written : « because of the mutual recognition of the man and the animal and in order to reduce stress consequences, it is advised that the farmer goes along with its animals during the transport operations to the slaughter house » (Nature et Progrès, 2002). This does show that there is indeed a bond between the farmer and its animals since they are calmed by the presence of the farmer. However this bond is not more clearly acknowledged. Demeter, the brand for biodynamic agriculture is the only one that clearly acknowledges the affective bond of the farmer with its animals and the importance for animal welfare. In the article 5.4. *Management of the livestock farm*, it is clearly stated that: « to care with love and respect betters the welfare of the animal, its health and its ability to produce » (Demeter, 2009). A loving bond is indeed here pointed out as a component for the well-being of the animals.

Biodynamic agriculture is therefore the only one to mention specific affective practices, whereas it is not clearly mentioned in the specification for Organic farming. In a context where the organic consumers are more attentive to their food choices but also the way it is produced, this is an issue for Organic farming. Indeed, on the paper in terms of bonding practices, livestock farming does not express any differences with conventional agriculture when the consumers however does imagine it is more respectful of the animals. For the consumers Organic farming is strongly associated to animals farmed in pastures and a small size farm, respectful of the animals. For Lund (2011), animal welfare has become a sales argument for the organic products from animal origin, especially so in Scandinavia (Holmberg, 1999). The aim of Organic farming certification being also to bring guaranties on the production process to the consumer (Lund 2011), it is important that the image and expectations the consumers have of it match the standards required for the certification.

Consumers also think about Organic farms as small size or family farms, however this is not the case anymore for part of the livestock farms and for example laying hens. Guthman (2004) or Coombes & Campbell (1998) indicate that big corporations or cooperatives hold an important part of the organic surfaces. A situation that has been made possible thanks to the interesting benefits given for organic farms and the freedom degree left in the standards required for certification which allowed for an intensification (and even an industrialisation in some cases) of the production.

For Coombes and Campbell (1998) the convinced organic farmers of the early hours are on the way to become a marginalised part of Organic farming in a 2-speed Organic agriculture. This category of farmers does not recognise themselves in the recent changes of Organic agriculture as can explain the recent apparition of private brands with higher standards than the European Union Organic certification. Moreover, the multiplication of labels and the 2 speeds of OA might create confusion for the consumer and feed criticism towards the Organic label (Bacqué, 2013).

There is however a need to recognise the multiple reasoning behind the work of the livestock farmer. Porcher (2011) following on Dejours (2012) describes these reasoning at work: “economical (to produce), identity (to produce ourselves), bonding (to be together), and axiological (in agreement to our values)”.

The economic rationality is the most obvious one, indeed a farm is a company and needs to generate enough turnover so that the people working there earn a living and that the activity can be sustained. This is very much linked to the technical reasoning since animals in better condition and optimised reproduction cycle will be more productive and therefore bring more income (Hemsworth, 2009). The technical reasoning in the farmer’s work is also a source of motivation according to Boivin et. al. (2012). But for Porcher (2011) “livestock farming as an historical way to cohabitate with animals as before anything else, a bonding reasoning”, as indicated also by Salmona (1974) for whom specific affective qualities were needed to succeed as a livestock farmer. For Dejours (2012) there is also a real construction role of work. For the individual work also creates his identity and helps define who he is. It all the more true since farms are often passed on from one generation to the others and the family’s history is tied to the farm’s history (Lamine, 2006). For Mouret (2012a, 2012b), it is also undeniable that there is an axiological reasoning for the livestock farmer, the sense of Morale has an effect on the human-animal

relationship at work. The values beheld by the farmer are what will dictate his actions and practices towards the animal and more broadly the system's management. The word value generally has an economic connotation, it is however used in numerous disciplines (mathematics, philosophy, sociology, economy...) and uses various types of measures (De Lastic, nd. ; Boudon, 1999). For Thompson and McDonald (2012) value means what the individual thinks is good. It therefore belongs to the axiological field, the individual reflecting on what he judges is good or bad and acting according to it (Rokeach in Weber, 1993; Dalmas 1998). The definition of the bonding values that is considered in this work is what matters (beholds value) for the livestock farmer in his relationship with animals. This work will explore how Moral and Bonding reasoning translate into Bonding practices and if these are affected by the degree of intensification of the farming system.

## **2. Material and methods**

This work builds on a preliminary study where 18 pastoral ovine livestock farmers were interviewed to determine if there were indeed bonding values in sheep livestock farming (Robine, 2012).

The results from this study come from a set of 32 interviews with sheep livestock farmers from the PACA area all of them producing lambs for meat. In total three departments were included: Vaucluse, Bouches du Rhône and the Alpes de Haute Provence and interviews took place from February to April 2013; lasting generally around an hour and followed by a visit of the farm. The aim of this work was to refine and characterise the bonding values identified by Robine (2012). By extending the sample size and the diversity of farms the objective was also to assess the effect of intensification of production on the bonding values of the farmers with their animals. To assess the degree of intensity of the farming systems a set of information was collected at the end of each interview. The interviews were recorded and transcribed to be analysed with the help of a CAQDAS (Computer Assisted Qualitative Data Analysis Software), Nvivo 10 (<http://www.qsrinternational.com/>). The software R was used to statistically explore the data as it offers more advanced functionalities.

