

# Sire reference at last?

Two years after its most recent dabble into sire referencing, a back-to-basics movement within the Red deer industry is returning the focus on animal performance and the establishment of objective recording criteria.

**Hugh de Lacy** reports.

**There's a concerted** push from the NZ Deer Farmers Association Council in the direction of sire referencing.

Already, AgResearch Invermay is planning to start using its own herd next year as the basis of an evaluation programme for Red strains and sires.

The aim of all parties is to get underway the sort of evaluation work everyone hoped would be triggered by Ambreed's small sire-referencing experiment several years ago.

Perhaps it was the high cost of artificial insemination, or even of semen — at least compared with the cattle industry — but progress down this path ground to a halt after Ambreed's initial trail-blazing effort.

Now the momentum, both scientific and political, seems to be back, and the deer industry is heading down the performance improvement road again.

In pondering the slowness of the deer industry to follow successively the dairy, beef and sheep industries into sire referencing, Invermay's Dr Ken Drew takes the case of a breeding field day he attended in the South Island 15 years ago.

The focus of wonderment that day was the breeder's 14-month Red spikers.

They were all hitting the scales at a phenomenal 125 kg, seeming to support the breeder's contention that this was evidence of genetic superiority.

But over behind the macrocarpas, Drew recalls, was a row of four silos. Drew eventually extracted from the breeder the admission that he'd been feeding out large quantities of maize, imported at no doubt horren-



The NZ Deer Farmers Association is hoping to encourage better on-farm genetic recording, that will eventually yield Estimated Breeding Values

dous cost from the North Island.

It was this rather than the genetics that accounted for the impressive size of the animals on display.

"People who saw those spikers as evidence of fabulous genetics, to the degree of buying a stag off the place, were going to be desperately disappointed," Drew says.

The moral of the story is that, in the absence of objective recording, it's all too easy to confuse genetics with feeding and environment.

Without the base for objective measurement that sire referencing provides, the battle among stud breeders is reduced to one of hype, not genetics.

So, beginning with next year's breeding programme, Invermay will

begin by using its own closed and well-defined herd as a base through which to look at both the different sires and the different strains within the national Red herd.

A range of reproduction techniques — artificial insemination, embryo transfer and *in vitro* production — will be employed to get the ball rolling towards a full referencing scheme, where the sires represented in the research herd are also widely represented throughout the country.

From there the scheme will expand to incorporate factors like velvet nutrition, while also spinning off into expected advances in reproductive techniques themselves.

Drew says he understands the tra-

ditional reluctance of breeders of imported strains to become involved in sire referencing. There's the chance it'll pop the bubble of the claims they have been making about their top sires.

But he and his team have lately encountered growing enthusiasm and practical support from stud breeders right across the range.

"That's a sign of maturity in the industry," Drew says.

From the early 1970s to the mid-1980s, the farmed deer herd was made up of animals caught in the wild, but the subsequent importation of European strains, at huge cost, created a situation not experienced by any of New Zealand's other pastoral industries.

"There's a big variation between, say, Charolais and Angus cattle, but the variation between NZ Red deer and European deer is huge — and if you throw in a few Elk influences as well, you've got massive variability," Dr Drew says.

"Integrating that genetic mix is really difficult, and presents the deer industry with unique problems."

These are compounded by the "understandable acrimony" between imported Red breeders and Elk/Wapiti or hybrid breeders.

They are all telling the commercial farmer that when it comes to replacements — as distinct from terminal siring where the Elk/Wapiti is presently unchallenged — their particular genetic flavour is the sweetest.

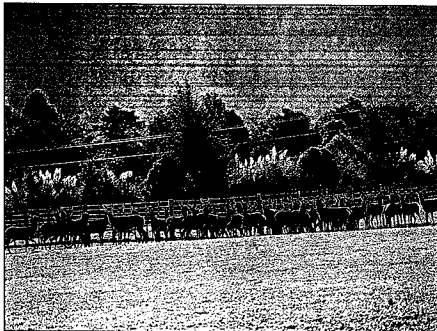
**As to which** direction the commercial farmer should look for the breeding of replacements, both Drew, and fellow Invermay AgResearch scientist Tony Pearce, are adamant they should stick with Reds.

"The Red deer hind, with all the different genetic influences available to her now, is the powerhouse of the industry," Pearce says.

"She's where it starts and finishes, and the more we can improve her the better."

He envisages the best 40 per cent of commercial hinds being put to a sire with top proven Red genetics, producing enough hind fawns to select replacements from.

The remaining 60 per cent of hinds



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would routinely go to a hybrid terminal sire.

But only when the leading strains and stags have a body of objective performance recording behind them, can commercial farmers start breeding replacements in the confident expectation of them expressing desired traits.

Once there's objective referencing of sires, farmers can select for factors like earlier fawning, better lactation, faster weight gain — and still make gains in the associated velvet genetics.

Ken Drew believes that the role of the imported Red strains is to improve the performance of the Red hind in the commercial herd.

"I would expect that the NZ deer herd remains Red deer, but there's a big place for Wapiti hybrids as terminal sires.

"If we're looking at doubling or tripling our venison production over the next five years, it's the Elk/Wapiti sires that will make it possible. That's because they'll get up to a top quality commercial carcass weight of 55-65 kg about six weeks earlier than the best of our Red deer."

Pearce adds that, if you start increasing the commercial hind's size for meat production by way of Elk/Wapiti influences, "the efficiency equation goes out the door".

"While you can certainly produce larger calves from larger cows using larger sires, and your metabolic stock units per hectare in theory remain the same, in fact the different needs and behaviour mean the stocking rate ultimately comes down. There's also a risk of a slight reduction in reproductive performance."

And even if the market suddenly began to demand a bigger core product than the 55-65 kg carcass, and larger hinds were needed, there's plenty of scope within the diversified Red genetic base to produce it.

"You start with a Red hind with the selection pressure on it and, because you only need a 10 to 20 per cent annual replacement rate, you can concentrate on the top 40 per cent of your animals and select hard for the traits you want," Pearce says.

While the research end of the industry gears up for its foray into sire referencing, the same push for improved animal performance is coming from industry politicians.

At the national level the NZDFA is hoping first to encourage the development of better on-farm genetic recording tools, then to get FORST funding for an evaluation of available recording packages that will eventually yield Estimated Breeding Values (EBVs).

"It's one thing to go out and do the recording, but it's another to have the tools or mechanism to use your records to make genuine genetic progress," NZDFA president John Spiers said.

At the regional level the association is pushing for improved uptake of technology by the commercial farmer.

"One of the NZDFA's biggest bugbears in terms of research is that you can do all the science in the world, but unless you apply it on the farm it's not of much value."

Technology transfer is the object of the NZDFA's provincial farm focus projects, one of which began on Spiers' home turf of the Hawke's Bay in September, "...because we know there's an enormous gap between those who are deer farming and doing it well, and those who are just doing it".

With its raft of structural and political reforms now behind it, the deer industry is at last free to address the one area of its operation where it lags decades behind the other pastoral industries — the measurement and improvement of animal performance.

For Spiers and the NZDFA, no less than for the scientists at Invermay and elsewhere, it's a change of focus that's as welcome as it is overdue. □