

UK Goat Study Tour

In association with the Irish Goat Producers Association



28th & 29th August 2012

Cian Condon M.Agr.Sc. M.Sc.(Agr.)

The Charnocks Herd – Jane Miller

Jane has been milking and breeding goats since she purchased her first British Toggenburg in 1979. As Jane says herself the success of her breeding policy is based on producing consistently high yielding, sound, attractive animals capable of long lactation over many years. A strict line-breeding policy is followed and no males or females have been purchased in for many years. Some new blood is now being introduced by artificial insemination. She has recently gone into partnership with Phil Ormerod, a local commercial goat farmer. The aim is to select and produce top quality animals suitable for commercial milk production. A nucleus herd has been created and animals will be selected for inclusion into this herd. Goats will also be selected from Jane's herd for inclusion in this herd.



Figure 1. Some of the luxury housing afforded to Jane's top quality goats.

Jane first led us into an old cow shed, which has been adapted to house seven of her milking goats. Incidentally, each of the goats now occupies a space that would have housed two cows. One of her first-kidders has milked 8kgs at some of the shows. Another of the goats in this shed is milking one gallon (4.5 kgs), but Jane says this isn't a high enough yield for her and this animal will be moved up to the nucleus herd at Phil Ormerod's farm. Jane only keeps the very best animals for breeding. The animals are fed on good quality hay and pea straw. They also received a high level of meal at about 5-6 lbs. per day.



Figure 2. Another of Jane's milkers – goats are fed high levels of meal to ensure top yields.

Jane weans kids at around 12 weeks of age. This is much later than at Phil's where kids are weaned between six and eight weeks. Jane doesn't feel the difference in weaning age has a large effect on later milk production as many animals will have setbacks early in life but will still catch up. In fact early weaning may encourage the consumption of much more varied food materials, leading to improved rumen function. Jane emphasises the importance of rumen development a number of times during our visit.



Figure 3. The milking station in Jane's shed.

All goats are disbudded by the local vet under local anaesthetic when they are between 2 and 5 days. Although there are differing opinions regarding local anaesthetic in young goats, Jane says she has never had a problem. It is illegal to disbud your own goats in the UK. No male goats are sold under three months of age as it is vitally important to spend as much time as possible with the young animals before they are moved on.



Figure 4. One of Jane's young males. No male kids are sold under 3 months of age.

Pasture House Farm – Phil Ormerod

Phil and his wife Trish started in farming in 1987 when they gained tenancy of a 90 acre smallholding. Initially they kept a herd of 50 cows and flock of 200 mule ewes. By 1998 the sheep had gone and the dairy herd was up to 70 cows plus followers. In 2002 the family moved from the 90 acre farm to Pasture House farm, a 200 acre holding. An additional 20 acres are owned on an out farm. Following the move to this farm the dairy herd grew to 100 cows plus followers and a small flock of 120 ewes was reintroduced. However as Phil's two sons Joseph and James grew older and showed a keen interest in farming, he decided to look at an alternative enterprise that might be capable of supporting more than one family. After much research it was decided that dairy goats had potential and an application was made for grant aid to construct a new unit. The whole planning process was a bit of a rush as the grant scheme was coming to a close. Excavations for the new structure were only started in May 2006 and goats were being milked in the new parlour by October 2006.



Figure 5. Phil addressing the group.

Goats are the main enterprise on the farm with an average of 900 approximately being milked in the last year. At an average yield of over 1100 litres per animal this gives a total of over 1 million litres produced in the last twelve months. Yields tend to be very consistent throughout the lactation but may decrease along with intake during pregnancy. The milk price is based on the lowest production day during the winter. Therefore if the profile of milk production is relatively level the milk price will be good. The average price achieved in the previous 12 months is £0.52/l. Goat numbers are still rising and Phil expects to be milking over 1100 this time next year. In addition there are 500 goatlings present on the farm. Goats kid at 12 months of age, are milked for 2 years, kid a second time and then are milked again until they are culled. There is a high cull rate of 20-25% on this farm and a cull price of £90 is typical. A herd of rare breed Red Poll cattle graze low input pastures that are part of a stewardship agreement and also receive the waste feed from the goats. There are also 45 pedigree Kerry Hill sheep. Phil's son is interested in developing a commercial flock by crossing these with a Blue Faced Leicester to produce a mule and may take sheep number up to 200. It is the policy on this farm to keep all livestock enterprises self-contained to limit the risk of importing disease. To this end, all boundaries with neighbouring farms are double fenced. There are 80 acres of winter cereals grown and the intention is to up this to 110 acres in 2013. A small area of hay or haylage is also grown.

Phil says you cannot skimp on labour. He and his wife milk in the mornings, 2 sons work fulltime, there is a farm apprentice who works a 40-hour week and two relief staff also come in. In addition they have someone who comes in to trim the feet of approximately 70 goats each week. All of this allows each family member one day off per week. The parlour is a 30 unit rapid exit parlour can milk 300 goats per hour. He has also gone to a fully automated system with milk meters and all electronic tags. The milk recording is still very labour intensive as samples must be taken but it's just part of the job. It's the same price to milk record regardless of the frequency and Phil is currently doing it monthly but may decrease it to every six weeks to help decrease labour.



Figure 6. The goats coming into the parlour for milking.

An EID (Electronic Identification) system is also present and Phil says this was the best money ever spent. They always carry the 'handheld' with them and all information (deaths, treatments etc) is recorded instantly. All kids are tagged within 24 hours of birth before they are removed from their mother.



Figure 7. The goats exiting the parlour via the 'rapid exit' system.

The herd is vaccinated Johne's Disease and clostridial diseases. Enzovax and Toxovax are used and the creep used to feed kids is medicated to protect them from coccidiosis. The herd is scrapie monitored, free from CL and no animal has ever tested positive for CAE. However, since the animals are permanently housed and exposure to UV light is minimal, resistance to skin diseases is decreased. The standard of kid rearing is exceptional on this farm with a mortality rate of just 3%. Phil is adamant you cannot cut costs here as it will cost money later. A prescription was sought from the local vet and the milk powder now contains 2kgs Chlorosol per bag. This has very positive effect on health however it locks up Vitamin E so kids are administered a shot of it to prevent deficiency.



Figure 8. Goats stand on wood shavings in the collecting yard while awaiting milking.

Recently the practice of washing out the collecting yard has been stopped and it is now covered with a layer of sawdust. This has resulted in a substantial reduction in lameness in the herd from 13% to 4% but it has not improved beyond this (the aim is 2%). Phil thinks this may be down to the drinking bowl setup. Lime is placed under each of the drinking bowls in an effort to protect the feet. However if the shed was being built again Phil says he would provide a grid that would allow water to run away.



Figure 9. The current drinking bowl setup. Phil would change this in an effort to reduce lameness.

Several feeding systems have been tried including looking at various systems used in France and Holland. The base diet is now made up primarily using whole crop cereals. This provides a diet that has high dry matter content and provides good levels of digestible fibre. Phil states that high intakes in the goats are dependent on a high dry matter diet and has spent a lot of time tweaking it to ensure it is correct. He also feels that unlike grass silage, whole crop wheat is a much more consistent forage and that whole crop wheat is well suited to the damp climate. The wheat crop is preceded by a 3-year hay sward that contains red clover. The nitrogen fixed by the clover means that the wheat only requires 50kgs N/Ha. It is sprayed off when still a bit green and is treated with urea before storing in a pit. Phil feels silage is at it's best at about 30% DM. Above this results in mould in the pit and below it leads to reduced intake.



Figure 10. The pit of whole crop wheat fed as part of a mixed ration.

Any waste material left by the goats is removed and fed to the cattle. Phil says you should always have some feed left by the goats as yields will suffer if you try to make them eat it all. A minimum of one linear foot feed face is allowed for each animal, if the goats can't all feed at the one time production decreases. Although the reduction is only about 0.1 litres per head, with large numbers of animals this all adds up. The height of the step at the feed face is also important Phil has found that if the level of the dung rises over the level of the step, intake decreases. This may be due to the fact that goats like to browse and reach up to feed on bushes and shrubs. Intake is hugely important in milk yield and a lot of time has been spent fiddling with the diet to get it correct. The current diet is:

- 52% Whole Crop Silage
- 7% Pea Straw
- 2% Hay
- 5.5% Molasses
- 33.5% Meals

This diet is fed to about 4% of body weight along with 10-20g of minerals per day. The vining pea straw costs £70/tonne and is dried in the field for a week before saving. It has poor feed value but aids rumen function and the goats like it.



Figure 11. The mixed ration is fed along the central passage in the shed. Any waste feed is removed.

