Farming for Venison; investigating the barriers to deer farming in Scotland

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Interface FOOD & DRINK

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The James Hutton Institute

SCOTTISH VENISON

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Thanks, my Lord, for your venison, for finer or fatter
Never rang'd in a forest, or smok'd in a platter;
The haunch was a picture for painters to study,
The fat was so white, and the lean was so ruddy.
Though my stomach was sharp, I could scarce help regretting,
To spoil such a delicate picture by eating;

Dr. Goldsmith

Excerpt from ‘A Poetical Epistle to Lord Clare’

Summary

The following report looks at the factors that deter or delay individuals from entering into deer farming and highlights the most effective actions required to overcome these barriers. The initial sections provide an introduction to the current state of deer farming in Scotland, and a brief explanation of the historical context. This is followed by a description of the two-phase, questionnaire and interview, approach adopted in the methods. The results from each phase are then presented, with nine barriers to entering deer farming identified during the interviews: *finance*, *practicalities, community, information, stock, marketing, politics, epidemiology* and *processing*. The findings are discussed in relation to the diffusion of innovations theory. The final section of the report provides a series of action points to be adopted by the deer farming industry to ensure its sustainability in the future. In short these include: production of a *finance* guide; upfront information on *practicalities* of deer farming; maintenance of a deer farming *community*; establishment of an (online) *information* portal; access to breeding *stock*; continued interaction in *politics*; continued *marketing* of venison; production of *epidemiology* guides, and; investment in *processing*.

Contents

1. Introduction

Deer farming is not a traditional agricultural pursuit – and despite the apparent market opportunities, there are a number of barriers that are preventing people from entering into deer farming. Throughout the course of this report we reflect on the historical context of the industry before presenting a summary of interviews conducted with individuals entering into, or associated with, deer farming. We analyse the interviews in the context of the diffusion of innovations model, which considers how novel ideas, theories or products are adopted across communities. In particular we focus on the idea of reinvention and reflect on whether deer farming has advanced or altered following previous attempts in the 1970s and 80s. The report concludes with recommendations for the industry on how to move forward.

1.1 Deer farming in Scotland – current situation.

The number of Scottish holdings farming deer in 2013 was 81, which has risen from 65 in 2001 (ERSA C10(i), 2013). However, the number of deer farmed throughout Scotland declined from a peak in 1990 of around 16,000 to around 6,000 in 1996 and has remained around this figure ever since (Figure 1).

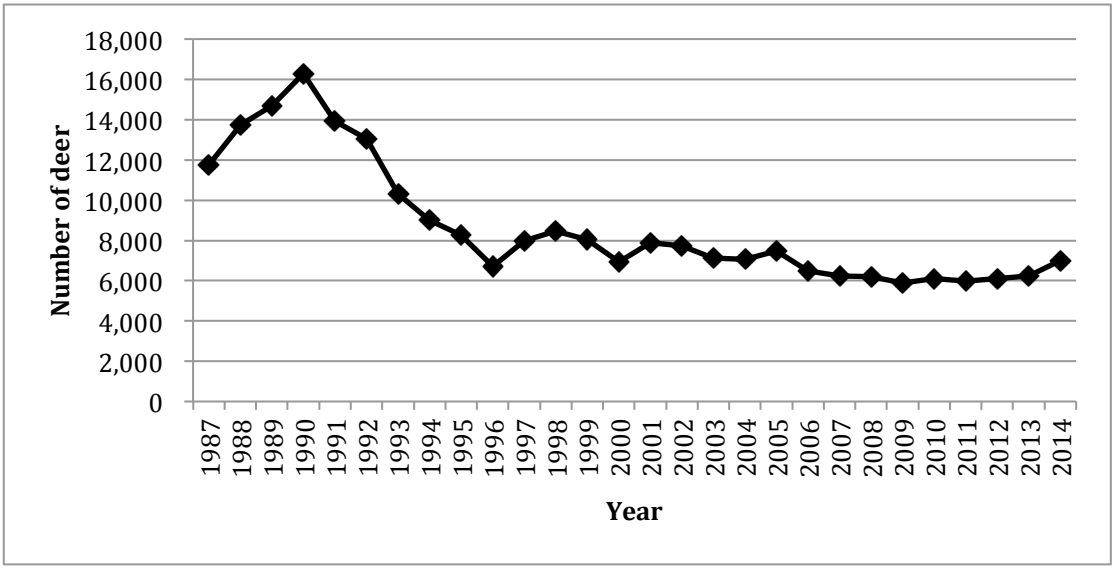

Figure 1. *Number of farmed deer in Scotland from 1987-2014. Data taken from the Abstract of Scottish Agricultural Statistics (ASAS, 2014).*

1.2 Species Farmed

There are four wild species of deer found in Scotland (BDS, 2011) – fallow deer (*Dama dama*), red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), and sika deer (*Cervus nippon*) – sightings of muntjac deer have been reported in the Scottish borders, but an established population is yet to be recognised (SNH, 2012). Of these species, it is consistently red deer that are farmed in Scotland (BDFPA, 2005; Scottish venison, 2011). This is due to the suitability of the species for farming. Roe deer do not form herds, and sika and fallow deer are notoriously difficult species to handle – although fallow deer do feature as a park species in England.

1.3 Deer Farms and Deer Parks

There are two main approaches to the husbandry of red deer, which differ in the way the animals are held and processed. The British Deer Farms and Parks Association (BDFPA) defines these as follows:

"*1. **Park** – Deer are raised in a park type setting, where they are able to roam freely with minimal input. They may be provided with some supplemental feed, calves are unlikely to be weaned, nor antlers removed, stock is not housed and management is generally with a rifle. When contact with the deer is minimal, they may be classified as being wild and not farmed and as a consequence the slaughter and carcass handling procedures are those applicable to wild deer. Other parks consider their deer farmed and follow the requirements for farmed deer at slaughter: these may be organic whereas wild deer cannot be.*

*2. **Farm** – Deer may be farmed following the conventional agricultural practices, including organic, grazing is rotated, some or all stock may be housed in the winter (not all year round). Nutritional and mineral supplements are provided when necessary to maintain the deer's health, injuries and health problems receive prompt veterinary attention. Calves are usually weaned, antlers, certainly of the young stock, are removed on safety grounds.*"

As a consequence of the distinctions above, the culling of park deer is restricted to the shooting seasons applicable to wild deer, unless carried out under license (for red deer closed seasons are between 21st Oct - 30th Jun for stags, and between 16th Feb - 20th Oct for hinds). It is thus possible for park deer to be sold to a game dealer, however the Food Standards Agency require that all deer from farms are processed through qualified red meat processing plants (Fletcher, 2014 – pers. comm. 8th December).

