

THE POTENTIAL FOR COMMERCIAL DEER FARMING
IN NEW ZEALAND

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In New Zealand, as of this moment, the introduced red deer and several of his ungulate relatives are alternately regarded: (1) as noxious animals to be exterminated in the interest of forest and range conservation, (2) worthy game animals to be maintained at reasonable levels for the benefit of the "sportsman," or (3) as a source of red meat for a ravenous overseas market to be hunted down in volume by helicopters. The conservationist and the sportsman are old forensic antagonists squabbling loudly over what constitutes a "reasonable level" of wild deer herds,¹ but both of these moderately responsible parties and the man-in-the-street as well, have been totally repulsed by the tactics of the commercial hunters with their aerial approach.² Bloody slaughter of the deer aside with its danger, even likelihood of complete elimination of the species, they have openly flouted government statutes regulating regional concessions and waged an intramural war of sabotage and gunfire as each attempts to reap the profit before the other.³⁻⁴

And there is an immense potential profit. Minor illegalities and the risk of casualty or incarceration seem little enough to risk. In 1973, dressed New Zealand red deer carcasses were being purchased eagerly on the West German market at over \$1.00 (U.S.) per pound wholesale, more than double the price of beef, the most expensive of the standard domestic meats. Moreover, their hides (for suede leather) and horns (pharmaceuticals/aphrodisiacs in China) have proven to be lucrative by-products.

New Zealand's wild deer herds are sizable and free for the taking, but given this response to the opportunity for free enterprise profits by commercial hunters, and with the realization that bigger markets than that of West Germany might well be opened up, government planners are beginning to ask, "is this the route to

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the responsible use of a national resource?" How about deer farming, if it could somehow be managed, after the fashion of other commercial meat producing enterprises: (1) domesticated herds to be slaughtered in registered abattoirs, (2) official inspection and certification of all meat as fit for human consumption, (3) controlled breeding and the application of modern genetics, (4) disease and parasite control, (5) supplementary feeding and general nutritional supervision?⁵

Research Findings in Nutrition

But can a wild animal be domesticated "on demand," so to speak, without some sort of long-time evolutionary development? No one knows the answer to that conundrum precisely. However, over the past five to six years three sponsored pilot projects involving European red deer (one in Scotland and two in New Zealand) have produced some provocative indicators. K. L. Blaxter of the Rowett Research Institute, Aberdeen, Scotland, reporting in 1972 on the two-year-old joint effort by the Institute and the Hill Farm Research Organization, says:

Our current studies of deer biology at the Rowett Institute are so surprising and so remarkable that we may well reconsider [previous] plans weaned calves [fed] on a concentrate diet, together with high quality dried grass can grow up to eight pounds (3.6 kg) per day* with feed conversion efficiencies for stags of less than three pounds (1.4 kg) dry matter feed per pound of gain. This is a conversion considerably better than that achieved by cattle, slightly better than that obtained with intensive lamb production, and approaches feed conversions noted with pigs. Marketable carcasses could be obtained in six months what is so remarkable, and what we had not realized was the high growth potential of the unimproved animal and its incredible food conversion efficiency.

Blaxter is further moved to add:

These findings alone make one begin to ask questions which are not about deer farming at all. What indeed have our animal breeders been doing in the improvement of our cattle and sheep when a wild animal properly fed can compete on equal terms?⁶

*Without accusing the well-regarded Blaxter of exaggeration, this figure of eight pounds per day is questioned by many as almost unbelievably high.

The Rowett-H.F.R.O. experiments have further demonstrated that red deer venison is a very lean meat with a high proportion of the fat that does exist in the unsaturate form,⁷ and that the carcass dresses out at a percentage of 53 to 58 percent (beef and fat lamb are normally under 50 percent).⁸

At Lincoln College in New Zealand a small number of deer have been run on a five acre plot of improved pasture since 1968 (Fig. 1). They averaged about five animals per acre and those five animals produced approximately 140 pounds (63.0 kg) of dressed venison--roughly the same meat production as beef cattle or prime lamb. The addition of concentrates to the diet pushed the weight conversion factor up to a figure very close to that achieved in the Scottish project. And some of the mature deer are amazingly large, a three-year-old stag weighing in at 400 pounds (180.9 kg) [vs. 150-200 (67.5-90.0 kg) wild herds].⁹

