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HANDLING DEER RUN IN CONFINED AREAS

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SUMMARY

The management of farmed deer poses many problems of handling, which need careful attention if the enterprise is to succeed. The experience gained in the first year and a half of farming deer is presented in this paper, covering the subjects of yard and fence designs, moving deer, and their calving behaviour.

INTRODUCTION

The farming of deer in New Zealand for meat and by-product production has commenced in a small way and will certainly expand greatly in the near future. It has already been stated that, biologically, "deer should produce just as much meat per hectare as sheep and cattle" (Coop and Lamming, 1974). The fundamental question about a deer farm operation is the animal handling difficulties that might prevent management decisions from being put into practice.

The Rowett Research Institute and the Hill Farm Research Organisation in Scotland commenced a deer research programme in 1969 to explore the possibility of utilizing poor hill country for venison production (Sharman, 1974). The initial stock were captured calves, hand-reared on the property. These animals became tame and this attribute has been considered essential for farming operations in order to allow trucking and management operations to take place. The calves of the tame hinds, however, showed up the problem of the offspring being as wild as feral deer and hence hand-rearing might need to be perpetuated, unless gradual adaptation over generations takes place.

Extensive hand-rearing of calves in New Zealand and probably in Scotland might preclude farming the animals economically. For this reason the industry and research objectives in New Zealand have concentrated on examining the feasibility of farming feral deer. During the past year at Invermay a good deal of general experience has been gained in handling all classes of deer. For a description of the two farms in which the deer are run, see Kelly and Drew (1974).

FACILITIES AND PRACTICES

FENCING

Current fencing regulations for deer farms require the perimeter fence to be 2 m high, with posts (minimum cross-sectional area 78 cm²) not more than 4.9 m apart. Deer netting currently available is 1.9 m wide, has 13 horizontal wires at a spacing giving the top 8 gaps at 17.5 cm and the bottom four declining progressively, from 14.5 to 10.5 cm. The vertical wires are spaced 31 cm apart. This is unsatisfactory for calving paddocks since the young calf can easily force its way through these gaps, and may become mismothered with subsequent death. During the two calving seasons that have been experienced at Invermay it has been noted that the newborn calf when it encounters a fence will invariably keep on pushing into it, particularly in corners. However, calves older than one week will not attempt to force their way through a fence unless put into a panic situation. A better netting design would have the bottom 5 horizontal wires 10 cm apart, with vertical wires over that span spaced at 16 cm intervals. The top seven gaps should then be 20 cm × 32 cm wide.

Twelve centimetre diameter round posts at 9 m intervals have been very satisfactory, provided the topography will allow the bottom of the netting to go down hard on the ground. Adult deer will poke under a gap or under a slack fence.

Experiments with 13 strands of high tensile wire were unsuccessful, but a 1.2 m high fence comprising standard sheep break netting with one wire on top has been found to keep young stock (up to yearlings) contained. Adult hinds, however, have regularly gone over that fence, even when not subjected to stress or excitement. Once an animal has been over a fence, the habit appears to continue. Nevertheless, internal fences could be of this type if absolute separation is not required.

YARDS

Once animals have been yarded, two main difficulties arise. The first is that it seems unwise to put more than about 30 to 40 hinds in one pen at a time because of trampling effects. The second is that it is not possible to run deer nose to tail down a race if their progress is spasmodic (e.g., weighing), because they will pile up on top of one another. A small holding pen taking about 6 to 8 animals works well, with the animals released individually to run on to scales.

Two yards of different design have been built at Invermay (Fig. 1). The one on Farm A has been heavily used with relatively small groups of deer. It has worked well with the octagonal holding pen keeping agitated deer running round rather than into corners. Small groups of animals can be drafted from this pen with relative ease. However, the raceway is too long, and is a major

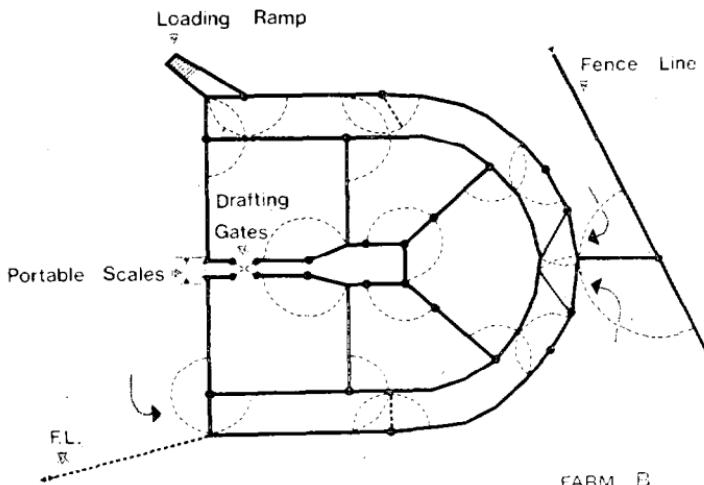
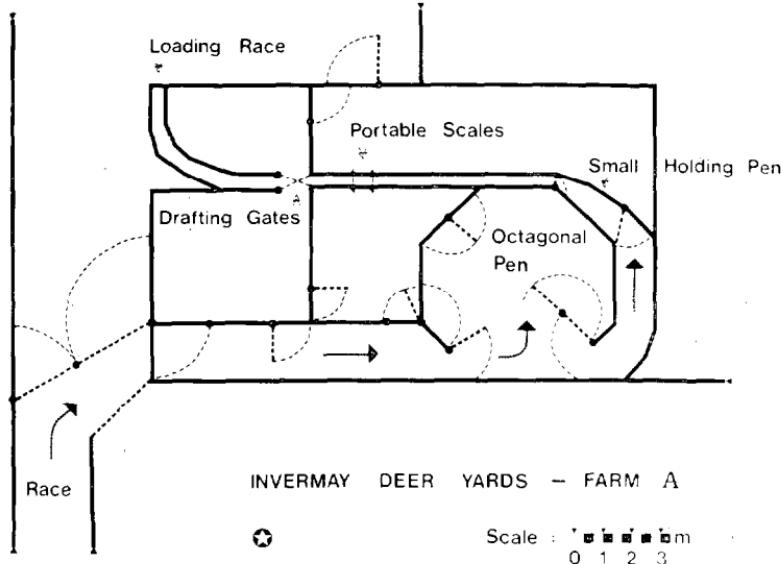


