

# Hovers for Farrowing Buildings

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**S**wine require supplemental heat during the first few weeks of life. Baby pigs demand the most heat of any young domestic livestock. They have an immediate need for temperatures of about 95°F for the first 3 days, then dropping to 85°F over a 3-week period.

Swine producers usually provide that heat by lamps, heating pads, or forced-air heating of farrowing rooms. A 250-watt heat lamp, suspended above one side of the farrowing crate, is one of the most common ways to provide additional heat.

But even with this heat source, it's still common to see baby pigs huddled, piled, and sometimes shivering under the heat lamp. They're telling us they're cold! This is their way of conserving heat.

We could provide additional heat and increase the temperature in the whole building, but this increases energy costs—and when room temperature is high enough for the baby pigs, the sow will be warmer than desirable.

An economical way to help baby pigs keep warm is to conserve the heat that's available. This is what a hover does. It conserves heat from your sources (bulbs or heat lamps) and helps to provide a comfortable environment for baby pigs.

## What is a hover?

A hover is a box-like structure that captures heat and reduces drafts. You can place this simple box alongside a farrowing crate or in a farrowing pen, with a protected bulb or heat lamp. One side of the hover is open, so baby pigs can get inside. In a sense, it's a warm creep area, but instead of providing feed, it provides a warmer environment.



Figure 1 — Design for a hover to fit in a creep area.

## Why use a hover?

The swine operator works hard to provide a comfortable, healthy, and productive environment for both the sow and the baby pigs. However, this causes problems as they have different requirements.

It's true that both sow and litter require a well-ventilated area that provides fresh air and removes unwanted moisture and harmful microorganisms.

But the sow eats and milks better when she's kept at a temperature around 65°F.

And the baby pigs, as we stated earlier, need temperatures from 85 to 95°F. The difference in temperature needs causes a dilemma.

A hover can provide the baby pigs a microclimate to suit their needs. You can keep this small room at the required temperature and still allow a lower

temperature in the larger farrowing room. This saves energy and lets you provide the exact heat level needed by the baby pigs.

## How a hover works

We know that warm air rises and cold air sinks. A heat lamp or bulb provides heat, which then creates an updraft as the warmed air rises. This not only steals away warm air from the sleeping area, but also creates a draft. Cold air is drawn off the floor to replace rising warm air.

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Placing a reflector around the bulb will reduce, but not stop, this updraft effect. A hover acts like a giant reflector, capturing the heat produced by bulbs or lamps, stopping drafts, and providing a smaller, warm “room” (Figure 1).

Laboratory and field studies conducted by Oregon State University researchers show that adequate temperatures for baby pigs can be maintained using 100-watt light bulbs in a plywood hover. The size of the bulb needed in your operation will vary with the temperature in the farrowing room, the design and material of your hover, and the number and age of your pigs.

As the pigs get older, they need less heat. You can reduce the size of the heat lamp or bulb—or even unplug it—when the pigs generate enough heat to keep themselves warm.

## How to construct a hover

The ideal material will be durable and easy to clean. Metal meets these criteria but has a low insulation value. Plywood is inexpensive and easy to work with, but it’s difficult to clean. Be sure to protect bulbs from the baby pigs. A guard made of expanded metal is an acceptable method.

There are several sizes of farrowing crates available. Design your hovers to fit in the creep area of the farrowing crate. Figure 1 shows an example.

Experiments at OSU show higher temperatures were maintained in the hovers that did not have the complete side wall open. Try to enclose your hover as much as possible to conserve floor heat. A floor in the hover increases its effectiveness.

Most producers like to check baby pigs frequently. Placing a hover in the creep area reduces your ability to see them, but you can easily install a hinged lid to let you see into the hover.

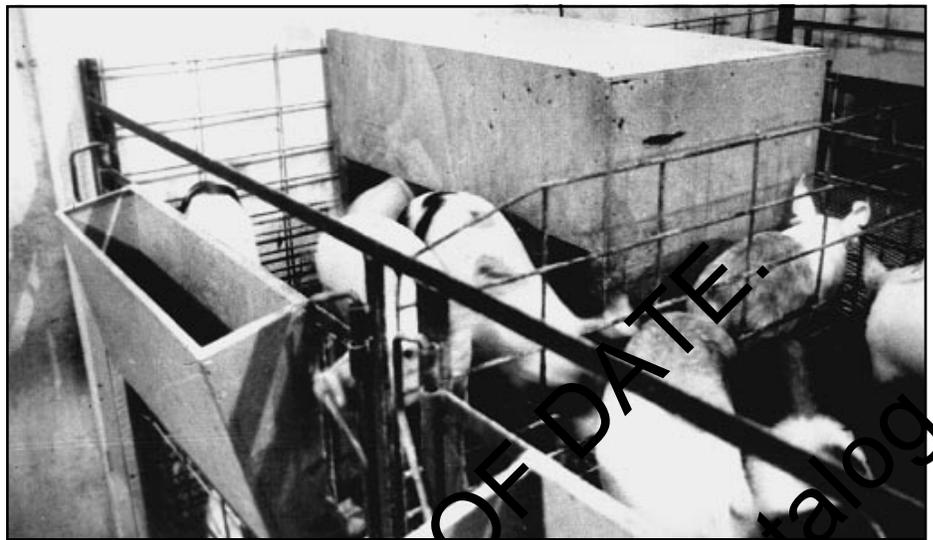


Figure 2.—Weaned pigs in a specific hover area.

## Safety considerations

In most installations, the lamp will be connected to the outlet box with flexible cord. The type you select *must* be suitable for the damp conditions that a washdown will occasionally provide. Suitable cords commonly used for this purpose are Type SJQ and Type SJTO. Insulated copper wire inside the protected jacket is available in sizes from No. 18 AWG to No. 12 AWG.

The end of the hovers with the light should be *away from* the head of the sow. If your layout puts the light near the sow’s head, it’s recommended that you use protective rigid metal conduit. This conduit should extend from the hover until you remove the power supply from the sow’s access.

If you expect severe physical abuse, you *must* provide proper support for the conduit.

The lamp should be in a ceramic or porcelain socket base, firmly fixed to the inside of the hover. Use a three-wire cord

to supply the alternating power and the ground. Acceptable grounding electrodes are:

- the nearest available effectively grounded structural member of the structure, or
- the nearest available effectively grounded metal water pipe.

## Other uses

You can use hovers with weaned pigs or pigs in a grower barn (Figure 2). Even though these pigs are older, they still require and benefit from a warm area.

## Hovers pay

A hover is an effective device to capture heat and provide warmth for young pigs. It can be one of the tools you use to provide a healthy environment for younger members of the swine herd. Constructing hovers doesn’t cost—it pays!

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