The most recent of the pilot operations began in 1973 with ninety herds running with stags on fenced hill country at the Invermay Agricultural Research Centre, Mosgiel, New Zealand (Fig. 2). This government experiment station will begin its investigations with the calves of these hinds. Already a number have been weaned at an average weight of eighty-one pounds (36.5 kg). A nutritionist, biologist, and veterinarian constitute the professional team and they are investigating a wide range of matters germane to practical farming.¹⁰⁻¹¹

The "Noxious Animal" Label

So there are a number of clues already from these recent and limited studies to point to some possibility of success in the deer farming venture. And it would seem that, given continued high prices in Europe, many New Zealanders would be eager to get in on the ground floor of a promising new style of animal husbandry. A few cautious souls have surfaced, but they and other likely participants are held back by, among other lesser things, the major deterrent of a bureaucratic classification--deer are designated as NOXIOUS animals.¹² This is a serious bit of business in New Zealand. With no native mammals other than the bat and man, these islands are probably the world's greatest example of the introduced species. Every known living thing, it seems, was brought in and

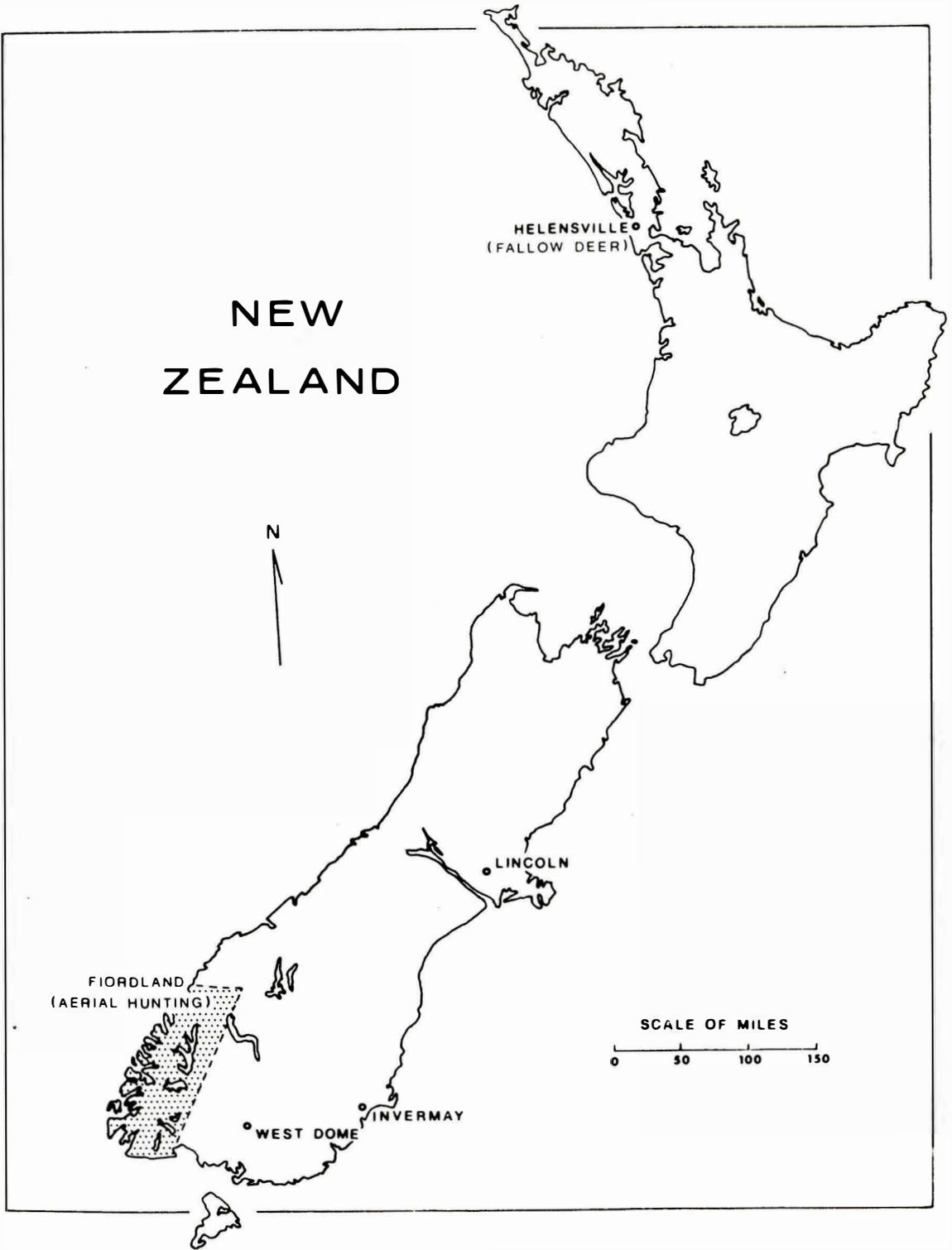


Figure 1. Deer location map.

multiplied. The bear and squirrel were for some strange reason never introduced and cattle and sheep did not go wild. But a wide range of ungulates were and did.

This means, for instance, that a potential deer farmer in the North Island could not utilize the red deer because no noxious animal may be removed more than twenty miles from his normal habitat, and much of the North Island is uninfested. Certainly a mule deer with his blocky build could not be imported from North America to blend his genes with those of the red deer thus producing a larger, meatier hybrid. Who needs another outsider to go wild? Even where hybridizing occurs in nature, as is the case in the far south with the Wapiti resulting in a very large animal, their range is extremely limited and by statute shall remain so.¹³⁻¹⁴

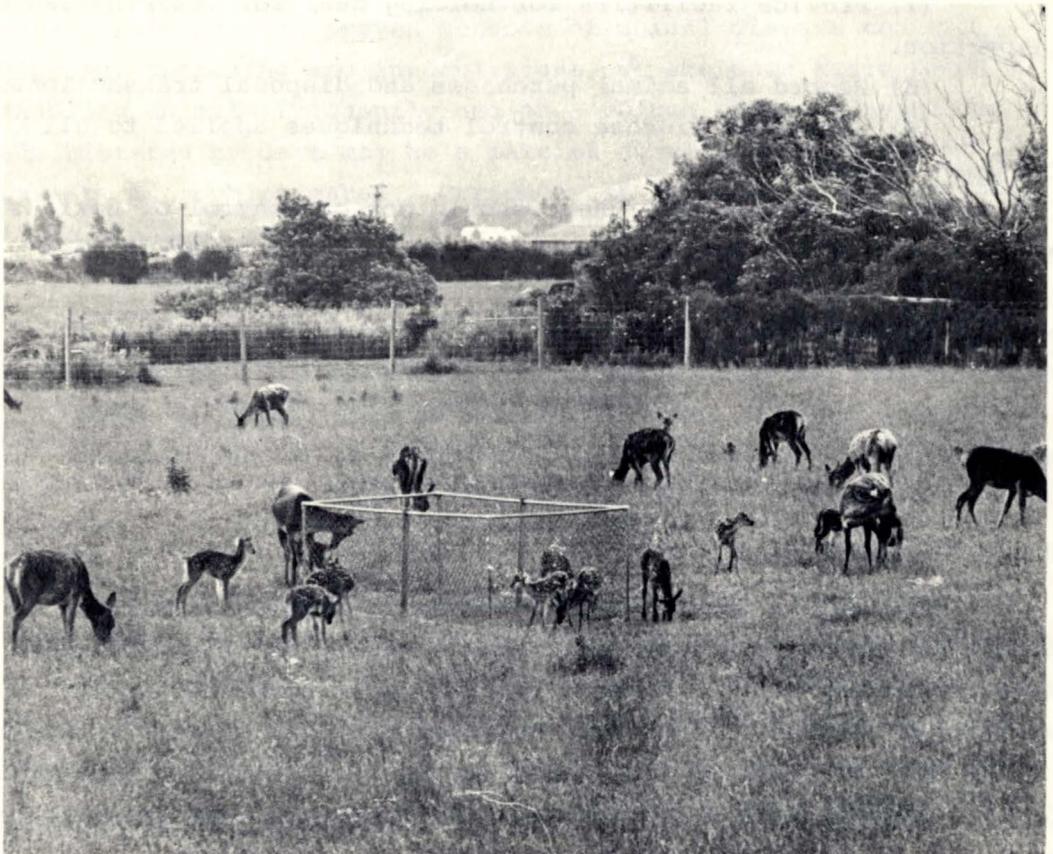


Fig. 2. These does with calves have just been brought in off the hill country range at Invermay for close observation. From the Scottish experience it is anticipated that the calves will be docile subjects. Note the distinctive 6-1/2 foot mesh fence enclosing this paddock. (Courtesy - Invermay Agricultural Research Centre)