FIG. 1: *Yard designs for deer.*

change in the new design for Farm B. This yard is not yet fully functional but indications are that it will be a great improvement because the semi-circular perimeter runway will allow small groups of animals to be shut off as a large mob enters the yards, and because of the short run from the centre holding pen onto the scales.

MOVING DEER

The flight reflex of the deer is virtually its only protective mechanism against predators and, as such, has become very highly developed. Almost instant acceleration from 0 to 50 km/h is shown by deer when severely startled, even to the shattering of a femur which could not stand the strain (Graham-Jones, 1971). This mobility and temperament can pose major problems for deer farmers.

When deer were first brought to Invermay, in October 1973, considerable difficulty was found in moving the animals out of a paddock, through a gateway into a lane. This was due to unfamiliarity with the territory, nervousness is a confined situation, and inexperience on the part of the handlers.

After considerable exposure to humans, especially during calving, the hinds proved much more amenable to directed movement and the use of dogs was very successful. Shifting of hinds and the weaned calves during winter proved relatively simple. In the spring difficulties were encountered in shifting deer, particularly on Farm B where a new set of yards may have provoked nervousness. Certainly the presence of an unfamiliar truck and an audience of people on one occasion did not help. It was noted that in this herd a dominant female (matriarch) became quite aggressive towards dogs and very determined in her efforts to break away from the herd to open country. Her action invariably led to the remainder breaking and following.

The stags present problems similar to that encountered with the matriarch when they are in a herd, for they hang back and will pursue dogs if they come too close. On their own they still display this aggression to dogs, and can be more easily shifted by man. Many times during handling of the stags there was much sympathy with G. K. Whitehead's description of a deer "round up" at Woburn Abbey at the beginning of the 20th century. "Three or four mounted men would separate the stag from the herd. A couple of dogs would then be slipped and their task would be to harass the stag until he was forced to take refuge in one of the

many ponds in the park. Members of the Duke's family would then take to a boat and if they were successful in overtaking the stag in deep water, the Duke himself would place a noose which will be supported on the end of a pole, around the stag's antlers. The stag would then be towed to the end of a small pier, where the water was still too deep for him to stand. About half a dozen men would then take charge of him, three on each side, and with the aid of a long rope secured to his antlers, he would be drawn bodily into the deer van without any undue difficulties." Management problems should not be underestimated!

CALVING BEHAVIOUR

During the first Invermay calving (1973-4), 17 out of 66 live calves died and all except one were no more than four days old. Eleven of the 17 deaths were due to trauma from injuries inflicted by hinds. Kelly and Drew (1974), suggested that many of the deaths were inflicted by a few "rogue" hinds, but that lack of shelter and high stocking rates contributed to the mortalities. At the time of writing, the 1974-5 calving is approaching completion and some preliminary observations can be made. Mortality has been 9 deaths from 45 calvings out of 54 hinds with two additional calves born dead. In contrast to the 1973-4 calving, only one animal has been diagnosed as dying from trauma.

On Farm A, two groups of 15 hinds were calved in adjacent paddocks at the same stocking rate as in 1973-4 (22 hinds/ha). One group had no cover and the other had trees cut and pulled into the area to provide shelter for new-born calves. Some of these trees were tied against fence-lines in order to break the line of tracking round the perimeter and also to allow opportunity for a calf running along a fence to find cover and hide. The shelter proved highly successful in that daily observations revealed all calves hiding in the trees during daylight hours. On the other hand, 4 of the 14 calves (28%) born alive, died within four days of birth, with 3 due to starvation and 1 to trauma. At least one of these became mis-mothered through fencing. The paddock with no cover gave 2 deaths from 11 live births (18%), both from starvation. From these data it must be concluded that deaths from trauma have hardly occurred this year, and that the provision of good shelter, while used extensively, did not prevent calf loss.

Farm B, with 24 hinds in an 8.0 ha paddock, suffered 2 deaths from 19 live births (11%), neither due to beating. This area has about 20% in natural cover, mainly manuka scrub. It would

appear that mothering has been better on this farm than Farm A, probably owing to the combination of larger paddock size, lower stocking rate, and much natural cover.

One factor which may have contributed to lack of mothering by hinds is the handling of all new-born calves by man for weighing and tagging purposes. For this reason about half the calves were handled with gloves for recording purposes. Seven out of the total of nine calves dying were handled without gloves, giving some suggestion that failure to mother the calf may have been exaggerated by human scent on the calf.

Although there are many aspects of behaviour in deer that need investigation, present knowledge is sufficient to say that farming prospects are not endangered by handling problems. Handling and working methods can be greatly improved as experience is gained and this will contribute towards better use of land, men and animals for deer farming.

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