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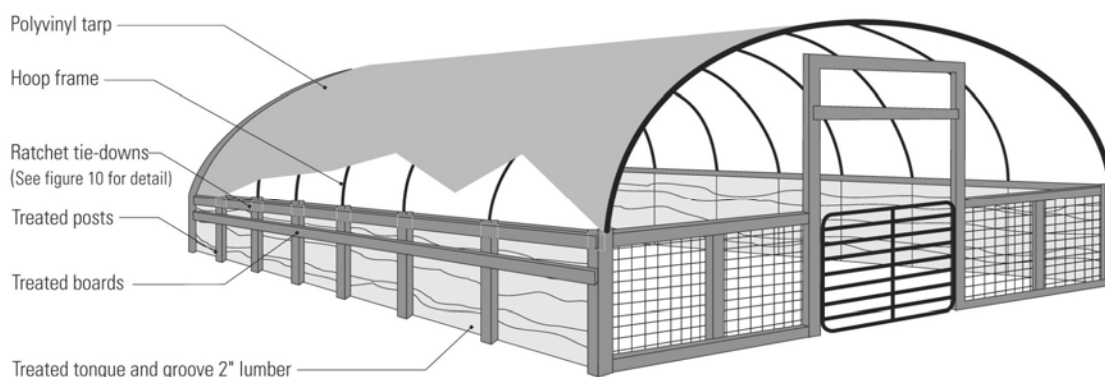
Housing Options

IPIC NPP220 2007

Pigs are adaptable animals and will thrive in a variety of housing systems. A key to successful pig raising is to meet the environmental needs of the pig while minimizing costs associated with the housing system. Leaflet numbers 210, 230, and 510 of this handbook address the environmental needs of pigs, bedding management, and scheduling of pig flow respectively. This leaflet addresses bedded housing options commonly used by niche pork producers.

Hoop barns are versatile, low-cost structures that are typical of deep-bedded systems.

Figure 1. Common components of hoop barns.



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Other structures are also suitable for deep-bedded systems, but all tend to incorporate the following:

- ◆ Low capital investment in facilities, thus allowing more space per pig and increased time between groups of pigs.
- ◆ Flexible and adjustable floor layouts.
- ◆ Designs that facilitate and utilize the natural behaviors of the pig rather than control and limit activity.
- ◆ Create a physical environment in which stockpeople enjoy working.

Breeding and Gestation

Successful mating is necessary to maintain consistent pig flow through facilities. The sow can perform well across a broad range of environmental conditions.

Often the same facility that is used for breeding also will be used for gestation. Reproductive management is addressed in section 400 of this handbook. Important considerations for the breeding facility include:

- ◆ Individual sows must be easily observed so that estrus and pregnancy can be detected.
- ◆ If using natural insemination, the floor surface must provide traction.
- ◆ If using artificial insemination, a narrow holding area is usually necessary to allow for safe and timely insemination of the sow.
- ◆ A cooling system (sprinklers and/or fans) to reduce heat stress in summer.

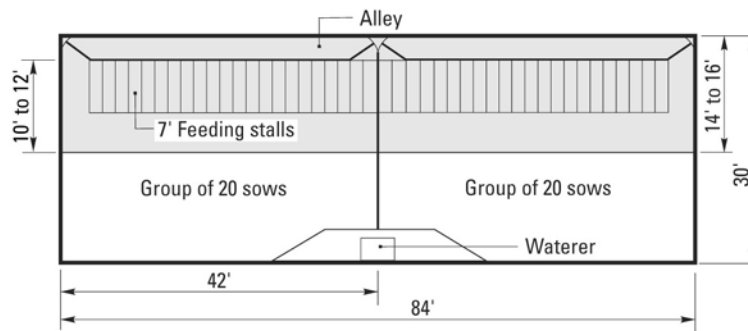
Gestation facilities should have the following:

- ◆ A way to control feed intake -- individual feeding stalls, keeping sows in groups of 3 to 5, body-length partitions at the feeding trough, or high-bulk, low-energy diets are commonly used strategies.
- ◆ Easy sow movement from breeding to gestation and from gestation to farrowing.
- ◆ Adequate number of pens to avoid the mixing of unfamiliar sows during implantation -- a 21-day period beginning one week after insemination.

- ◆ Sows must be easily observable so that oncoming farrowing or return to estrus can be detected.

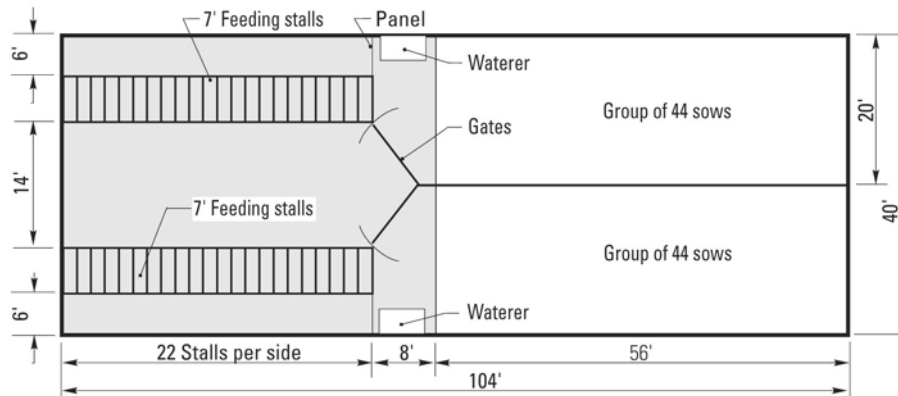
Historically, gestating sows were kept on pasture or in barns with outdoor access. Existing facilities often can be used to meet the needs of gestating sows. If new facilities must be built, hoop barns are low-capital investment facilities that work well for many niche market pork producers. Example layouts of hoop barns for gestating sows are included as Figures 2 – 5.

Figure 2. Feeding stalls on the west side of the structure.



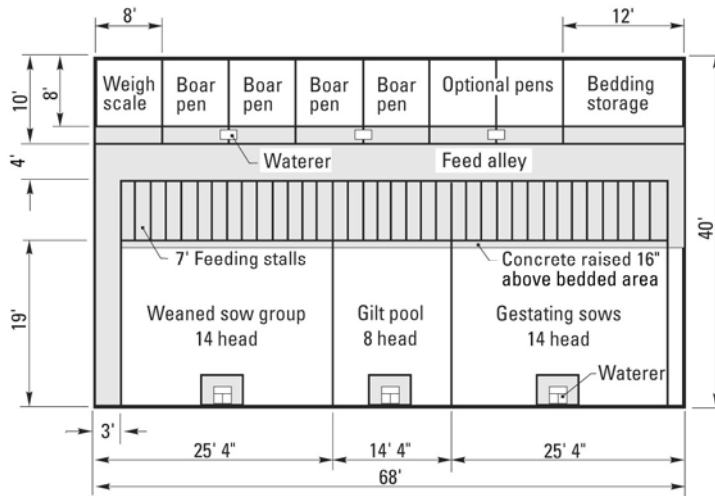
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Figure 3. Feeding stalls on the south end of structure.



