

Water Intake and Wastage by Grower/Finisher Pigs at Nipple Drinkers

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Among nutrients, water is required in the greatest amount but has received the least attention. Water intake of grower/finisher pigs has been reported to range from 1.9 to 6.8 L/d, depending on body weight and feed intake. However, most water intake reported in the literature is water disappearance, including water wastage from drinkers, rather than water actually consumed by the animal. This study was conducted to determine actual water intake and wastage of grower/finisher pigs at nipple drinkers, and the effect of nipple flow rate on water spillage.

Six pens of eight pigs were tested at two stages, mean body weight of 52.6 ± 4.9 kg for growers and 71.9 ± 5.5 kg for finishers. The pigs were fed pelleted feed ad libitum at room temperatures of 20 to 25°C. The nipple drinker in each pen was 5 cm higher than the shoulder height of the smallest pig. Daily feed intake, water intake, and water wastage in each pen were measured at a nipple flow rate of approximately 700 mL/min, for 3 days. Individual drinking speed and spillage were assessed after 4 h without water at four nipple-flow rates. Water intakes (disappearance – wastage) of the growers and finishers were 4.0 and 5.4 L/pig/day, respectively. When expressed in terms of feed intake, water intakes at the two stages were identical (2.3 L/kg of feed intake). Water wastage was 1.3 and 1.9 L/pig/day for the growers and finishers, respectively. This was 25% of the water disappearance for both growers and finishers. Drinking speed of pigs was increased to 1422 mL of actual water intake/min at the nipple flow rate of 2080 mL/min. Although the pigs increased drinking speed, water spillage was higher at the high flow rate than at the low flow rate (23.2% at 2080 mL/min vs. 8.6% at 650 mL/min).

Implications

Relative to feed intake, actual water intakes of grower and finisher pigs are identical. Approximate 25% of water is wasted from well managed nipple drinkers. High nipple flow rates increase water spillage of pigs.