An individual can obtain a license to Hold Noxious Animals in Captivity from the Forest Service, but it was intended for the capture of only small numbers of animals for study or display, certainly not for commercial farming, and it is hedged with restrictions. In 1969 the Department of Agriculture and Fisheries agreed to issue an out-and-out deer farming license replete with special regulations, but withheld any provision for reclassification of deer as noxious animals. The holder of such a license is left unsure of his exact status and that of his captives. In the meantime he is ordered to:

(1) Maintain perimeter fences and gates at least 6-1/2 feet (2.0 m) high.

(2) Provide facilities for holding deer for veterinarian's inspection.

(3) Record all animal purchases and disposal transactions.

(4) Adhere to disease control techniques applied to all confined animals.¹⁵

No one argues that there should not be control of noxious animals, but to hamstring a promising new enterprise seems unenlightened. The Forest Service with its total extinction policy and the Deerstalkers Associations who require deer in order to function have reached an unofficial accommodation. So has the Park Service and the large commercial venison companies whose helicopters are allowed exclusive concessions in the National Parks. Apparently the law can be bent a bit.

Other Problems

But beyond these simple problems of noxious bureaucratic labels and inconsistencies there remain some practical difficulties yet unresolved.¹⁶ A basic one is how to move and handle animals in sizable herds. Red deer appear to be moderately docile if the holding paddocks are large, especially those bred in captivity.¹⁷ Fencing with 6-1/2 foot (2.0 m) high wire mesh is normally adequate, although the people at Lincoln cite a panicky doe who cleared an 8-1/2 foot (2.6 m) fence equipped with a trip-wire well inside, and two other full-grown animals who went through the 1-1/2 foot (0.5 m) square mesh. Handling and herding become necessary if the deer are to take advantage of relatively large

acreages of unimproved pasture and scrub and must be rounded up at various times, certainly for slaughter. Very little experimental work has been done with dogs, but the limited experience at Invermay indicates possibilities if the dog is quiet and keeps his distance. The remarkable "eye" dog utilized by sheepmen may be valuable here since he relies entirely on unobtrusive position and a hypnotic eye.

There are also some questions regarding disease and its prevention. The Scottish study has indicated a few problems, the one at Lincoln none at all.¹⁸ But it does without saying that as large herds are developed the danger of disease in general and even epidemic increases at geometric ratios. So if we must ultimately rely on such proven methods of animal disease control as dipping, drenching and inoculations, we are once again faced with handling animals frequently and on a volume basis. Tranquilizers administered by dart may be a partial answer, but the system will have to be sophisticated. Currently it is slow, costly and always there are some casualties.¹⁹

Herding a semi-wild and naturally high-strung animal to the abattoir suggests yet another problem. If he is slaughtered in a state of high tension or panic the flavor of the meat will be affected, or so the flavor chemist tells us. He also is of the opinion that ingestion of even small amounts of "tame feed" will alter the taste and cites wild pigs vs. domesticated hogs as an example. And who wants venison that has lost its wild flavor? Of course he should add that deer forced out from cover to flounder in the deep snow of Alpine slopes and then gunned down by helicopter crews are certainly slaughtered in panic and the market is eager for their meat. Perhaps it is a contribution to the wild flavor we value that no wild deer allows himself to be killed without getting excited.