## **3. Results**

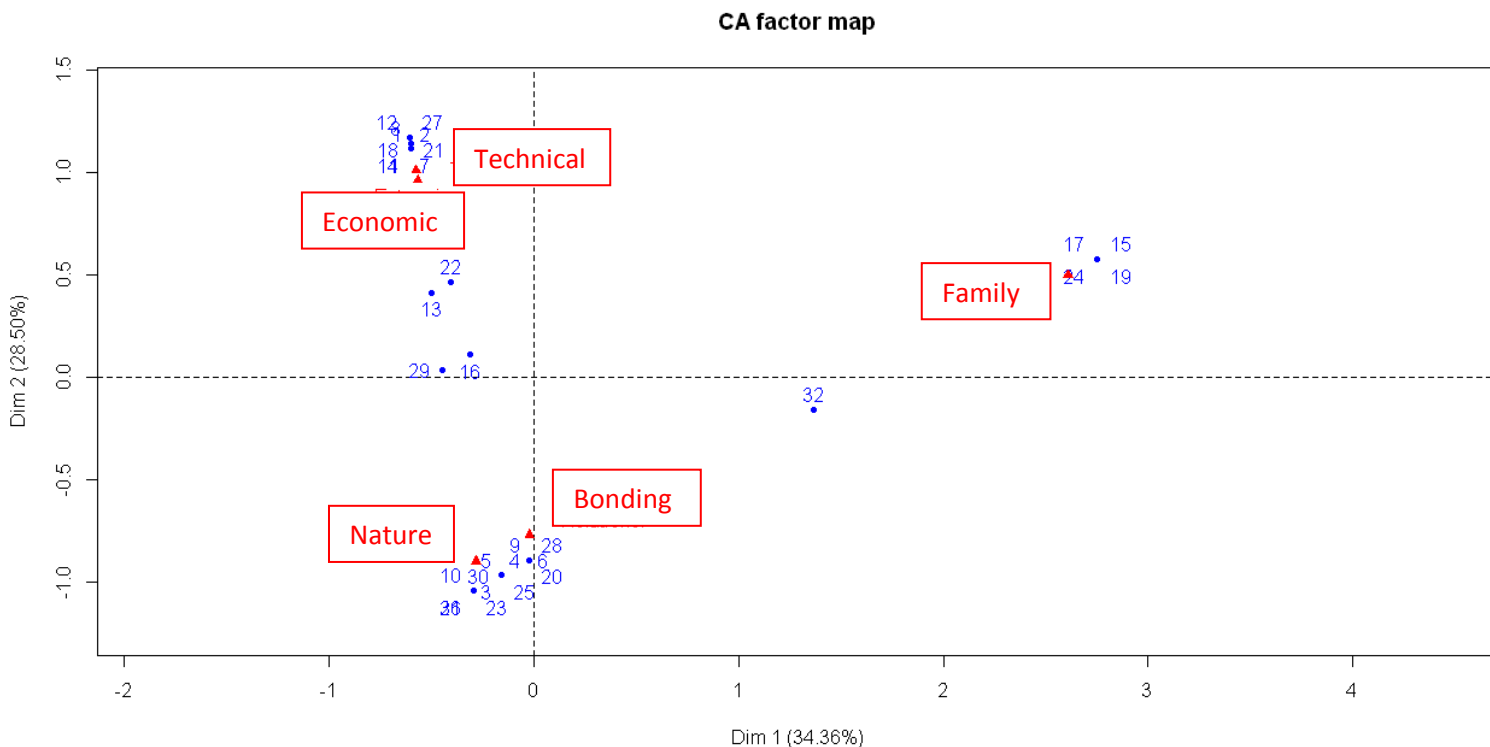
### **3.1. Characterisation of Livestock farming by the farmer**

The start of the interviews revolved around the conception of the work for the farmer and what matters to him the most in his activity. The answers were analysed individually to provide contextual elements on the vision that our sample had of livestock farming and to check the relevance of the latter analysis which meant looking if the human-animal relationship was indeed an important factor for the farmer or not.

From this analysis, five components were found that constitute the work of the livestock farmers for our interviewees. That is the economical aspect of the activity, as only the head of the farms were interviewed, farming needs to bring them a sufficient revenue. This was cited by 38% of the interviewees. This is the same proportion that cited the human-animal relationship as a major component of their work. An important proportion, 34% of respondents, also expressed the link with Nature in their conception of being a livestock farmer. For 16% of interviewees, there is a strong importance given to the technical aspect of the work on which they build themselves on.

A Correspondence Analysis was done to see if a structure could be found in the answers, the representation can be found below in figure 1.

The results of this Correspondence Analysis show that farmers seeing the economical aspect of the work are also the ones building on the technical side of the activity. Whereas the farmers expressing the importance of the bond with the animals are also often citing Nature as a major constituent of being a livestock farmer. Some farmers are drawn to livestock farming by their relatives and a way to perpetuate this traditional activity in their family.



**Figure 1. The constitutive elements of the livestock farmer’s work**

### 3.2. Classification of farming systems according to their degree of intensification

A set of indicators used to assess the degree of intensity of the farming systems was chosen. They are based on the general situation of the farm (history of the farm, surface, economic indicators, employees and work repartition...) and the management of the flock and its environment (size of the flock, reproduction cycle method, productivity, pasture rotations...). A synthesis of the table was done leading to a synthesised 21 variables version. With this table a Multiple Correspondence Analysis was carried out; the visual result can be seen in figure 2.

On this graph we can differentiate four group of farming system which will be confirmed using the Hierarchical Classification on Principal Component’s method. The results can be seen in Appendix 2.

The top right corner of the graph of figure 2 represents systems that have an optimised reproduction cycle. There are 22% of the farms in this group, all the five farms that are certified under the Geographical Indication ‘Sisteron’s lambs’ are in this group, the other farms are conventional. The flocks are large (generally >600) and lambs are raised indoors which has to be linked with the requirement for weight of carcasses to meet in order to get the IGP certification. This is also the reason why there are industrial cross-breeding with heavier breed generally used for meat production such as the Ile de France or the Charolaise. This group is therefore strongly characterised by the management of the reproduction cycle with 3 lambing in 2 years and a high number of lambing period throughout a season, generally 3 (sometimes even 4) each year. This means a higher productivity but it also enables to sell out of peak production periods when meat is paid more.



