



AGNOTES

For all districts

Sheepyards 1: Planning

March, 1987

Order No. 3673/87

This agnote replaces agnote Order No. 345/79, Agdex 430/722

by **Kieran Ransom, extension officer (sheep), Bendigo,** and **Peter Hanrahan, extension officer (sheep), Seymour**

This agnote is an introduction to sheepyard design. The sheep handling system on a farm consists of the shearing shed, laneways, and paddock layout as well as the sheepyards. Thus this agnote is best read in conjunction with the others on sheepyard design, shearing sheds and farm planning.

Most farmers build only one or two sets of yards in their lifetime. Therefore, it is often advisable to seek advice or opinions from those with greater experience in yard design and construction. Often it is attention to detail that separates good yards from mediocre ones. The plans and details in these agnotes are designed to make working sheep an enjoyable experience rather than one of exasperated endurance.

Suggested procedure

When planning new yards it is helpful to carry out the following procedure.

- 1) Visit other farms where you know there are good sheepyards. Discuss the yards' advantages and disadvantages with the owners. Measure the dimensions of any special facilities or features. Study some written material such as these agnotes.
- 2) List all the activities that need to be carried out in the yards and decide how they are best done.
- 3) Although there is usually little choice, decide on the sheepyard site. At the chosen site take the main measurements to locate fixed points such as a dip and the shearing shed entrance and exit.
- 4) Do not try to plan new yards while looking over the old ones as this can be very distracting and restricts the imagination.
- 5) Be prepared to divert existing farm tracks or paddock fences to accommodate an optimum yard design.
- 6) Draw the proposed yards to scale on a large sheet of graph paper. Include any existing facilities such as the shearing shed, dip or trees that are to be retained. Use a metric scale of 1 to 100. Draw the plans away from the site, in the office.
- 7) Examine the plan in regard to sheep flows and sheep handling tasks. Does the layout look as though it will efficiently cater for all the intended sheep movements? Add gates, or relocate fences if required. Make sure any special features such as scales or crutching cradles will fit in.

8) Accurately peg the yards using stakes. Walk through the site and visualise working the sheep in the yards. It could be helpful to climb onto the top of the shearing shed and view the pegged-out plan from above. Alternatively, the proposed fence lines could be highlighted by stringing out hayband between the pegs.

9) Closely supervise the construction if you are not building the yards yourself.

10) No set of yards is perfect. It may be worthwhile making some modifications after the yards have been in use for several months.

Initial planning

Sheep handling is made more difficult and unpleasant when the sheepyards are in disrepair or the design is poor.

A well designed and built set of yards are not necessarily expensive and can markedly reduce operator effort and enhance sheep flow.

In the past, sheepyards have often been erected in a piecemeal fashion as needs and fortunes have changed. So before planning starts, it is advisable to review total sheepyard requirements on the property. Items to consider are:

Sheep flow and handling operations

A good starting point is to make a complete list of the detailed operations that will need to be carried out and to consider how these jobs will be done in the plan. Following is a useful check list to help in planning:

Shearing, crutching, race crutching, cradle crutching, wiggling or ringing, drafting, drenching, vaccinating, marking, mulesing, mouthing, teeth trimming, loading, classing, foot paring, foot bathing, dipping, jetting, horn clipping, udder scoring, branding, fly-strike treatment, weighing and sale of sheep.

The ideal design will enable the required jobs to be carried out without congestion and normally without sheep paths crossing. A typical yard flow pattern is shown in figure 1.

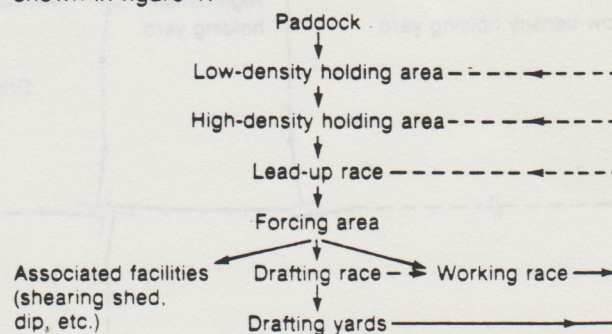


Figure 1. Patterns of sheep flow through the parts of a yard

Site

Most probably, new yards will be erected on the old site even if this is not the best on the property. The shearing shed, dip, loading ramp and truck access may be already there so the site is the only economic alternative. However, if these facilities do not exist or need replacing, then a new site should be contemplated. Changes to yard design need to be planned considering any further sheep handling changes that are planned in the next few years. For example, provision for a footbath in the design may be needed if there is a high probability that there will be an outbreak of footrot.

