

Nephralyte

POWDER

For Veterinary Use Only

COMPOSITION:

Each kg contains

Sodium Chloride	35gm
Magnesium Sulphate	35gm
Manganese Sulphate	1gm
Potassium Chloride	400mg
Furosemide	20gm
Calcium Carbonate	45gm

PHARMACODYNAMICS:

Furosemide, a sulfonamide-type loop diuretic structurally related to bumetanide, is used to manage hypertension and edema associated with congestive heart failure, cirrhosis, and renal disease, including the nephrotic syndrome.

MECHANISM OF ACTION:

Furosemide, a loop diuretic, inhibits water reabsorption in the nephron by blocking the sodium-potassium-chloride cotransporter (NKCC2) in the thick ascending limb of the loop of Henle. This is achieved through competitive inhibition at the chloride binding site on the cotransporter, thus preventing the transport of sodium from the lumen of the loop of Henle into the basolateral interstitium. Consequently, the lumen becomes more hypertonic while the interstitium becomes less hypertonic, which in turn diminishes the osmotic gradient for water reabsorption throughout the nephron. Because the thick ascending limb is responsible for 25% of sodium reabsorption in the nephron, furosemide is a very potent diuretic.

Broiler susceptibility to heat stress increase as air relative humidity and environmental temperature values exceed the thermal comfort zone (16-23°C and 50-70%), making it difficult for birds to dissipate heat. Consequently, their body temperature increase, negatively affecting their performance.

The addition of salts to the drinking water or to the feed is frequently employed in broiler production to reduce losses caused by heat stress. The main salts used are sodium chloride, magnesium Sulphate, magnesium Sulphate, potassium chloride and calcium carbonate.

The minerals K⁺, Na⁺ and Cl⁻, in particular, play essential roles in metabolism due to their participation in the osmotic balance, in the acid-base balance, and in the integrity of mechanisms that regulate the transport of substances across the cell membranes. Imbalances among those minerals have a direct effect on acid-base balance, affecting many metabolic functions, and therefore, broiler performance.

Sodium chloride plays an important role in both digestive (as composition of hydrochloric acid in gastric juice) and electrolyte metabolism. Without salt, growth is slowed, and chicks are dull and listless. Getting salt levels back up to required levels will speed up appetite and growth. Lack of sodium chloride in diet leads to a condition called ascities (water belly).

Magnesium Sulphate has essential functions in cellular metabolism

and bone development. Magnesium has been found integral part of certain oxidative enzymes which helps in fight against any stress conditions.

Manganese (Mn) is a naturally occurring element and an essential nutrient for chickens. Chickens require adequate levels of manganese in their diet for reproduction and development (formation of healthy cartilage and bone), egg shell formation, wound healing, nutrient absorption, and for preventing perosis.

Potassium, the most abundant intracellular cation, is involved in many metabolic processes, including nerve conduction, excitation-contraction in muscles, and regulation of cell volume. Consequently, changes in K⁺ homeostasis profoundly affect cellular functions. The thermotolerance of chickens exposed to acute heat stress could be improved by supplementing either diet with potassium salts or drinking water with potassium chloride. Similarly, a daily potassium intake of 1.8 to 2.3 g has been recommended for maximum BW gain in broilers under hot conditions.

Eggshell quality deterioration associated with heat stress is a well-known phenomenon. Egg weight, eggshell thickness, eggshell percentage, and eggshell density were negatively affected by high ambient temperature because of function of the 28-kDa calcium-binding protein. Calcium carbonate supplementation increases the quality of egg significantly.

INDICATIONS:

Nephralyte powder is an effective diuretic with rapid action. Like other loop or high ceiling diuretics, it is used in the treatment of edema and renal disorder. It has been found effective for the complaints of water belly and need of flushing due to nephritis.

Inclusion of electrolytes in the product increases the efficacy of birds against stress due to heat and diseases.

DOSAGE AND ADMINISTRATION:

Administer the following dose orally:

Poultry: Normal Conditions: 1gm per liter of drinking water.

Poultry: Severe Condition: 2gm per liter of drinking water

PRECAUTIONS:

Always close tightly the jar after initial use.

Consult the veterinarian before use.

Protect from light & moisture.

Keep out of the reach of children.

Store between 15-25 degree centigrade in a cool and dry place

WITHDRAWAL TIME:

No withdrawal time is required for meat & egg

Innovator's Specs.



Selmore
Pharmaceuticals (Pvt) Ltd.

Manufactured by:
Selmore Pharmaceuticals (Pvt) Ltd.
36 Km Multan Road, Lahore, Pakistan.



ISO CERTIFIED COMPANY