Deer Farming Research (1)

by Dr. K.R. Drew, Invermay Agricultural Research Centre

THE INVERMAY DEER Research project commenced in October, 1973, with the arrival of 90 red hinds on loan from Southern Lakes Game Foods Ltd., and Herbert Taylor and Sons. The deer travelled in one double truck unit and arrived in good order from West Dome Station.

The Invermay project developed from Mr Les Porter's observation and report of deer research work in Scotland, and the encouraging signs from Professor Coop's Lincoln College deer work.

Initially we had many difficulties handling deer on the flat, 8 ha. of high-quality farm land. The animals were very nervous and persistently refused to be herded out the gate and into a raceway leading to the yards. An elevated "hide", originally built and used for observational work at calving, posed such a "menace" to the animals during shifting that we had to remove it. A new coil of wire left carelessly about was sufficient to cause a panic in deer being herded into the yards. In spite of these problems, frequent handling by men with dogs gradually led to relatively easy mustering. Similar sorts of troubles occurred on the 16 ha. of hill country fenced in early 1974.

Reproduction

Seventy six per cent of the hinds at Invermay had calves in 1973, but 27 per cent of the calves died between birth and seven days of age. Much of this high mortality was due to injuries inflicted on the young by the hinds. In retrospect, the reasons seem to be partly because the hinds were not familiar with their surroundings, and partly because we picked up all calves within 24 hours of birth for weight recording. After weighing, the calves mostly ran off and attempted to join the herd, or managed to get through the fence into the next paddock. The behaviour is not typical of a newborn deer which normally remains hidden during daylight hours until about six days of age.

In 1974 the calving percentage rose to 88 per cent, but early mortality was still 21 per cent, although no deaths were clearly from beatings. We did, however, again weigh all calves at birth and deaths appeared to be from mismothering and were not associated with lack of cover in calving paddocks or stocking rate.

The precaution was taken to minimise deaths in 1975 by leaving about half of the hinds to calve with no human interference after birth. No calves were weighed and those that were tagged at birth were pressed to the ground by a gloved hand and did not run off when tagging was completed. Our efforts were rewarded in 1975 with 92 per cent calves born and only 5 per cent early mortality. A particularly encouraging feature in 1975 was the 91 per cent calving in 2-year-olds, these being from the first calves born at Invermay. In 300 calvings no hinds appear to have had any problems in giving birth.

Growth rate and carcase composition

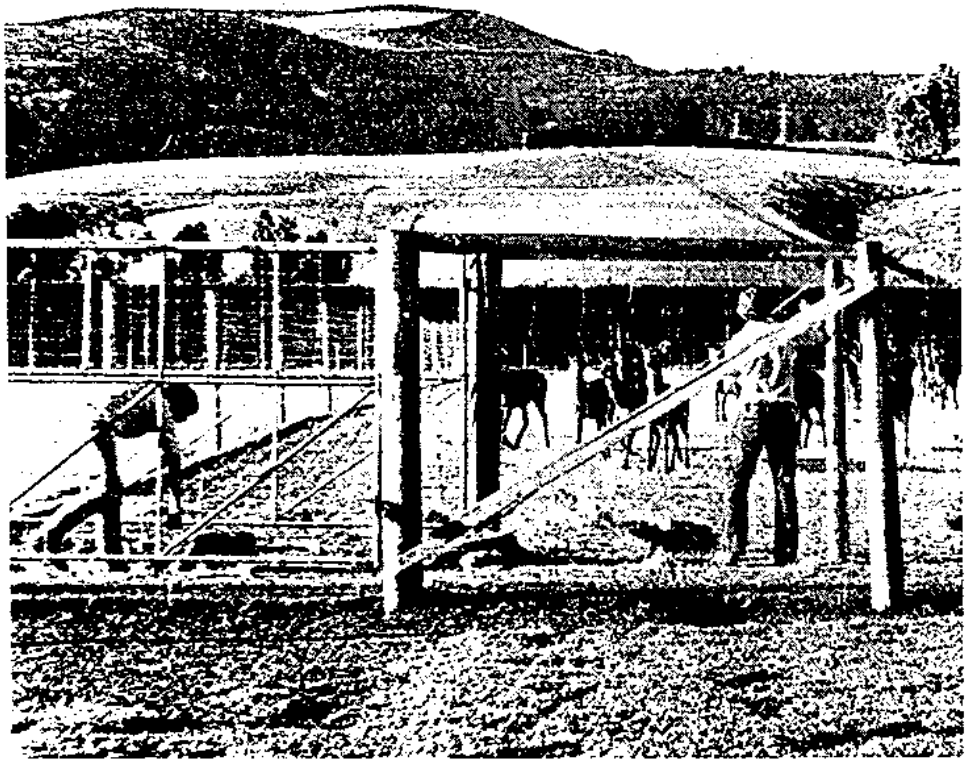
Stag calves on good quality grass grew about 250 g/d from mid-August to mid-February, thus reaching 93 kg before the onset of their first breeding season. From March until August no growth occurred and, in some animals in a feedlot receiving an unrestricted pelleted ration of barley, lucerne and linseed meal (55:35:10 respectively), the growth rate over autumn and winter was about 45 g/d.

