

# Nipple Waterers For Swine

**P**igs need a supply of good quality water, readily available when they are thirsty. Too often water availability is taken for granted. Once a watering system is installed, few things can go wrong. But if water in a pen is restricted, it can dramatically affect the pigs' performance.

Nipple waterers are popular because they do not foul as easily as cup or bowl waterers. With a cup or bowl, you can see whether water is available. But with a nipple waterer, more than a glance is required. The flow rate needs to be checked occasionally to determine if it is within the flow need for satisfactory pig water intake.

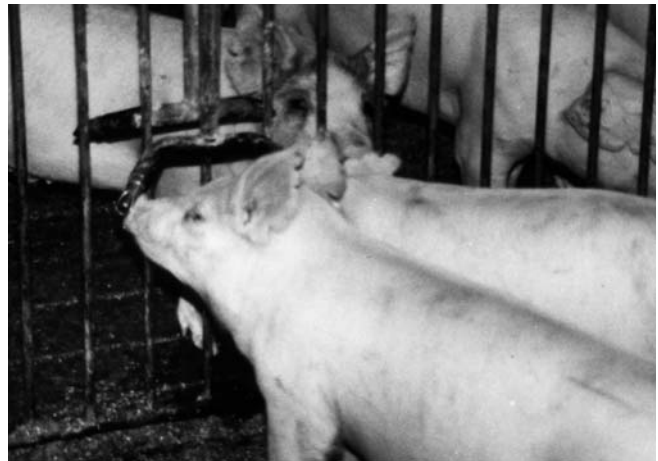
If a pig drinks less than it needs it will also eat less, and as a result, grow more slowly and have a poorer feed conversion.

Pigs spend about 20 minutes total time per day drinking, almost all of this during daylight hours. For younger pigs, flow rate is important because they are hesitant drinkers. With too fast a flow from the drinker, the young pig may be discouraged from drinking.

The older pig is an impatient drinker. With too slow a rate, pigs become more aggressive and the pigs at the lower end of the social hierarchy may have less of a chance to drink. A pig that drinks less—eats less and gains slower.

If the flow rate is too slow, look for these problems:

- Clogged filter or valves. An in-line filter protects the nipple valves and additional screens at the nipples are recommended. These filters and screens should be checked and cleaned before they begin to clog.
- Incorrect water pressure in the water line. For most nipple waterers, flow rate increases with increased pressure. To avoid the undesirable change in flow rates, a pressure regulator can be installed. Most nipple waterers will provide the desired flow at 30 psi pressure. Check manufacturers' literature for recommended water pressure.



Waterers should be located in the dunging area.

Some nipples are designed for small pigs and cannot produce enough flow for large pigs. Other nipple waterers have two orifices that can be interchanged. One is designed for the low rates for small pigs; the other for higher rates needed by large pigs. Be sure the proper size orifice is being used.

### Nipple height

Set the waters at mid-shoulder height or slightly higher. Table 1 gives suggested heights. Tilt the waterers downward slightly (about 15°) unless otherwise specified by the manufacturer.

### Pigs per nipple

For nursery pigs, install one nipple for each 10 pigs. For growing-finishing pigs, the carrying capacity can be increased to one nipple for 12 to 15 pigs.

### Water consumption

If you plan a water tank in your building to supply water, size it to supply one-third the daily water need in the building. The values in Table 1 can be used as a guide. The higher values are for the hot summer days. Insulate the tank to keep the water cool in the summer.

### Checking flow rates

There are two methods that can be used to measure flow rate: (see Table 1)

- Using an 8 oz. measuring cup, hold the nipple open, and determine how long it takes to fill the cup.
- Using a household quart measure, hold the nipple open, and determine the water flow for one minute.

Both suggested values are shown in Table 1.

### Waterer spacing

Locate waters 12 in. apart for nursery pigs, 18 in. apart for growing pigs, and 24-36 in. apart for finishing pigs and group housed gestating sows.

Prepared by Vernon M. Meyer, former extension agricultural and biosystems engineer. Reviewed by Jay Harmon, agricultural and biosystems engineering department.

**Table 1. Nipple waterer information.**

	Pig weight					Sows & Boars	Lactating Sows
	to 12 lb.	12-30 lb.	30-75 lb.	75-150 lb.	150-240 lb.		
Height, inches	4-6	6-12	12-18	18-24	24-30	30-36	30-36
Pigs/nipple	one litter	10	10	12-15	12-15	12-15	1
Flow rate	2/3 cup/min.	1 cup/min.	1 1/2 cup/min.	2 cups/min.	3 cups/min.	1 quart/min.	1 quart/min.
Seconds to fill 8 oz. cup	90	60	40	30	20	15	15
Daily water consumption, quarts	.2-.5	2-4	4-6	5-10	6-18	8-20	16-25

File: Engineering 1

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Jack M. Payne, director, Cooperative Extension Service, Iowa State University of Science and Technology, Ames, Iowa.

### . . . and justice for all

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Many materials can be made available in alternative formats for ADA clients. To file a complaint of discrimination, write USDA, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964.