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26

Deer Handling & Equipment

"The Cage Precedes The Canary"

G. W. ASHER

Ruakura Agricultural Center,
MAFTech, Private Bag,
Hamilton, New Zealand

A system for close handling of animals is an essential component for all deer farms. Handling entails activity imposed on the animals that involves close confinement or restraint for the purpose of performing any of a number of management activities; including ...

- vaccination,
- anthelminthic application,
- weighing,
- ear tagging and collaring,
- recording female lactational status,
- antler removal,
- health testing (Tuberculosis, blue-tongue, anaplasma, etc.),
- assisted births, and
- artificial insemination.

To achieve easy handling of deer, with minimal stress on animals and operator, certain basic facilities are required. These can be summarized as follows:

- raceway entry system,
- receiving corral,
- covered shed and yard system,
- mechanical restraining device,
- drafting system, and
- load-out race.

Any yarding operation will impose some stress on the deer and it is, therefore, preferable to have an annual programme planned that will tie in as many activities as possible for every yarding of any particular group of animals. Naturally, in the case of sick or injured animals it will be necessary to yard some groups or parts of groups at unscheduled times. Generally, most operations can be performed at key times; notably during general musters just before the rut (autumn) when calves/fawns are weaned and mating groups established.

To facilitate easy yarding of the deer, the raceways, as it leads into the corral, should ideally have blind bends and corners incorporated. Deer will tend to flow around such corners in an attempt to avoid the operator. Thus it is possible to get deer to "weave" their way towards and into the corral. The last section of the race leading into the corral should be boarded to minimize the possibility of injury to the animals from jumping into mesh fences when under pressure. A solid gate to close off the race at the start of the boarded section will prevent animals escaping back down the raceway if they balk at the corral entry.

A primary consideration of yard design is to have enough animal holding capacity to contain the numbers of deer envisaged when the property is fully stocked These animals can be accommodated in the outside receiving corral (called "holding yards" in New Zealand) prior to being brought into the covered shed. The corral should be solid walled (either plywood or timber boards) at least eight feet high and with a minimum ground area of 625 square feet (25 x 25 feet). Large numbers of deer (greater than 200) will require larger corrals (up to 2,000 square feet). However, it is preferable to have several small corrals rather than one large corral. Once deer are held in their corral, the worst part of yarding is over. From there, they can be split into smaller group sizes and worked into the covered shed.

The covered shed will invariably enclose a series of small pens ranging in size from 64 square feet (8 x 8 feet) to 144 square feet (12 x 12 feet). Each pen will comfortably house between 10 and 20 deer depending on species, sex, age and pen size. It is advisable not to overcrowd each pen and thus avoid some animals becoming trampled.

All pens should be solid-walled up to eight feet high. For red deer, it is possible to incorporate a mesh screen into walls and doors at a height of no less than four feet. This allows the operator to view the deer in each pen without going into the pen. The system does not work so well for fallow deer, which tend to panic if they can see people outside their pen.

There are many pen arrangements possible. Some New Zealand yards contain a series of linear pens while others contain a circular series of pens. Plans are generally available for both types and choice is often based on personal preference.

Doors between pens should swing in a 180 degree arc and there should be no large gaps between the hinges and walls. Latches should be of solid construction and preferably have no obtrusive projections that might injure the deer.

The materials used on the floors of the covered yards are almost as diverse as the yard designs themselves. The main materials used are sand, untreated sawdust or concrete. All have their advantages and disadvantages. Sand and sawdust have much the same properties, being soft, free draining and cheap. However, particularly in summer, these floor materials can become very dusty, which makes working conditions unpleasant. With sand and sawdust floors it is important to provide under-floor drainage. This becomes paramount if animals are to be kept in the yards for a long period of time. Both of these floor materials will require replacement after a number of years, depending on the amount of yard use.

Concrete floors have the advantage of being permanent, durable and free-draining. Unfortunately, being hard and unyielding, they can result in animals injuring themselves when falling over or landing awkwardly after jumping. This can be compounded when animals are retained for some time, leading to an extremely slippery surface. Generally, concrete floors are more suitable for red deer than fallow deer.

