



SHEEP SHEET

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Basic ranch or farm water management should provide sufficient water for immediate stock needs with a safety margin to ensure adequate supplies during a drought or periods of reduced rain and/or snowfall.

The adequacy of livestock water supplies on a ranch will be determined by two main factors:

1. Quantity of water available - daily availability and annual storage capacity per head, and
2. Water quality - palatability and content of salts.

Water quantity

When planning water facilities and the quantity of water required by livestock these factors should be considered:

- Species of animal (sheep, cattle, horse, goat, etc).
- Age of animal - related to body size.
- Environmental conditions - temperature and humidity.
- Degree of activity - distances between feed and water.
- Type and amount of feed - green or dry.
- Physiological state of the animal - dry, pregnant or lactating.
- Health of animal.
- Water quality - the higher the salt content the lower the intake.



Livestock Water Supplies

Sheepdex N-1

Normal water consumption by livestock*

Animal	gals/day	gals/year
Sheep	2	660
Beef Cattle	10	3516
Dairy Cattle	15	5494
Horses	10	3516
Pigs	5	1758
Poultry		
(per 100 birds)	7	Fowls 2527
		Turkey 4395

* Remember, these are average figures and individual intakes may be affected by the factors affecting water quantity consumption earlier.

When planning ranch or farm water schemes it is necessary to ensure sufficient capacity to meet peak daily requirements and peak seasonal needs.

Water quality

The quality of stock water is determined by the salinity or mineral content of the water. Stock water of high mineral content will cause stock to go off feed and lose body condition, and may lead to death. Reproduction and lactation processes may also be affected.

Stock tolerance to saline water depends on:

- Salt content - concentration of total salts and the type of salt.
- Climatic conditions - high temperatures increase water intake; they also increase evaporation and raise the salt content in troughs and storage facilities like tanks.
- Species of livestock.
- Acclimatization - access to water supply prior to increase in salinity level may encourage stock to drink water.
- Type of feed - important in poultry and pigs fed prepared rations containing high salt level. Also, green feed vs dry feed.
- Physiological state or level of production - pregnant and lactating stock are less tolerant than mature stock.

Water quality or salinity levels are usually expressed as "parts per million" (ppm) of total soluble salts (t.s.s.).

Guide to the use of saline water

Less than 1000 ppm - excellent quality water; ideal for all classes of livestock and poultry.

Up to 3000 ppm - satisfactory for livestock; upper levels may be too high for poultry on supplementary feeds with a high salt content (reduce salt content of feed).

Up to 5000 ppm - satisfactory for sheep, cattle and horses; unacceptable for poultry and pigs.

Up to 7000 ppm - will affect milk production in dairy cows; beef cattle will start to lose condition; upper limit for horses; may be unacceptable to young growing stock.

Up to 10,000 ppm - upper limit for beef cattle; unsuitable for young stock of all species; avoid use for pregnant and lactating stock.

Over 10,000 ppm - suitable for dry sheep (wethers); body condition will be maintained up to 13,000 ppm, depending on type of feed; avoid use for pregnant or lactating ewes.

Algae

Build-up of algae in tanks and dams can block intake pipes in mills and tanks. A rapid build-up of algae during warm conditions in summer and autumn may lead to stock losses from algae poisoning.

Algae can be controlled in dams and tanks by the use of 'blue stone' (copper sulphate). Copper sulphate will corrode metal tanks, troughs and pipes; careful dilution will reduce corrosion.

Most states have water testing services available. It is recommended that you contact your local Cooperative Extension Service County Agent for more local information.



For more information write The Navajo Sheep Project, Inc. PO Box 4454, Logan, UT 84323-4454. The Navajo Sheep Project is a registered non-profit Utah corporation.