« [we want] that our flock stays in their area and with someone that we know and who will take care of them well »

- **Spending time with the animals** (Haudricourt, 1962 ; Lamine, 2006),

-Allowing time to care for the animals

« To be a livestock farmer you cannot be counting your hours, not taking holidays, not having a sleep in in the morning... »

« 365 days a year, we are with them »

« being there, you see it is what is the most important »

- **Being empathic** (Wilkie, 2005 ; Dockès, 2007, Legeard et. al, 2010),

-giving a voice to the animals

« They're telling us 'Oh why did you leave us there?!' »

« they're telling themselves 'Wait, we couldn't go there before and now we can...' »

« When they're happy, you can tell »

- **Being considerate** (Porcher, 2002 ; Wilkie, 2005),

-acknowledging the animal's world

« an animal you have to respect its environment, the way it lives, everything... »

-acknowledging the animal's intelligence

« See when somebody tells me that the ewes are not clever –the way we mean it- well I'm not sure of that »

« Animals they have of animals just the name, it's the people that are beasts not the ewes »

-acknowledging the bonds between animals

« here as we keep our young females, they behave like their mother »

- **Building familiarity** (Salmona, 1994 ; Porcher, 2002 ; Dockès, 2007 ; Riley, 2011),

-creating habits with the animals

« They know my voice, they know the dogs »

« I think they can recognise us, for sure; because when a stranger comes in I can tell you that the girls they go away »

-know the story of the animals

« They all have something different: that's up to the good shepherd to know »

-naming the animals

« The was one, you always had to scratch her head, she was called scratchounette; because some of them have names »

- **Communicating with the animals** (Porcher, 1997 ; Dockès & Kling Eveillard, 2003)

-talking to the animals

« I'm used to talking to them »

« When I get in I say "Hello girls!" and yes, yes, I talk to them. And it's tru that there are som I talk to like people: I ask them if they ate well... »

-understanding the animals

« You know the codes, the language, you understand things without need for them to be explained »

- **Being grateful to the animals** (Porcher, 2002 ; Mouret, 2012a ),

- being grateful for the lifestyle provided by the animals

« the basic principal is that they are the ones that enables us to make a living, so we really need them »

« they enable us to have the life we want, if I didn't have the ewes I wouldn't be able to live that way; I would have to go every day some place to work for somebody... »

- **Observing the animals** (Salmona & De Vries, 1974 ; Porcher, 2002 ; Dockès & Kling Eveillard, 2003 ; Sorensen et. al., 2006 ; Lamine, 2006 Dockès, 2007 ; Volker Hoffman et.al., 2007 ; )

-caring for the animals

« being a livestock farmer or a shepherd, it is 95% of observation. If you observe you will solve a good lot of the issues, just by observing the animals »

« The shepherd if he doesn't have the eyes, he is in bad posture »

-having fun

« as we have a loving outlook on our flock we want to watch them. And since we watch more, we are more able to see what's wrong as it comes up »

- **Feeling good together** (Porcher, 2003)

-linking the individual's wellbeing to the welfare of the animals

« I feel good when I know that my ewes feel good »

« Wellbeing for us it's the wellbeing of the animals, I think it is very much linked together »

« you'd rather your ewes feel good than bad and that they have eaten rather than not eaten and that the sun is for them as well because at some point you get in the sun, and them it's you »

- **Valuing the animal** (Convery et. al., 2005 ; Lamine, 2006 ; Mouret, 2012a)

-no reform of old ewes

« Me, I don't follow the norms, the old ewes I don't send them to the slaughter house »

« Here we don't reform them, here they die of old age »

-need for an affective bond

« I couldn't do that if there wasn't a bond »

« there is a relationship that developed between them and me, well between me and them mostly... So we are good that doesn't annoy me, they're not just beasts »

- **Giving and receiving** (Porcher, 2002, 2011 ; Mouret, 2012a&b).

-the farmer gives, receives (animals give) and give back

« They scratch me so that I pet them. Maybe it's something they give back, a return on all the work I give them »

« I think that an animal gives back what it is given »

« The fact that they come, you want to give them something »

### **Occurrence of bonding values and practices**

Two of the bonding values are outlined as fundamental by all of the farmers: Observing the animals and Building familiarity. As for the reason behind the observation, the aim is primarily to care for the animals by detecting early any problems that might appear (100% of the farmers). Part of the farmers, 38% of them, also express that they observe as an enjoyment. In the case of Building familiarity, the aim of the farmers is to establish habits so that the animals get use to them (97% of farmers).

Communicating with the animals also seem important for the respondents as expressed by 81% of them, 75% explaining they talk to their animals and 31% saying that they understand their animals.

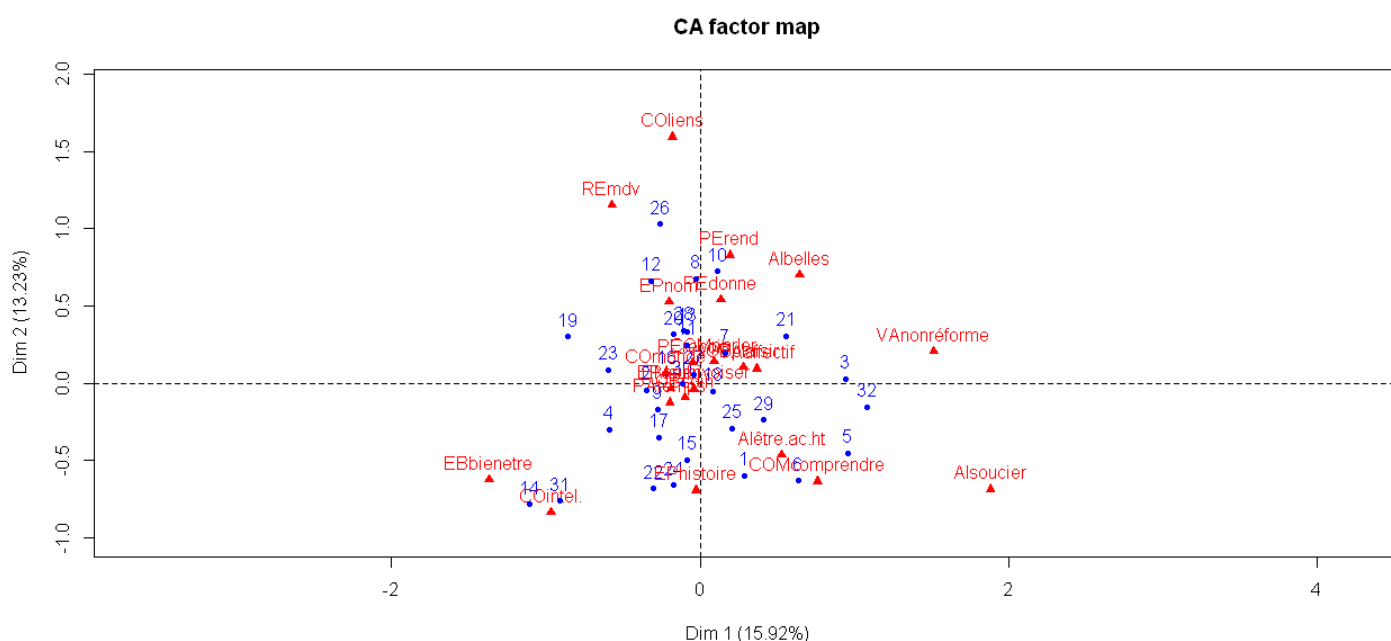
Spending time with the animals and Being considerate are two values found in 69% of the interviewees. It shows the importance of being available and the constraint for the farmer is clearly outlined in most cases (53% of the farmers watch over their flock themselves, others have paid shepherds).