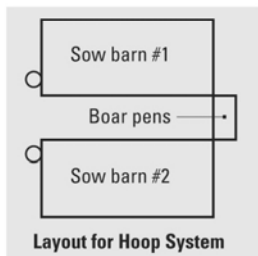
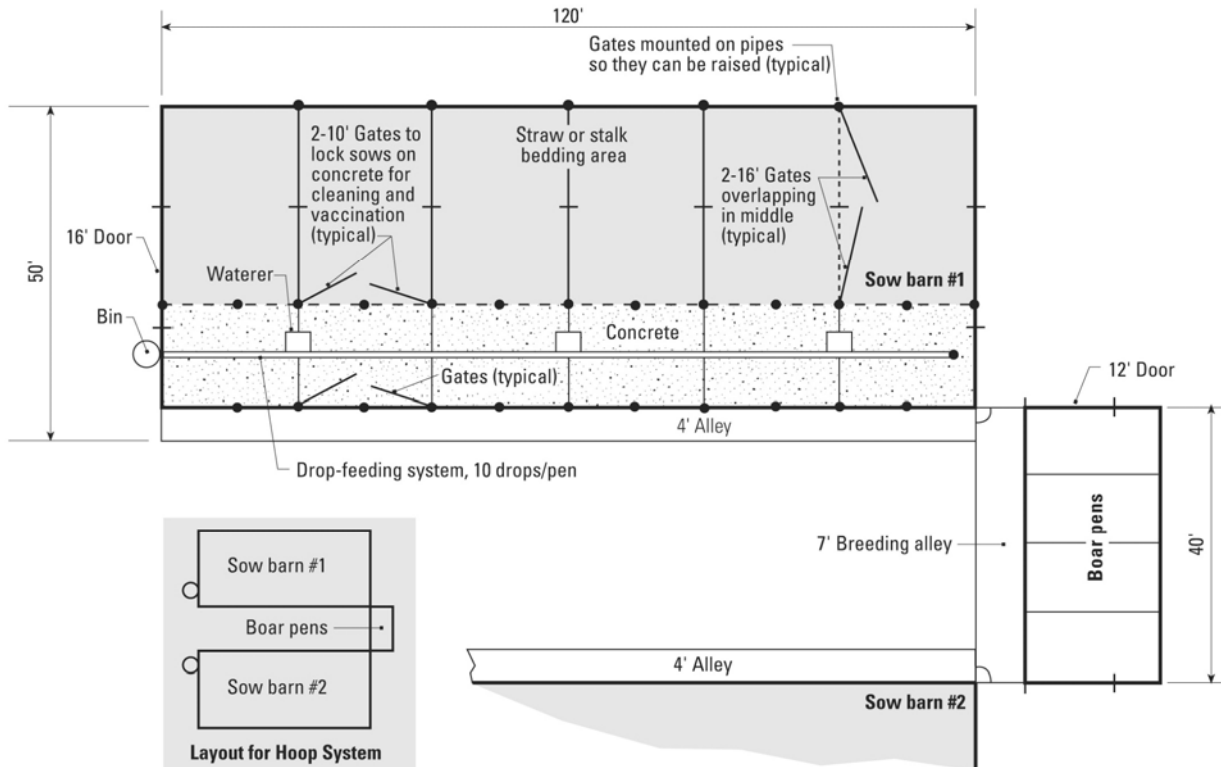
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Figure 4. University research and demonstration layout for a small herd with space for boars, breeding, and bedding.



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Figure 5. Hoop system using two barns for sows and one barn for boars.



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Farrowing

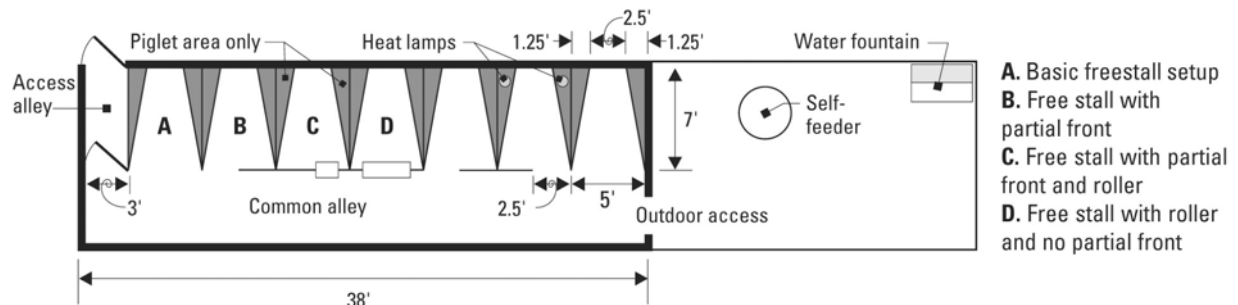
Meeting the needs of pigs in the farrowing facility can be challenging because the thermal comfort zone of the mature sow and the newborn pig are very different. Most naturally-raised pork markets prohibit the use of farrowing crates. Alternative farrowing systems with bedding can be successfully used if a balance is struck between the needs of the sow and the litter:

- ◆ Room temperature should be maintained above 65 °F if possible.
- ◆ Piglets should be provided a draft-free, protected area that can be warmed with supplemental heat, usually heat lamps and hovers. Hovers are often made of plywood and are used to enclose and trap heat in a smaller area that only the young pigs have access to.
- ◆ To avoid being crushed by the sow as she is lying down, piglets must have a space that the sow cannot access.
- ◆ Individual space for farrowing should be provided for each sow in the room.
- ◆ Keeping the very young pig (<10 days old) inside the farrowing stall or hut

reduces the risk of chilling and injury from other sows.

