J Frame MRCVS
N W Frame BVM&S, Cert EP, Cert VA, MRCVS
C D Swift MA, VetMB, Cert CHP, MRCVS
M W Colston BVM&S, Cert SHP, MRCVS
R G Anderton MA, VetMB, MRCVS
J T Gillon BVM&S, Cert SAM, MRCVS
S D Galloway BVM&S,Cert EP MRCVS

The Veterinary Centre
Carleton
Penrith
Cumbria, CA11 8TZ

Tel : 01768 862454
Fax : 01768 867163

www.frameswiftandpartners.co.uk

29/06/2012 Chris Swift MA VetMB CertCHP MRCVS

CATTLE FERTILITY

What are the main sources of loss of profit in dairy herds?
Infertility, lameness and mastitis.
And suckler herds? Infertility as well, not surprisingly.

If infertility is a source of loss, that means that improved fertility will improve profits.
Why is this? Obvious in sucklers- no calf means no calves to sell in the autumn or whenever. The reason is less obvious in the dairy herd. All vet students know that the optimum calving interval is 365 days, but they don't always understand why.

If a cow calves once every 365 days, she will have a full lactation every year. The greatest milk production is in the first part of lactation. If she has an extended lactation, then you miss out on the peak each year. An extended lactation will give more milk in that lactation but not more milk per year or per hectare.

It is amazing that despite the breeding of dairy cows to produce vast amounts of milk, they still perform most efficiently calving every 365 days. This is how they were originally designed- to produce enough milk for one calf a year and rear the calf! The optimum 365-day interval applies to the vast majority of cows. At the extreme, with yields over 12,000L a year, then an extended lactation may be more efficient as production in these cows tends to have a slower reduction after peak.

What are the causes of infertility?

1) Nutrition

It is impossible for dairy cows to take in enough food to maintain milk production without losing weight for the first 2 months of lactation. A cow losing too much weight is not going to get in calf. As lactation progresses, the cow's appetite increases and her intake will be able to match her needs and she will go out of negative energy balance.

In sucklers, unless the cow is far too fat or thin at calving, or if she is grossly underfed, then energy deficiency shouldn't be a problem. Suckler cows have a natural 'lactation anoestrus', which means that when they are suckling they don't come into season quickly. In sucklers in marginal conditions and especially if their feed is not being supplemented, then primary mineral deficiency is probably more common. Copper selenium and possibly phosphorus and cobalt levels need to be looked at.

J Frame MRCVS
N W Frame BVM&S, Cert EP, Cert VA, MRCVS
C D Swift MA, VetMB, Cert CHP, MRCVS
M W Colston BVM&S, Cert SHP, MRCVS
R G Anderton MA, VetMB, MRCVS
J T Gillon BVM&S, Cert SAM, MRCVS
S D Galloway BVM&S,Cert EP MRCVS

The Veterinary Centre
Carleton
Penrith
Cumbria, CA11 8TZ

Tel : 01768 862454
Fax : 01768 867163

www.frameswiftandpartners.co.uk

In dairy cows it is essential to maximise food intake. This applies to the late dry period and early lactation in particular. On a TMR or partial TMR ration cows will eat most if fed a fresh mix twice a day and the feed is pushed up several times a day.

To complicate matters, if you try to feed a too energy dense ration then there is the risk of acidosis! This also affects fertility.

2) Management

To achieve a 365 day calving interval or get as close as possible to it, the average calving to conception interval should be 365 minus say 280 days (the pregnancy), so 85 days. Cows take on average 2 services per conception so the *average* calving to first service interval should be about 65 days (e.g. one service at 65 days and one at 85-6 days). In order to achieve a calving to first service *average* of 65 days, half of the cows should be served by 65 days. That would mean starting to serve at 55 days post calving. However at the very most only 2/3rds of heats are detected, so you should start to serve at 45-50 days post calving. It is surprising how many farmers delay first service too much which puts the whole herd's calving interval well over 400 days.

The other problem is that of heat detection- most herd managers know that cows need to be served from 50 days calved, but struggle to catch them bulling. Cows with energy shortage can show very short or even silent heats. Modern aids like 'heat-time' or 'moo-monitor', which monitor cow neck movement, or pedometers are a big help. Nothing replaces time spent watching the cows though- especially last thing at night.

One of the main management problems in suckler cows is that of extended breeding periods. It is natural to want to produce a calf even though it is late in the season but that means leaving the bull in for too long. The trouble is that the following year cows will be calving even later and struggle to get in calf in time. Use the bull in the same way you do the tups!

3) Infection can cause infertility

Individual cows suffer a lot from uterine infections after calving. These don't spread from cow to cow but do need treating by the vet.

On a herd basis, BVD, leptospira and to a lesser extent IBR can cause infertility. If a bull is used then campylobacter is a very important possible cause.

4) The effect of the male

J Frame MRCVS
N W Frame BVM&S, Cert EP, Cert VA, MRCVS
C D Swift MA, VetMB, Cert CHP, MRCVS
M W Colston BVM&S, Cert SHP, MRCVS
R G Anderton MA, VetMB, MRCVS
J T Gillon BVM&S, Cert SAM, MRCVS
S D Galloway BVM&S,Cert EP MRCVS

The Veterinary Centre
Carleton
Penrith
Cumbria, CA11 8TZ

Tel : 01768 862454
Fax : 01768 867163

www.frameswiftandpartners.co.uk

If a bull is being used this is 'half of the herd'. Up to a third of bulls can be sub-fertile or even infertile. You should get your bulls semen tested by your vet- now fairly straightforward with the right equipment.

In dairy herds AI is normally used. Generally speaking DIY AI is slightly less reliable than using an AI company- through rusty AI technique or sloppy semen handling. Sexed semen has a lower fertility as well.

To summarise to look on the bright side, there is scope in all herds to improve fertility and profitability. For you sucker farmers, get PD's done promptly, get the bull stud tested and look at mineral levels.

For the dairy chaps, be pro-active. A routine regular vet visit is essential- weekly for 200 plus cows, 2 weekly for 100-200 cows, monthly for fewer than 100 cows. Get your average days in milk down to say 170 days and your milk production will increase.