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### Round farrowing house reduce piglet losses

P. Beck

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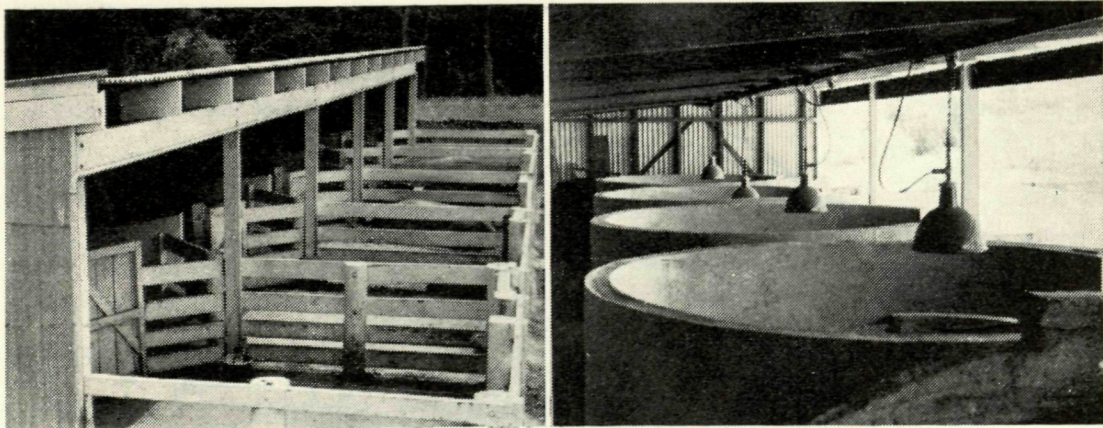


Fig. 1.—A battery of five pens under one roof at the Denmark Research Station. The left-hand photograph shows the general layout of the pens with their separate yards. On the right are the pens with their infra-red lamps above the hovers

## ROUND FARROWING HOUSE REDUCES PIGLET LOSSES

By P. BECK, Field Assistant, Dairying Division, and P. GARSTONE, Lecturer,  
Muresk Agricultural College

**H**IGH death rates among young pigs have caused serious concern in the pig-raising industry for many years, and today—despite improved pig husbandry techniques—it is estimated that 20 to 25 per cent. of all pigs born die before they reach weaning age.

A high proportion of the deaths occur within three or four days of birth. Chilling, with subsequent loss of vigour kills many young pigs; overlying or trampling by the sows kills many more, while the remainder succumb to infections.

Hover boards and various forms of artificial heating have been tested in attempts to prevent chilling, while pens with sloping floors, farrowing rails, farrowing crates and similar devices have been evolved to offset the clumsiness of the sows.

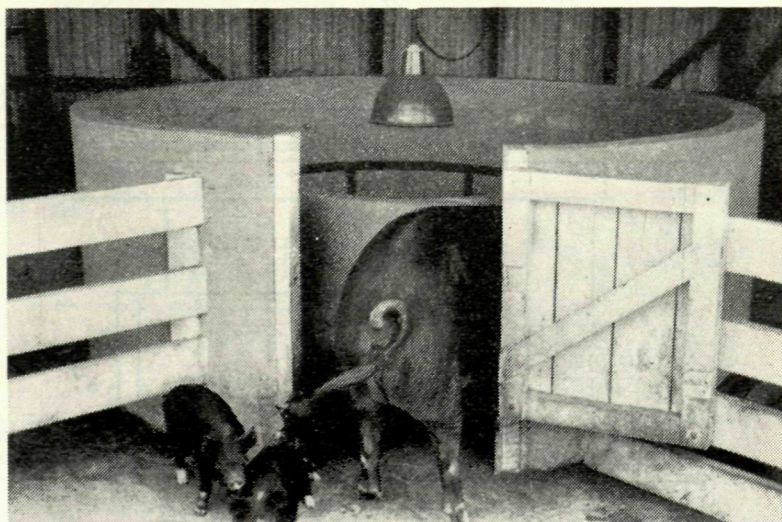
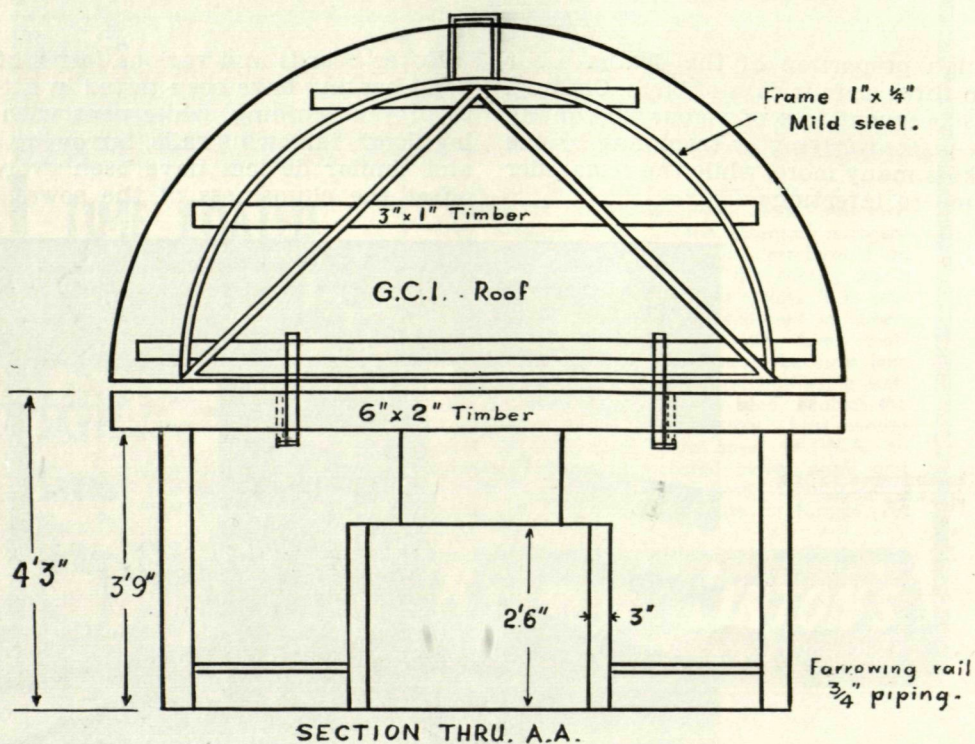
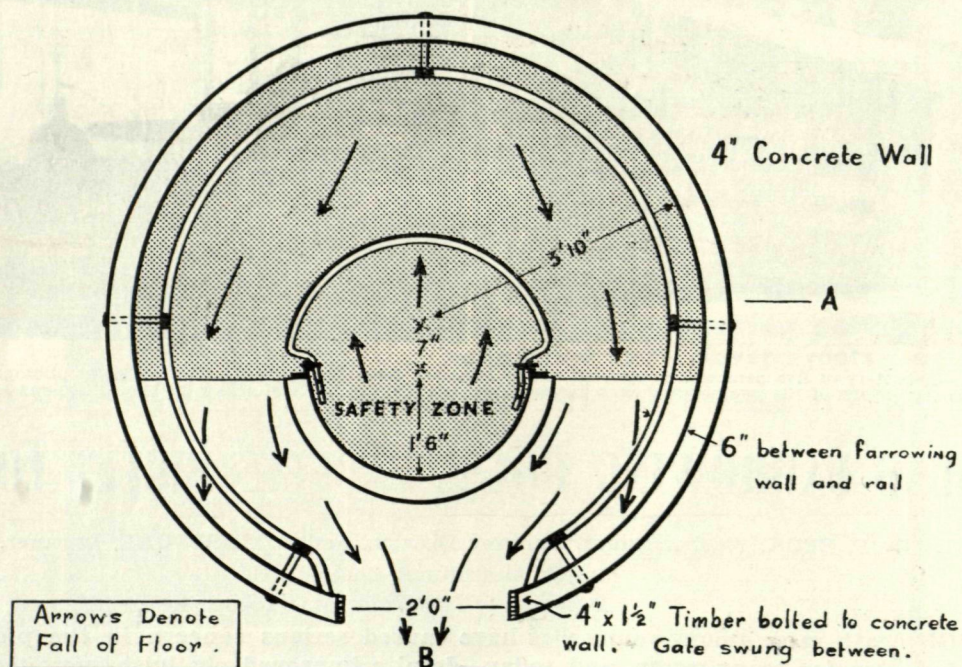


Fig. 2.—Entrance to the farrowing house

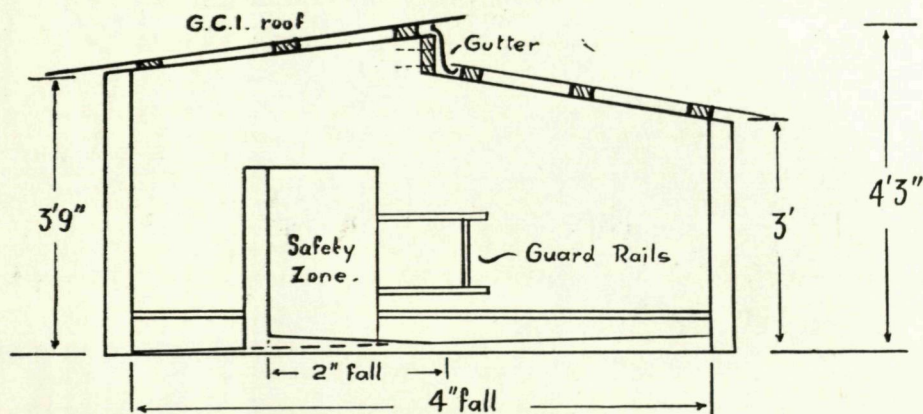


# ROUND FARROWING HOUSE

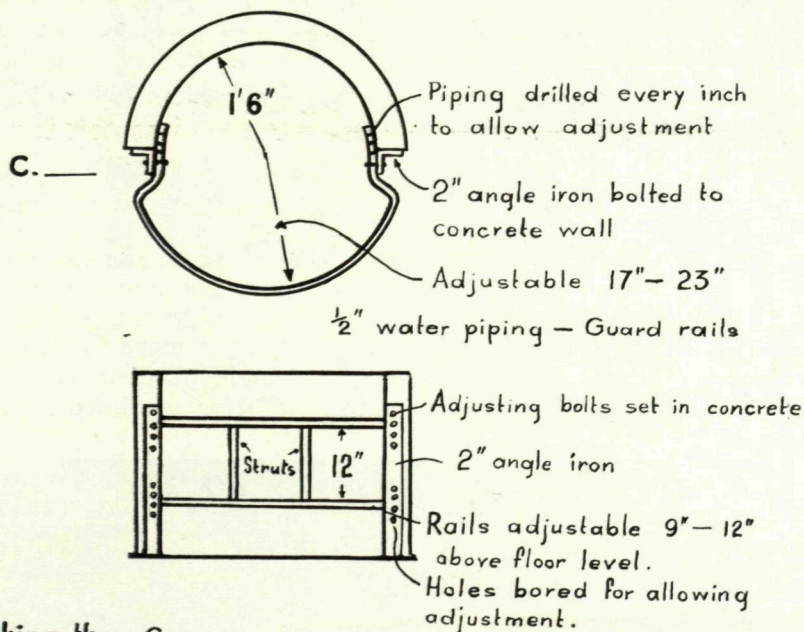




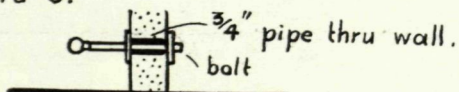
## SECTION B-B.



### DETAILS OF GUARD RAILS AROUND SAFETY ZONE...



Section looking thru C.



T piece. Through which 3/4" piping passes.  
(FARROWING RAIL)

### DETAILS OF FARROWING RAIL ATTACHMENT.



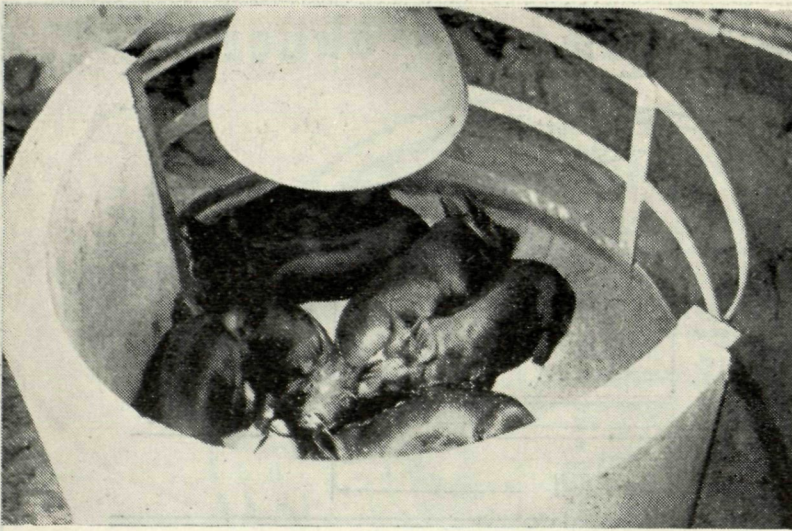


Fig. 3.—Young pigs enjoying the warmth of the hover with its infra-red lamp

A recent successful move to curtail piglet mortality is the round farrowing house developed at the Ruakura Animal Research Station, New Zealand.

The house consists of an exterior circular wall of some good insulating material—usually concrete. This wall forms a complete circle, except for a doorway, and is 4 in. thick with an inside radius of 3 ft. 10 in. A farrowing rail of  $\frac{3}{4}$  in. water piping is fitted 6 in. from the inner face of the wall.

Inside the house is another circle set 7 in. off centre towards the front or doorway. The front half of this circle is a 4 in. concrete wall, and the remainder is made up of adjustable guard rails which allow

free movement in or out of the inner circle by the young pigs while keeping the sow out. The inner circle or hover has an inside radius of 18 in. and may be heated by an infra-red bulb if desired.

Because of the unusual design of the building, the sow cannot turn round in the farrowing house, and can only lie down in such a position that her back follows the curve of the outer wall and her udder is towards, and in close proximity to, the inner hover or “safety zone.” This means that the young pigs have only a short distance to move in order to suckle, and can remain in their safety zone without risk of being trampled or overlain.

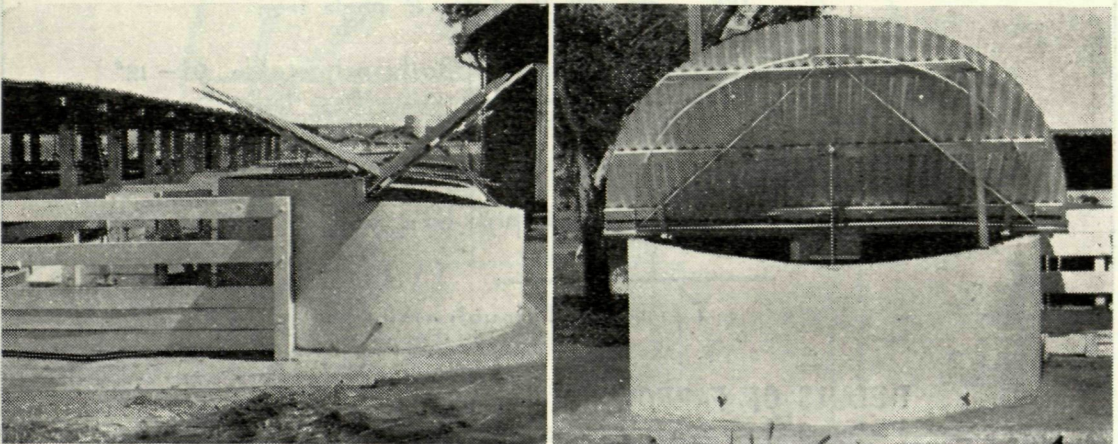


Fig. 4.—A battery of farrowing pens at Muresk Agricultural College, each having a separate hinged roof. Right-hand photograph shows roof construction



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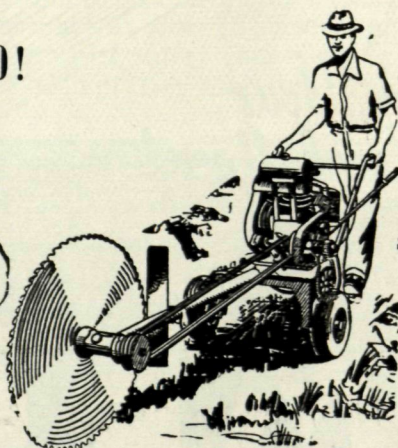
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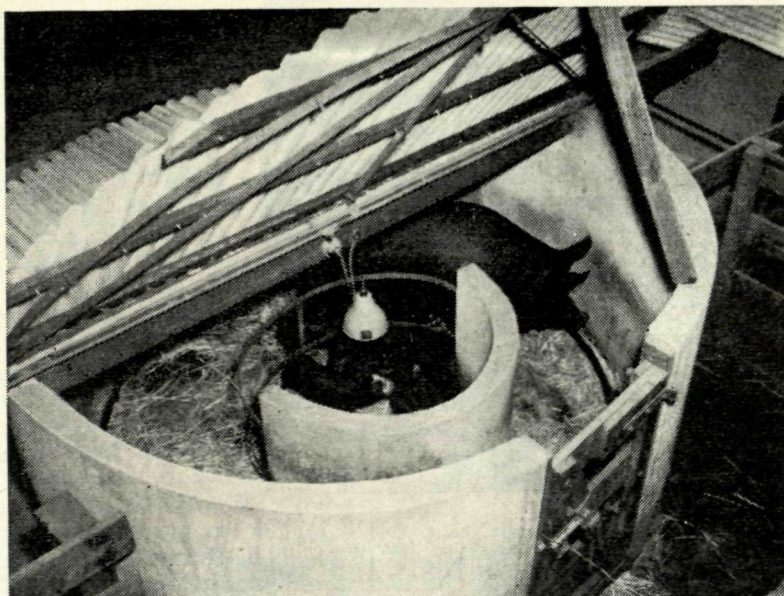
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Fig. 5.—View of pen from above, showing layout



### ROOF DESIGN

The design of the roof is important as it obviously plays an important role in controlling the temperature within the pen—and chilling is the cause of heavy mortality among young pigs.

Where there are wide variations between night and day temperatures, the independent unit having its own hinged roof has proved very satisfactory.

Pens of this type at the Muresk Agricultural College have been tested and demon-

strated that a temperature of 65 to 70° F. could be maintained in spite of cold nights and changing weather conditions.

At the Denmark Research Station where variations in temperature are less extreme, five round pens under a common roof with infra-red lamps above the hovers are giving good results.

### TRIAL RESULTS

In the initial trials at Ruakura in New Zealand, the use of the round farrowing

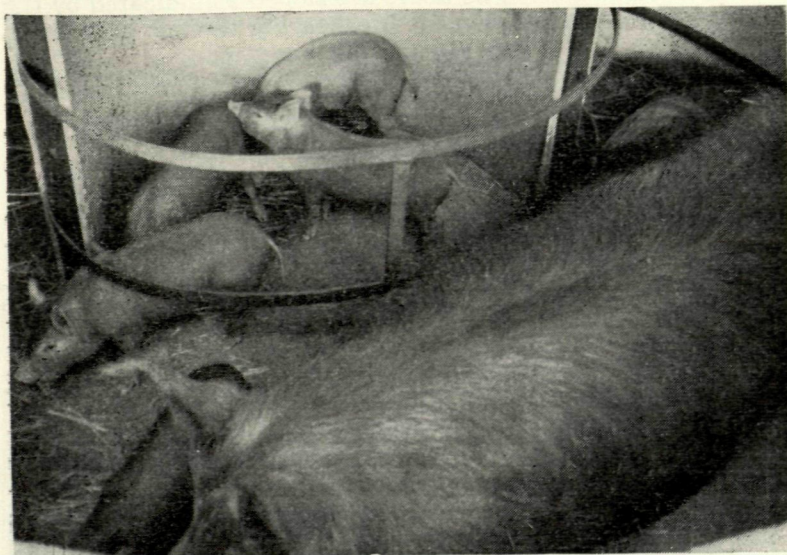


Fig. 6.—The construction of the round farrowing house compels the sow to lay in this position so that the piglets can suckle or seek the protection of the hover



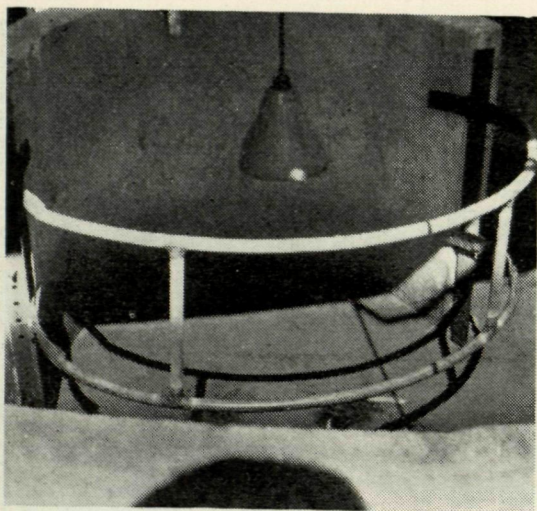


Fig. 7.—The angle-iron holding the guard rails permits adjustments for height or width

pens reduced piglet mortality from 8 per cent. to half of one per cent. Comparable results were obtained on commercial pig-raising establishments in New Zealand.

In Western Australia at the Muresk Agricultural College, the piglet losses have been reduced to one-fifth of those sustained in the conventional farrowing pens. At the Denmark Research Station, the losses have been reduced to one-eighth of the previous mortalities.

## CONSTRUCTION

### Materials Required.

Approximately 17 bags of cement.  
3 cu. yds. of  $\frac{3}{4}$  in. bluemetal.  
 $1\frac{1}{2}$  cu. yds. of sand

will be needed to construct the pen and a 7 ft. x 12 ft. concrete yard.

### Foundations.

Select a well-drained site and excavate a circular trench with an inner radius of 3 ft. 8 in. and an outer radius of 4 ft. 4 in. The foundation should be 8 in. wide at ground level and at least 9 in. deep.

Use a length of iron rod to mark the centre of the circle, with another length 7 in. off centre towards the doorway for the inner circle. Use flat iron as formes for the outer foundation and the inner half-circle foundation and build with rocks and poured concrete. Insert lengths of half-inch mild steel rod projecting 9 in.

above the foundations to serve as anchorage for the 4 in. thick walls.

Erect the formes for the walls and mould these with a 3: 2: 1 mix of bluemetal, sand and cement respectively, taking care to insert piping for the farrowing rails as shown in the diagram, also bolts for the doorways, for the angle-iron carrying the adjustable guard-rails for the hover, and for the bearer if a separate roof is to be fitted.

Old ringlock fencing or circles of barbed wire can be used as reinforcement for the walls.

As alternatives to the solid concrete walls, pens have been built of concrete blocks, bricks, and corrugated iron or hardboard bolted to iron frames.

Whatever materials are used however, it is most important that the measurements shown on the diagram should be adhered to, and also that the walls should be well insulated to guard against marked fluctuations in temperature.

### Floors.

A solid foundation of broken stone is rammed into position for the flooring and on top of this a layer of empty wine bottles with the necks plugged has been found to give good insulation against ground moisture and to assist in maintaining equable temperatures. The bottles are laid in circles close together in the area shown shaded in the diagram. They are covered by a layer of concrete at least  $\frac{3}{4}$  in. thick.

The floors are sloped as indicated by the arrows in the diagram so that they drain well after being hosed out.

### The Hover.

The hover is a semi-circular wall four inches thick with two bolts inserted in each end to carry lengths of 2 in. angle-iron drilled at intervals for the adjustable guard rail. These guard rails may be adjusted up or down and in or out to allow for sows of different sizes.