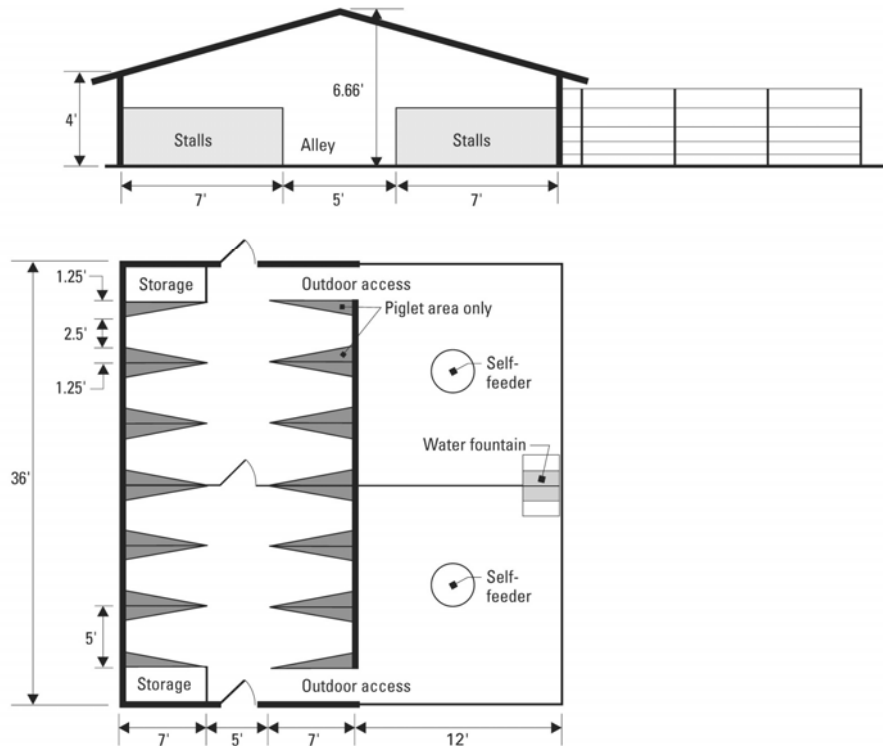
- ◆ The age of the piglets within a room should be very similar, 7 days is the maximum recommended spread. This insures that older pigs do not steal milk from younger pigs.
- ◆ Group lactation, where several sows and litters are allowed to mingle after the pigs are 10 days old, is often practiced.
- ◆ A creep area is often provided during group lactation to provide feed and supplemental heat for the young pigs.
- ◆ Providing more space per sow allows her to better regulate her body temperature and prevent crushing of her litter.
- ◆ During lactation, sows should always have free access to clean water.
- ◆ The room must be easily cleaned. Periodic washing and disinfecting of this facility followed by adequate time for the room to thoroughly dry before the next group of pigs is farrowed is critical in maintaining herd health.

Figure 6. Room set-up in a building retrofitted with free stalls.



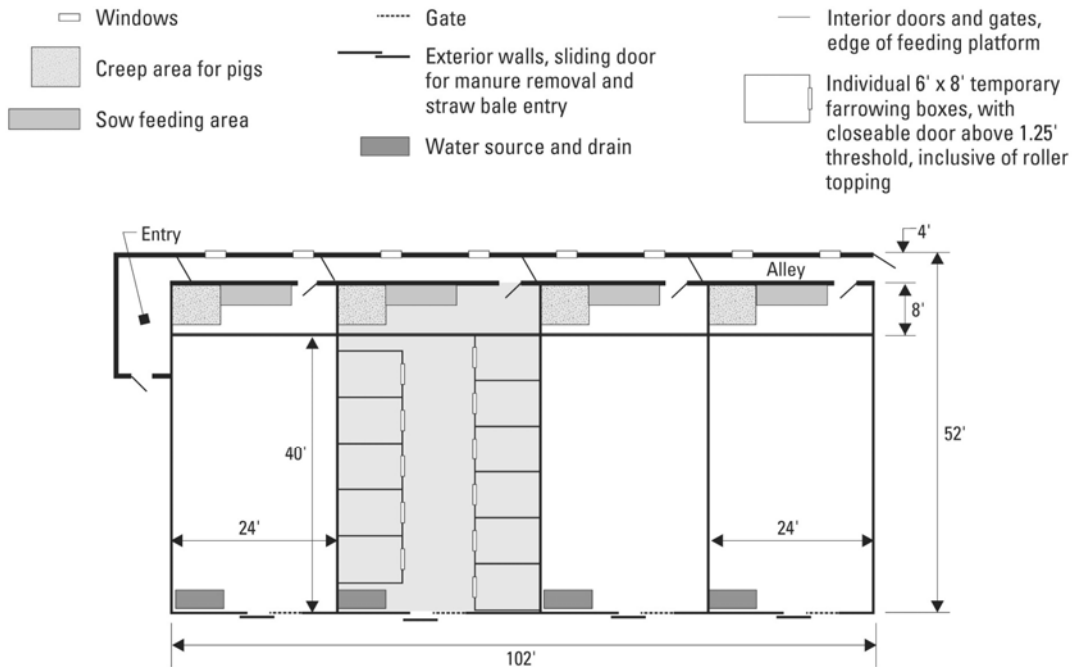
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Figure 7. Retrofitted 1960's-style farrowing barn.