1.4 Venison production (supply and demand)

The case for the need to increase venison production is made elsewhere by the Scottish Venison Partnership (SVP - See Appendix 1) but here we summarise the main points.

On the supply side, the total venison production from the wild deer population in Scotland was 3, 500 tonnes in 2010, with a market value of £3.5 million (McKellar and McKellar, 2010). By contrast, venison production (currently) from the 20 commercially active farms is around 50 tonnes: less than two percent of wild venison production (Scottish Venison Partnership, 2014).

On the demand side, venison consumption has increased substantially in recent years and this has largely been attributed to the work of individuals (such as Nichola Fletcher) and organisations (like the SVP and the BDFPA) in highlighting the health benefits and culinary potential of venison. Venison is a red meat with low levels of fat and high levels of protein (McCance and Widdowson, 1995). Several 'celebrity' chefs have promoted its use as an alternative to beef, there has been a rise in the number of venison recipes, and supermarkets have run promotional offers on venison products (Wilson, 2014). Furthermore, it fits with the ideals of locally sourced, low intensity agricultural style that is currently fashionable. These are important qualities for a meat product particularly in the light of recent issues, such as the horse meat scandal in 2013, which has increased consumer concern for where meat is sourced. In 1980 Waitrose began stocking farmed venison (from the deer farm at Glensaugh research station; Fletcher, 2014 – pers. comm. 8th December), and in 1993 Safeway was the first supermarket to stock wild venison on its shelves (Blythman, 1993). Today venison can be found in all major supermarkets and is mainly derived from wild game producers and retailers, such as Highland Game (for more information go to http://www.highlandgame.com/index.php). However, a large volume of venison in UK supermarkets is provided by imports from New Zealand, Poland and elsewhere in Northern Europe (Venison Advisory Service, 2011).

In 2010 the BDFPA reported a 25% rise in venison sales across the UK (http://www.bbc.co.uk/food/0/19991154) a further dramatic increase in venison sales (413%) across the UK was reported between 2013 and 2014. This figure is based on reports from Kantar Worldpanal, and was reported in the Daily Mail (Cliff, 2014), The Scottish Farmer (Davidson, 2014) and The Telegraph (Wilson, 2014) among others. However, this figure should be viewed with caution as it differs dramatically from the BDFPA estimated growth of 25%, and the SVP estimate of between 10-15%. The SVP believe that this is because the figure relates to the value of sales in supermarkets only, not across the industry as a whole. It is likely that the dramatic increase in supermarket sales can be attributed to in store promotions of venison products (Wilson, 2014). Regardless, all of the figures quoted indicate an upward trend for venison sales.

To meet this growing demand the SVP aims to increase Scottish venison production to 4500 tonnes by 2020 (inclusive of both wild and farmed deer). This is an additional 1000 tonnes on the current output and represents (approximately) an additional 22,000 deer being processed. This additional Scottish venison will have to come from farmed deer as the wild red deer cull has become static (see Figure 2).

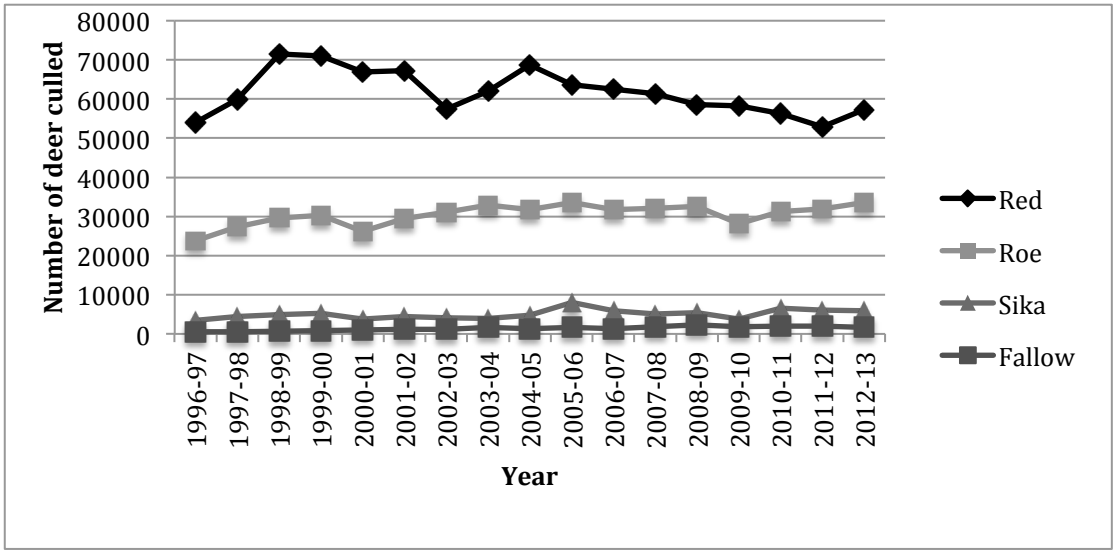

Figure 2. *Number of deer culled across Scotland each year according to SNH records (SNH, 2014).*

At present the shortfall in supply of British venison is being met by imports from New Zealand (e.g. Highland Game buying in New Zealand venison to meet supermarket demand). In 2013 more than 90% of New Zealand venison is exported with the majority going to the European market, 4% of New Zealand venison exports came to the UK (Deer Industry New Zealand, 2014)[1]. However, the number of deer farmed in New Zealand has also been in decline since 2004 (MacPhearson, 2014)[2]. This evidence suggests that there is scope to increase domestic venison production in Scotland particularly if the national demand continues to grow even at modest levels. As the supply from the wild production is unlikely to increase (Figure 2), the main proposal is that the supply is met by increasing the production of venison from farms and parks. Despite the apparent market opportunities, there are a number of barriers that are preventing people from entering into deer farming.

2. History of farmed venison production

At the end of the 1960s at Glensaugh Research Station a research programme was instigated, which looked at the potential for farming deer for venison as an alternative economic resource to sheep farming. This culminated in a comprehensive report entitled 'Farming the red deer' (Blaxter et al., 1974). At the same time deer farming also began in New Zealand, with the first deer farm license being issued also in 1970. However, despite strong beginnings in deer farming in both Scotland and New Zealand the two countries followed very different trajectories (see **Table 1.** For more information).

[1] Although it is believed that additional venison from New Zealand reaches the UK through other countries (Playfair, 2014 – pers. comm. 15th December).