It is very important that the guard rails are correctly adjusted for each individual sow. Make sure that large sows have sufficient room to lie down and suckle their litters comfortably, and that small sows cannot turn round in the pen or lie with their backs against the guard rails. Incorrect adjustment of the guard rails can lead to losses of piglets.



### Farrowing Rail.

The farrowing rail, which encircles the pen 6 in. from the inner surface of the outer wall, is 6 in. above the floor level. It can be made of  $\frac{1}{2}$  in. or  $\frac{3}{4}$  in. piping in curved sections linked by T-pieces which are in turn connected to short lengths of  $\frac{1}{2}$  in. piping which slip inside the lengths of  $\frac{3}{4}$  in. pipe set in the concrete wall, and are secured on the outside. (See diagram.)

### NOT A REARING PEN

The round farrowing house is not designed to serve as a rearing pen, but merely to tide the piglets safely over the

dangerous period after birth. In most cases, the sow and litter can be moved into a conventional rearing pen when the young pigs are from one to two weeks old.

For this reason, one round pen is ample for all but very large piggeries.

Remember that while the round pen can help to reduce piglet mortality it cannot succeed without good pig-husbandry. The sow should be in trim, healthy, firm condition prior to farrowing. Over-fatness makes for clumsiness and causes piglet losses from trampling and overlying. Where a sow is in grossly over-fat condition, difficult births can lead to the loss of many piglets.



## MURESK AGRICULTURAL COLLEGE

(Department of Agriculture)

Parents are reminded that applications for 1961 admission to Muresk Agricultural College close on 31st December of this year. A preliminary selection of 1961 entrants is made after the Junior results are available early in 1960.

The successful applicants then continue with Sub-Leaving, or higher studies, in 1960.

Before the course can be commenced students must have attained:—

- (a) Sub-Leaving Standard in English, Maths. A, Chemistry and Physics (including Magnetism and Electricity).
- (b) Junior Standard Bookkeeping.

Should places still exist for 1961 commencement after the preliminary selection early in 1960, they are filled in order of application during 1960, by qualified applicants.

Some places still exist for 1960 commencement and are now being filled by qualified applicants, i.e., those who have or are now taking the correct course at Sub-Leaving or higher standard.

**Duration of Course.**—Two years.

**Fees.**—Approximately £130 per annum covering full residential charges.

**Scholarships.**—Department of Agriculture (3), the "Countryman," and J. J. Poynton Memorial (2).

**Boarding Allowance.**—Most Muresk students are eligible for the Education Department Boarding Allowance (£50 per annum).

Full details of the College are obtainable from the Principal, Muresk Agricultural College, Muresk, W.A., or the Department of Agriculture, Perth.

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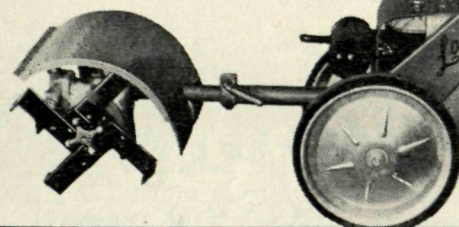
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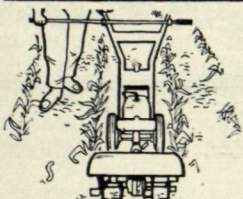
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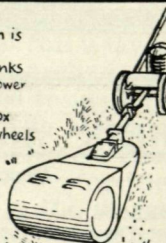
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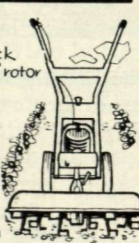
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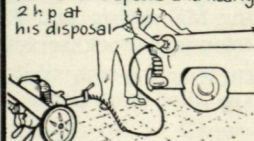
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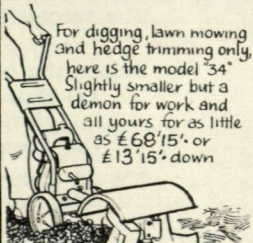
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