

Electrolytes Through Feed: A Preferred Approach

High temperature is a major limitation to growth and meat yield of broilers in tropical countries of the world. Reduced feed intake, growth rate, feed conversion, survivability, dressing yield, breast meat and total meat and increased abdominal fat are the immediate consequences of rearing broilers in a hot humid environment (Geraert, 1998)

In layers, heat stress significantly affects feed intake, egg production and egg shell quality. Deposition of calcium and pigments in the shell are also reported to get reduced due to heat stress. Depleted performance and decreased profitability are aggravated when high temperature is associated with high relative humidity. This situation demands an economic and efficient means to improve the thermo-tolerance of broilers in hot humid environment.

Electrolytes play a crucial role in maintaining body's acid-base balance as well as osmotic pressure in body fluids. The role of each individual component present in electrolyte supplement is difficult to define without taking into consideration the rest of the elements.

The biological role of all these elements in normal metabolism during production of poultry is essential. Disturbances in their metabolism can result in toxicity. However, a combination of relevant quality control programs in the animal feed industry, as well as the adequate education, nutritionists can significantly reduce the risks associated with the appearance of electrolytic imbalance and toxicities.

While requirements for electrolytes have been clearly defined, there is currently an understanding of the need to achieve a balance between cation and anion supply (Leeson and Summers, 2001). The balance of dietary cations and anions is in close relationship with broiler performance, affecting the metabolism quite differently than the individual ions. Dietary electrolyte balance (DEB), also known as cation-anion difference (CAD), is calculated using only the monovalent ions (strong ions) of sodium, potassium and chlorine.

Electrolyte imbalance is quite rare in comfortable weather conditions, since body's buffering system provides maintenance of normal physiological pH value. The maintenance of this value is determined by three major factors – balance and ratio of electrolytes in feed, endogenous acid production and level of renal activity.

Adding a properly balanced and sufficiently rich electrolyte product into the feed, throughout the summer season, is the best way to ensure that there is sufficient level of electrolytes present in the bird's body all the time. This maintains a uniform level of electrolytes in the blood and body fluids continuously. An adequate regular supply of ions makes up the continuous loss of electrolytes happening due to heat stress. This also maintains a normal acid-base balance between extra-cellular and intra-cellular fluids.

Electrolytes also help in retaining water inside the body. Birds are able to maintain an optimum level of hydration throughout the season as there is sufficient electrolyte present in body fluids. With this strategy, not only a sustained hydration but also an optimum performance can be maintained during the hot weather.

Farmers as well as integrators, both can be rest assured that birds are getting necessary supplementation of electrolytes continuously, without putting any extra effort.

Avilyte-FS, an electrolyte product from Avitech, a unique rehydration formula designed by the nutritionists is specially meant for supplementation through feed. Avilyte-FS is the only product, containing all the ions in monovalent form, which provides the birds a faster rehydration and a swift recovery. Avilyte-FS is a zero-ionic balance formula, which means it does not affect DEB of the feed, and at the same time provides required levels of electrolytes to the birds.

For more information, please contact:
marketing@avitechnutrition.com