

Design of cattle farm steadings for maximum biosecurity

Technical Note

This Technical Note should be read in conjunction with TN 502 "Herd Biosecurity for Cattle".

T521

ISSN 0142 7695
ISBN 1 85482 742 1
January 2003

- It is obviously difficult to redesign existing farm steadings to provide maximum biosecurity. Knowing the ideal layout to minimise the entry of infectious disease will allow any future modifications/extensions etc to enhance rather than detract from the biosecurity of the unit.
- It is likely that for an existing steading small alterations might lead to great improvements in biosecurity (Table 1).
- The objective in designing or modifying the steading is to control entry to the farm by vehicles, people and livestock with minimal hindrance to the working of the farm.
- Whilst not strictly associated with the steading, for maximum biosecurity farm boundaries also need to be considered (e.g. the need for double fencing).
- In principle, the farm steading should be divided into four sections. The detail within each section is of lesser importance; however, great care should be taken with the location of the isolation facility.



The information provided is based on first principles and experience. There are currently few if any cattle steadings operating that were designed with biosecurity as a priority. Therefore, further advice or ideas based on future experience may be forthcoming.

Table 1: Relatively minor alterations that should be considered for an existing steading

Place secure farm gates and notices/signs/bells at all entrances.
Limit all visitors to the periphery of the farm wherever possible.
Construct cleansing and disinfection point(s).
Provide an isolation facility for purchased stock.
Alter the farm access points and flow of farm vehicles if necessary.

Section 1: Loading/unloading area

The section closest to the road is for the sole use of vehicles carrying out farm deliveries/collections of materials (such as feed or grain) or animals. Ideally this would have a one way system with a disinfectant bath at the entrance through which all vehicles would pass as soon as they came off the road. Ideally drainage from this area would be away from the rest of the steading. **There would normally be no vehicle or personnel access from this section to the rest of the farm.** Part of this section could be identified as a car park for visitors e.g. company or sales reps, SAC advisers etc to avoid them coming onto the main steading. Vehicles and personnel leaving this section have the option to visit the cleansing and disinfection point. Animals being delivered to the farm would be retained in the isolation facility for the required quarantine period.

Design of cattle farm steadings for maximum biosecurity

Section 2: Machinery/storage/ isolation facility

The second section would be used to dry grain, for storage of grain, deliveries (e.g. feed and fertiliser) and to house machinery or equipment not used for tending the livestock. This section would also contain the isolation facility for bought in stock with the drainage going into the loading section and not through the rest of the steading. There must also be a cleansing and disinfection point in the isolation facility. The isolation facility should be at the 'dead end' of the access road.

Section 3: Silage pit etc.

Section 4: Livestock buildings/ handling facilities/machinery/ equipment

The livestock, their handling facilities and machinery/ equipment used in tending them should be kept as far away from the quarantine facility and the loading/ unloading area as possible.

Model dairy and suckler cow units are suggested in Figures 1 and 2. Biosecurity of dairy units is slightly more difficult to manage than beef units because milk needs to be collected regularly and the milking parlour is in section 3 to be close to the dairy and feed store in section 2, therefore the parlour must be strictly isolated from section 2. Also the milker will need to visit the dairy in section 2 and must avoid spreading infection from the isolation facility in this section. Therefore the isolation facility must be as far from the dairy as possible and at the 'dead end' of the access road. If dairy cows are purchased there is the problem of milking them during their quarantine period. Ideally the isolation facility would have its own milking plant but this would only be economic if dairy cows were purchased frequently. A less secure alternative is to milk them through the parlour after the main herd, to thoroughly cleanse and disinfect the parlour and plant afterwards and for the milker to use dedicated overalls/ boots/gloves exclusively for these cows. Probably the best option is not to buy this class of animal.

In order to prevent uncontrolled access to the farm there should be:

Sound gates that can be closed at all entrances.

A "no entry" sign erected at the farm entrance.

At the **visitor** and **farm** entrances:

- clear instructions for visitors on noticeboards
- possibly a bell to attract the attention of farm staff.

Farm machinery/equipment used for livestock would be able to move freely between sections 3 & 4 but never to section 1 and only from the quarantine facility in section 2 after cleansing and disinfection. Any machinery/equipment changing status from 'non-livestock' to 'livestock' would need to be cleansed and disinfected first. Working farm vehicles would be able to drive off the road at the farm entrance, through a bath and be cleansed and disinfected at a dedicated point, into the steading and park close to the dwellings but not in the same area as the private farm cars. Vehicle access to the house and cottages would be directly off the road, with no vehicle access from the houses to the steading.