With a new site several factors need to be considered. If possible the site should have all-weather access for trucks if sheep are to be loaded from the yards. The yards should be well drained and reasonably flat. Steeper sites should be avoided as the possibility of smothering sheep against the lower fences is increased and major levelling is expensive. If flat sites are not available, draw plans to minimise the effects of slope. Facilities such as water and electricity are advantages on a site but not essential, especially for secondary sets of yards. Finally, security is important. Often sheep are lost from paddocks surrounding a set of yards in a remote location.

Size and number of yards

The number and size of mobs handled at any one time is more important in determining yard size than the total number of sheep on the property. Low-density holding yards leading to and from the high-density yards can be varied in size and number to suit individual requirements. Low-density holdings yards or mini-paddocks should be large enough to hold the biggest mob on the property. This may be the largest mob of ewes plus lambs at weaning.

Very large mobs may be split when bringing them into high-density holding or forcing yards. On many properties four high-density yards are usually adequate. These are, respectively, one high-density holding yard capable of holding a normal mob, a three-metre-wide lead-up race-forcing yard and two drafting yards for a two-way draft. The largest drafting yard is preferably almost as big as the high-density holding yard; the second need only be about half the size of the larger one.

The high-density holding yard shown in figure 2 will hold mobs of up to 400 sheep. This is the comfortable working capacity of these yards. Larger mobs could be handled by diverting the overflow from the drafting yards back into other holding yards. For properties with several thousand sheep, two high-density holding yards and a three-way draft may be justified. Further plans are given in the agnote, "Sheepyards 2: Designs".

Labor availability

The modern sheepyard designs referred to in this series aim to improve labor efficiency, improve sheep flow and reduce capital cost. They will normally be operated satisfactorily by one person plus dogs; for drafting, two people may be preferred, but are not essential. Functional designs with well planned forcing areas will make sheep work more pleasant for a person working alone.

Cost

Cost is heavily dependent on the length of high-density fencing, which will depend on the size and shape as well as the number of these yards. A simple yard system such as that illustrated in figure 2 will have only about 120 metres of heavy-duty fencing. All low-density holding yards can be built from lower cost fabricated wire fencing.

Remodel or rebuild

Remodelling is an option if the yard construction is still sturdy but the design inadequate. Often the installation of an extra facility, such as a handling race, provides a good opportunity to improve the overall design. On other occasions a farmer will replace a fence only to find that the adjacent fence is not as sturdy as previously thought and needs replacing as well.

When planning a new design, regard any fences that will not last 10 years as expendable. The most likely option is to rebuild whole or part of the yards. Modern designs are flexible enough to cope with limitations such as the existing entrance to a shearing shed, the dip and some trees. The new design need not necessarily be constrained by existing fences. The new yards may encroach onto existing laneways and paddocks.

