

S-Carb® vs Sodium Bicarbonate for Turkeys

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Using dietary electrolyte balance (DEB) to balance poultry rations. DEB is defined as Na + K - Cl (on a meq basis) in the ration. This is calculated as the total meq of sodium (Na), plus potassium (K) less chloride (Cl). The calculation of a typical diet is shown below.

	% (Dry Matter Basis)	meq /kg
Ration Na	0.20	87
Ration K	0.7	179
Ration Cl	0.15	42
	DEB	224

By raising DEB, the metabolic buffering available to the bird is increased. This increases the capacity to absorb acid that is produced from growth or digestion. Since muscle growth produces acid as a byproduct, rapidly growing birds are at the greatest risk for borderline acidosis. By raising the DEB, these birds can be maintained closer to normal acid / base balance.

S-Carb® has a sodium content of 30.4% vs. sodium bicarbonate with a 27% sodium content. The effect of this difference in the inclusion in diets is an increase in DEB when an equal amount of S-Carb® is used. As an example, the inclusion of 0.5% of buffer into the diet will add 66 meq/kg from S-Carb® versus 58.8 meq/kg from sodium bicarbonate. This is a 12% advantage to S-Carb.

Another way of looking at this is the amount of buffer required to add equal milliequivalents of sodium. As the following table shows, it takes less S-Carb® to meet equal meq additions.

Source	to meet 50 meq/kg addition
S-Carb®	0.38 % of the dry matter
sodium bicarbonate	0.43 % of the dry matter

With the distinct advantages of S-Carb® in terms of handling and mixability, as well as increased sodium without associated chloride make S-Carb® the buffer of choice for poultry.