

S-Carb® for Eggshell Quality in Layer Diets

Eggshell quality in layer diets is essential to maintaining a profitable operation. It is well known that the heat of the summer can exacerbate problems with shell quality. To aid in alleviating the heat stress related problems, many producers add sodium bicarbonate to the diet. The efficacy of sodium bicarbonate inclusion on improvement in eggshell quality has been shown under both practical and research conditions.

The field trial was run in side by side houses of 100,000 Hyline layers from 50 to 75 weeks of lay. The goals of the trial were to determine the effect of utilizing S-Carb on shell quality, machine breakage and production. S-Carb was used to increase the electrolyte balance of the diets. The treatment diets were balanced to maintain an electrolyte balance of 250 meq/kg. This resulted in an average inclusion of S-Carb in the diet of 5 lbs/ton.

The results are shown in the following table:

	Control	S-Carb®
Eggs	75.6 %	77.1 %
Intake	21.3	21.6
Livability	97.0 %	96.4 %
Change in Machine breakage	0.5 %	0.2 %
Case Weight	48.4	48.2
Week of lay	50-71	54-75

When evaluating the results, note that the birds in the treatment, S-Carb®, house were four weeks older than the Control birds. Results indicate an advantage in the S-Carb® fed birds for eggs produced. Machine breakage was evaluated as compared to a pretreatment period of 28-50 weeks. This was done to eliminate the effect of differences in machines between houses. It is expected that as weeks of lay increase, the breakage will increase. With S-Carb® inclusion, the increase was 0.2% versus an increased breakage of 0.5% in the control flocks. There was no effect of treatment on intake or case weight.

As shown, S-Carb® inclusion in the diets was associated with reduced breakage. This implies that the S-Carb® inclusion improved eggshell quality. The results from this field trial agree with published information on commercial use of sodium bicarbonate. This data also agrees with the results of the controlled research showing an improvement in shell quality with S-Carb® inclusion in the diets.