Making the best of Laproscopic AI

- We started to use Laproscopic AI in the late 1980's and have had mixed results, although with lots of experience now we have obtained results which are helpful with the general management of our flocks and it has made a big difference for our flocks to reach their exceptional genetic standard.
- When one compares the results we now achieve to cervical AI in cattle, which results in a conception rate of the mid 50% to first service we do very well with the artificial insemination of our ewes.
- This year 139 ewes held to AI from a total of 168 put to the ram. (82.7%)

- **Preparing the Pedigree Ewe flock:**

- **Post weaning** . The day the lambs are removed all ewes are treated with Long acting "Dry Cow " antibiotic and each quarter gets ¼ tube inserted through the teat canal and massaged up into the ewe's quarter. This I learned from my experience with dairy cows. It not only prevents ewes from getting black quarter and dieing as a result but it also clears up cases of mild mastitis which can lead to formation of "lumps" in the udder and blocked teat canals. Any ewe with mastitis is culled.
- All females are kept in good condition throughout the late summer and autumn. Condition Score 3 to 4 is ideal. Routine treatments are that foot problems are dealt with and internal and external parasites are controlled and head fly damage is prevented. Routine vaccinations are also carried out and on our farm all sheep are in the Hetavac P system and shearlings are vaccinated against Toxoplasmosis, a disease one can not prevent any other way if purchased concentrates are fed to sheep.
- All females are kept away from rams and managed as described in the article of how to get a compact lambing. Read about it in the article listed in the shepherding section of www.highindexrams.com

- **Two weeks before** sponge insertion put the teasers with the ewes to be used for AI.
- Book your AI team early in the season and work out when it fits best into your farming system. We used to sell tup lambs at Kelso and therefore had to lamb in January in order to get the lambs big enough. Now we sell shearlings on the farm and lambing in March fits in a lot better with our system and reduces costs considerably.
- On our farm for example we got the AI date for the 6th of October, which meant teasers went to the ewes on the 9th of September, sponges in on the 22nd September and sponges out and PMSG injected on the 4th of October.
- Lambing will therefore start on the 2nd of March (Pens ready by last week in February) and lasts from the 27th of Feb to the 6th of March in practise. The repeats will lamb within a week from a fortnight later.
- **First PD scan** can be done from 35 days after AI. This is only done to identify ewes which are not in lamb but have not come into season again. These are the real problem ewes with AI as they usually will not come in season until next year but appear to be in lamb as they have not returned. Litter size can not be identified accurately at this stage. These ewes will not be in-lamb this season unless given an injection of hormones. This year 12 ewes were identified by this method and given estrumate the day of scanning . 11 ewes returned the next day or two. These will now lamb at the same time as the commercial flocks which start on the 7th of April.
- The main group are scanned from 70 days after AI which also allows the 1st repeats to be identified accurately. This year the Suffolk's scanned at 178% and Texel's at 175%. It is

slightly down from normal as we have had over 200% when we use natural service, but as this season has been the worse weather I experienced in 50 years of active farming in the UK I am pleased with the result.

- **<u>Managing the rams before tupping:</u>**

- **Selecting which rams to use for AI.**
- This really needs to be done quite some time before the AI day. The choice is often limited as stock rams in the flock are related to many females witin the flock and in-breeding should be avoided at all costs.
- Some breeds do have very specific genetic problems and diseases like scrapie can be completely avoided by having rams genotyped and as long as the rams are homozygous resistant all their offspring will not go down with this problem in the next generation. Genetic markers are becoming more and more relevant and it does pay to become acquainted with each breeds particular genetic problems. Selection based on superior EBV's is very important.
- *Signet* publishes the standard for each recorded breed. Using rams with high accuracy percentages and lots of progeny on the ground is the safest way of making progress with the breeding program. Ram lambs will always have lower accuracy figures and if used for the first time are always a risk, as one must never forget that the E within the EBV stands for estimated.
- **Training rams for AI**.
- A few weeks before the AI date synchronise some cull ewes and let the rams mate them. Observe that they mate the ewes properly and inspect the rams to ensure that testicles and all male equipment is functioning. An inspection of the entire ram flock by your Vet may be very beneficial as he can collect semen in an AV (artificial vagina) and examine the semen to check that all is normal. This is really important if there have been problems in the previous season. We like to train all rams which are used in our flock in the coming season. If frozen semen is used make sure it is available well in advance of the AI date. Having frozen semen available as a back-up on AI day is always a good practise as a ram may not produce semen fresh on the day.