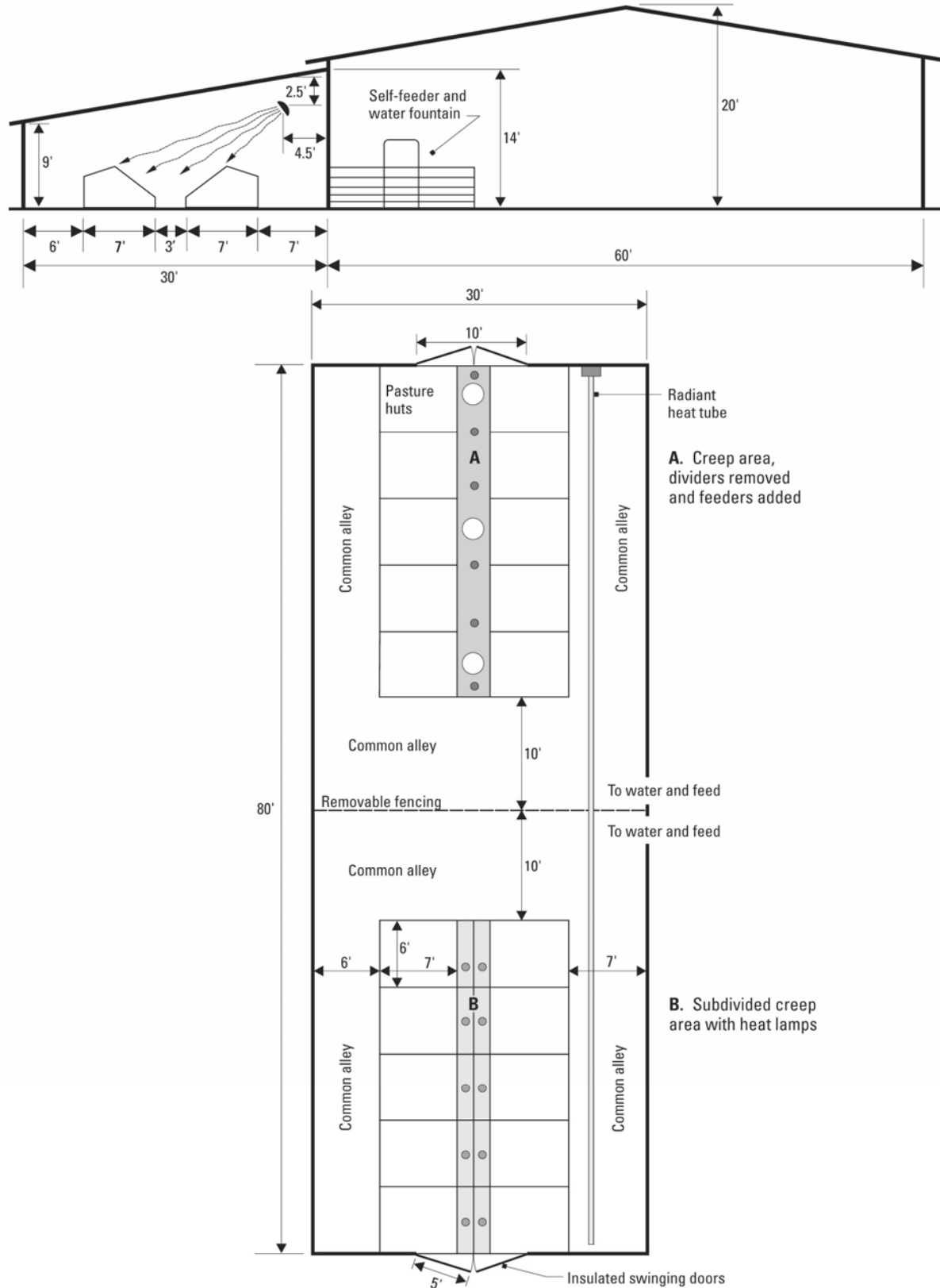
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Figure 8. A Swedish System



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Figure 9. Pasture huts with radiant tube heating.