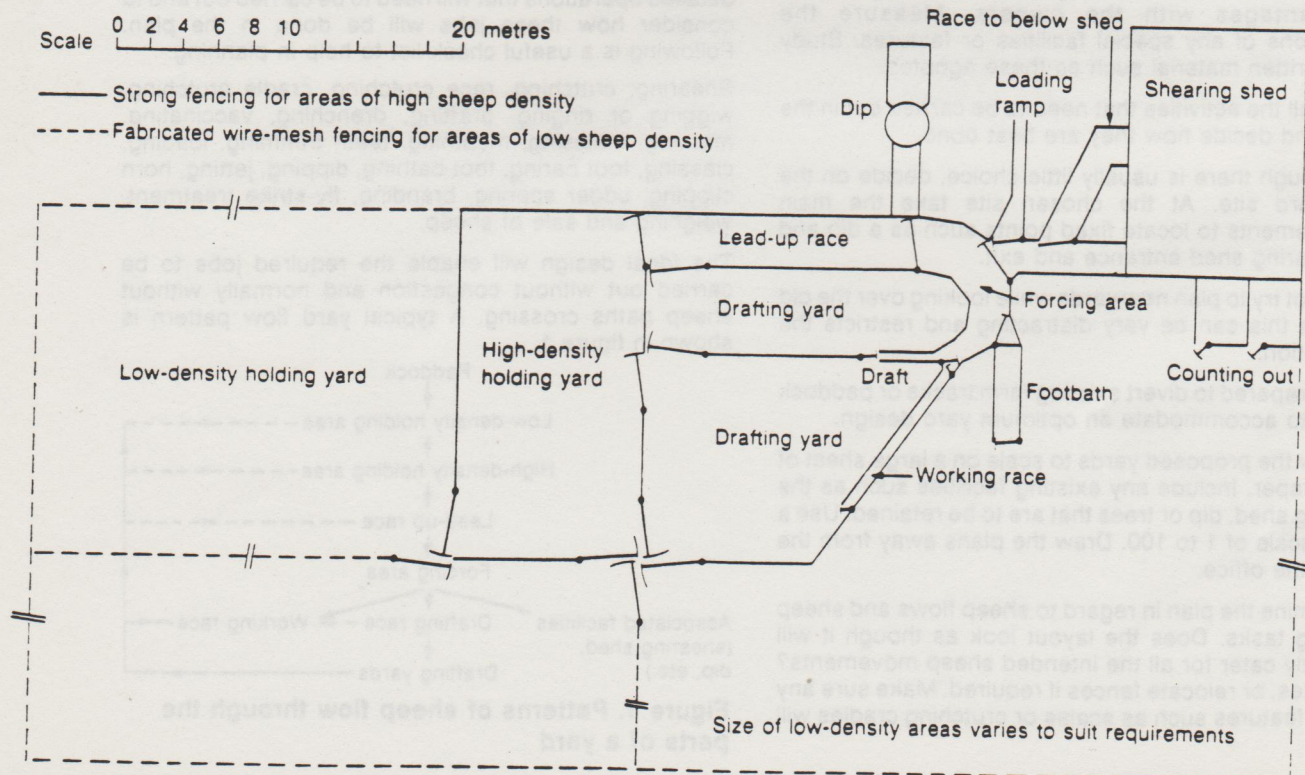
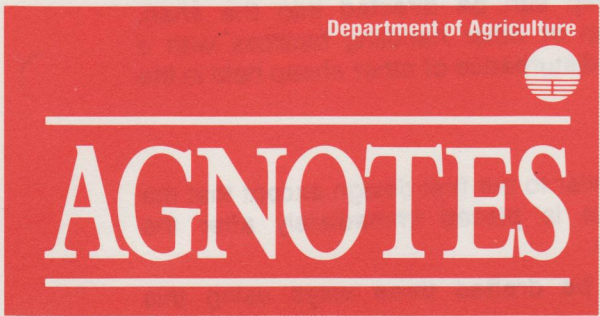


Figure 2. A sheep yard that is well sited in relation to other facilities



Sheepyards 2: Designs

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This agnote replaces agnotes Order No. 641/79, 911/79 and 1812/82, Agdex 430/722

by Peter Hanrahan, district officer (sheep), Seymour

When a farmer is looking for a sheepyard design, he or she is faced with a confusing array of plans. Often the designs are too complicated, too large and, consequently, too costly for the average sheep farmer.

This agnote simplifies the choice by providing two basic designs, plans 1 and 2, which can usually be modified to cater for a particular mob size, site limitations, the range of operations undertaken in the yards and finance available. Double working races are added to these basic designs to give plans 3 and 4. Plan 5 shows a simplified design for farmers with small flocks.

All plans show entrances to or from various handling facilities such as into and under sheds, to dips, loading ramps, footbaths and from count-out pens. The positioning of these entrances is very flexible and can be anywhere along the 3000 mm wide lead-up race. The only point to remember is that sheep should follow the basic path through the yards each time they are handled.

These five plans are given as examples. Farmers will need to modify these plans to suit their particular requirements.

Sheep densities in the various yards, together with critical height, width and length measurements are given in the agnote "Sheep yards 1: Planning". These measurements will help farmers plan the design best suited to their needs.

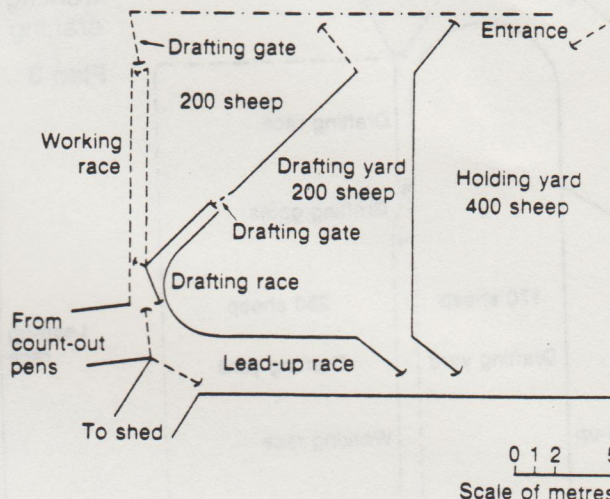
Plan 1

Plan 1 has a separate, but adjacent, entrance to the working race from the drafting race. A gate on the junction between the two races directs sheep into one or the other as required.

