Flow Rate

Water Line Best Practice Series

Iowa Pork Industry Center and Swine Medicine Education Center, Iowa State University

Key Takeaway: Regularly checking the flow rate of water line systems in swine barns can help ensure pig health and manage environmental factors within the barn.

Flow Rate in Water Line Systems in Swine Barns

It is recommended to measure water flow rates weekly, measuring 10% of the waterers on a rotating basis. It is helpful to measure flow rates at the end of lines or the building regularly because they can have lower pressure compared to the rest of the barn. It is important to monitor flow rates during the nursery phase because proper flow rate helps them start on feed better. A high flow rate can increase water wastage which causes a higher amount of water in the pit which then dilutes the nutrients in the manure and can increase pumping costs. A low flow rate can decrease water intake and cause water outages in certain pens.

Measuring Flow Rate and Making Adjustments

To measure the flow rate, take the cap of a spray paint can that is used to mark pigs and fill the cap with water from the drinker. As you are filling the cap with water record how long it takes to completely fill the cap. It should take the drinker the following times to fill the:

- Nursery Pigs: about 12 seconds or 1-2 cups per minute
- Finisher Pigs: about 6 seconds or 2-4 cups per minute
- Sow Barns: about 3-4 seconds or 4 cups per minute

After collecting results adjust the water pressure using the pressure regulator. The ideal water pressure is 15-20 PSI. To change the pressure, turn the regulator adjustment screw or knob, making small adjustments at a time and checking the gauge after each adjustment to ensure ideal pressure. After adjusting the pressure, check several drinkers to ensure even water flow rate throughout the barn.

Additional Water Line System Information

If any additional issues arise, inspect for leaks as they can reduce the flow rate of other drinkers. Barns that have multiple drinker lines may need a pressure regulator for each line to ensure even delivery throughout the barn. Depending on the state of the water line system, you may need to adjust the pressure that is out of an ideal range in order to have a proper flow rate. This should be addressed on a per barn basis.

Watch video here: