Tips For Saving Water

Prepared by Lee Whittington, Prairie Swine Centre Inc.

Water is an essential nutrient in pork production. Research reveals how we can manage this resource for best results and minimal cost.

1. Do a water audit. Wasted water costs money to pump and to dispose of in slurry. The average usage is 78L per sow (farrow to finish farm), however actual usage has been reported as low as 65L/sow and as high as 120L/sow, a variation of as much as 50% from the mean! See water usage table in Pork Production Reference Guide 2000, pg 30.
2. Water requirements have been found to be 2.3L for every kilogram of feed consumed (grower and finisher pigs). Gonyou
3. Mounting water nipples correctly reduces wasted water. For nipples pointed straight out pigs should drink from shoulder height. For nipples mounted downward at 45^{o} the nipple should be 5cm (2 inches) above the back of the pig. Mounting lower will increase water wastage. Nipples should be set for the height of the smallest pig in the pen. Water Use and Drinker Management, Gonyou,
4. Check flow rates. Flow rates determine time spent at the nipple, water intake and water wastage. Too little is just as costly as too much when it comes to flow rates. Flow rates of 1,500 ml for lactating sows, 700 ml in grow-finish are recommended. Research on wastage found 23% at 2080ml/min versus 8.6% at 650 ml/min. Water use and Drinker Management, Gonyou
5. Adjust nipple height. Improved water nipple design by providing a step for smaller pigs resulted in a reduction of water waste of 13%, and reduced manure volume of 10% compared to conventional nipple drinkers. Well-managed nipple drinkers (including nipple height changed every two weeks and flow rate) gave similar results to the improved nipple designs. PSC Annual Report 2002, Li, pg 23.
6. Cup or bowl drinkers waste less water, reducing spillage by 10-15%. Energy Efficiency in Barns, Part I Winter/spring 2001.
7. Water wastage has been measured at 25% of total water disappearance in grower-finisher pigs at Prairie Swine Centre, this is lower than the 40-60% estimated on commercial farms. Proper flow rates and nipple height could contribute to reduced losses. PSC Annual Report 2002, LI, pg 23.
8. Use wet/dry feeders in grow-finish. Wet/dry feeders reduce water used by 34%, and slurry volume by 20-40% compared with dry feeders and a bowl. Wet/dry feeders also increase consumption of mash diets compared to dry feeders and a separate water nipple, resulting in a 5% improvement in average daily gain. PSC Annual Report 2002, Christianson, pg 24.
9. Avoid high mineral water sources. High levels of sulphate in water results in an osmotic diarrhea but has no effect on animal performance. PSC Annual Report 1997, Patience, pg 26.
10. Feeding a diet containing excessive protein and/or excessive mineral levels results in increased water usage. PSC Annual Report 2002, Shaw, pg 33.
11. Temperature impacts water requirements. For every 1^{o}C above 20^{o}C results in a sow drinking 0.2L more water each day. Energy Efficiency in Barns, part I, Winter/Spring 2001.
12. Wasted water results in increased slurry application costs. Assuming grow-finish pigs waste 40% of water delivered to the nipple, 396L will be wasted per market hog. This will result in increased manure slurry produced and cost an additional $0.60 per pig in manure application costs. Energy Efficiency in Barns, Part I, Winter/Spring 2001.