Phil 'lights' the goats with only around 4 hours of darkness each day. This practice is expensive but results in an additional 0.5l per head per day over about 6 months. Some of the herd is induced into oestrus artificially also using light treatment. The does are subjected to 60 days of intense lighting in January and February, then the lights are turned out and a Regulin implant is inserted in each animal's ear. Heat results approximately 30 days later. This allows for a conception rate of over 80%. It is important to have more bucks than with natural mating and Phil uses 1 per 40 does rather than 1 per 60 as is usual. Sponging has also been used previously but it resulted in too many multiple births.

The breeding policy is to create a hybrid of Toggenburg and Saanen with males being sourced from as few herds as possible. Males are currently the only animals bought into the farm and must come from herds with excellent health status, good functional type and adequate production. The aim is to breed males from animals that have been proven to perform in the farm system and reduce the number purchased from outside. Since Phil started farming Jane Miller has chosen the males for the herd and has had a major influence on breeding policy. Recently they have formed a partnership with the aim of creating a nucleus herd to produce animals for the commercial herd and also some males for sale. Phil says that Jane's breeding knowledge will be key to the development of both the nucleus and commercial herds. Milk recording has also been carried out over the past year and has allowed the identification of unproductive animals. In general the best animals in the commercial herd are chosen for the nucleus herd. These may not be the very top milking animals but certainly must have the best functionality i.e. good feet, udder size, teat position. Phil says the goats must work in his system, any animals that don't are culled.



Figure 12. A typical example of a high genetic merit goat, note the quality of the udder.

The Cockerham Herd - Sharon Peacock

The Cockerham herd is one of the longest established meat goat herds in the UK, first established in 2000. Sharon Peacock and her husband Chris run the farm and currently have about 420 goats (140 breeding females), run over 40 acres.



Figure 13. A group of grazing Boer and Boer crosses on Sharon's farm.

Some of the animals originally purchased had some Cashmere blood and Sharon has found that this adds to the hardiness of the goats. There are not a large number of purebred Boer goats present as hybrid vigour is an important factor. Pedigree Boer breeders like the 'traditional' look of the breed with a red head and white body, this is not important on this farm. The Peacocks select for size, conformation and productivity to produce the best possible carcass. There also appears to be two distinct body types – a 'long leg' and a 'short leg'. The 'long legs' may come from South African sources. The 'short legs' are stockier in build and may be from German blood lines. The heavier build of the 'short legs' is preferable on this farm.



Figure 14. Some of Sharon's breeding males.

Does receive meals for about a month pre-breeding and also for a month either side of kidding. The does are bred in mid October and kid down in March. This is timed to coincide with grass growth and also helps reduce the winter housing period. Weaning begins with entire males and breeding females at three months. Wethers and females for meat are left on the does for longer. Meat goats are brought indoors and fed ad lib beef nuts and haylage for two months before slaughter.



Figure 15. Goats are housed on ad lib meals before slaughter.

Ensuring the goats have the correct level of minerals is hugely important and the mineral bill on this farm is four times the feed bill. Boer goats have a very high copper requirement and each animal gets a copper bolus every two months. In addition 'Red Rockies' mineral lick is provided for animals at all times. This is specifically designed for cattle but is very useful in avoiding mineral deficiencies in goats. There have been occasional problems with 'crusty' ears and nose. This was diagnosed as a cobalt deficiency and the goats are drenched every 2 months to prevent this.

Foot trimming is carried out every 2-3 months. Unlike dairy goats, meat animals spend most of their time out in the field and there is very little wear on their feet. Kids are castrated in the first week after birth using rings. Leaving males entire would result in an additional grazing group that there isn't room for. However, kids are not usually disbudded on this farm. The vet has done it before on this farm with poor results. Sharon says if anything the horns are useful handles for catching and holding the goats. All goats are wormed once a month and receive a Coccidiosis dose every 3 weeks through the summer. There is no problem with external parasites. There had been some issues when some Angora blood was present on the farm but none with Cashmere. There is also garlic in some of the licks used which is a natural deterrent.



Figure 16. An excellent example of the quality of goat on the farm.

Most of the meat produced on the farm is sold through their website (www.goat-meat.co.uk). In Sharon's opinion there isn't enough profit in it for two people. A lot of first-time purchasers may visit the farm to ensure it is a genuine, quality product. There is apparently a lot of poor quality meat available including some mutton labelled as goat and this has deterred people from using goats' meat. However, most of the Peacock's business is from repeat customers.

The goats are killed in an abattoir then returned to a local butcher. The carcass is then hung for 10 days then butchered and returned to the farm in jointed packs. These are kept in a dedicated storage area. It costs approximately £10 to slaughter the animal and a further £7-10 to butcher, depending on the process. No animals are killed for the Halal trade and none are sold on the hoof.