The onset of spring in late August saw both grazing and feedlot-fed, 20-month stags growing at about 200 g/d, with the former reaching 136 kg and the latter 157 kg at 27 months of age. Young hinds showed a similar growth pattern to stags, but at a lower level, and reached 75 kg at first mating (15 months of age).

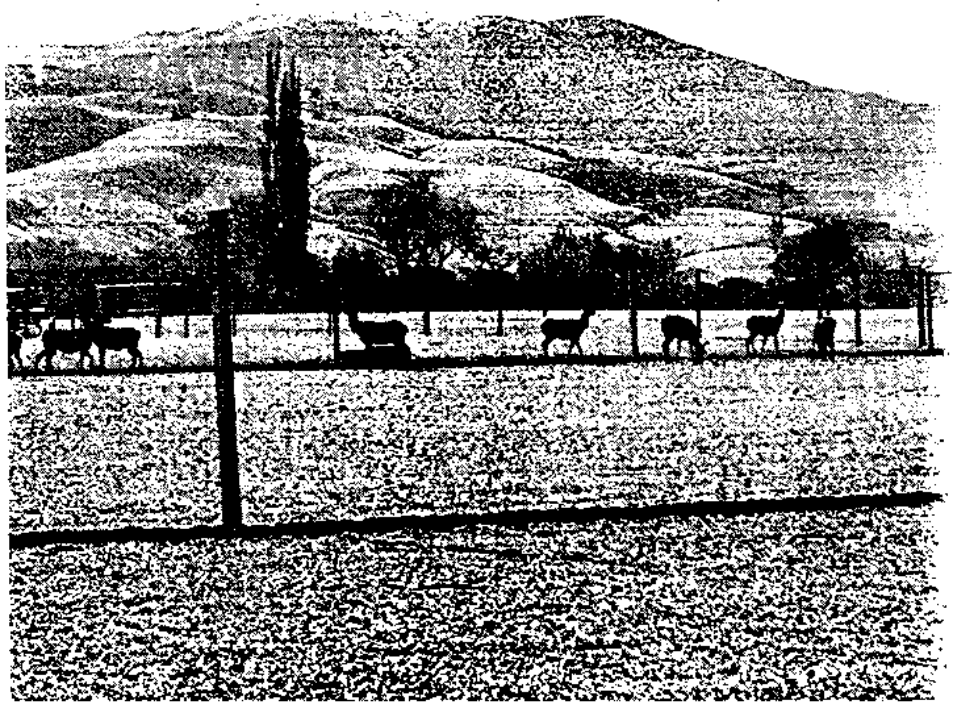
Stags have been killed off grass and out of the feedlot at 12, 18 and 27 months of age. In all cases dressing percentage (clean carcase — minus the hide — as a percentage of liveweight) has been 58-61 per cent, and this figure is substantially better than that found in sheep and cattle. Carcase fat in the 12 and 18 month stags has been very low, being in the 5 to 8 per cent range. Sheep and cattle carcases on the same scale will be in the 25 to 40 per cent range.

Meat Production

A most impressive feature of the deer farm has been the amount of venison produced per hectare by young stags. A high-producing pasture kept between 2 and 5 cm long carried a stocking rate, between August and February, of 26 animals/ha. in 1974 and 35/ha. in 1975. In these years 520 and 800 kg/ha. of carcase meat respectively was measured. The figures are very high considering that they cover only six months of the year and that the best weaner beef system at Invermay has given about 500 kg meat/ha. over a complete season.



Invermay, the centre of research on farmed deer to date. Hay being fed out to red deer fawns at the research centre.



Invermay boasts no bush, no cover at all. The land is flat and open, as this photograph depicts. This fact has confounded some deer farmers who consider bush the deer's natural habitat.

The deer figures are even more remarkable because the 1974 trial consisted of half stags and half hinds. Slower-growing females would drag down the average. In 1975 the group was half entire and half castrate stags, and the growth rate of the castrates was 20 per cent lower than that of the entire stags.

Venison flavour

A series of experiments are being carried out to determine if grass-fed venison tastes differently from wild or feedlot venison. The tests are complicated and done with a taste panel offered cooked venison mince. Members of the panel are asked to indentify differences, if any, between numbered pieces of cooked meat on a plate. At this early stage of the research there do not seem to be large differences between the three classes of meat. Experiments will continue for some time yet.