Shearing shed design

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PLANNING the layout of a shearing shed requires a good deal of thought to ensure its maximum working efficiency. If the contemplated structure is to serve the dual purpose of storage-shearing shed, it is better to plan a shearing shed that can be used for storage, rather than a storage shed with a view to its utilisation as a shearing shed.

The size of the shed to be constructed should be governed by the number of sheep the shed will be required to accommodate when property development is fully completed, and the number of shearing stands it will be necessary to install, together with the provision of a well lighted woolroom sufficiently large to allow the wool to be handled and classed in a quick and efficient manner. In deciding the machinery requirements, it would be reasonable to estimate on the basis of output of 120 sheep per shearing stand per day.

There are several types of shearing shed in common use, but the raised type of shed has definite labour-saving advantages. Some of the advantages of an elevated shed with a centrally situated shearing board are:

1. The wool flows freely in one direction, promoting efficiency and saving time in handling.
2. The shearer does not have to step over the shorn fleece, nor drag sheep across the shearing board.
3. The fleece can be picked up, and thrown on to the wool table with the minimum of time and effort.
4. Unshorn sheep can be housed under the shed during periods of inclement weather.
5. Freshly shorn sheep are provided with some protection from the heat, or from cold winds and rain while held in the counting out pens.
6. With the provision of a loading-out door, sheep can be held in the shed and loaded direct on to truck for transport.
7. Bought sheep can be unloaded into the shed for examination, classing, etc., if desired.
8. The loading out of wool, and the handling in or out of grain, super, etc., are greatly facilitated.
9. Provision of storage space, out of the weather, under the shed for the stacking of sawn timber, piping, or other materials.

In addition, the elevated type of shearing shed is much more hygienic than sheds built at ground level. It is easier to keep clean, and can lessen the risk of spread of disease and infection.

Recommended plans for both two-stand and four-stand elevated type shearing sheds, with fixed overhead machinery are illustrated (Figs. 1 to 3).

TYPE OF MACHINERY

Fixed overhead shearing gear is much more efficient than portable plants and with reasonable care and attention will give many years of satisfactory service. This type of shearing machinery is more satisfactory to the shearer, directly assisting him to achieve a better standard of
workmanship and higher tallies of shorn sheep. Shearers, generally are reluctant to accept work where portable plants are used, and often difficulty is experienced in engaging suitable shearing labour.

UPRIGHT POSTS SUPPORTING THE MACHINERY

The upright posts supporting the shearing machinery should be 8 in. x 8 in. milled timber. These must be set three to four
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feet in the ground, preferably in concrete, for rigidity. As the uprights must reach approximately 8 ft. 4 in. above the level of the floor, allowance must be made for the distance between the ground and floor level.

Steel uprights, made especially for the purpose of carrying shearing machinery are obtainable. These are recommended, as they are longer lasting, more rigid, and completely free of vibration. Advice on the use of uprights is available from suppliers of shearing equipment.

INSTALLING THE SHEARING PLANT

Special care should be taken when installing the shearing plant to make sure
Fig. 3.—Plan of 4-stand shearing shed
that the shafting is placed at the correct height from the level of the floor. This is most important, as any slight variation in height will reduce the efficiency of the whole unit by restricting the reach of the down tubes and forcing the shearer to work out of position.

The correct height of shafting varies with type of plant and advice may be obtained from the distributor.

A 10 in. x 4 in. timber beam of sufficient length is supplied for mounting the brackets carrying the machinery.

This beam should be bolted directly on to, and not recessed into the uprights (Fig. 4). This is necessary to place the down tubes the requisite distance out from the wall, which should not be less than 14 in. (Fig. 5). If the beam is recessed into the uprights, as frequently happens, this distance is lessened and the universal joint of the down tube constantly comes into contact with the wall of the shed which makes for lowered efficiency and bad shearing. A major and common fault in erecting the machinery is in having the down tube too close to the wall.

**Fig. 4.**—The beam carrying the machinery brackets should not be recessed into the uprights

The correct height of shafting varies with type of plant and advice may be obtained from the distributor.

A 10 in. x 4 in. timber beam of sufficient length is supplied for mounting the brackets carrying the machinery.

This beam should be bolted directly on to, and not recessed into the uprights (Fig. 4). This is necessary to place the down tubes the requisite distance out from the wall, which should not be less than 14 in. (Fig. 5). If the beam is recessed into the uprights, as frequently happens, this distance is lessened and the universal joint of the down tube constantly comes into contact with the wall of the shed which makes for lowered efficiency and bad shearing. A major and common fault in erecting the machinery is in having the down tube too close to the wall.

**Fig. 5.**—Allow at least 14 in. between down-tube and wall

**SPACING OF THE SHEARING STANDS**

The space allowed between the shearing stands should not be less than 5 ft. 6 in. and preferably 6 ft. which gives a greater margin of safety.

Where shearing stands are insufficiently spaced, they hamper the shearer who is always conscious of the possibility of injury should his own or the next machine

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become out of control. Because of this, his attention is divided between his own and the next machine to the detriment of the work.

![Diagram showing position of chutes and catching-pen gate](image)

**THE SHEARING BOARD**

The provision of adequate room on the shearing board is most essential, as a good standard of workmanship cannot be achieved under cramped conditions.

Shearing costs are to a large extent governed by the efficiency and dispatch with which the sheep are shorn, and any faults in shed construction that retard the shearer are reflected in increased costs of shearing operations.

