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Fertility Problems Genetics, Nutrition or Management?

Obviously, all three are involved, but which is the greater of our problems? Genetics is fairly simple. From my reading, it is reported that the genes that increased milk production have also reduced fertility. There is a worldwide assault on this problem amongst genetics scientists.

I have chosen deliberately to raise this subject before writing on transition management to try arousing greater interest in the connection between these two. Infertility has been a favourite subject in recent years as it appears to be increasing. I am firmly convinced of the magnitude of the connection between transition management and infertility. Management of, and through, the joining period, and the actual joining program, certainly needs greater attention also.

Transition Management is essentially a nutrition issue. Quoting Dr Robert B Corbett, "First service conception rates are a good way to evaluate the success of the transition cow program. In every case I've observed, where there was a major improvement in the management and nutrition of the transition cows, there was a dramatic improvement in the first service conception rate, especially in first calf heifers."

Dry matter intake just after calving is a major problem that immediately puts our cow into negative energy balance. Dry matter intake post-calving is directly related to transition feeding. A cow that goes straight into; and often already is in negative energy balance prior to calving, will mobilise excess body fat leading to Fatty Liver Syndrome and inevitably, ketosis.

It takes 60 days for an egg to ovulate from the ovary once it has been stimulated to mature. If our cow was in negative energy balance in the first two weeks after calving, and most are, the quality of the egg stimulated at this time will be poor. Frequently, the voluntary wait period to first breeding is 60 days! Our first service is trying to fertilize an extremely poor quality egg; hence Dr Corbett's comment above. The worst time to breed a cow is 60 days after calving.

Research has shown, a good transition program and a voluntary wait period of 80–90 days have not increased average days open. Further, increased first service conceptions rates have reduced semen costs. Finally, on the nutrition side, and I'll elaborate far more next month when discussing transition management, I've had several reports of improved

conception/fertility with the feeding of by-pass fats (not digested in the rumen) in early lactation, countering negative energy balance. We will trial this and observe for improved fertility this season.

Although transition management is very much a nutritional issue, its success is due almost entirely to management. However, I want to separate this from 'breeding management', for I'm convinced there is another management problem here that is contributing to fertility problems.

I have been involved in a large herd for the past twelve months that has had significant fertility problems. A new manager took over this herd about the same time, and very eager to restore viability to this herd in the area of fertility, set about studying the breeding history. Fortunately, there were considerable computer records to search. The new manager became convinced a significant portion of the fertility problems lay simply in the math. By this I mean, number of opportunities for cows to become pregnant. There has been a dramatic increase in pregnant cows in this herd with expanded breeding (AI) time.

During the 'eighties' I owned a dairy farm at Murray Bridge in SA. Transition management was unheard of then, but the Australian dairy industry had made major improvement in herd genetics increasing milk production, but also bringing on all the metabolic disorders we now address with transition management. The Murray Bridge Veterinary Clinic, in a valiant attempt to address the growing metabolic disease problems, and to their credit, set up a herd health program. At this time we practiced very tight seasonal calving, so fertility was a foremost.

It was a very intensive program with cows having at least two internal examinations, and treatment if necessary, prior to first service. By the time I inseminated cows, we knew they were free from uterine infection, cycling with healthy corpus luteum. Naturally, we had very good conception rates. In recent years I've thought a lot about this program with fertility issues appearing to be on the increase. I think the full program would be neither cost effective, practical with larger herds now days, and unnecessary with good transition management. However, I think there are some key activities we could do that would benefit our herd fertility.

Perhaps the greatest failure of transition management is simply cows are not in the program long enough. This is due mostly to not having accurate calving dates. We've been content knowing she was pregnancy tested in-calf at dry off. Under the above program, all cows were pregnancy tested at 4-5 weeks after insemination! Anything not in calf, after another corpus luteum examination, went straight into a synch program. Early pregnancy diagnosis alone, and subsequent examination/treatment, would decrease days open dramatically, give us peace of mind, and perhaps the best start to next lactation by knowing accurate calving dates and hence timely beginnings to transition management.

As with all influences that decrease our farm incomes, there certainly are external forces that we have little control over directly, however most also have ample room for "self-help".
Herd fertility is well within this category.