St. Helen's Farm, Seaton Ross

St. Helen's Farm was founded in 1986 in Barmby On The Marsh, about 14 miles from its current location. There was a small redbrick yard and a total of 5 acres. By 1993 however, it was time to expand and the farm moved to a new location. Work began on the new yard in July 1993 and was completed for milking in February 1994. Some level of construction has taken place on this site every year since, apart from 18 months during Foot and Mouth. Two holdings now make up the farm – Seaton Ross (270 Ha – Goat, Arable, Dairy) and Ottringham (350 Ha – Goat & Arable) and a further 11 farms supply milk for the broad range of products manufactured on site. At Seaton Ross they produce almost 9 million litres of milk per year along with 550 tonnes of yoghurt (full, low and flavoured), 200 tonnes of butter and also some cream. There is also a cheese production unit – Cricketer Farm in Somerset. If an excess of liquid milk is being produced it is sent to the cheese unit. The farm is totally focussed on supplying milk to the consumer, particularly through Tesco and Sainsbury.



Figure 17. One of the storage sheds along with the very recognisable St. Helens brand logo.

The Seaton Ross farm houses 2,500 milking goats and a further 1,500 young stock. Milking takes place 3 times per day for the first 150 days of lactation and then reduces to twice a day – at 4am and 4pm. The average yield on the farm is 1200 litres, varying from 500 to 2800 litres. Protein is 2.9 - 3.3 and fat is 3 - 4.6.

Milking at Seaton Ross takes place through a fully automated 76 unit rotary parlour. However, all feeding takes place out of the parlour. All of the goats have an EID tag and are automatically milk recorded at every milking. They are also weighed as they leave the parlour and this information automatically tailors each animal's individual feeding programme. There is also an automatic drafting facility on the parlour to allow individual animals to be taken out for attention or treatment. Milk sampling is also carried out on a regular basis to test for any illnesses.



Figure 18. A group of kids shortly after disbudding.

Kid rearing is seen as hugely important and there are 2 staff dedicated to it on this farm. All kids receive their own dam's colostrum in the first 6 hours of life and the does are removed by 12 hours after birth. The kids are then fed skimmed cows' milk replacer until about 7 weeks of age when they are weaned at a bodyweight of about 13 kgs. They are disbudded by the vet under anaesthetic. Kids are housed in groups and ventilation can be altered or heat provided depending on the weather. The teats and lines are taken off the automatic feeders every 2 days and cleaned thoroughly. Each pen is cleaned, disinfected and rested after every group to minimise disease.

