

# Striking the right balance for broiler salt intake

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Salt is an essential mineral for all living creatures. Lack of salt in the diet can profoundly impact muscle control, nerve transmission and the pH balance of blood. However, there is a point where too much salt, or its components sodium and chloride, can become detrimental to the animal and to bird performance.

Poultry producers may find that striking the right balance for salt intake can improve bird performance. But, you first need to understand that there are a variety of sources of salt for your birds. There is salt in the feed you give them, as well as in the electrolytes and vitamins you provide. However, a frequently overlooked source of salt is in the water the birds drink. All water has salt in it, but the amount varies from area to area. Separate water sources on the same farm can have different levels of salinity.

Measurement of the total dissolved solids (TDS) in water is a good indicator of its salinity. Calcium, magnesium and sodium salts are the main components of TDS. Generally, the total dissolved solids should be below 3,000 parts per million. Levels above 3,000 are detrimental. Salt also is a natural carrier for trace minerals that the birds need.

If the salt content of the water is high and the feed is not adjusted, the birds might get more salt than they need. Producers have told Ziggity that too much salt in the birds' diet and water can harm the feed conversion rate by as much as four points.

Too much salt can also cause the birds to drink more water until the salinity causes them to stop drinking. This excess water intake can result in wet

droppings and litter and the associated footpad disorders. Other conditions include trouble breathing, feed refusal and rough, dirty feathers.

Well water, on average, has 32 parts per million of sodium and 14 parts per million of chloride. If your water tests higher than this, there are several actions Ziggity recommends you consider:

- Work with your feed provider to reduce the salt content in the feed. In the same vein, use vitamins and electrolytes that have a lower salt content. Many low cost additives have high sodium contents.
- Process the water to remove some of the sodium and chloride. There are three main methods: reverse osmosis, distillation and ion exchange. The drawback to each of these methods is the large investment in equipment that is required.
- Another option is to find an alternative source of water. Sometimes this can be as simple as drilling a new well. Or if a completely new source of water is not feasible, you can investigate mixing the high saline water with water that is not so brackish.

It is generally assumed that if feed and water are meeting a broiler flock's sodium needs, the chloride requirements also are being met. That, however, is not always the case. It is possible for a broiler flock to have adequate sodium intake, but have insufficient chloride in the diet. In chicks this can result in poor growth rates, higher mortality, nervous symptoms, dehydration and a poor acid-base balance in the blood.

Salt is essential for all living creatures, including poultry. However, too much salt in a bird's diet can be very detrimental. (The one exception to this is sea birds that have built in salt processing plants.) Poultry producers are well served by keeping a close eye on the amount of salt in their flocks water and diet.