[2] It is possible that this decline has continued from 2002 due to undercounts in the 2002 and 2003 agricultural surveys (Playfair, 2014 – pers. comm. 15th December). It should also be noted that seven existing New Zealand venison processing plants have recently received approval to export to China – this has potential ramifications for the European market (KPMG, 2015).

Table 1. *Developments in deer farming in Scotland and New Zealand from 1960s onwards (in brief).*

Year	Scotland	New Zealand
1959	Deer (Scotland) Act 1959 to deal with marauding deer	
1960s		Deer recognised as pest species – wild venison exports begun
1969		Legislation passed for the establishment of deer farming
1970	Research into deer farming begun at Glensaugh research station	First license for a deer farm issued
1970s		Wild deer live captured for farming (using helicopters
1978	British Deer Farmers Association started	
1979		Approx. 42,000 deer farmed in New Zealand
1980s	Deer not recognised in the Capital Grant Schemes	Velvet and live sales responsible for most of deer farming income
1983		Voluntary TB screening on deer farms
1989	First compulsory slaughter of farmed deer due to TB	
1990	Approx. 16,000 deer farmed in Scotland - peak	Compulsory TB screening on deer farms
1991	Government refuse to extend hill livestock compensatory payments to farmed deer	
1994		1700 TB infected cattle and deer herds (approx. 200 deer)
2004	Deer not recognised for agricultural support under Single Farm Payment scheme	Approx. 1, 750, 000 deer farmed in New Zealand - peak
2012		Stable herd numbers – venison highly profitable
2013	Approx. 7000 farmed deer in Scotland	Less than 100 TB infected cattle and deer herds Approx. 1, 028, 000 farmed deer in New Zealand

Scotland was the pioneer in research and innovations for farmed venison production in the 1960s and 70s. Despite these strong beginnings the industry declined over time, until recently when there has been renewed interest in growing venison farming in Scotland. Using the diffusion of innovations theory we examine the current situation in deer farming. We aim to establish whether reinvention is occurring to address the current challenges that individuals and the industry is facing, or whether the same mistakes are being repeated.

3. Methods

3.1 Data collection – phase one and phase two

We took a two-phase approach to data collection. Phase one consisted of a questionnaire that was circulated by the Scottish Venison Partnership to all those who had attended, or were registered to attend, deer farming demonstration days[3]. A copy of the questionnaire can be found in **Appendix 2**. The responses from the questionnaires were used to structure the subsequent interviews in phase two.

Phase two consisted of 13 interviews with 15 participants. Participants were not chosen randomly, but were targeted to reflect the diversity of individuals' interested in, or involved with, deer farming. Selection of participants was based on their involvement with the SVP and the demonstration project, their experience of deer farming and/or their responses to questionnaires in phase one. Every participant who was invited to be interviewed accepted, although due to logistical reasons (e.g. participant availability) some were unable to take part. The interviews conducted were semi-structured and the average length was 50 minutes (ranging from 27 to 94 minutes). A copy of the interview structure can be found in **Appendix 3**.

3.2 Analysis - Diffusion of innovations

The interviews were transcribed verbatim and the transcriptions uploaded to NVivo10. NVivo10 was then used as a tool to code the interviews and identify emergent themes. After initial coding the themes were recoded to derive main themes, of which 13 emerged; of those, nine represented barriers to entering deer farming. A pivot table was then created to examine the overlap between the themes.

[3] Deer farming demonstration days are part of the deer farming demonstration project – a series of five days throughout 2014 and further 5 days in 2015 "to provide a source of information where those interested in moving into deer farming and venison production can learn more about the farmed and deer park sector." (Scottish Venison Partnership, 2014)

Once initial analysis had been conducted on the interviews the themes were considered in relation to the diffusion of innovations theory. The diffusion of innovations theory was developed in the 1950s to investigate the adoption of agricultural innovations in America. It continues to be used in agricultural research today, as well as in many other disciplines, including marketing, medical science and renewable energies (Haider and Kreps, 2004; Greenhalgh et al., 2005). There are four key dimensions to the theoretical frame, as shown in Figure 4**.**

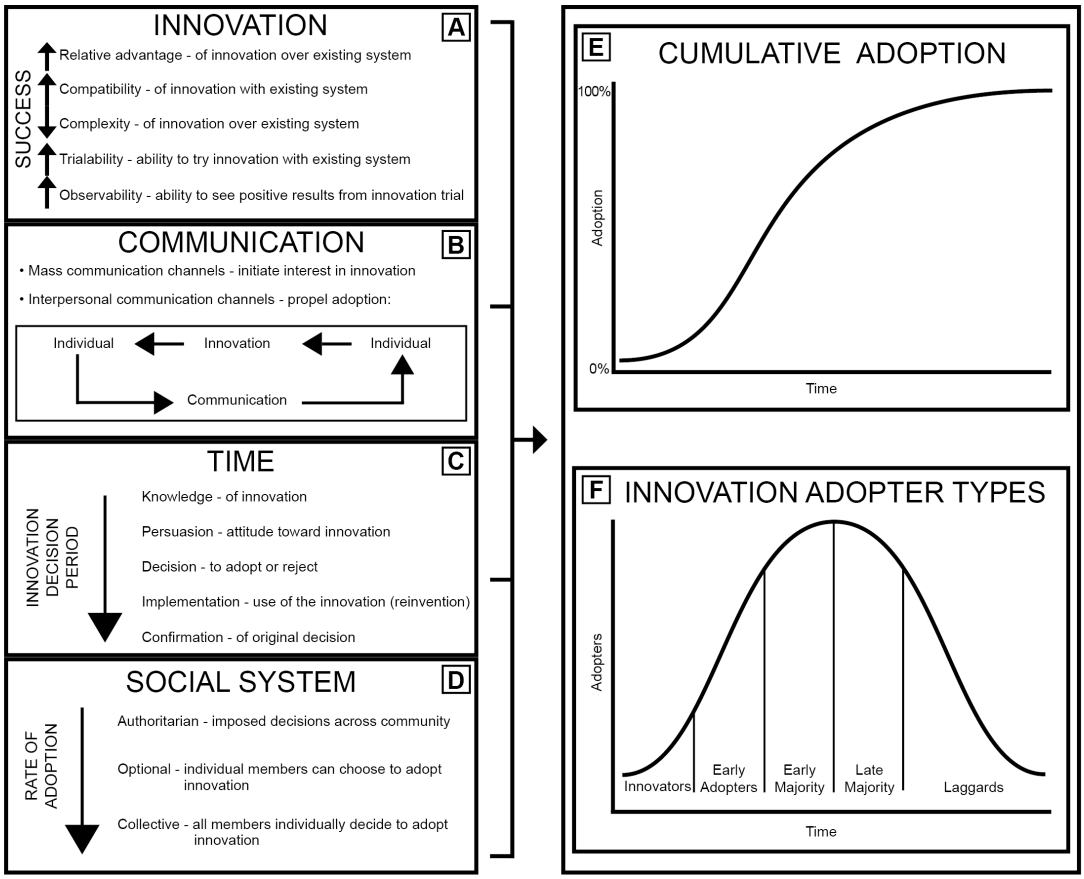

Figure 4. *Summary infographic of the diffusion of innovations theory – reproduced from Maffey et al. 2013.*