This design has a 2000 to 3000 mm-wide gate at the end of the working race which can be used as a second drafting gate, especially useful when classing sheep.

This plan has only one holding yard. One yard is sufficient if drafting is performed infrequently, for

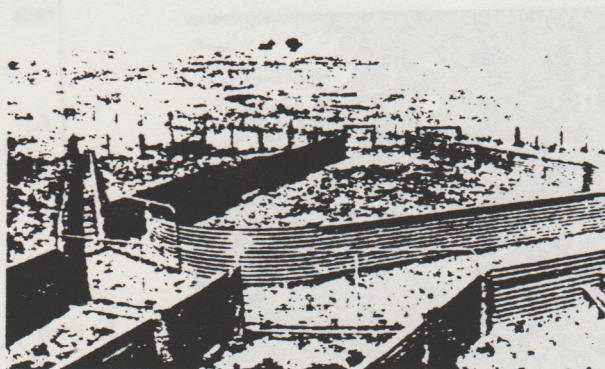
Plan 1



Code for materials (the type and placement of various materials are suggested only as a guide)

- enclosed fences
-) sheeted gate
- open fence (for example, rails)
-) open gate (for example, pipe)
- - - - - low-density fence (for example, 8-line prefabricated wire)

Picture 1. An example of plan 1

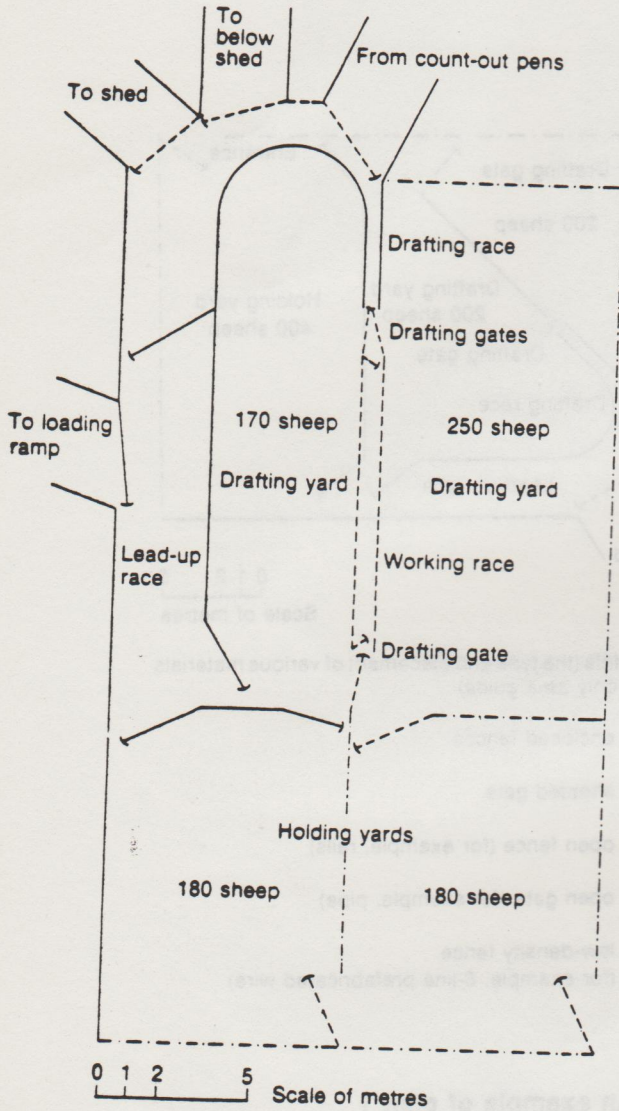


example, with an all wether flock or with small flocks. An example of this type of yard is given in picture 1.

When drafting is often performed, two holding yards improve flexibility as the overflow from one of the drafting yards can be directed back into the first holding pen.