Being empathic and Giving and receiving is expressed similarly by 53% of the farmers. They are more incline to see what the animals give (expressed by 41% of the sample) than what they give themselves to the animals as 16% state they give to the animals and 13% give back what they receive from the animals. Out of the 32 farmers, 15 are valuing the animals and 38% express the love for their animals. One quarter of the respondents are

grateful to the ewes for the lifestyle they are providing them. The least often expressed value is Feeling well together, only mentioned by 19% of the farmers.

### 3.3. Classification of farmers according to their bonding practices

Similarly to what was done to determine the group of systems according to intensification a Correspondence Analysis was done to see if there is a structure to the occurrence of Bonding practices. The visual representation corresponds to the figure 3 below. The results are showing a far less distinct structure than for that of the figure 2. The Bonding practices situated at the centre of the axes are the ones similarly spread amongst the farmers. These Bonding values are either shared by all of the farmers like taking care of the animals by observing or building habits with the animals. With the Hierarchical Classification on Principal Component's method, 4 groups could also be built from this Correspondence Analysis. The visual representation of this repartition can be seen in Appendix 3.



**Figure 3. Farmers according to their bonding practices**

There are 11 farmers in the first group, with 7 men and 4 women totalling 34% of the interviewees. This group is very close to the centre of the graph with the values commonly shared by most farmers. There is also two other bonding practices characterising this group. First is the fact that these farmers express gratefulness for the lifestyle provided by the ewes (working independently, being outside in the natural environment...). They also express more particularly the beauty of their animals. For these livestock farmers the Freedom brought by this activity is what matters. Livestock farming gives them the freedom to do what they like: enjoying the beauty of Nature, of their animals, enjoying the rhythm of the work in a farm...

In the second group we can find 25% of farmers with 2 women and 6 men. They are specifically characterised by the importance they give to the physiological welfare of their animals and their own wellbeing. For them both are linked and they can't feel good if their animals don't. They are also considerate towards their animals and acknowledge that they have their own form of intelligence. These practices show that the farmer tries to understand his animals and are aware of their Subjectivity.

There is also 25% of the sample in the third group with 4 women and 4 men. They differentiate themselves by the fact that they name some of the ewes, and they also acknowledge the bonds existing between animals. This group of farmers express the notion of giving and receiving as they talk about what the animals give them and



what they give back. These farmers enjoy spending time with their animals outside of their everyday tasks. These practices demonstrate a degree of integration and reciprocity in the relationship. Animals are seen as sentient beings and a strong bond developed with them, they are seen as part of the family unit.

Finally, the fourth group gathers 16% of the respondents with 3 men and 2 women. These farmers care about the future of their animals and would not let them to someone they don't know. They know the stories of their ewes and are strongly characterised by the fact that they refuse to send old ewes to be reformed. They cannot do that as they are grateful to the ewes for the production they gave them or because they are friendly with the farmer. They indicate that they can understand what the ewes are expressing through their behaviours. For this group the individual personality of the ewe and their story matters, they care about their Biography.

### ***Linking systems intensity and bonding practices***

Fisher's test was used to analyse if the bonding practices are tied to the farming system's intensity level. It showed that this is not the case and the two components are not significantly correlated (p-value= 0.7125). This means that in our sample the type of system does not condition the type of Bonding practices of the farmers.

### **3.4. Other factor influencing bonding practices**

A set of correspondence analysis was done including an extra qualitative variable to see if that had a link to the repartition of the bonding practices. It appears that gender might have an influence on the bonding practices. Indeed, the female are close to the affective bonding practices such as talking to the animals, acknowledging the affective bond to the animal, finding the ewes beautiful and feeling the need to bond with the animals to work with them. The male interviewed are closer to practices tying to the representation of the bond, such a knowing the story of the ewes or tying the ewes' welfare to their own wellbeing. The visual representation of the Correspondence Analysis can be seen in Appendix 4. Women appear to have a more affective approach to livestock farming whilst men establish a bond that is more based on the mutual benefits for the animals and the farmer. These results are similar to that of Porcher (2008) in her study of the porcine industry workers.

Other parameters such as the age, the flock size or the certification of production do not present a structure enabling to draw conclusions on their influence over bonding practices.

## **4. Discussion**

### **4.1. Characterisation of the Morale and Bonding reasoning behind livestock farming**

This question relates to our first hypothesis being that there is a link between the different reasoning in livestock farming. We attempted here to characterise the relationship between the farmer and its animals since this relationship is based on a Moral and Bonding reasoning and not only on an economic outlook. Analysing the interviews enables to point out practices and ideas common to the different livestock farmers group types. Some of these indicators gather to express what matters to the farmer in his bond with the flock, these are the Bonding values. These Bonding values are held by various reasoning. This is to be linked to the first question of the interview dealing with the conception of the work by the farmer. There was indeed a bonding rationale coming from the fact that the farmer enjoys spending time with its animals. This is the case for farmers that enjoy spending time with their animals outside of their everyday duties, that talk to them, give them names...