In short the diffusion of innovations theory considers the factors that will influence the adoption of an innovation by a community over time. In this report we consider deer farming to be in the "Implementation" stage of the innovation decision period (see figure 4 box C), and primarily focus on the concept of 'reinvention'. Reinvention is "the degree to which an innovation is changed or modified by a user in the process of adoption and implementation" (Rogers,

2003:17). It is during the process of reinvention that early adopters of an innovation customise the innovation to their specific needs (Larsen and Agarwal-Rogers, 1977). We hereby look at how current early adopters of deer farming are adapting agricultural practices (e.g. funding opportunities, equipment, handling) to reinvent deer farming to suit the current economic and agricultural climate more broadly. This theory is used to discuss the results and to present advice on how the deer farming industry should proceed in the future.

4. Results

4.1 Questionnaires

Respondent profiles – Twenty individuals responded to the questionnaire (thirteen male and seven female). Respondents came from right across Scotland and their age distribution is presented in Table 2.

Table 2. *Number of questionnaire respondents in each age bracket.*

Age range	Number of respondents
21-30 years old	2
31-40 years old	1
41-50 years old	6
51-60 years old	8
61 years and older	3

Eighteen of the respondents already owned or worked on farms or estates, fifteen of which declared that they were currently farming livestock. Eight of these respondents also declared that they were currently farming deer. Twelve considered the land they owned or worked on to be in an area of lowland; three considered the land they owned or worked on to be in an upland area and four considered it to be in both a lowland and upland area.

Eight respondents had considered pursuing deer farming in the past and cited lack of knowledge; risk; working capital; marketing and slaughter as reasons that had prevented them from entering into deer farming.

Nineteen respondents answered the question "Do you think deer farming is a challenging sector to enter?" – Thirteen responded "yes" and six "unsure". Those that responded yes expanded on their answer with comments such as:

> "It's a new sector that we know very little about"; and, "Previous attempts to establish deer farming in Scotland have had mixed results, despite strong market fundamentals".

Those that were unsure largely cited a lack of knowledge as the reason for giving this response.

One of the final questions asked was: "What barriers (if any) do you think may prevent you from pursuing deer farming now or in the future?" A list of potential barriers was provided for respondents to select from, as well as space for them to add their own barriers that they thought were missing. The responses are listed in Table 3 together with the number of respondents that selected each barrier.

Table 3. *Number of respondents who selected suggested barriers to deer farming, ranked according to prevalence.*

Barrier (suggested)	**Respondents**
Start up costs	12
Investment in fencing	11
Investment in handling facilities	10
Access to slaughterhouse/abattoir	9
Knowledge of where to obtain stock	9
Lack of government support	7
Lack of development in the deer farming sector	6
Lack of husbandry knowledge	6
Lack of contact with others in the deer farming sector	4
Conflict with other farm/estate activities	3
Lack of market opportunity	3
Lack of transport facilities	2

Additional suggested barriers included: the need for partnerships with land managers; the deer sector in Scotland being underdeveloped; and, the incompatibility of farming deer and operating a commercial deer forest.

4.2 Interviews

The interviews were semi-structured taking into account the information derived from the questionnaires. An analysis of the interview material indicated a number of barriers and these are outlined below in order of their prevalence in the transcripts. Prevalence was calculated by taking account of the number of interviewees who had referred to the theme, together with the level of discussion around it. These barriers can be viewed as a series of bottlenecks that individuals encounter as they begin to enter, or contemplate entering into, deer farming and an analyses of each of the barriers is presented below. The numbers proceeding quotes refers to the individual interviewed to retain anonymity.

<u>Finance</u>

One of the key barriers that individuals encountered when entering, or thinking about entering, deer farming was finance. This theme encompassed two queries that all interviewees had: Was *financial support* going to be available for deer farmers? And, how high were *start-up* costs going to be? All interviewees who were currently deer farming had taken different approaches to obtaining *financial support*. It was felt that "with conventional farming there are established routes to being able to access additional finance[8]", but that this was lacking in deer farming due to a lack of knowledge in both the banking and the agricultural support sector. Some individuals had been innovative and used other avenues to generate capital; those mentioned included renewables, SRDP grants for fencing in relation to tree regeneration and supporting deer farming with other (rare) livestock breeds.

It was recognised by interview participants that there were a number of start-up costs that were unique to deer farming – making the need for *financial support* even more pertinent. Several deer farming specific start-up costs were identified; including infrastructure components (e.g. barns and raceways), stock and – depending on the scale of the venture – guidance in farm planning. However, fencing was singled out as "a significant capital outlay[1]", and was identified as the "main hurdle[1]" to entering deer farming by almost all the interviewees. This initial requirement meant that there was a belief that, in comparison to other

forms of agriculture, there was a long "lead-in time[10, 11]" before individuals would begin to see a return on their investments.

Practicalities

Closely linked to concerns about *finance* were the practical considerations that needed to be made up front when entering into deer farming. It was recognised that while "you can buy cattle and sheep anywhere and put them in a field[3]", deer farming required more thought in terms of how the farm should be laid out, what infrastructure was required and – for some participants – actually finding and obtaining suitable land to farm deer on. The most pressing concern was, again, fencing. Individuals that had begun deer farming had invested in farm plans, which forced them to make decisions about how much fencing was required for them to begin farming.

In addition, over half the participants voiced concerns with handling deer. As one participant noted: "I think people are a bit intimidated about handling them[9]". This sentiment was echoed by others, particularly when it came to handling stags in antler.