The holding yards should be no wider than 10 m to limit circling of sheep at the entrance to the 3000 mm-wide lead-up race. These yards should be lengthened, rather than widened, if a larger sheep-holding capacity is required.

Plan 2



A gate is placed between the 3000 mm-wide lead-up race and the middle drafting yard so that drafted sheep can be directed into the shed, loading ramp or other handling facilities with a minimum of disturbance of other sheep held in the yards.

Plan 2

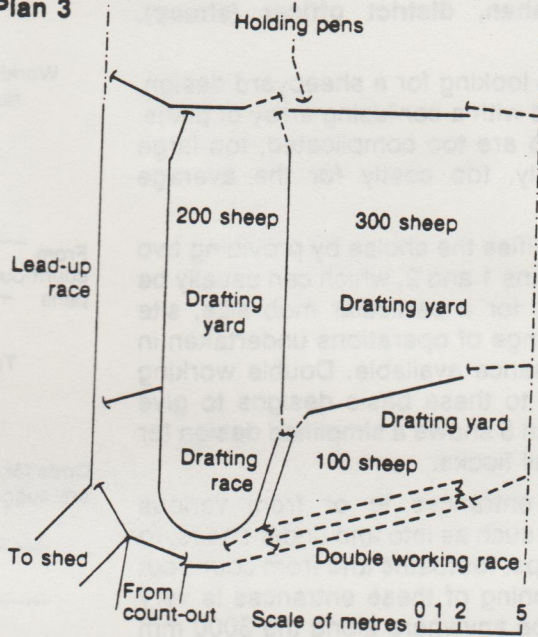
Plan 2 is similar to the first design except that the working race is placed immediately after the drafting race.

Sheep can be drafted three ways using this system.

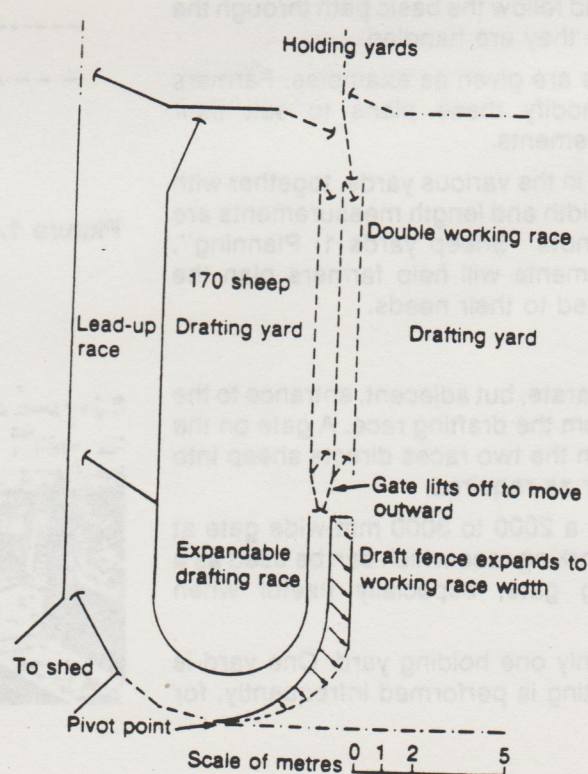
Those sheep drafted down the working race can be directed back into one of the two holding yards.

This plan also has a drafting gate at the end of the working race and a gate between the middle drafting yard and the lead-up race.

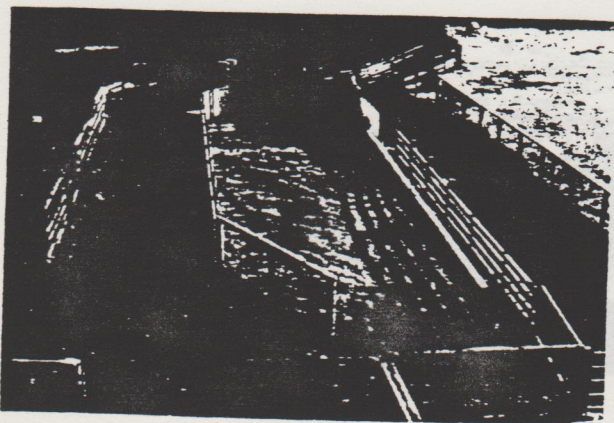
Plan 3



Plan 4



Picture 2. An example of plan 2, Les Hanrahan's yards at Bungaree.