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Growing Pigs

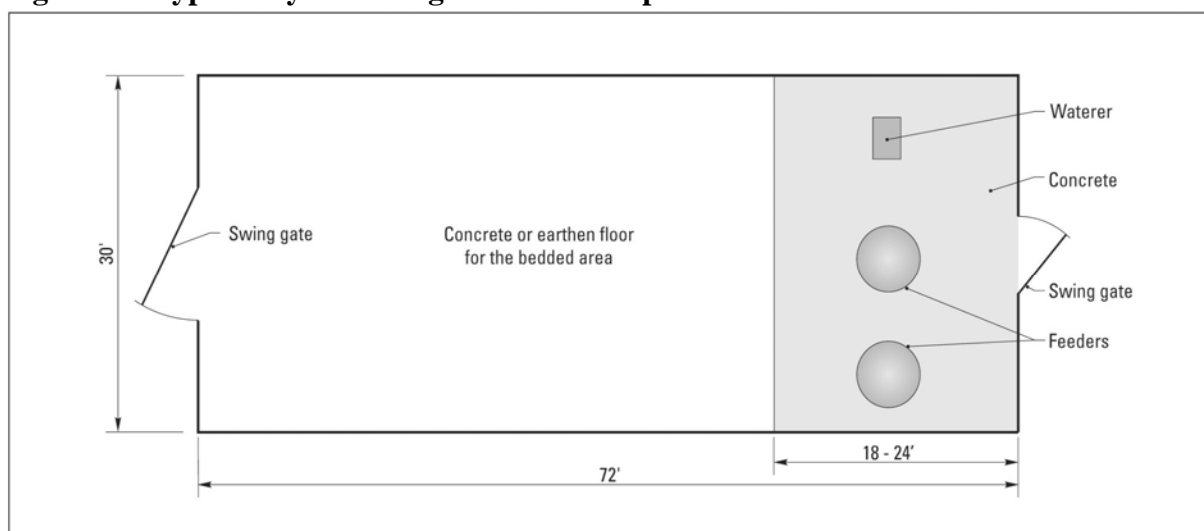
Growing pigs will thrive in diverse housing systems that include outdoor feeding floors, remodeled buildings, and hoop barns. Minimizing size differences within a group of pigs helps meet the environmental needs of the growing pigs. Growing facilities should:

- ◆ Allow pigs distinct areas for eating, sleeping, lounging, and defecating.
- ◆ Be managed using all-in-all-out strategies — a group of pigs is brought to the facility; no pigs are added to the group while they are growing; after pigs

are sold, the building is cleaned and a fresh bedding pack and a new group of pigs is brought to the facility.

- ◆ Enable sorting and loading of pigs to occur with minimal stress and effort.
- ◆ Have a feeding, watering, and cooling system that is appropriate for the size and number of pigs.
- ◆ Have feeders positioned to allow easy feed delivery, usually on concrete pads or wooden platforms.
- ◆ Have maintained access roads for vehicles and machinery.

Figure 10. Typical layout for a grow-finish hoop barn.