*« When you name an animal it means that you love it, that you have something with it »*

The Moral reasoning is also very present in livestock farming given that the farmer has the responsibility to care for his animals. To provide this care the farmer has to spend time and observe the animals to assess their status and detect potential issues.

*« It's like a child, we have the same duties. You have a responsibility, when you get animals, you take the responsibility to care for them. »*

This morale rationality is also expressed by behaviours that go against the strengthening of the bond between the farmer and its animals. Close to a third of the sample clearly states that they put an emotional barrier with the animals and especially with the lambs. This shows all the reflexion about the emotional investment they have in their work and the way they deal with the future of the animals. The final goal of meat sheep livestock farming being to produce food, the farmers accept the slaughtering as an unavoidable part of the job. It is however coming along with direct consequences on the practices of the farmer. To be morally acceptable for the farmer, the death of the animal must be the end of a « *good life* » for the animal according to the farmer's standards.

*« I am a livestock farmer, this is my job so as long as they are alive on my farm, I'll do my best so they can be as well as possible »*

*« So there is this contradiction that everybody sees from the outside and that exists for sure ; that we raise animals to kill them after, but honestly you forget it »*

*« We are not just here to slaughter as they say, we're not just killers... »*

*« May be at the end of the road there is death but aside from that there is life. Because you replenish the flock, because the young females will come back... »*

This final purpose of livestock farming does indeed have an effect on the bond the farmer will establish with its animals. By consciously not nurturing the relationship they have with the animals they are hoping to better cope with the slaughtering. For most farmers, the favourite ewes of the flock, the ones they are more attached to are not sent to be slaughtered when they are not productive anymore. They are kept on the farm for their « *retirement* » until they « *leave of their beautiful death* ».

The analysis of the interviews does show mitigated reaction towards the slaughtering process which, pushed by the work around animal welfare, has been thought in order to minimise the suffering of the animals.

*« And anyway now the slaughter houses are very well thought trough, there is a whole technique. Before they were in a lot of pain, it was terrible, now it is pretty well done. (...) Well I have never been because I do not want to see, I don't want to know, but that's what I've been told, they stun the animals so they are numb and after they cut their throat. It is done better, the condition of animal has really evolved in a good way. »*

Others think it would be better to rethink the slaughter practices, for them respecting the animals means being with them until the end. They see the transport and being in the slaughter house as a big stress factor and they think it is avoidable and would be better if the death of the animals takes place on the farm.

*« I would prefer it to end here. I feel like I'm letting them in a concentration camp. That's a bit what it is, because they [the lambs] don't want to get in, they can feel it. But you have to feed people, that's just the way it is. But for sure it would be much better if it could end on the farm with the flock. »*

All this questioning around the death of the animals and the sense of the livestock farmer's job clearly show the moral questioning that the farmers have to deal with everyday. This explains why there is a real misunderstanding between the ovine livestock farmers of this area and outsiders to the job like the ecologists on question like predation from wild animals and more specifically the wolves in the area. The farmers think it is their duty (hence a moral responsibility) to protect their animals all along their life, it is part of the care they « *owe* » them; and they do not understand that they are kept from fulfilling this duty. For some outsiders, the killing of sheep by the

wolves should not be an issue to the farmers since they would have been killed anyway and they get financial compensation. Even if the question of the wolf was not brought up on purpose it did however come up in almost every interview showing the frustration of the farmers who feel they are prevented from doing their job correctly. *«All the difficulties we have, now the wolf, everything... we're fed up. And especially that we can't do anything, because it's always us who lose everything and that's it ».*

*« When we have seen your flock massacred by wolves or by dogs, we were sad ; sad that we couldn't protect them and sad to see them massacred, to see some hurt and agonising. And angry also (...) if we talk about the wolf, yes, angry that it is protected and that our ewes they are not. That we are not allowed to protect them.».*

*« And now with the wolf, we are facing chocking talks, real gaps. We feel a bit cut from the rest of the world because for all that we explain, people don't understand the reality out here. And all that we try to explain, they don't understand. »*

*« Today the summer pasture in the mountains it is not nice anymore, the wolves and this and that... that's a big issue. They don't realise it (...) but the shepherd 's mental strength it is really important. That's a permanent stress, it means that one day you give up, you say « Okay you can keep your wolves, I give up my ewes ». And that's coming up, (...) we're running right to the catastrophe of losing a lot of livestock farmers. »*

This debate around the wolf clearly shows that the reasoning motivating the farmers is not purely economic. Providing a « *good life* » to their animal is also central to their work.

*« So straight away they talk about financial compensation, but it isn't only about the money, it is not only about the money, there is a moral prejudice. This flock we have put it together, we love it this flock and all the time we have this stress to know that our animals could get... »*

Apart from the technical purpose (having healthy and therefore productive animals) it is indeed also their Moral reasoning that drives them to take care of their animals. The death of their animal is dealt with morally by the attention and the care they provide during the life on the farm.

The bond between the farmer and its animals seems therefore to have as much of an importance in the farmer's consideration as the economical aspect.

#### **4.2. The influence of intensification on the bonding values**

Our second hypothesis implies that the degree of intensification of the farm has an effect on the farmer-animals bond.

##### ***The repartition of the bonding values***

The farmers do not structurally differentiate when they are grouped according to the indicators of bonding values. The difference between farmers according to Bonding practices is much smaller than between farms for the system intensity groups. This is down to the way indicators of bonding values occur: some Bonding values are expressed by all the livestock farmers : 'Observing the animals' and 'Being close to the animals'.

There is a base of value that is shared by all the interviewed farmers of the sample. It can be considered that these are therefore an expression of the fundamental practices of the ovine livestock farmer. This common pool of values can simply be explained by the care for the animals necessitate observation to assess the health and environment of the animals and also the presence of the farmer and time spent to ensure the welfare of the animals.