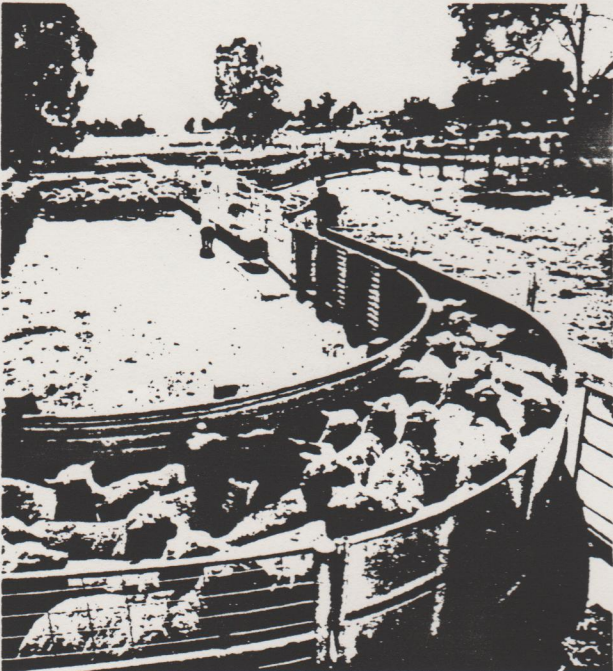


This yard plan is longer and narrower than plan 1 and is particularly suited for remodelling of existing diamond-shaped yards. Picture 2 gives an example of this type of plan.

Picture 3. An example of plan 3, Bill Webb's yards at Highlands.



Picture 4. An example of plan 4, Don McKenzie's yards at Lurg (photo courtesy of Farm Magazine).



Plans 3 and 4

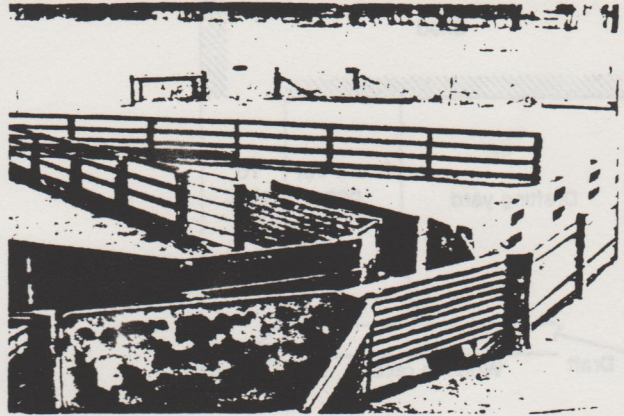
Double working races

The cost of adding a second working race is probably not warranted for many farmers. However, farmers with large flocks often build double working races to increase throughput. Plans 3 and 4 show double working races incorporated into the two basic designs.

Plan 3 also incorporates a three-way draft which is sometimes required by owners of large flocks. Extra gates are required in this design to give good flexibility in sheep movement. An example of this type of yard is given in picture 3.

Plan 4 shows a moveable outside fence to the drafting race so that the drafting race can be expanded to the same width as the double working race. This modification greatly reduces time spent

Picture 5. Frank Coomb's yards at Seymour, showing a left-handed bugle and short straight panels round the curve.



filling the working races. The system works well but, as picture 4 indicates, the construction is fairly complex and thus, expensive. Also, the drafting race and surrounds need to be concreted so that the outside fence, which is on jockey wheels, can easily be adjusted. Farmers need to be satisfied that the extra expense is warranted in their situation.

Modifying the designs

These designs usually need to be modified to suit a particular yard site.

Holding capacities can be altered by changing the length of the 3000 mm-wide lead-up race or by moving the side fence outward.

These plans all show continuous curve bugles. Short straight panels around the curve are equally acceptable. Picture 5 shows an example of this type of design. Note the two small gates which can be opened to give good access when the working race is in use.

As mentioned earlier, entrances to and from various facilities are preferably placed off the 3000 mm-wide lead-up race. However, often this is not possible, especially when some of the facilities are already there. Therefore, some compromises have to be made.