Community

A recurring theme that interview participants spoke about was the community of people involved in deer management. There was recognition that, collectively, those involved with deer farming were a diverse group and that "the thing about deer farmers is they tend to be a very open bunch of people[2]". Some participants felt it was important to build on this characteristic of openness and consider the potential of having a deer farming co-operative to provide support for individuals. The idea of a co-operative was discussed particularly favourably when it came to the issue of supermarket influence in farming. Individuals talked about *marketing* a premium product and becoming "strong producers rather than supermarket dominated[10]".

One participant did indicate that, despite the open nature and diversity of the deer farming community, a certain level of agricultural knowledge was required to actively engage in discussions.

Information

Lack of information, or lack of access to information, appeared to be a barrier to individuals when they began to look into entering deer farming. It was said that information was not readily available online, and it was clear that instead the SVP (or those associated with the partnership) was the first port of call when questions on deer farming arose. Interviewees noted that many of the questions asked at the demonstration days were of a highly technical nature, often relating to feed or handling requirements. One participant continued that while this knowledge was held by those associated with the SVP "there isn't an awful lot of experience in this country[10]"in terms of employees in deer farming.

However, another interviewee felt that at times people thought about the process too much, as they put it: "a lot of people [are] thinking it, but think for too long and then think, 'no, we're not going to do that', instead of going in and doing it."

When interviewees spoke about information on deer farming New Zealand was frequently referred to as a model for the Scottish industry. It was regarded as a country with much experience and also much knowledge on the technical details of deer farming e.g. pasture enhancement and breeding programmes. One participant went as far to say that when it came to the day-to-day technicalities of farming deer "I think we can learn everything from [New Zealand][9]".

Stock

Once individuals had reached the point of deciding to enter into farming deer, and considered, or even invested in the infrastructure required, *stock*, or rather a lack of it becomes a major issue. As one interviewee noted: "there's only a finite number of farmed deer in the country at the moment and if we see a huge uptake in deer farming getting breeding stock is going to be not that easy[2]".

In addition, it was felt that: there are just not enough deer farmers to currently supply stock to new entrants, and individuals were restricted to "sourcing stock from inside Scotland to make sure of minimising the TB risk[5]". Some participants spoke about the potential for deer farms in upland areas to fence in wild hinds with a small number of farmed hinds to build up stock numbers, and one interview participant had successfully managed to do this.

Politics

The political framework that deer farming was taking place in was readily discussed. There was disagreement on whether the lack of funding currently available through CAP was a barrier or not. Some participants' felt that deer farming should be able to sustain itself as an industry without subsidy– as occurs in New Zealand. However, at the same time participants also stated that if subsidies did become available they would readily take them.

All interviewees who discussed the political framework around deer farming identified the need for increased government support. This was beyond financial support and more recognition that deer farming was a growing and viable industry in Scotland. For example, one participant stated that "a government lead [on the introduction of a deer farming co-operative] would be, I think, most advantageous[5]."

Marketing

Many participants discussed the importance of *marketing* and commercial venison markets. This was not necessarily regarded as a barrier to entering deer farming, but more a concern when looking at getting venison on to the shelf. Individuals had very different approaches to *marketing*. Some were locally orientated, and interested in creating in-house brands, as one interviewee said: "I think there is a lot of potential for the top restaurants, round about here[6]." Others were more interested in a broader (international) market: "so you've got a special niche product, where do you go? You go abroad with it because that's where the money is[12]."

One participant in particular was keen for the deer farming sector to make the most of the "story" that was attached to venison, taking lessons from the premium beef, whisky and salmon sectors in order to ensure that the industry would be sustainable.

Epidemiology

Half of the interviewees talked about concerns they had around disease in deer, although the majority of these discussions were dominated by references to

Tuberculosis (TB). As Scotland currently has a TB free status, there are a restricted number of populations that individuals are happy to obtain *stock* from. In addition, interviewees were not clear on how to actually deal with a TB outbreak in deer were it to occur. As one interviewee put it "…there are a few herds in England that have been infected and it's been devastating because the legislation for farmed deer is not the same as the legislation for cattle, in terms of compensation and whatever. So basically you are all on your own when you get TB with deer at the minute[2]". One participant also raised concerns that an outbreak might change public perceptions toward venison, forcing them to ask: "is venison really something I want to be putting into my body?[5]"

Processing

Although venison *processing* was not readily discussed, those who did refer to it cited it as a major concern, as one participant noted "that's the stumbling block[13]". Distance to the closest slaughterhouse was high on the agenda – at the time the interviews were being conducted this was located in Yorkshire, with one being built in Fife. For many considering entering deer farming these locations were too far for transportation, forcing them to consider local game dealers or mobile abattoirs (which had an added practical disadvantage in relation to disposal of waste). Issues with processing were largely related to the scale of farming that individuals were interested in pursuing and the type of end product they wanted to produce (e.g. small scale local product or large scale supermarket contract).

Additional themes

A further four themes were identified during the coding analysis that did not necessarily relate to barriers to entering deer farming. The first was the distinction between wild deer, deer parks and deer farms and the role that this could have in how venison was marketed and sold. It was apparent that at present this distinction was not entirely clear among those involved in deer farming. The second referred to comparisons and interaction between deer farming in New Zealand and deer farming in Scotland – much of this related to the *information* that could be derived from the New Zealand industry, and the

experience that some individuals brought from working in New Zealand deer farming. Thirdly, the historical context of deer farming in Scotland was also discussed. Some individuals had been directly involved in deer farming since the 1960s and 70s and had witnessed the problems that the industry had experienced in the past. When one participant was asked whether they felt there was a danger of history repeating itself (in relation to an overheated market and TB problems), they responded: "Yes, very much so[9]."

The final theme that emerged related to the *opportunities* that deer farming offered to individuals rather than the barriers that prevented them from entering into deer farming. There was an overarching sentiment that deer farming was able to offer something that other agricultural sectors could not. Interviewees noted examples such as: a developing market with high returns, a simple way of farming with low labour input, and the potential for self-sufficiency in the long term; all of which made it an attractive industry to enter.

5. Discussion

5.1 Deer farming for the individual and the industry

The nine barriers identified from the interviews can be considered both from the perspective of an individual entering deer farming and from the perspective of the industry as a whole. In doing so it is apparent that some of the themes are more strongly associated to individual barriers, and some to industry barriers (Figure 5). For example, *finance* (or financial viability) was a major consideration for an individual entering into deer farming, whereas while the *politics* (or the political framework) in deer farming is of concern, it is less likely to be a central component in their decision-making. Yet, *politics* (or the political framework) is, arguably, one of the biggest considerations for the deer industry in relation to securing government support (financial or otherwise) for the sector.