- **Feeding of rams before the mating season**.
- This is a real problem subject for most ram breeders. Unless the rams are big and fat most purchasers at traditional ram sales will not even look at the rams, never mind purchase what is on offer.
- So the rams are commonly too fat, fare too well fed and frequently not able to come up to expectations. They are also less active, commonly have liver and other health problems.
- The feeding policy on our farm is now determined by what we consider is in the best interest of the ram. As lambs, they are left on their mothers until ultrasound muscle and fat scanning at 20 wks of age. Their mothers are well fed until grass supplies sufficient nutrients and lambs are creep fed until scanning. This enables us to identify the superior EBV traits more accurately. Lambs reared on grass alone will have very similar scanning results and the difference between individuals can hardly be identified. Post weaning, all lambs are fed solely on grass and clover.
- During the first winter ram lambs are house when the weather deteriorates and fed on silage and concentrates to keep them growing and in fit, not fat condition.
- In the spring all supplementary feeding stops as soon as sufficient grass and clover is available and no additional concentrates are fed right up to their sale.

- Stock rams we retain for breeding and the Shearlings sold at our on-farm-sale on the last Friday in August and ram lambs to be used should be fed in the autumn and we would recommend a good quality 18% Protein concentrate up to 1kg per day for up to 8 weeks as long as there is sufficient grass and clover available as well. This will give the rams a boost and as sperm takes around 6wks to develop should ensure good sperm production.

- **Number of ewes per ram.**
- This really does depend very much on the condition of the ram. We have found that a good tupping ram is hardly ever seen working and once he mated a ewe moves on to the next one. Traditionally 40 to 50 ewes per ram have been quoted but it depends very much on the area the ram has to cover and how active and fit he is. We have produced shearlings whose owners claimed that the ram they purchased from us served 40 pure bred ewes and a few weeks later 120 mule ewes with virtually all lambing within one oestrus cycle.
- As we always have lots of males around we can not verify these figures independently.
- However, the fitter and active they are the better the rams perform.
- The most important is not to leave them out with the ewes too long. Bring them in after use and feed them to build up condition. So many rams are wasted because they are being neglected at the end of tupping. If one wants to have their use for a number of seasons bring them back up CS 3 to 4 as soon as possible. Ram lambs if used are best to be out with the ewes for a maximum of one oestrus cycle , although half a cycle is probably enough for both. We were pleased with some of breeders comments this year
- " Of all the rams we had tested by the Vet pre tupping the rams we bought from you had by fare the best sample of semen." And the comment that pleased me most was " Your rams came back in from the ewes in the same condition they were in when we send them out with the ewes"
- A good tip to obtain low barren ewe rates is a change the breed of ram for the last cycle.

- **Advantages of using AI:**

The main advantage is that the very best rams in the breed can be used. In my opinion these are rams with lots of progeny on the ground in a number of flocks.

- They will have accuracy percentages in the upper 90's and lots of progeny that have performed well. With the use Of the Basco website : www.egenes.co.uk/bascosearchsheep/index/ all recorded sheep and their pedigree and performance figures can be studied in great detail. I spend many hours planning which rams I should use or purchase at the sales or whose semen is available.
- **The cost** per dose is very reasonable: even if it was £50 per dose and 10 would be bought. One could expect to get quite a number of lambs born, which should result in some outstanding females and hopefully a stock ram or two.
- It certainly is an excellent way of improving the EBV's of the resulting progeny as on average it falls between the average of both parents. If this does not happen the EBV's of the parents were not accurate assessed in the first place. Not every breeder is honest as I found out many years ago with my experience in the dairy industry. However, the proven ones with lots of progeny always performed to expectation (good or bad).
- **Lambing** time can be made easier with the use of AI. High value animals are worth looking after really well (This applies to my commercial flocks as well) and having 24 hour supervision is so much more cost effective when plenty is going on.
- **Fostering** is so much easier when lots are lambing at the same time and when you are rearing rams more even batches can be produced.

- **Recording** is more meaningful when the members within the group are just about the
- same age. Frequently rams whose high indexes crash are those which have been an odd member in their group. This is why it is so important to record accurately as cheats will be found out eventually. As we are dealing with animals there is always the odd exception but on average the present system of analysis is pretty good.