With centrally situated shearing boards, a minimum width of 7 ft. will suffice. Where the shearing board is located on the side wall of the shed with the chutes leading out into open pens, the shearing board should be at least 8 ft. Narrower boards do not allow sufficient room for the shearing of grown sheep and lead to congestion, while over-wide boards can increase the work and reduce the tallies of the shearer through extra and unnecessary distance from catching pen to shearing stand.

**CATCHING PEN GATE AND CHUTE**

The position of the gate in relation to the let-go chute is shown in Fig. 6. In the elevated type of shearing shed the catching pen is situated behind the shearing stand, with the gate opening approximately 1 ft. 6 in. to the right of the down tube. This enables the shearer to catch his sheep and then move backward to the shearing board without having to cover too much ground or make unnecessary turns. It also obviates the necessity of having to step over the shorn fleece, leaving it free to be picked up and thrown onto the wool table with a minimum of effort.

The letting-go chute should be situated so that the near side of the chute is 6 in. to the left of the down tube (see illustration). In this position the chute will be immediately behind the shearer finishing and provides easy exit for the shorn sheep.

**ANGLE OF CHUTE FLOOR**

The let-go chutes should be erected at an angle of about 45° with the floor (see Fig. 7). This will allow the shorn sheep to slide gently to ground level as it leaves the shearer.

Where sheep are allowed to drop directly from the floor level onto the ground, there is always the risk of the animal being injured.

![Showing angle of let-go chute](image)

**GRATINGS**

Grating floors are essential where sheep are held for any length of time such as the catching and holding pens, in order to prevent the accumulation of droppings from fouling the floor. Timber for grating is supplied with chamfered sides.
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(see Fig. 12), which also shows the method of laying the grating with the chamfered sides downward.

This prevents the possibility of droppings becoming lodged between the gratings and building up. The direction the grating is laid is illustrated in the plans of shearing sheds (Figs. 1 to 3). They should be placed across the line of travel of the sheep, excepting in the catching pen.

In the catching pens it is recommended that the grating be laid parallel with the direction the shearer drags his sheep when taking it to the shearing board, in order to avoid the possibility of the sheep's feet being caught between the gratings and causing injury.

THE CATCHING PENS

The catching pens should be big enough to accommodate enough sheep for at least one hour's shearing, in order to avoid the necessity of frequent fillings.

The width of the catching pens will be governed by the width the shearing stands are spaced, but the length should not exceed 10 ft. Any greater distance than 10 ft. has no advantage, but will entail extra work in fetching sheep on to the board.

It is a distinct advantage, when penning up sheep, if the front of the catching pen is close-boarded to a height that prevents the sheep from seeing any activity taking place on the shearing board.

CATCHING PEN LAYOUT

In laying out the catching pens, it is an advantage to place the letting-go chute for the preceding stand in the adjacent catching pen, as illustrated (Fig. 8). The advantage of this layout, which makes catching easier, is that sheep tend to crowd away from the chute and towards the back of the pen when the chute is on the left side of shearer going in and out of pen. Conversely sheep tend to crowd **towards** the chute when it is placed on right hand side of shearer entering pen. (Fig. 9.)

With the chute on the left, the shearer has a straight pull from any point in the catching pen, and there is less chance of his tripping, or bumping into the chute when bringing sheep on to the shearing board.

A TIME SAVING DEVICE

Valuable shearing time is frequently lost with "cut outs" when changing from one flock to another.

This can be minimised by incorporating a drop gate, (Fig. 10) in the let-go pen. This gate can be closed behind the shorn sheep at the completion of one flock, and allow the commencement of shearing on
the other flock without the necessity of waiting for the shorn sheep to be counted.

The shorn sheep may then be counted out without undue haste and at a more convenient time.

**Fig. 10.—Drop gate in let-go pen**

**TRANSFERRING SHEEP INTO SHED FROM UNDERNEATH**

Where sheep are accommodated underneath the wool room during wet weather, these can be transferred to the holding pens without the necessity of taking them outside the shed. With the provision of a trapdoor and sloping race as illustrated, (Fig. 11), sheep may be driven directly into the holding pens in the shed.

**LEFT-HANDED SHEARER**

Quite often a shearer is engaged who is left-handed, and this sometimes presents a problem as all shearing stands are erected for the use of right-handed shearers. This may be overcome by the substitution of a hinged trapdoor in the gateway of the number one catching pen, which, when raised will form a let-go chute for a left-handed shearer who then catches from the number two catching pen. See plan of two-stand shed, (Fig. 1).

**HOUSING THE ENGINE AND GRINDING MACHINERY**

It is always preferable to house the engine and grinding plant in a separate room attached to the shed, firstly to eliminate exhaust fumes and noise and, secondly, for safety when the grinding is being carried out. It also provides a suitable place for the workbench, a necessity in all shearing sheds, and for the storage of the down-tubes, tools, emery, etc., where they can be locked away at the completion of shearing.

**THE WOOL ROOM**

The following requirements are essential:

1. Adequate space and a good natural light.
2. Sufficient wool bins in relation to the size of clip.
3. Suitable wool rolling table—size 10 ft. x 5 ft.
5. Wool press and scales.
6. Straw brooms and baskets.

**Fig. 11.—Trapdoor and race for entry of sheep from beneath the shed**

Portable bins made of light timber in the form of frames with the uprights fitting into "feet" are recommended.

These can be moved and placed anywhere in the shed during and after shearing. They permit a better light penetration to each bin and can be easily and quickly adapted to any size to accommodate the quantity of wool going into various lines.

**Fig. 12.—Method of laying chamfered grating**
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