



- A balanced liquid multivitamin with added Methionine and Lysine
- Contains stabilised fat and water soluble vitamins, the essential amino acids Lysine and Methionine
- Vitamins A and D3 are balanced to ensure optimum uptake
- Does not block drinkers
- Supplied in One litre containers to protect from light and air, to maintain stability
- Easy to dispense accurately
- Can be administered through a proportioner

For information is available from:
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Ingredients		Quantity per litre of Vitamax	Quantity per litre of drinking water (at 5ml in 20L)
Vitamin A	i.u	30,000,000	7500.0000
Vitamin D3	i.u	8,000,000	2000.0000
Vitamin E	i.u.	16,000	4.0000
Vitamin B1	mg	2,000	0.5000
Vitamin B2	mg	2,000	0.5000
Vitamin B6	mg	2,000	0.5000
Vitamin B12	mg	10	0.0025
Vitamin C	mg	10,000	2.5000
Nicotinamidemg		20,000	5.0000
d-Panto	mg	5,000	1.2500
Folic acid	mg	500	0.1250
Biotin	mg	20	0.0050
Vitamin K3	mg	2,000	0.5000
Methionine	mg	20,000	5.0000
Lysine	mg	30,000	7.5000

Dosage and Administration

Use at a rate of 5ml in 15 to 20 litres of drinking water. Give twice weekly, or daily for up to 7 days.

Uses

It is assumed that birds/animals can synthesise some vitamins, e.g. Vitamin C, or that sufficient is supplied in the food. This may not be the case following some management practices, disease or environmental changes. