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Housing for Gestating Sows

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AGRICULTURAL ENGINEERS' DIGEST

Housing For Gestating Sows

INTRODUCTION

Care of gestating sows in total confinement is increasing in popularity. Advantages include:

1. Herd can be cleared of soil-borne parasites,
2. Handling, cleaning, and feeding labor can be reduced if sows are limit fed, and
3. Pasture may be used for crop production, thereby saving fencing and other related costs.

The major disadvantage is the high initial capital investment in buildings and equipment.

SYSTEMS BEING USED

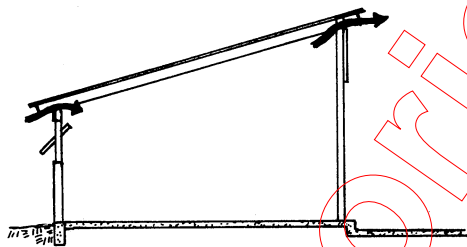
Cold housing (drawings on page 2)

Some producers are building open-front sheds which they divide into pen areas that will hold 10, 20, or 30 sows.

The sows require bedding. Manure handled as solids. Each sow requires about 15 square feet of shelter.

Feeders or feed stalls are placed outside the shelter on a concrete floor. Many of the feed stalls being used are similar to the limit-feeding designs shown on page 4.

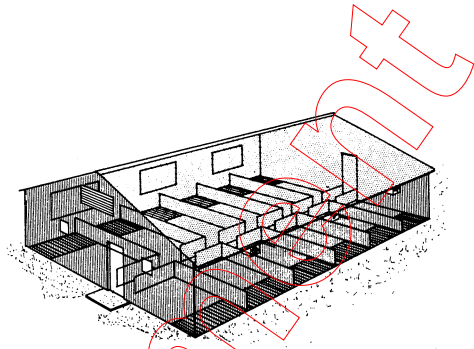
The shelter's inside temperature during winter must be kept about the same as the outside temperature or frosting and condensation problems will develop.



Warm housing (drawings on pages 2 and 3)

Other producers are building completely enclosed buildings which allow year-round climate moderation. The buildings are divided into pens as in cold housing, or are divided by stalls in which the sow is tied to a small area. These tie stalls are a minimum stall and a leather tie strap.

The sows are fed either in the pens or stalls, or are moved to a separate part of the building equipped with feeding stalls or self-feeders.



The sows require no bedding, and they can have their manure handled as a liquid if slotted floors are installed. Each sow requires about 15 square feet of building area.

The inside temperature during winter should be kept at about 50° F by running a small fan continuously above 35° F, and by running larger fans above 50° F. The capacity of the small fan should be about 3-4 cfm per each sow, and the total capacity of the larger fans should equal 25-30 cfm per sow (larger capacity for larger sows).

During summer open large ventilation doors in the walls.

Insulation and a vapor barrier should be installed in all walls and ceilings.

Breeding area

Recent research suggests hand-breeding one time only to be distinctly superior to pen breeding. A separate pen area may be provided for this hand-breeding. The boar could be kept in this area of the building during the breeding season, with sows in heat moved into the boar's pen for mating.

Slotted floors

When installing slotted floors, use a slot width of $\frac{3}{4}$ inch between 3 inch wide slats. The sows in most installations will dung near the waterers, so this is where the waterers are shown on the layouts in this Digest. To eliminate almost all hand cleaning, the whole floor would have to be slotted.

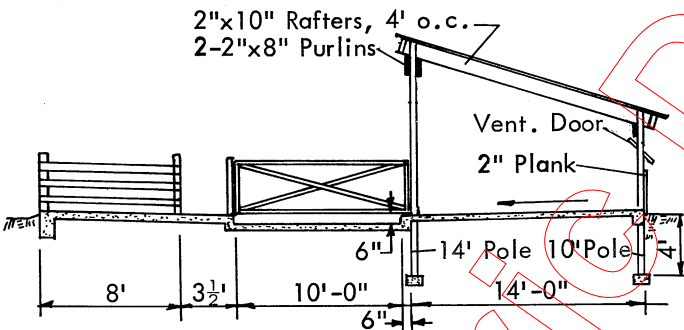
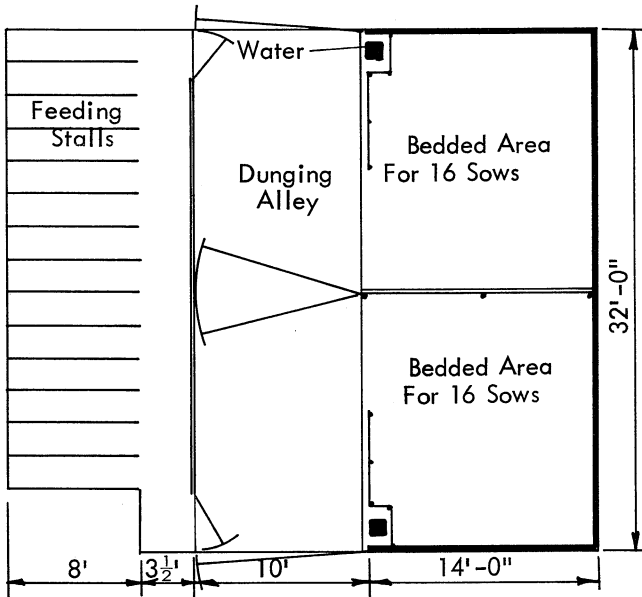
Individual feeding stalls

These stalls allow limit feeding of each sow, and also discourage bossism and fighting among sows. Slower sows learn to sit down to prevent another sow from biting or driving her from her stall.

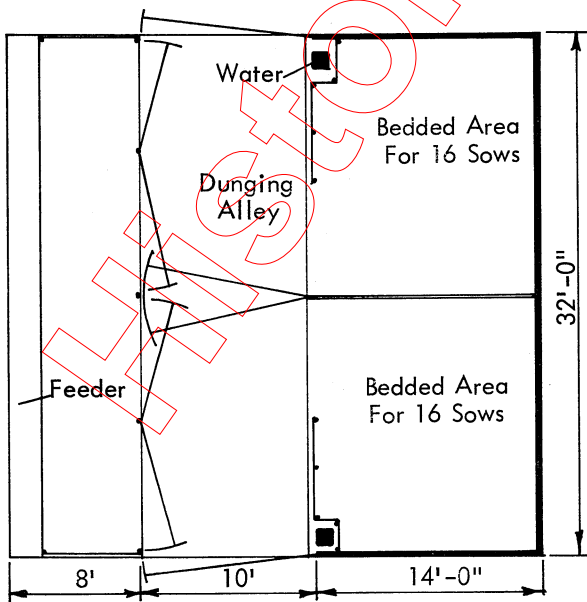
The stalls are very helpful in controlling dosages for drug or hormone feeding and are often used for artificial breeding and other types of sow care.

COLD HOUSING

The two layouts below are suitable for feeding two groups of sows in the same outside feeding area. After one group is fed and put back in the shelter, the other group is fed.



Sows Fed Limited Amount Daily



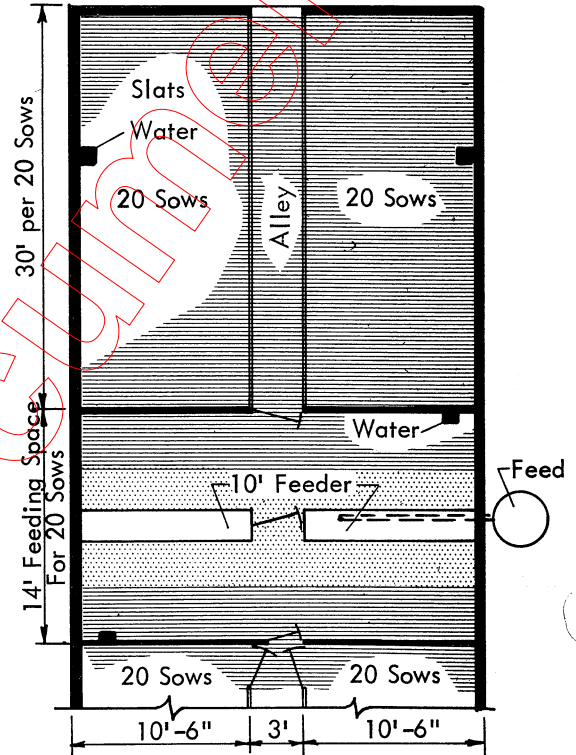
Sows Self-fed For Several Hours Every Third Day