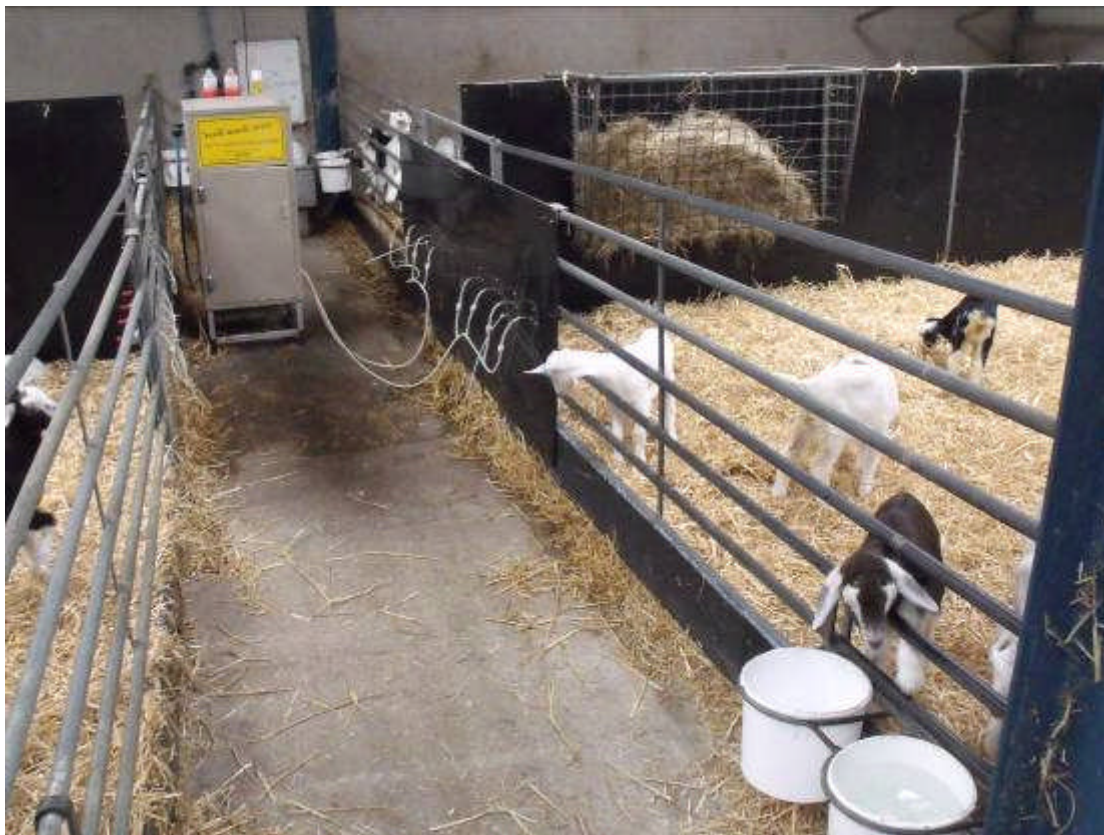


Figure 19. The kid feeding setup. Note the automatic milk feeder, hay and fresh clean water.

Goats are fed a TMR (Total Mixed Ration) in along a feed passage in the shed. Meals are also fed in a rotary unit in each shed, a total of 4 are present on the farm. Maize was previously used as part of the diet but grass and Lucerne are now grown to produce hay and haylage.



Figure 20. Forage is fed in along a central feed passage in the sheds.



Figure 20. Meals are fed in rotary units in each of the goat sheds.

The attitude towards health on the farm is that prevention is better than cure and the vet has a proactive involvement as a consultant, visiting the farm at least once a week. This is a closed herd and disease is kept off the farm. The animals are kept in healthy conditions and are fed very well. The general life cycle of the goats on the farm is as follows:

- | | |
|----------------|----------------------------|
| • 0-6 Hours | Receive colostrum |
| • 0-7 Weeks | Fed milk replacer |
| • 7-10 Months | Served for progeny testing |
| • 12-15 Months | Kidding |
| • 8m – 2yrs | 1 st Lactation |

The dry period after 1st lactation is usually about 2 months and this is followed by a second lactation of 8 months to 6 years duration. The replacement rate is approximately 20%.

To maximise hybrid vigour all of the goats are crossbred. The breeds are as expected – British Saanen, British Toggenburg and British Alpine. All of the females are bred by natural service but some of the males are bred using artificial insemination. The farm runs it's own in-house progeny testing and they have recently begun a project on genomics to help identify the better quality animals at an earlier stage. At the moment new males for breeding are placed with a group of 50 does and then removed from service. Their resultant progeny are then milk recorded to assess yield before the males are put back in service. Collection of data has been very comprehensive and there are records for every animal since the farm started.

Marsh Farm (350 Ha) was purchased in 2007. Construction on a new yard started in March 2008 and milking began in March 2009. It has a maximum capacity of 4,000 milking goats and 2,000 young stock. There are currently 3,000 milking goats and 1,000 young stock present so there is some room for expansion. The goats are milked 3 times a day through an 84 unit rotary parlour. There are also out of parlour feeding platforms for feeding meal. There is also a substantial arable enterprise present at Marsh Farm; in 2012 cropping was as follows:

Winter Wheat	450 acres
Oilseed Rape	150 acres
Winter Barley	120 acres
Vining Peas	100 acres
Grass	30 acres

A wind turbine has been recently completed after a project length of approximately 18 months. It was completed in June 2012, took 2 days to erect and a further 11 days to complete wiring etc. The turbine will produce roughly the same amount of energy as the farm uses on a year on year basis, however the plane of use will be differ considerably. Any power that is in excess of requirements can be sold back to the national grid.

The Philday Herd – Roy Parkin



Figure 21. Roy (left of picture) with some of his goats. Note all the rosettes!

Our final visit of the trip was to the farm of Roy Parkin. Roy is a very experienced goat keeper and takes great pride in breeding and showing his goats which are both Saanen and Toggenburg. A measure of his judgement with regard to goats is the fact that he is a judge with the British Goat Society. Almost every square inch of his main goat shed is covered in rosettes and certificates earned as prizes in various shows all around the UK. Although Roy is a quiet spoken man the group took great pleasure in getting time to see his multi-prize winning goats and discussing various aspects of goat production and breeding with him.



Figure 22. One of Roy's British Toggenburg females.



Figure 23. Excellent udder confirmation on this British Saanen.