The familiarity of the animal is also encouraged and necessary to facilitate the handling of the flock. It can therefore be found in all flocks but at different levels. Indeed the flock is used to the farmer and will react

knowing his expectations (reaction when called, staying put during handling...). The fact that practices and ways of doing are anchored in the animals constitutes a first degree of familiarity. With certain ewes the farmer spends more time to establish a closer bond, either because they have been bottle-fed or because they have a more familiar character. The farmer can choose to perpetuate this particular bond and the familiarity of the ewe will be helpful to handle the flock. Some also explain that they choose to build on this bond to have more reciprocity in the relationship and enjoy having some very familiar animals. We consider these Bonding values as essential for the livestock farmer's work.

So the Bonding reasoning is indeed a strong factor for the livestock farmers, and from our results it holds the same value as the economical aspect of the work in farmer's mind.

*« that is the relationship with the animals and working with animals that makes it that I am a livestock farmer »*

A minority of farmers in our sample also declare no particular interest for the sheep as such.

*« I don't do anything in particular with the animals, you do the work you have to do »*

Livestock farmers can be differentiated by the way they share or do not share the remaining Bonding values. These remaining values, that are less common amongst the farmers, enabled to build the 4 groups previously described. If these values are less common, it is because they represent the various visions of the livestock farmers, each having their own focus on something different. These « meta-values » deduced from the practices and the feelings expressed by the farmers represent a way of seeing livestock farming, an ideal that the farmers work towards or try to maintain.

The importance given to the freedom found in being a livestock farmer is especially important in farmers from the Group 1, it represents the contribution of the work to build the individual's identity. For the Subjectivity and Biography groups, the practices they express translate the way the livestock farmer constructs the animal. And finally, the group assimilating the flock into the family unit illustrates the co-construction of Men and animals.

### ***Freedom : the work builds the farmer***

This group of farmers is far away from industrialised livestock systems based on the values expressed. Indeed, these farmers insist on the importance to have freedom in the way they manage their farm. The link to Nature and the fact that they are able to organise their work the way they want to are strong motivational factor. They would probably have trouble to build themselves the same way in more constrained industrialised system. Indeed industrialisation induces a loss of the link to the natural habitat and the soil and a management necessarily driven by productivity and the integration in organised food chains leaving little free space.

*« it depends on what you want to as well ; if it is to do intensive livestock farming inside and stuffing with feed ; there is no need to... the person that does that is not looking for this bond either. I saw a show on consumerism the other day where you see trapped pigs ; there I don't think there is a bond. Well, I'm sure there isn't. and may be the guy that does that, to protect himself, if he doesn't want to get mad it is necessary that there is no bond. It all depends on the type of system you want to have. »*

### ***Subjectivity and Biography : the farmer construct the animal***

The farmers from the South-East generally take into consideration the sensitive nature of sheep. If this conclusion had previously been established for pastoral systems (Robine, 2012), it can now be enlarged to traditional systems as well. Sheep are not simply considered as a work tool contrary to the way zootechny describes it.

*« Some farmers paint their animals for this treatment, if it is pregnant, if it had a lamb and so on... so they end up having ewes with numbers and full of colours... I don't like that. I wouldn't do that, it is an animal, if not I would think it is more like a tool otherwise »*

The farmers acknowledge that the animal has its own world and a kind of intelligence of its own and expressed in a different way than that of humans.

*« It's like at school, there are the rebel ones, the shyer ones... and in the flock there are some that stick together by families as wee, for example the mothers and daughters will often lie down next to each other. . »*

### **Family: farmer and animals build themselves together**

Animals can be considered by some as a tool since there is of course an economical objective in livestock farming. Over a third of the sample does mention this economical goal in the conception of their work. The animal is therefore there to produce, but in the systems studied it is not the only reason and there are other reasoning behind the farmer's work. Proportionally, the same importance is given to the Bonding reasoning by the farmers to describe their conception of the work. This bond built with the animals contributes in giving them a particular status and place in the life of the farmer. The work also contributes for the farmer in building his own identity. And some farmers even go as far as explicitly mentioning the sheep as part of the family.

*« They belong a bit to the family, it's hard to... you can't dissociate both. »*

*« It's like someone of your family. If you look at it from the outside your first duty is to feed them and now there is also the protection aspect that is becoming more important. »*

*« Before we used to say 'we behave like good father', which meant do what you want but in the way that respect the ewes. »*

Despite this particular place, farmers admit that the balance is sometimes complicated to find and they all have different time to grant the ewes.

*« you really have people that have this sensibility for the ewes like I have for my dogs or others for their children. And they will watch them overnight, I won't. that's about the way to manage your time and you take care of your family. »*

*« it is true that as long as we didn't have kids, that we didn't have a family life, you would spend a lot more time observing the animals. »*

*« They are taking all the space. All our space, it's true, you see we don't even have a family life anymore »*

There are numerous factors relating directly to the personality of the farmer (sensibility, the orientation you want to give to the system...) and to his environment (family life...) that have an impact on the Bonding practices as well.

Our work enabled to characterise livestock farming through its Bonding values. Indeed the Bonding values express different practices that constitute the farmer's work and are more specific to the farmer himself and his vision of an ideal system.

Livestock farming in systems that remain traditional like sheep farming in the South East of France are therefore characterised by the expression of significant Bonding and Axiological reasoning. As such they are opposed to the direction expressed by zootechny and the development of industrial animal production systems. Studies done, especially in the porcine industry, tend to show that industrialisation lowers precisely these reasoning and focus on the Technical and the Economical reasoning.

Contrary to our start hypothesis, no clear difference in Bonding practices between the more intensive and the more extensive systems was observed. I attribute this to the specificity of the ovine livestock farming context in the Provence-Alpes-Côte d'Azur area. It is still a relatively extensive and traditional model where all the animals go out to pasture and even in the larger flocks. Large flocks are not managed as a whole flock but generally broken down in smaller flocks to allow a better management of the natural resources and the link to the soil and the natural habitat remains really strong in farmer's minds.

