Deer herd reproductive performance : A commercial farmer's view

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Introduction

Much of my opinion on this topic has been formed from readings of work done by members of my audience. Parts have evolved through practical experience, and the balance has come in the form of practical answers to a set of unique situations caused by the scale of the operation I manage, including Glen Echo Station.

Trial and error, and a strong belief that *To set mediocrity as a standard is by no means acceptable – one should in all things strive for excellence* has formed much of the opinion expressed here.

Part of my employment brief is to manage a crossbred breeding herd, for meat production, which encompasses in excess of 30,000 hinds on a range of properties from South Canterbury to Western Southland.

My deer farming philosophies for this operation are founded on experience over the past 15 years, and in particular, over the last 3 years at Glen Echo Station which is situated in the Te Anau Basin

Pathways to reproductive performance

There are several key words which epitomise my views on reproductive performance:

Feeding **Fertile (fertility)** **Forget**

The Oxford Dictionary defines feeding as: give food to: supply support: fodder, pasture: allowance of fodder.

The second word "Fertile (fertility)" is defined as: capable of producing offspring: producing abundantly.

The third word "Forget" is defined as: to lose memory: to neglect: overlook.

The three words are linked by a common denominator, being: To neglect or overlook the allowance of fodder, abundant production declines. The old adage of *90% of production goes down the throat* is so true.

Genetics, genetically engineered reproduction, synchronized mating, scanning for fertility and sire ratios, topics that should be included in my presentation, get only a scant mention.

So often pasture management is forgotten and other reasons are blamed for poor reproductive performance

How often do you see calving or just calved hinds on poor quality seedy rank pasture?

Mating

Mating management in my organization starts on 15 January or thereabouts – when hinds and fawns are carefully and quietly moved from calving mobs onto rotations. These mobs normally amount to 400-500 hinds plus fawns, and rotation length varies from 21 to 28 days. Calving paddocks are topped as or after the rotation progresses. The effect is quality summer pasture, with a high legume low stalk/seedhead content. Ideally we try to only utilize 60% of the available feed. Should growth be such that rotations prove too long to keep quality, they can be sped up, or the "mops" (beef cows) are introduced.

In summer dry areas, and Glen Echo Station had that experience last year, supplements were used in the form of grain and baleage, the net effect of quality feed was achieved. However, this needs to be managed prudently from a financial aspect, the balance being next season's fawning being on target offset by a slightly lower figure on this season's balance sheet. Invariably one of the two years will be down financially.

The theme here is don't forget to do something! High production will not continue if inputs are reduced.

Our paddock hinds are therefore rotated from mid-January until late February when we wean our first calvers. The other half of the property, "The Hill", which only accommodates M/A hinds, is weaned post-rut starting 10 May.

Weaning

Experience has shown that comparable aged hinds off the hill, weaned at the same time as paddock hinds, wean their calves 14 kgs heavier than hinds from the untopped paddocks and 7 kgs heavier than topped paddocks, and following these mobs through the 12 months indicated approximately 6% increase in calving per group.

Interesting statistics – not scientific, but still interesting.

We wean first calvers pre-rut, to allow hinds time to pick up after lactation. Previous rotations have built a bank of quality feed on which to, dare I say FLUSH these hinds. And the stress of having thousands of weaned fawns is cut in half.

Weaning whenever, is a matter of personal preference, but again the availability of quality feed for hinds and fawns is paramount. Too often the thought that fawns need that milk is the reason for having fawns still on hinds, but in fact hinds are eating the quality feed and fawns are just surviving on milk and having their potential retarded.

It is essential that weaning is as stress-free as possible, for fawns, for hinds, and for managers. Our weaning is managed so mobs are weaned, fawns are shifted to our finishing properties, vaccinated,

drenched and weighed into weight ranges, and hinds are culled. All animals are back into their own or new environment within 8 hours.

All wet/dry and dry hinds, irrespective of age, are culled. Experience with sheep and cattle has shown me that a first time mum who doesn't rear an offspring to weaning invariably repeats this every second year. Taking that philosophy into deer farming, if a hind cannot produce better than 50% over her natural breeding life then I don't want her. Maybe the poor national fawning percentage is attributable to this - where an industry in relative infancy has retained as many as possible of available breeding females.

Sires and mating management

Sire stags are selected and age-grouped, and mating mobs are apportioned accordingly. Ratios of hinds to stags varies from 1 : 10 in first fawners mated with spikers out to 1 : 50 on M/A hinds.

No single sire mating is practised, nor do mating mobs have the luxury of free paddocks between stags. Well fed, content hinds are the feature I am looking for during this period. Mating mobs can be from 80 hinds – up to 800. This is dictated by the scope of the block or paddock used. Usually 3 stags per mob is a minimum and 15-20 maximum. I find where 3 are used 2 can fight and one can be sneaking around doing the job.