Red deer verses Fallow deer: At this point, yards differ for red and fallow deer. This is primarily due to radically different behavior patterns when in confinement. Basically, red deer flow from the light into the dark, whereas, fallow deer flow from the dark into the light. The principle of light control is particularly important for yarding fallow deer.

(a) Red Deer: Red deer have a quiet temperament in the yards. Many tasks can be performed simply by an operator standing amongst a pen of deer. Simple jobs such as drenching and vaccinating can be done in this manner. However, more intricate jobs may require strong physical restraint of individual deer; particularly when they involve 500 lb. rutting stags intent on showing who's boss! There are a large number of commercially manufactured "crushes" available from New Zealand. Many of these involve pneumatic or hydraulic mechanisms to gently squeeze the deer between padded walls, thus fully immobilizing them. Others simply rely on gravity to wedge the deer between bevelled walls. Most are fully effective in restraining even the largest and meanest of red stags.

(b) Fallow Deer: Fallow deer are more reactionary in the yards, but are more inclined to "flow" voluntarily into tunnel systems; particularly if there is a pronounced gradient from dark to light. Virtually all fallow deer yards in New Zealand employ this principle to maneuver the deer from pens into either a "bale", "cradle" or "crush". In practice, the fallow deer handling system consists of a light-control pen, a lead-up tunnel and a restraining device.

The light-control pen, which is used to hold deer prior to entry to the lead-up tunnel, is a totally enclosed pen with lighting controlled from outside. A small doorway opens from the pen into a lead-up tunnel. When deer are required to enter the tunnel, the pen light is switched off and the tunnel door opened. As light enters via the tunnel, the deer will usually enter it readily. If there is any reluctance by some animals to go into the tunnel, the operator can enter the darkened pen and guide the animals out. Between successive loadings of the tunnel, the pen light is usually switched on.

Irrespective of the mechanical restraint system employed, an enclosed tunnel is required to bring the deer from the pen to the restraining device. The tunnel may be completely enclosed, with a light immediately before the restraining device, or have a pipe or slat top for most of its length to allow access to the animals or to read tags prior to restraint. The width and height of the tunnel should be 18 inches and 36 inches respectively, to reduce the ability of deer to turn around. The tunnel can be of any length according to the number of deer to be held in it at any time. Allow 36 inches for every deer held.

Mechanical restraint systems fall mainly into three types, each with variations.

(a) Bale Restraint: The bale is basically a box at the end of the tunnel with a slot or hole for the deer to poke its head from. The basic variations of the system have the head emerging from the front or the side of the box. The front of the bale serves as the exit. The advantages of the system include low cost manufacturing, high animal throughputs and easy one-man operation. However, there is limited access to the animals feet and hindquarters.

(b) Cradle restraint: The cradle consist of a Y-shaped structure with a drop floor and hinged side. When the deer has entered the cradle, the floor is dropped and the animal is held in the wedge of the Y. There is good access to all parts of the deer and this allows for operations such as foot inspection, assistance of difficult births and artificial insemination. However, cradles are generally more expensive to manufacture and have slower animal throughputs.

(c) Crush Restraint: The crush system is somewhat similar to the cradle except that the animal is restrained by the action of one side of the crush being forced against it. Operations, advantages and disadvantages of this system are the same as for the cradle. However, crushes that are pneumatically or hydraulically operated can be expensive to manufacture.

All too often yards for red and fallow deer lack good drafting facilities. As deer individually leave the confines of the restraining device it is often useful to be able to draft different classes of animals into separate pens. It is advisable to design and build drafting doors/tunnels in all yards. These follow principles for other more traditional livestock species.

An important feature of all deer yards is a load-out facility. This consists of a ramped passageway between a holding pen and any kind of stock transporter. This allows in-coming and out-going stock to be loaded on or off truck/trailer units quickly and efficiently. The passageway should be narrow (between 2 feet and 3 feet wide, depending upon species) and have an adjustable ramped floor to accommodate a wide variety of truck/trailer units.

In summary, careful attention should be made to designing a workable set of yards. Although they may only be used five or six times per year, they are crucial to the efficient management of the deer herd. Numerous plans are available, and to discuss them all is outside of the scope of this seminar. Attempt to observe deer handling in operation on other farms before committing yourself to any one design.