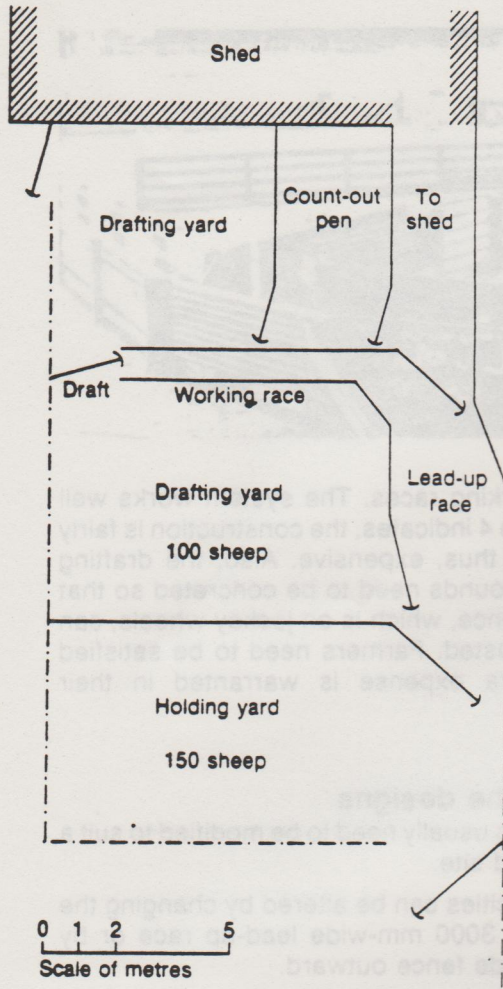
Plans 1, 2 and 3 show the working races at right angles or parallel with the 3000 mm-wide lead-up race. However, this design is again flexible, as illustrated in plan 4. Another example would be the placement of the working race after the draft along the dividing fence between the two drafting yards in plan 1.

Yards for small flocks

The owner of a small flock is faced with a special problem. Even though stock numbers are not high, all the normal sheephaling facilities are still required. Therefore, the owner may be tempted to build the yards out of temporary materials or overcapitalise the property by building a set of yards of the size needed on a commercial farm. Both these options are unsatisfactory.

A compromise is to build a set similar to plan 5.

Plan 5



This yard eliminates the drafting race; the farmer would do any necessary separation of sheep with the drafting gate set at the end of the working race. Sheep would be directed into the central yard or into the yard between the shearing shed and the yards.

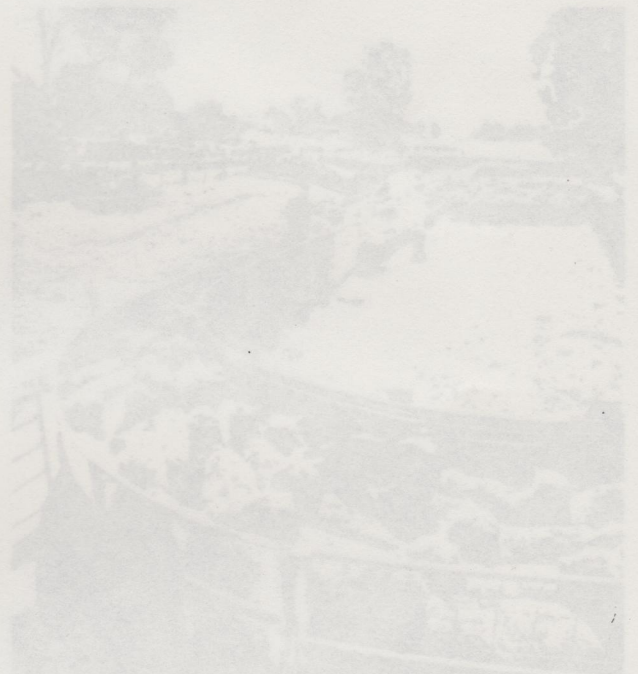
Plan 5 would be able to comfortably handle a flock of 150 sheep. A larger or smaller capacity yard can be designed after due consideration of present and possible future flock size and the sheep densities given in the agnote Sheepyards 1—Planning.

This yard plan is longer and narrower than plan 1 and is particularly suited for remodelling of existing diamond-shaped yards. Picture 2 gives an example of this type of plan.

Picture 2. An example of plan 3, Bill Webb's yards at Highlands.



Picture 4. An example of plan 4, Don McKenzie's yards at Lurg (photo courtesy of Farm Magazine).



Plans 3 and 4

Double working races. The cost of adding a second working race is probably not warranted for many farmers. However, farmers with large flocks often build double working races to increase throughput. Plans 3 and 4 show double working races incorporated into the two basic designs.

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Plan 4 shows a movable outside fence to the drafting race so that the drafting race can be extended to the same width as the double working race. This modification greatly reduces the spent