

Just the Facts!



Dehydration: The Need for Water

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The Need for Water

Water is one of the most important and essential nutrients required by animals. Pigs require water for a variety of reasons, including proper function of cells, maintaining body temperature, moving nutrients into the body tissue, removing metabolic waste, growth, and reproduction. Water makes up approximately 80% of the empty body weight of a newborn pig and approximately 55% of a finishing pig. Water intake should be approximately 2.5 times the feed intake of the growing pig. Therefore, 0.3 gallons of water should be consumed per pound of feed consumed to maintain growth and health. Table 1 shows the estimated water requirements for pigs at different stages of production. These values are for pigs in a thermoneutral environment (comfortable temperatures) and under ideal conditions. Water needs may vary (as much as 50%) due to temperature, diet, housing, stresses, and frequency of water provided.

A reduced or restricted water intake will slow the growth rate of pigs. Protein deposition requires a large amount of water, but lipid (fat) deposition requires much less water. If not enough water is available for protein deposition then muscle mass and muscle definition will be affected.

Dehydration Issues

If water is withheld from a growing pig for more than 24 hrs, it may result in salt poisoning. Salt poisoning is common in all ages of pigs and is related to a shortage of water. The same syndrome is seen when pigs consume feed or water with high concentrations of salt. The normal concentration of salt in the diet (0.4 to 0.5%) becomes toxic in the absence of water. The worst clinical signs and most deaths occur if unlimited water is given to pigs after a period of restricted water intake. Salt poisoning becomes more severe as the concentration increases.

Salt poisoning or water deprivation can occur following pump breakdowns, blockage of water lines and nipple drinkers or when pigs do not drink because the water is too warm or unavailable. Therefore, it should be a daily routine to check that all sources of water are adequate, free flowing and available.

Early signs of dehydration are thirst, constipation, skin irritation, and lack of appetite. Nervous signs follow, especially when unrestricted water is suddenly available after a period without water. Nervous signs include; ear twitching, aimless wandering, bumping into objects, dog-sitting, falling over sideways and apparent deafness and blindness. Affected pigs may move round in a circle using one foot as a pivot and may convulse. Convulsions re-occur with remarkable regularity at approximately seven-minute intervals.

Water should be reintroduced gradually to pigs that have been without water for more than 24 hours. When pigs become severely dehydrated, they need to be rehydrated gradually so that they do not drink large quantities of water quickly. Electrolytes in the water can help rehydrate affected animals. Pigs showing nervous signs need to be placed in a darkened area with bedding to help prevent injuries.

Dehydration Signs and Symptoms:

- Always check the water supply, especially if pigs are not eating
- Signs develop within 24 to 48 hours (thirst, lack of appetite and constipation)
- The first signs are often pigs trying to drink unsuccessfully
- Nervousness and pigs wandering around apparently blind
- Incoordination
- Nose twitching just before intermittent convulsions
- Mortality is usually high

Table 1. Estimated Water Requirements of Pigs

Class of Pig	Water Intake (gallons/pig/day)
Nursery (up to 60lb BW)	0.7 to 1
Grower (60-100lb BW)	2 to 3
Finisher (100-250lb BW)	3 to 5
Gestating Sows & Boars	3 to 6
Lactating Sows	5 to 7