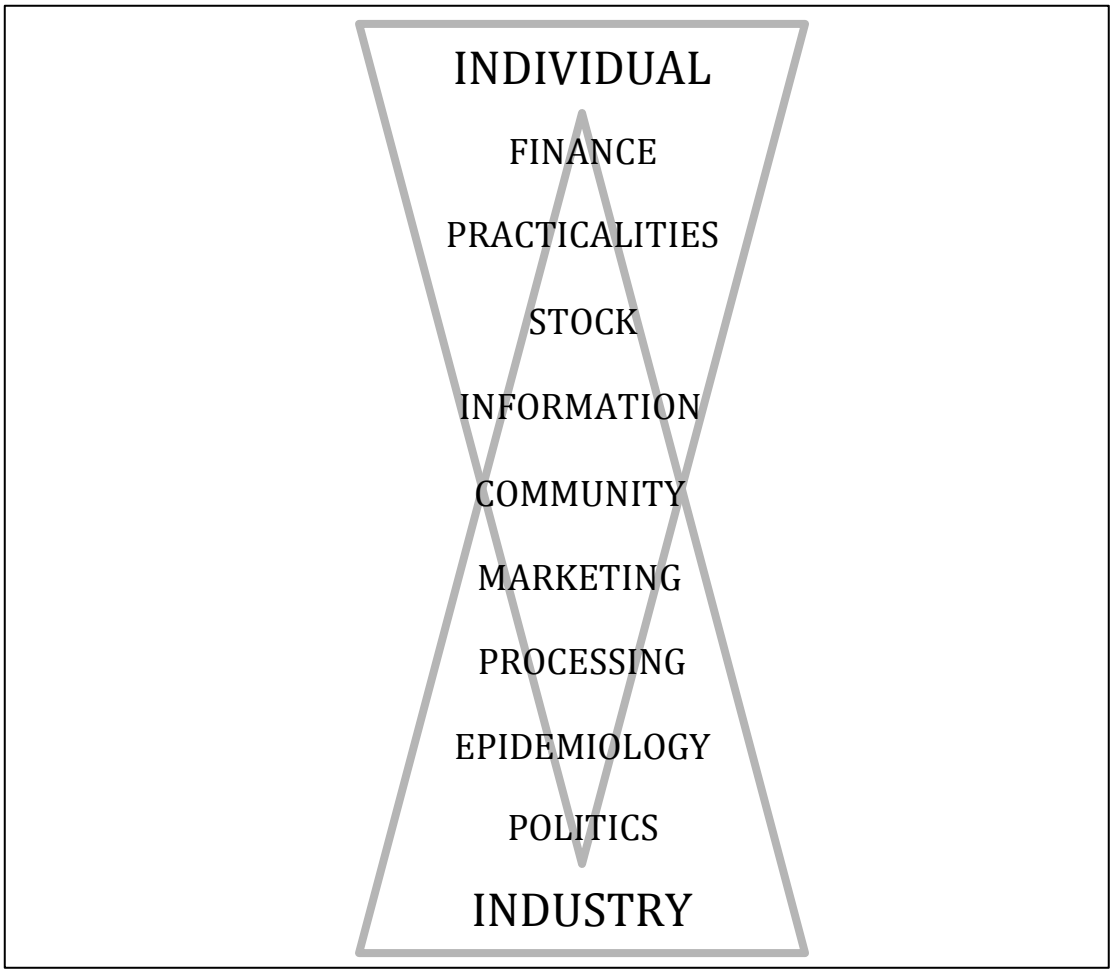

Figure 5. *Themes identified in the interviews presented as barriers in relation to an individual entering deer farming, and in relation to the deer farming industry as a whole. Themes are presented according to whether they (predominantly) present a barrier to the industry as a whole, or to an individual entering deer farming.*

During interviews it was apparent that individuals were working through each of the barriers in turn to establish if the industry was a viable one to enter. This level of thought implies the magnitude of the decision for an individual to enter deer farming. Although there are unarguable benefits to entering the industry, the initial financial burden is high. Interviewees were clearly establishing whether they could get an adequate return on their investments, and whether there would be further issues down the line.

For the industry the barriers are a little more complex. There is an obvious need to attract individuals to enter deer farming - doing so will address some of the

issues highlighted e.g. *stock* shortage. However, in order to attract deer farmers the industry needs to minimise the number of barriers faced by new entrants. One key issue in this is getting recognition from Scottish government that deer farming is a viable and secure industry worthwhile of investment. As such the central barrier of *community* is one that requires consideration to ensure that both individual concerns and industry issues are readily discussed and shared.

Another central barrier – *information* – is worth highlighting as it is pertinent to both individuals and the industry. It was apparent from the interviews that there is not necessarily a lack of information on deer farming, more a lack of access to information. This is despite the efforts of the Venison Advisory Service to provide specialist consultancy for those wishing to enter deer farming. It is clear that individuals involved with the Venison Advisory Service and the BDFPA hold a huge amount of expertise. However, ready access to such services (which is inevitably associated to the cost of providing such advice) is limited. Increased accessibility to such bodies, and the individuals employed within them, together with the circulation of publications, such as Deer Farmer, could help to inform, not only those entering into deer farming, but also the direction of the industry more broadly.

5.2 Reinvention in deer farming

One of the aims of this study was to look at whether, by identifying barriers to entering deer farming, it would be possible to determine if reinvention in deer farming is occurring. Reinvention is a part of the diffusion of innovations theory (see section *3.2*), and considers how a community can reinvent a product, idea or policy to make it more applicable for a community's needs. The key message from this study is that there is an imbalance between the individual and industry perspective when it comes to innovation in deer farming.

Individuals entering into deer farming are strongly innovative. From the questionnaire responses the majority of respondents who were considering entering into deer farming were actively looking to diversify, or to adopt

alternative agricultural pursuits. Those that had already entered into deer farming had pursued funding schemes in novel ways in order to adapt to legislation, access equipment and achieve financial stability. In this sense, new entrant deer farmers continue to reinvent existing agricultural frameworks to meet their own ends.

Yet, reinvention does not appear to be happening across the collective deer farming industry. At present it is following a similar trajectory to that of the 1980s, before the crash in the 1990s. Although new deer farms are being established, with a mix of different sized herds (Fletcher, 2014 – pers. comm. 8th December), there is still a lack of perceived support of the industry as a whole (e.g. at a government level). These perceptions go beyond the provision of subsidies and new entrant payments[4], and are pertinent when considering how to deal with industry wide issues, such as TB testing – a topic that contributed to the sharp decline in deer farming in the 1990s. Addressing such issues is key to the sustainability of the existing and growing *community* (figure 5), and help to ensure that deer farming moves beyond a stage of implementation to one of confirmation (figure 4), as a recognised agricultural industry in Scotland.

