

# What you need to know

about



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**4-H STEM**

For more information, visit <http://eeo.okstate.edu>.



# Water Quality

## **WATER IS SO IMPORTANT TO THE HEALTH OF OUR LIVESTOCK & US!**

We want to treat our animals with the BEST care. This means free/continuous access to fresh clean water. We want our water to be at/or near pH level of 7. "High alkalinity may cause digestive upsets, laxative action, poor feed conversion, and reduced water and/or feed intake"(NRCS-USDA). The numbers on the pH scale range from 0 to 14. Pure water has a pH neutral level of 7. Numbers lower than 7 indicate an acidic level, and numbers higher than 7 show a basic or alkaline level.

## **Weather's Effect on Water**

It's important to watch the weather, freezing temperatures could freeze water not allowing animals to drink it. Weather and stress can effect how much water your animal is drinking. Keep an eye on them to make sure they are getting enough water or dehydration can occur.

Dehydration which is when you lack enough water. It can be seen by signs of tightening skin, loss of weight, drying mucous membranes of eyes.

Sheep need to drink approximately 2-3 gallons/day

Beef between 6 to 17 gallons/day

Dairy Calves need to drink between 1.3 to 3.5 gallons/day depending on age

Milking dairy cows need between 13 to 17 gallons/day (lactating/pregnant animals need an increase water intake)

Swine needs 1.5 to 2.5 gallons/day

Horses need 8 to 15 gallons/day



# Experiment

**Tools needed:** Water sample from a water bottle, a water sample from filter through fridge/brita, and a water sample from your live-stocks drinking source. You can find pH indicator strips at a pet/ pool supply store or online.

Step 1. Have all water samples available

Step 2. Dip the pH indicator strip half way in the water sample for half a second.

Step 3. Compare the pH indicator strip color with the chart provided when purchased the pH indicators.

## The pH Scale