Being organically certified does not have an impact on the Bonding values of the farmer either. The differentiating factor would revolve more around the conception that the farmer has of livestock farming. It therefore seems important that the Organic farming label supports these know-hows of the farmers that want to preserve their way of doing things and are attached to the affective side of their job. Indeed, amongst our respondents the

bonding aspect appears to be as important as the economical aspect of the job. One should not take space from the other, which is what some are worried about with the industrialisation of agriculture. Organic farming should promote and protect this aspect of livestock farming which would benefit the farmers with an alternative approach and help clarify its position towards both the farmers and the consumers.

To do so practically, Organic farming could write a deontological charter going along the specifications to obtain the certification. It would be difficult to have mandatory requirements and control them on the field, it seems therefore unrealistic to suggest to include these in the specifications as such. But a deontological charter would be a way to recognise and promote good practices as a way to ensure welfare of the animals and wellbeing of the workers. It would also help to differentiate livestock farming from animal production, showing that behind the livestock farmer's work there is more than an Economic reasoning and animals are not just tools in these systems. The practices of observation and the importance of the time needed to provide a good care to the animals should be especially emphasised since they appear to be a fundamental practice for all the farmers. Practices making the work of the farmer easier should also be encouraged, like building on the familiarity of certain animals to facilitate the handling of the flock. Slaughtering also need to be assessed, this is a problematic point focusing both external criticism and guilt of the farmers. The Organic farming label could be a pioneer in exploring new ways of slaughtering, such as the mobile slaughter facility contained in a truck. This would alleviate the stress of the animals that would stay on the farm until the last moment and benefit the farmers that expressed their wish to accompany their animals until the end.

## **Conclusion**

If today livestock farming is at the centre of a real debate, it is mainly due to the changes of society and of the agricultural production systems. Modernising agriculture translated in a profound change of the living conditions for the animals but also of the work conditions for the farmers.

This evolution has led to criticism on various points. Therefore and in order to meet the expectations over the farmed animals living conditions, research on 'animal welfare' strongly developed in the last 15 years. However these studies remain centred on the animal and the effect of its environment. The farmer has little, if any, place in the direction taken, it is merely seen as an artefact or an animal unit manager. The place of the farmer is nevertheless undeniable as leading component of a system that needs to be sustainable. The farmer is the one who will ensure the welfare of the animal on a wider perspective.

The notion of 'animal welfare' therefore appears insufficient to provide the directions in which to adapt the existing systems to fit the needs of both the farmers and the animals. Indeed, it is not taking a perspective including appropriately the human component of the system. A wider approach is needed, rather than 'animal welfare' it is the welfare of farm animals and people in livestock farming that needs to be addressed through, amongst other parameters, the work conditions.

To build this notion of « welfare in livestock farming », the knowledge and experience of livestock farmers need to be more clearly identified and better recognised. A deontological charter, for example, showing all the aspects of the livestock farmers work and the different reasoning behind it would enable *in fine* to comfort the difference between livestock farming and animal production and might enable a better understanding between society and livestock farmers.

The Organic farming label seems to be the ideal stakeholder to take on such an initiative. Being historically developed to provide an alternative approach to the intensification of agriculture; it is now criticised both for its low yields and for the parallel path to conventional agriculture it has taken. Innovation is necessary to keep on meeting both the demand of the society and the condition of production, but in the case of Organic farming it is important to preserve the values that motivated its creation to keep its credibility. Building on a wider approach

to animal welfare would mean Organic farming takes a position where it is considering a more systemic approach to agriculture and answer some of the criticism.

Another finding is that ovine livestock farming in the South East of France remains based on extensive management and is still very traditional. The intensification of production is therefore moderate there with all the flocks visited pasturing for several months each year.

More significant disparities exist in other sectors of agriculture, like dairy ewes farms from the West of France. Pursuing the study there would be the best way to bring significant conclusions on the role of intensification on the farmer-animal bond. Another way to investigate this bond would be to do this study on dairy farms where it would be easier to visit systems with wider differences in terms of intensity. Based on the information found in this work a questionnaire based approach could now be envisaged to enable a more significant statistical approach to the question and represent a wider diversity of systems. This diversity would enable to reinforce or bring new conclusions regarding the Bonding values behold by livestock farming and thanks to which farmers build themselves at work and build the bond with their animals.

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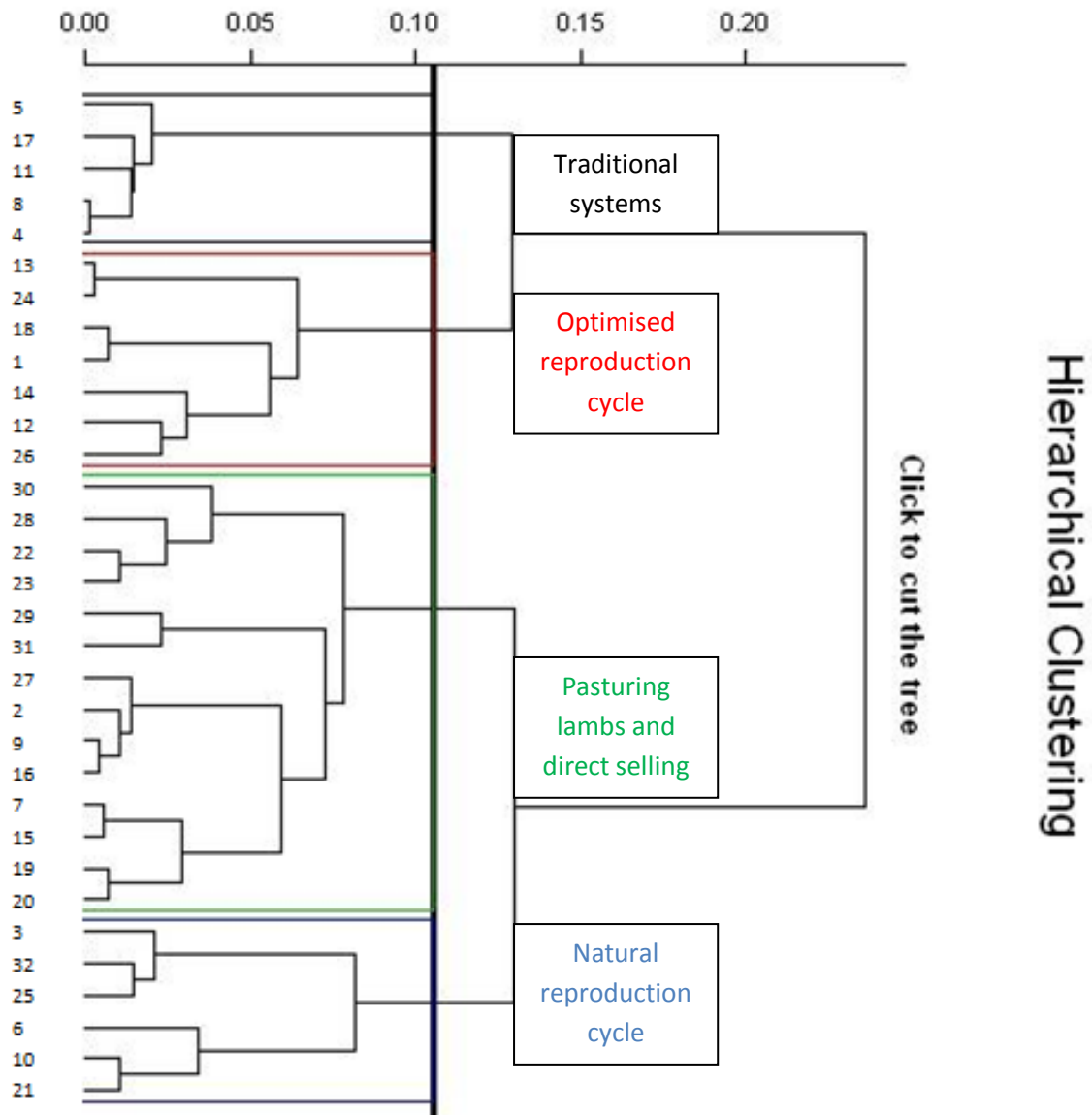