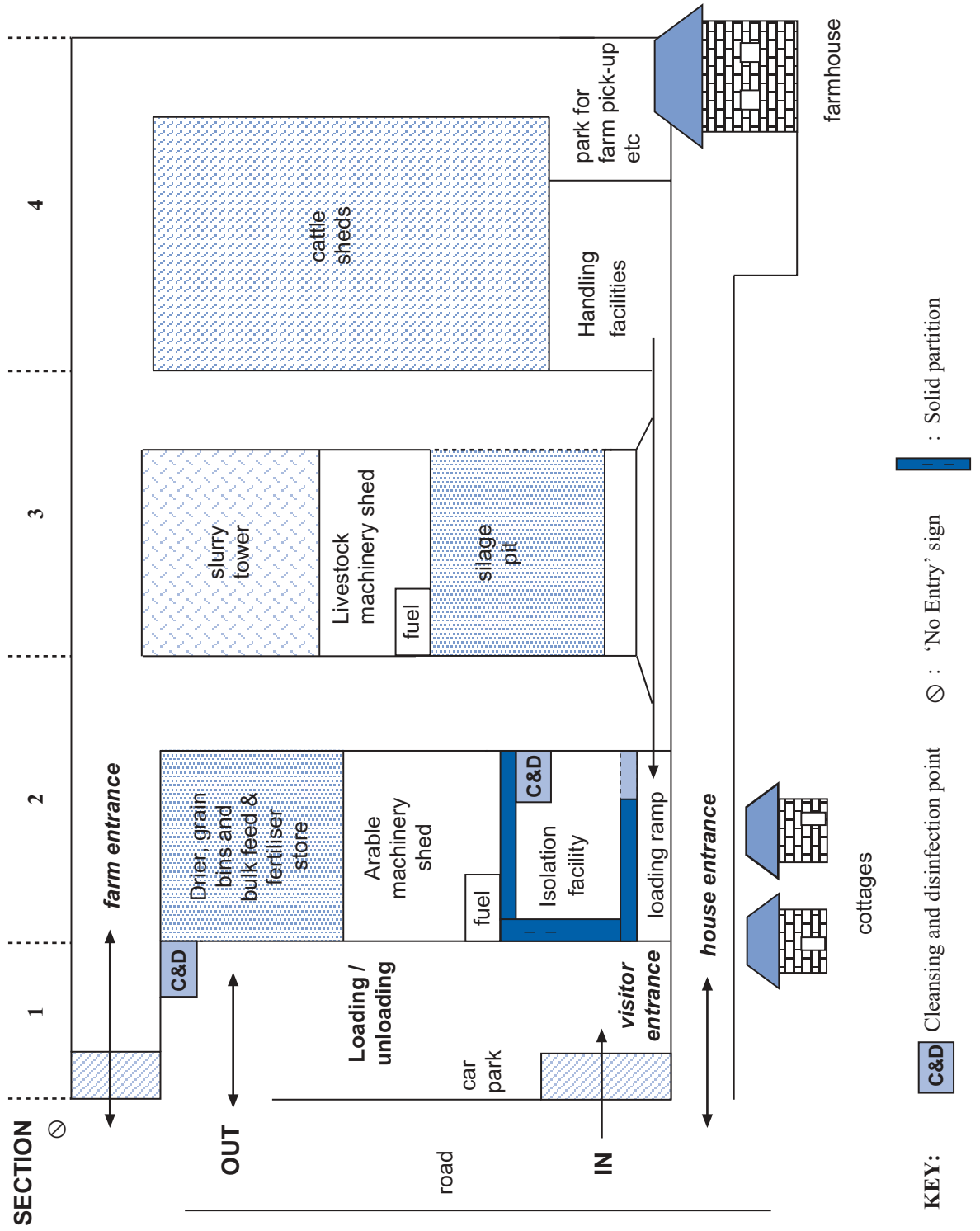
Essential visiting personnel likely to contact the farm livestock (e.g. vet or AI technician) and their vehicles and equipment would be able to cleanse and disinfect at the farm entrance. However, wherever possible vehicles should be left at the farm entrance (or the car park in section 1 and personnel walk through the exit to the farm entrance) and farm dedicated clothing and equipment used.

Authors:

Mark Crawshaw, Basil Lowman,
Jack Bishop and George Caldow

Design of cattle farm steadings for maximum biosecurity

Figure 1: A model suckler cow unit



Design of cattle farm steadings for maximum biosecurity

Figure 2: A model dairy unit