Licensed Deer Farms

Currently there are no functioning commercial deer farms in New Zealand. Seventeen licenses have been sold and a national reconnaissance survey has identified about eighty-three others who

are developing their properties in some fashion with eventual licensing in mind. North of Auckland is a 2,200 acre (890.0 h) beef farm where the owner has spent over \$6,000 (N.Z.) on fencing alone to enclose 280 acres (113.0 h) for deer. Although he is licensed as a deer farmer, he regards the venture as a hobby and a conservation effort to rescue animals from hunters in the adjacent national forest. Running about 500 herd of fallow deer, a tiny excitable animal and not a very good candidate for stocking a commercial farm, he is prevented by noxious animal statute from bringing in the more practical red deer.²⁰



Fig. 3. Red deer on the relatively austere fenced range at West Dome Station. (Courtesy - New Zealand National Publicity Studios)

By far the largest of New Zealand's licensed farms is West Dome Station near Mossburn, Southland (Fig. 3). This is semi-arid country capable of wintering perhaps two sheep per acre, so it is not prime land and is an experiment in a potentially more efficient use of the range. Here 1,000 acres (405.0 h) is fenced to accommodate 900 adults and about 400 calves, a herd built up from an initial 400 captured wild deer in 1970.²¹

Both of these stations have culled their herds, slaughtering by gunshot on the farm, and disposed of the meat via one of the twenty-two game packing houses scattered throughout both islands. It is illegal to slaughter sheep or cattle in this fashion for the export market so that, although licensed, these stations and all others operating similarly must still classify their product as wild game and market it only in nations willing to accept insufficiently inspected meat.²²

Prospects

So here we stand at the moment. Venison double the price of beef on what must be regarded as a very limited market (suppose the North American and other European markets were to open up to properly inspected meat). It must be admitted that world-wide inflation is rendering all prices precarious. But throw in hides and antlers in velvet [at \$10-\$15 (N.Z.) per lb] as an absolute bonus and the prospect of commercial deer farming certainly becomes intriguing.²³ New Zealand appears to have a bit of a head start over all others if they can act positively to maintain it.

NOTES

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⁵"Deer Farmers Preparing for Tilt at Export Market," *New Zealand Herald*, Auckland, July 28, 1973.

⁶Blaxter, K.L. "Deer Farming," *Scottish Agriculture*, Vol. 14 (Winter 1971-72), pp. 225-30.

⁷Kay, R.N.B. Rowett Research Institute, private correspondence with K.R. Drew, Director, Invermay Red Deer Project (28 June 1973).

⁸Rowett Research Institute, *Annual Report of Studies in Animal Nutrition and Allied Science*, Vol. 27 (Bucksburn, Aberdeen, Scotland, 1971), pp. 55-57.

⁹"Deer Do Well on Farmlot at Lincoln," *Christchurch Press*, May 5, 1972.

¹⁰Drew, K.R. and W.L. Porter, *Background Information on the Invermay Red Deer Project* (Mosgiel: Invermay Agricultural Research Centre, 1973), pamphlet, 11 pp.

¹¹Drew, K.R. Personal correspondence (April 19, 1974).

¹²"Noxious Animal Study by Caucus," *New Zealand Herald*, Auckland, December 1, 1973.

¹³Batcheler, C.L. "Hybridization of Wapiti-Red Deer," *Report of New Zealand Forest Research Institute* (1972), p. 68.

¹⁴"No Great Rush to Deer Farming," *New Zealand Herald*, Auckland, December 3, 1973.

¹⁵Morcan, Lance, "Deer Farming--for Profit or Conservation," *New Zealand Journal of Agriculture*, Vol. 127, No. 2 (August, 1973), pp. 39-46.

¹⁶Severinsen, K. "Intensive Deer Farming Will be Full of Woe," *New Zealand Farmer*, Vol. 91, No. 8 (June 25, 1970), pp. 57-59.

¹⁷Blaxter, op. cit., footnote 6, p. 225.

¹⁸Drew, K.R. and W.L. Porter, "Export Earnings from Venison," *Appendix A, Background Information on the Invermay Red Deer Project* (Mosgiel, Invermay Agricultural Research Centre, 1973), pamphlet, 11 pp.

¹⁹*Christchurch Press*, op. cit., footnote 9.

²⁰Morcan, op. cit., footnote 15, pp. 40-41.

²¹Wilson, Boyd. "West Dome Points up the Lessons of Deer Farming," *New Zealand Farmer*, Vol. 94, No. 11 (June 14, 1973), pp. 54-57.

²²Topp, G.P. "Game Meat Industry Continues to Improve its Standards," *New Zealand Journal of Agriculture*, Vol. 118, No. 1 (January, 1969), pp. 34-37.

²³Drew and Porter, op. cit., footnote 18, Appendix A, pp. 21-22.