Fifteen-month hinds are this season averaging 90 kgs l/w at present, with a minimum l/2 of 84 kgs and a maximum of 106 kgs. Mixed age hinds I expect to be in the range of 100-115 kgs at mating.

Reproductive percentages

Last season at Glen Echo with a herd that comprised 54% first fawners, survival to weaning x hinds to stag produced an 81.7% weaning, a result achieved without pregnancy scanning.

Variances in fawning mobs ranged from 77-93% survival to weaning.

Deaths recorded in fawns over fawning equated to 6.13% of hinds fawned (records kept in paddocks from first fawners only, as impractical to record on the hill).

Somewhat disturbing to me is these results were achieved without pregnancy scanning, where the previous season all first fawners were scanned pregnant onto Glen Echo and a disastrous result of 66% was achieved. Allowing for a mortality of 5-8% at birth, at least 92% should have been achieved.

I question the accuracy of farmer records as to stag removal dates, and the experience of some scanning technicians outside qualified vets, something I believe could be tightened up a little. I also have concerns regarding the embryo set period 38 days after stag removal.

The least disturbance any animal has *after conception the better the final result.* So in future scanning will be used as a minimal management tool. Unlike sheep I am not wanting to identify multiples for feeding reasons.

The question of fawn mortality is also of concern. My views are again tempered by sheep experience

Until I started culling all non-lamb bearing ewes at weaning, progress in lifting lambing percentage was slow. But an increase of 40% was achieved in 4 years with ruthless culling criteria.

Allowances should not be made for weather; if one hind can mother a fawn in cold, rough conditions in the same environment and her peer loses her fawn, why should I keep her? People tend to say financially I cannot afford that high a culling – financially you cannot afford under-achievers to drag down the average.

Nothing is impossible: *to set mediocrity as the standard is by no means acceptable.*

Post-rut management

Post-rut feeding is very important. After the rut, hinds are winter fed brassicas and baleage. Both are treated with minerals, especially copper.

Hinds are wintered in age groups, and mob size varies from 1000-3500. Daunting? YES, but achievable with little or no stress

Last winter 3,500 first fawners wintered in one mob and a condition score resulted in 4% being taken off in the late winter. These have been identified and are destined to be culled at weaning. They will be repeat poor performers under social stress. The key is stockmanship; an all-encompassing word.

Trace elements

Mineral deficiencies: ie: copper, selenium, iodine, cobalt

It is now policy to spray baleage paddocks pre-cut with a dressing of 250 grams cobalt, 200 grams zinc, 400 grams copper, 50 grams iodine, selenium and boron, mixed with 1.5kgs of urea as a wetting agent in 100 litres of water per hectare.

Grassed pasture has the same concoction sprayed on during the growth period and swedes are sown with a mineral mix with high copper.

To treat 30,000 plus hinds and progeny with copper bullets is rather arduous to say the least, and expensive if the labour content is factored in, plus the stress, and the poor retention of bullets. I have seen hinds disgorge bullets as long as 24 hours after application.

It is apparent that deer copper requirements are greater than sheep. My theory is little and often with mineral supplementation, rather than the 6 kg per hectare recommendation so often quoted, and wait and see.

Use of wapiti/red hybrids

I referred at the beginning of this address to running a crossbred herd, that being a hybrid animal, bigger than the traditional red, smaller than a Fiordland Wapiti and preferably with no elk influence.

I make no apology to the Wapiti Society if I tread on their toes, but it is horses for courses. Too often the purest in the breeding game influence farmer decision, and more often a mix-and-match of types is required. I want the hardiness of the red and the size of the wapiti combined in an animal so I can maximize per hectare production

Unfortunately this type of sire is difficult to find with all the attributes I want. These are temperament, structure soundness, depth of carcass, thick meaty ham.

Why doesn't the deer industry have the black-faced ram equivalent? Unfortunately sires have been bred for velvet production, and scant attention has been given to meat production or the background information relating to birth weight/weight gain/100 day weight etc. Sire selection without this information is invariably made by eye appeal

The sheep industry has sheep-plan, the cattle industry beef-plan. We as commercial farmers need the deer equivalent up and running to be able to make informed purchases, and then maybe we could meet the high price expectations of some stud breeders with some assurance of economic benefit to our own operations.

Animal health

Yersinia vax is administered firstly at weaning and then 4-6 weeks later. Weaners are drenched from weaning on, as dictated by worm burdens, through until winter. A further drench if required is administered December/January period to brighten up replacements coming into the rut.

It has been policy to make one further drench pre-fawning for first calvers. M/A hinds get no drench, nor does anything get the clostridial vaccines.

Conclusions

Do the basics well and many of the associated problems will look after themselves. Reproductive performance is a coupling of two words: ***Feeding*** = ***Fertility***.

To veterinarians the challenge is to disseminate the knowledge research has gained tempered in a form that is understandable to practising farmers.