WARM HOUSING

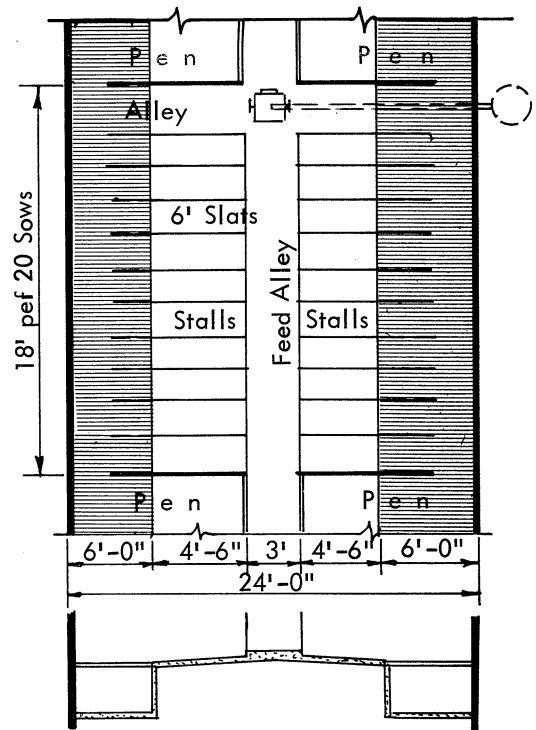
SOWS FED IN A SEPARATE FEEDING AREA

The layout below is used to turn the sows into the feeding area only every two or three days. This feeding arrangement provides limited feeding, but with little control over an individual sow's feed intake.

Twenty sows per pen seems to be a practical maximum to prevent excessive fighting and bossism.

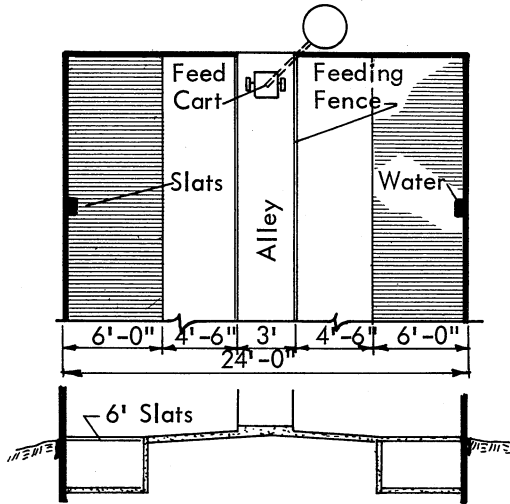


Another way of arranging the feeding area is shown below. This layout is better if the sows are to be fed daily as the stalls will prevent fighting and assure that each sow gets her share.

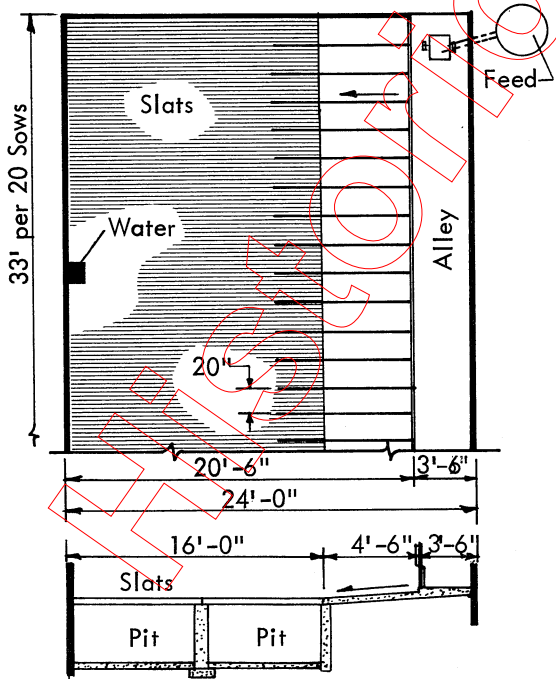


SOWS FED IN THE PEN

Alternatives to a separate feeding area are shown below. The sows can be fed daily or any other time interval.



In the layout below, there may be more hand cleaning as some sows may dung while in the stalls.

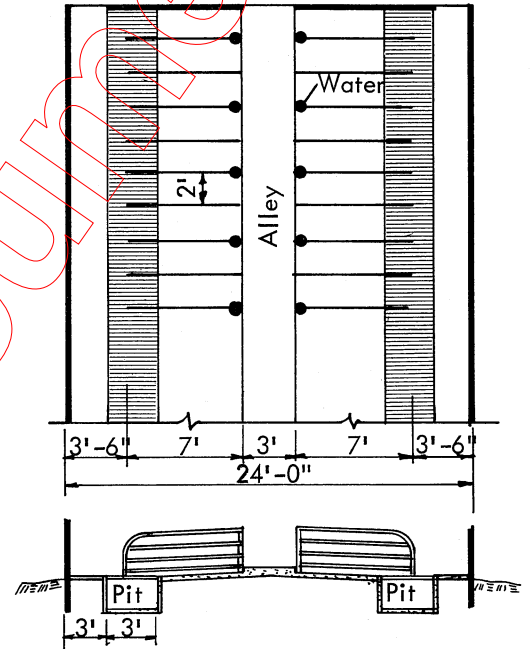


SOWS TIED AND FED IN STALLS

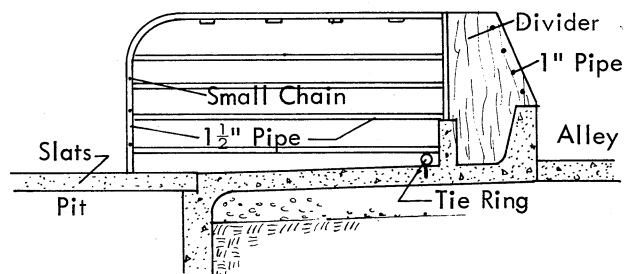
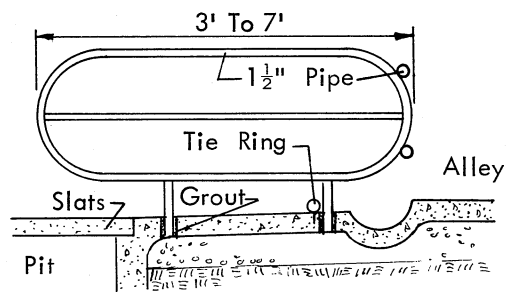
Tieing sows in their stalls with a strap permits improved control of feeding and breeding. Gilts may be restless when first tied in the stall, but will become content in a short time.

These stalls should be about 24" wide, from 3' to 7' long, and about 30" high. The tie-ring for the tether should be centered in the floor under each sow's neck, about 8" behind the feed trough. Arrange the sows in the stalls so they can see other sows.

The stall partitions should be open so the sows can see other sows. This will help reduce restlessness when first tied.

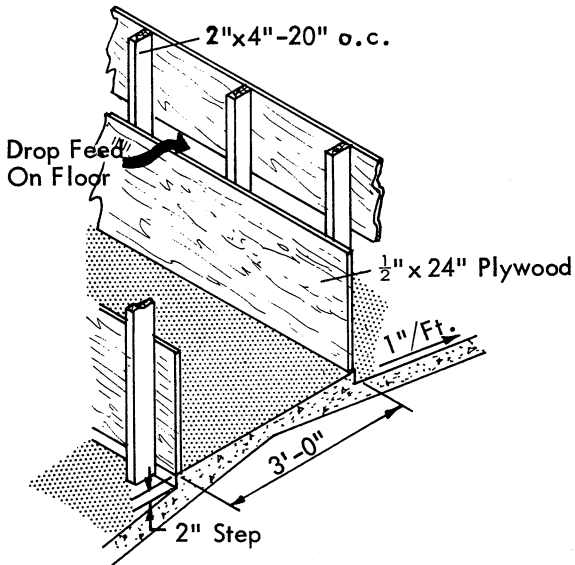


A tether or tie stall does not need long or solid sides. Some producers are installing bars or pipes as shown below.



