



Farming Connect Management Exchange

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UK and Ireland

Cheese making courses and practical sheep milking and lambing

12-14 2019

8-15 January 2020

1 Background

Having been involved in the family farm from a very young age, I always knew I wanted to be a part of the UK's agricultural sector and make a difference in the community. After high school I enrolled at Hartpury College in Gloucestershire to study an Agricultural Engineering course for two years and learnt that I'm very interested in the use of modern technology in agriculture, for example, automated robots and GPS in tractors, as well as data collection.

Since leaving college I decided to stay in employment in the Gloucestershire area working on various farms, from arable contracting and AFU beef units, to dairy farms for a couple of years. This has enabled me to broaden my experience and wealth of knowledge in different styles of farming, which I hopefully will be able to apply to the family farm in Wales one day. From working away, I have learnt that it is important to exploit a niche market and potentially start a new enterprise where currently few are seeing the same opportunity. Therefore, after attending a Farming Connect diversification evening I was moved and inspired by Dr Carrie Rimes, who is currently making cheese from sheep's milk in North Wales. After getting in touch with her, she encouraged me that more people should explore this idea, and the Farming Connect Management Exchange programme was the ideal opportunity for me to gain a better understanding of sheep milking and the production of sheep's cheese.

To develop a sheep milking business and on-site cheese production plant in the future at home, I wanted to gain more of an understanding into the production of cheese, and travel to see a working sheep milking parlour in action. To begin my adventure, I travelled up to the north of England to the School of Artisan Foods. I attended an Introduction to Cheese-making course, with two days covering the entire process of how to make cheese, and a further one-day course on professional mozzarella making, taught by Paul Thomas, who is a renowned cheese-maker. Furthermore, it was all practical based, so I found it was much easier to learn in a hands-on setting.



2 Itinerary

12 November 2019

On day one of my two-day Introduction to Cheese-making course I spent the morning getting to know the group and learning the theory about health and safety and European regulations in cheese-making. In the afternoon, we learnt about the cheese-making equipment such as vats, presses, pH testers, knives. We also learnt how important it is to keep all work surfaces, utensils and equipment clean using sterilising equipment and bleach-based chemicals, with a contact time of two minutes followed by a rinse.

We then began the cheese-making process by adding 80 litres of milk to the vat and heating, whilst stirring, to reach the correct temperature of between 26-29°C. We then used a direct vat inoculation (DVI) starter culture to encourage enzyme activity and also learnt about flocculation points and thermalisation. By this point the cheese curds had separated from the whey, which is then drained, and the curds washed. We put the curds into a mould and placed into a press overnight to drain any residual whey.

13 November 2019

Day two we were back in the practical room carrying on from where we left off. We removed the moulds from the press, and by this point, it had reached a brie style cheese. The next step was to place the cheese into a brine tank to absorb the salt in order to preserve their shelf life and improve the flavour, whilst being rotated frequently. As a by-product of this brie style cheese, we were able to make lactic cheese. Once this had been achieved, we were back in the classroom for more theory about pH charts and how different types of cheeses are made using different methods to suit the geographic location i.e. Swiss Alps.

This was followed by cheese tasting and a question and answer session with Paul Thomas, who gave me a lot of tips and pointers about how I can incorporate his ideas and methods into my own future business. Furthermore, he recommended that I researched into making Caerphilly style cheese.

14 November 2019

The third and final day was a new course on how to make Mozzarella style cheese. Again, this was a morning of theory in which we discussed the history of the cheese and its uses. In the afternoon we had an enjoyable and interesting practical on how to make Mozzarella and the methods involved. However, it was recommended not to use sheep's milk to make Mozzarella as it does not have the appropriate properties and elasticity to make this cheese. I learnt a lot from this session and the previous two days, and thoroughly enjoyed my time at the School of Artisan Foods, as well as making a very important contact, Paul Thomas.

8 January 2020

I arrived at the town of Cashel Co. Tipperary to spend a week working for Michael Crosse, who milks around 1,200 ewes twice a day. On this farm, they artificially inseminate and sponge each ewe so that they all lamb within a period of seven days. Breeds consisted of mainly Frieslands, a French breed Lacaune and a few Suffolks, which are fed on a grass-based system so costs are kept low. The reasons for these choices of breed are that the Frieslands have the highest milk yield per ewe, however, the male lambs are born small and lean which makes them more challenging to rear. On

the flip side, the Lacaunes have a slightly lower milk yield but the lambs are born bigger with better conformation, so the time it takes to fatten ready for slaughter is reduced.

Throughout my time there, I learnt many new skills and practices. The farm contains a 24-point parlour each side with a rapid exit, so it was light work and very enjoyable to be around. Furthermore, with two men in the parlour they can milk approximately 500 ewes an hour, which creates a more cost-efficient process. During this busy week I was able to see every step of the process; from the lamb being born, removing the lamb for it to be hand reared in order for the ewe to keep its milk, then to the ewe going into the milking parlour to be milked. During this week there were not enough ewes to milk in order for the milk to be sent off to the cheese factory. But this worked out very well as the milk from the parlour was then used to feed the lambs through the milk maid. The farm would normally supply all its milk to the 'Cashel Blue' factory to make the famous Crozier Blue cheese. The milk is sold for €1.40/litre (£1.25/litre) and the cost of production is around 90 pence per ewe. The average annual yield is 290 litres per lactation.