In light of these findings the final section of the report reflects on the questionnaire and interview commentary to present a number of recommendations that the deer farming sector could take to ensure its sustainability in the future.

6. Conclusion – *Recommendations for a sustainable deer farming sector*.
The following list presents a series of action points for deer farming to address (in part) the nine barriers identified by interview participants.

- Production of a *finance* guide – this is in response to interviewees comments on a lack of understanding of how to access financial support

[4] It should be noted that at the time the interviews were conducted there was ongoing discussion on whether deer farmers would be recognised under the "Basic Payments Scheme" – a scheme that would replace "Single Farm Payment" – in 2015. It is now apparent that deer farmers are able to claim subsidies through the Basic Payment Scheme.

for deer farming initiatives. Such a guide should be aimed at those entering into deer farming as new entrants or for diversification. The guides should provide links to existing financial streams or funders, as well as example stories from those who have successfully managed to enter into deer farming. In addition a supplementary guide should be produced, which individuals can take to banks when applying for loans. This would deliver a solid introduction to deer farming in Scotland as a whole, and provide support for loan applicants.

- Upfront information on *practicalities* of deer farming - Deer farmers should have more access to information on the *practicalities* of entering into deer farming (see below). In particular, examples of farm plans should be readily available. This would give people an impression of what equipment and infrastructure needs there are in establishing a deer farm. Bespoke planning, however, should remain on a consultation basis to maintain credibility and authenticity.
- Maintenance of a deer farming *community* – At present there is a strong sense of openness in deer farming, and this should continue. The establishment of a co-operative for those keen to do so should also be considered. Once established it may be possible to use this as leverage (i.e. getting recognition of deer farming as a viable industry) to secure government support. It is recognised that the BDFPA currently does this at a UK wide level – however, with the devolution of government (and consequently funding) it may be more appropriate to have a Scotland specific arm or organisation (such as the SVP) to provide information for Scottish deer farmers.
- Establishment of an (online) *information* portal – This is crucial to the sustainability of deer farming. The portal could be designed in numerous ways; we suggest three areas to the portal: public, start up and established. The public area should be similar to the current venison partnership site, with information on deer farming, its history and recipes. The start-up area should contain more detailed information on the *practicalities* and *finance* of deer farming for those entering, or thinking of entering, the sector. The established area should be readily

updated and contain a collection of detailed information relevant for those in deer farming – e.g. market prices; feed prices; and, deer (farm) numbers. The Deer Industry New Zealand (http://deernz.org.nz/) is an excellent example, as well as DairyCo (http://www.dairyco.org.uk/).

- Continued interaction in *politics* – there have been some extremely proactive members of the deer management community in relation ensuring that deer farming is on the political agenda. This is something that needs to continue to reflect and support the entrepreneurship of individuals entering into deer farming. In addition such interaction would help *community* representation at a political level.
- Access to breeding *stock* – there should be communication and collaboration across deer farmers to ensure that a balance is met, in the coming years, between the number of animals going to breeding stock and the number going to market. This should help to stabilise the industry by minimising price fluctuations and a possible collapse in later years due to market flooding.
- Continued *marketing* of venison – the previous work of individuals (e.g. chefs) and organisations has ensured that venison is recognised as a premium product in local stores and supermarkets across the country. This needs to continue to secure the sustainability of venison as a recognisable product on store shelves and kitchen tables.
- Production of *epidemiology* guides – at present there is little knowledge or understanding of disease in deer species across the broader veterinary practice. It would be beneficial to produce information guides to be distributed in local veterinary practices on key issues in deer health and disease (in collaboration with the Veterinary Deer Society). In addition clarity on how TB (and other disease outbreaks) will be dealt with by the individual farm and the industry (e.g. financial insurance).
- Investment in *processing* – at present there is investment in a new venison slaughterhouse in Fife. However, many areas of Scotland are still located too far away for this to be a viable processing option (depending on the scale of the deer farming venture). There need to be clear guidelines on processing options – including pricing expectations with a

game dealer. In addition the industry as a whole could garner financial support from government to aid processing initiatives.

- One last issue that needs to be addressed is the upland – lowland gap. There needs to be clarity in the market on the differences between venison from wild, park and farmed deer. For the wider public deer farming is likely going to be linked to wild deer, and although the markets can support one another, clear distinctions on how the products differ should be made.

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Appendix 1.

Scottish Venison Partnership – Analysis of UK Venison Market

Retail sales of venison across the whole UK rose from £32M in 2006 to £43M in 2009, an increase of over 34 per cent. Figures published in 2013 indicate that that growth continues – Marks & Spencer sold three times as much venison in 2011 as it did in 2010, Sainsbury's reported sales of its 'own brand' venison had almost doubled year on year, and other retailers reported sales up by 50 per cent. Asda said its sales were up by a third, and in 2012 the Co-op stocked venison for the first time. Waitrose reported an increase in sales of 92 per cent in 2013.

According to analysts Kantar Worldpanel, UK retail sales of venison increased by 413 per cent in the 12 months to June 2014. This is further evidence of the popularity of venison through the retail sector based on value, although the Scottish Venison Partnership view remains more modest, and that all sales (including restaurants, food service and catering, UK-wide independent butchers, 'farm gate' sales, farmers market and mail order) are probably increasing more in the region of 10 - 15 per cent per annum.

The Grocer reported in July this year, following the Kantar figures, that Sainsbury's would be adding a new venison line this Autumn, Tesco is rolling out seven venison options, and Asda has introduced Venison Wellington to its Christmas range.

The Meat Trades Journal's special report *Time to raise your Game (2014)* states:
"Marks and Spencer has already successfully tapped into the venison market, but this year venison is available across all the main supermarkets including hard discounters Aldi and Lidl."

Scotland produces an estimated 3500 tonnes of venison per annum, of which approcimately 50 tonnes comes from farmed deer. The bulk of all venison produced in Scotland comes from the annual wild cull, but this has reduced significantly over the last 10 years. Imports from New Zealand, Poland, Spain and elsewhere in Europe are sustaining a year-round UK market. Scotland's two major game dealers reported imports of 25,000 carcasses (over 1000 tonnes) in 2012 to meet market demand, and a further increase on this figure in 2013. Supply from New Zealand however in the short to medium term is not forecast to increase to the UK on account of two factors:

- Current demand for milk solids in China has created strong demand for dairying herds and forced New Zealand deer farmers to move up to more marginal ground.
- More than 80 per cent of New Zealand venison production is now licensed for export into the lucrative Chinese market http://meatexportnz.co.nz/2014/08/28/eighty-percent-of-new-zealand-venison-now-eligible-for-china/ (August 2014)

SVP aims to encourage increased production of Scottish farmed venison and reduce reliance on imports, and that an additional 1200 tonnes of venison per annum is required to keep step with demand. The sector has set a target to increase production volumes by this amount by 2020.

December 2014

Appendix 2.

Barriers to deer farming – initial project questionnaire

As someone who has expressed an interest in deer farming – either by registering to attend the recent deer farming demonstration day in Glenkindie, or a future deer farming demonstration day – you have been invited to complete the following questionnaire. The questionnaire consists of 10 questions in total and should take no longer than 10 minutes to complete. Our aim is to get an impression of the range of people interested in deer farming, and to understand the motivations behind this interest. The responses will treated confidentially and any report will maintain the anonymity of respondents. The results will be used to inform the development of a project that is investigating the barriers that individuals or businesses face when considering entering deer farming. The project is a collaboration between the Scottish Venison Partnership, the University of Aberdeen and the James Hutton Institute, and is funded through the Interface Food and Drink programme www.interfacefoodanddrink.org.

Please return the completed form by **16th May 2014** to Gina Maffey at the University of Aberdeen – ginazoo@outlook.com.

If you would like to be involved in subsequent research on barriers to deer farming, or if you have any queries about the questionnaire and project more broadly please contact Gina Maffey at the University of Aberdeen (ginazoo@outlook.com).

1. Do you currently own, or work for, a farm/estate?

☐ Yes – please complete questions 1a – 1d.

☐ No – please proceed to question 2.

1a. What type of farm/estate do you currently own, or work for? (Please tick all that apply)

☐ Arable

☐ Livestock

☐ Mixed arable/livestock

☐ Dairy

☐ Commercial

☐ Private

☐ Small holding

☐ Other (Please explain)

1b. What is your current role on the farm/estate? (Please tick all that apply)

☐ Owner

☐ Tenant

☐ Farm worker

☐ Estate factor

☐ Gamekeeper

☐ Other (Please explain)

1c. What livestock, if any, are currently present on the farm/estate? Please indicate approximate numbers of each, if you would prefer not to say please leave the field blank.

☐ Deer (approximate number of:)

☐ Cattle (approximate number of:)

☐ Sheep (approximate number of:)

☐ Pigs (approximate number of:)

☐ Other (please state – approximate number of:)

☐ None

1d. Do you consider the farm/estate to be in an upland or lowland region?

☐ Upland

☐ Lowland

☐ Both

☐ Neither

2. Why are you interested in deer farming? (Please tick all that apply)

☐ I currently own/work for a deer farm

☐ I currently own/work for a deer park

☐ I am considering developing a deer farm in the future

☐ I am considering developing a deer park in the future

☐ I am considering developing a breeding herd

☐ I am considering developing a finishing unit

☐ I would like to diversify my current agricultural investments

☐ There may be support for deer farming available through the Scottish Rural Development Programme

☐ Market demand for venison has increased

☐ Deer farming presents a viable opportunity on areas of marginal land

☐ Deer farming is less intensive than other livestock farming

☐ Other (Please comment)

If you would like to provide any additional explanation to the interests selected above, please do so here.

3. What are your main reasons for attending the Deer Farm Demonstration Project day in Glenkindie on 15th April 2014, or another day in the deer farm demonstration project programme?

☐ Commercial advice

☐ Networking

☐ Personal interest

☐ Other (Please comment)

4. Have you ever considered taking up deer farming in the past?

☐ No – please proceed to question 5

☐ Yes – please complete question 4a.

4a. What has previously prevented you from pursuing deer farming, or if you are currently involved with a deer farm, what has been the most difficult problem to overcome when entering deer farming?

(Please comment)

5. Do you believe deer farming is currently a challenging sector to enter?

☐ Yes

☐ No

☐ Unsure

(Please explain your answer)

6. What barriers (if any) do you think may prevent you from pursuing deer farming now or in the future? (Please tick all that apply)

☐ Start up costs

☐ Investment in fencing

☐ Investment in handling facilities

☐ Conflict with other farm/estate activities

☐ Access to slaughterhouse/abattoir

☐ Knowledge of where to obtain stock

☐ Lack of contact with others in the deer farming sector

☐ Lack of transport facilities

☐ Lack of market opportunity

☐ Lack of husbandry knowledge

☐ Lack of development in the deer farming sector

☐ Lack of government support

☐ Other (Please explain)

If you would like to provide any additional explanation to the barriers selected above, please do so here.

7. Age

☐ Under 20 years old

☐ 21-30 years old

☐ 31-40 years old

☐ 41-50 years old

☐ 51-60 years old

☐ 61 years or older

☐ Prefer not to say

8. Gender

☐ Male

☐ Female

☐ Prefer not to say

9. Location

(Please provide the first 4 digits of your postcode)

☐ Prefer not to say

10. Any other comments

Many thanks for completing the questionnaire. Your responses are highly valuable to the development of the ongoing project, and will be treated confidentially. Any subsequent report following the questionnaire will continue to maintain respondents anonymity.

Please return the completed form by **16th May 2014** to Gina Maffey at the University of Aberdeen – ginazoo@outlook.com.

If you would like to be involved in subsequent research on barriers to deer farming, or if you have any queries about the questionnaire and project more broadly please contact Gina Maffey at the University of Aberdeen (ginazoo@outlook.com).

Appendix 3.

Deer Farming Project Interview

Interviewer:

Interviewee:

Date:

Time:

Style:

Questions

Demographics

1. Age range
2. Gender
3. Location
4. What is your current role on/in the farm/estate/business?
5. How would you describe the farm/estate/business? – eg. Upland mixed arable/livestock

Deer Farming

5. How are you involved with deer farming?
6. How long have you been involved with deer farming?
    Did you have any prior experience?
7. Why did you choose to get involved with deer farming?
8. What changes have you seen in deer farming while you have been involved?
9. What opportunities do you think there are in deer farming at the moment?
    Is this different from when you first got involved?
10. Is there any thing that you as individual, or the industry as a whole, could do differently with deer farming?
11. What do you feel people are most concerned with when starting deer farming?
12. What do you think the biggest barriers are a) currently; b) in the future, for deer farming?

13. (How) do you think the market will change if there is increased investment in venison farming?
14. Do you have future plans for your own farm/estate/business?