PEN PARTITIONS

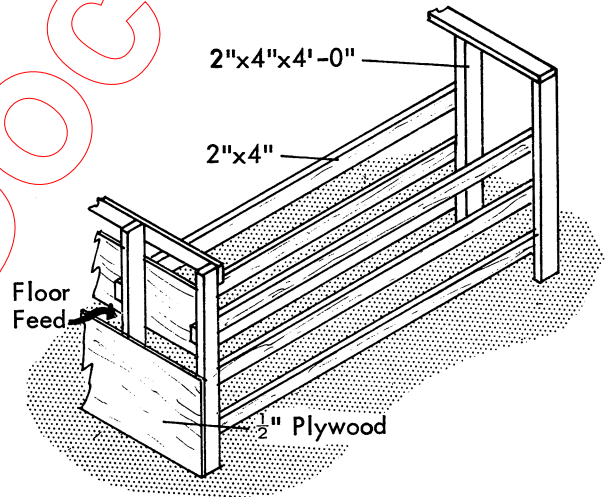
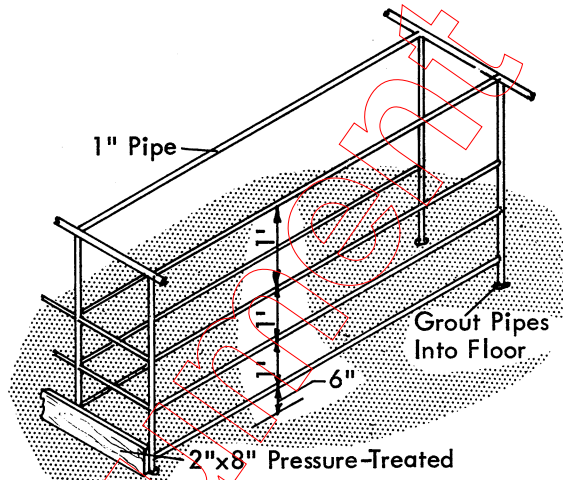
Sows on limited feed tend to be more aggressive than sows on unlimited feed. This means that pen partitions and/or feeding stall partitions need to be stronger than normally required.



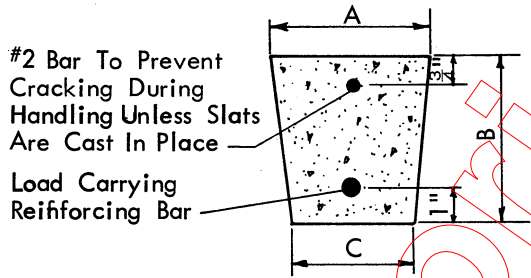
SIMPLE FEEDING FENCE FOR FLOOR FEEDING

FEEDING STALLS

These stalls should be about 20" wide and 8' long. Long narrow stalls seem to discourage the fast eater from bothering slower sows. If shorter stalls are used, a gate or other device should be provided to keep the sows in the stalls.



CONCRETE SLATS



#2 Bar To Prevent Cracking During Handling Unless Slats Are Cast In Place
Load Carrying Reinforcing Bar

SIZES OF CONCRETE SLATS

Length	A	B	C	Reinforcing Bar
4'	3"	4"	2 1/2"	No. 3 (3/16")
6'	3"	4"	2 1/2"	No. 3 (3/16")
8'	3"	5"	2 1/2"	No. 4 (1/4")
10'	3"	5 1/2"	2 1/2"	No. 6 (3/8")