On the last day of my visit I was given a tour of the 'Cashel Blue Cheese' factory. This was an exciting experience as they have invested over £16 million into the factory where they keep over 40,000kg's worth of stock at any one time. They have top of the range French technology where everything is automated, from the vats all the way to the packaging and labelling. In the mean time they have also kept a personal hands-on approach with the cheese so it keeps the traditional 'homemade' brand.

3 Next Steps

The Management Exchange programme has widely developed my understanding and knowledge of sheep milking. Not only have I received very valuable experiences, I have also made some very useful and important contacts and met some informative people. They will no doubt support and guide me as well as answer any questions I may have whilst developing my business in the future.

The next step for me is to decide if it would be advantageous to obtain a milk contract with a local creamery until I have enough capital to build my own production plant. Eventually I would definitely like to be able to process my own milk into cheese and possibly other products on-site.

Another possibility I would like to explore is freeze drying the sheep's milk in order to make replacement milk powder. Therefore, I would like to travel to New Zealand to see this milk powder production in action as it is said to be very popular there. There, or in other areas such as Spain, I would need to look into which parlour is most suited to my business and go about purchasing the appropriate one for myself.

Furthermore, I need to make a business plan and set targets and goals for myself, for example, flock numbers, cost of production and estimated milk yields required to calculate what my income would be. This would be necessary when considering how to obtain capital to purchase the parlour and equipment needed, as well as the onsite production plant.

Another issue I would need to investigate is obtaining planning permission for a new shed to house the sheep throughout winter. Furthermore, I would like to explore the idea of milk recording and incorporating modern technology into my business venture.

My next goal is to be able to understand if remaining organic is a feasible option in sheep's milk and cheese production, as the premium is already substantially higher. I would need to research if the consumers would feel satisfied by paying more for organic sheep's cheese.

In addition to this, I would like to establish my flock by choosing the breed which is most suited to the Welsh hills, beginning with a target of 250 milking ewes. I would also like to approach another sheep-milking business in the Llyn peninsula to see if we could join forces and work together to achieve the highest potential yielding ewe.

I would then like to create a well-established brand and possibly explore the idea of opening a farm shop. With this, I will hopefully be able to incorporate it into the family tourism business which will bring more tourists to the local community, subsequently boosting the local economy.

A beneficial addition to my business would be to receive guidance from an agronomist to help reach the full potential of my soil type and increase crop yields and grass growth. In addition to this, a nutritionist advice would be beneficial in order to maximise flock welfare, in turn, improving milk yields. They would be able to advise on what goes into a TMR ration, as well as how much to feed per head.

Finally, I would like to educate others on my findings, for example, Sennybridge Young Farmers, Gloucestershire Young Farmers and Farming Connect diversification groups, which in turn will hopefully encourage someone to explore the gaps in the market and diversify their businesses.

4 Key Messages to the industry

1. If asked, I would like the opportunity to share more information, facts, figures and statistics relating to sheep milking with a group as it would be very beneficial to pool ideas and support others in this industry.
2. Last year, every ewe on the farm in Cashel was artificially inseminated and sponged through an abdominal incision to ensure each ewe lambed within a set period of time, in a process called laparoscopic insemination. This was a very effective yet costly process (approx. €20 per ewe) so cervical insemination seems to be a better option, but it is difficult to get hold of the right professional to carry out the process
3. There are many perceived health benefits to the consumption of sheep's milk. It has a much lower cholesterol content than cow's milk, it's higher in calcium content and is known to boost the immune system and stimulate growth. This is important in fitting in with the emerging health conscious market. It is better to stay in tune with healthy options and it's the right move at the right time for this market.
4. Deciding which breed to use is crucial as different breeds have stronger advantages compared to others, whether this is an increased milk yield or a shorter finishing period.
5. Profitability is key in this business as, although it is a higher return venture with a high profit margin, Michael Crosse in Ireland made no money in the first four years. However, this could be due to a lack of infrastructure and initial investment in the business.
6. Finally, it is very important to construct a well-established brand and manufacture a home-grown niche product yourself to keep both costs and profits within the farm.

School of Artisan Foods



This is a picture of me at the School of Artisan Foods. I was feeling the texture and moisture of the cheese curds in the vat whilst breaking them up into smaller curds by hand.



Our lecturer at the School of Artisan Foods, Paul Thomas showing the group the perfect cheese mould by using the nets and how it should look and feel once moulded into this round shape.

Co. Tipperary, Ireland



A sheep milking parlour with a 24 point and rapid exit, milking up to 500 ewes an hour in Co. Tipperary, Ireland.



Here is one of the many lambing sheds where they had up to 1,250 ewes lambing in one week. This was achieved by cervical Artificial Insemination and sponging in order to lamb in sync.

Cashel Farmhouse Cheesemakers

Visiting and given a tour of the famous Irish Cashel Blue Cheese factory where they produce both sheep and cows cheese to high value supermarkets such as Tesco and Waitrose.



Michael Crosse farm, Co. Tipperary



An outside shot of the setup where ewes were turned out to graze in early January. Breeds consisted of mainly Frieslands and a French breed Lacaune with a few Suffolks, which are fed on a grass-based system, so costs are kept low.