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Pasture systems

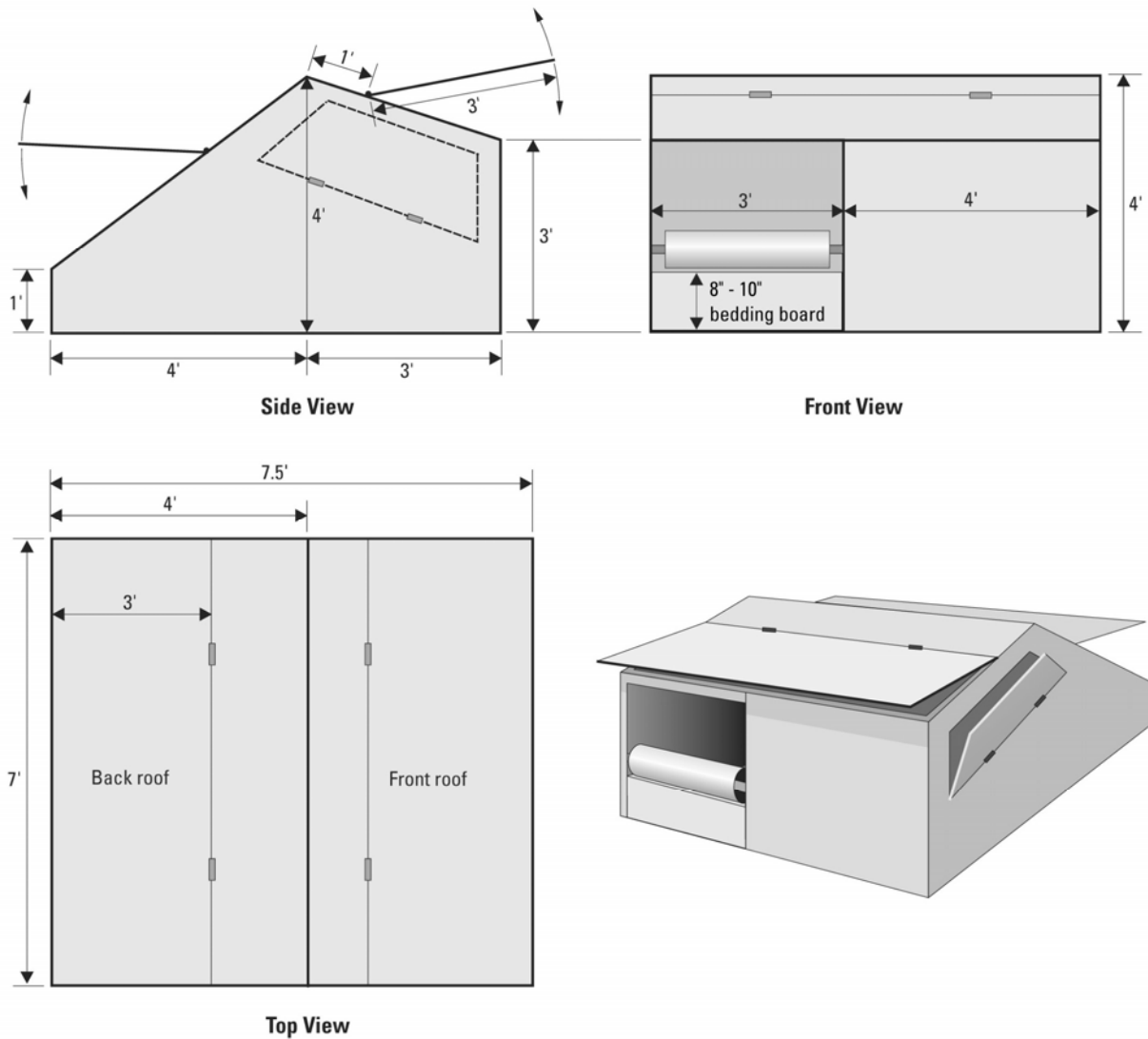
Historically, many pigs were raised seasonally and on pasture. Although pastures require land and may not be suitable for optimal winter production, they can be successfully used by niche pork producers if the following guidelines are followed:

- ◆ Well-drained, sandy soils work best for pastures for pigs.
- ◆ Pigs should be placed on established sod, or temporarily in paddocks on harvested crop fields.

- ◆ Pastures should be rotated to prevent parasite build-up, vegetation destruction, and soil erosion.
- ◆ Fencing plan should be flexible to match vegetative growth and number of pigs; electric fencing systems are particularly adaptable to pig production.
- ◆ Pasture space recommendations depend on rainfall, soil types, and degree of vegetative cover, and should be adjusted to match local conditions.
- ◆ Provide adequate shade and dry resting areas.

- ◆ If allowed, nose rings may prevent severe damage to pasture vegetation.
- ◆ Electric fencing and all-terrain vehicles are useful technologies for pasture pork production.
- ◆ Predators such as birds of prey, coyotes, and dogs can be a concern in pasture systems.

Figure 11. Typical dimensions of a modified A-frame farrowing hut.



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Additional Resources

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