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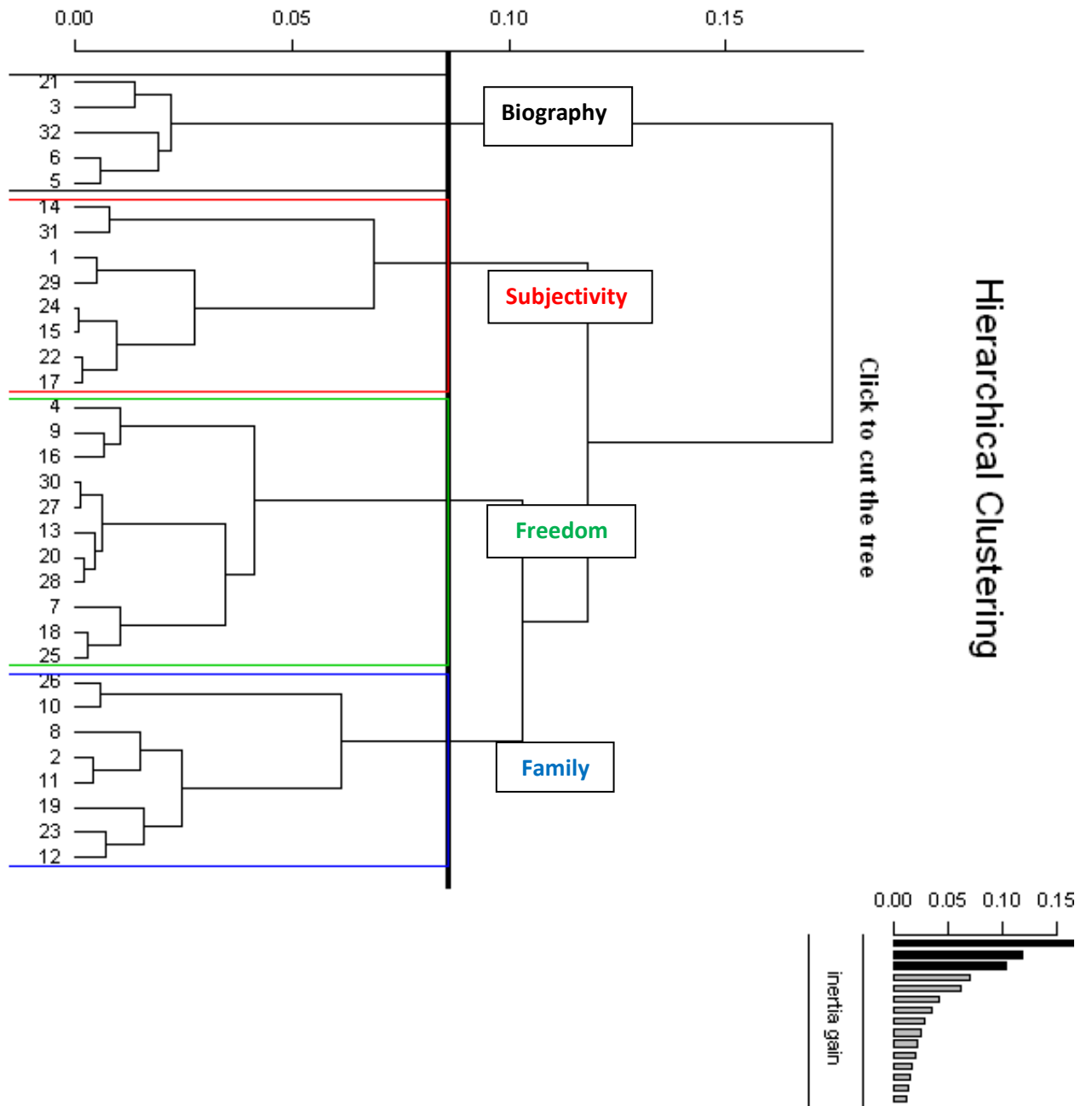
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**Appendix 1: Hierarchical Classification on Principal Component's method used to form groups of farming systems according to their intensification**



**Appendix 2: Hierarchical Classification on Principal Component's method used to form groups of farmers according to their Bonding values**



**Appendix 3: Multiple Correspondence analysis including Gender as a qualitative variable**

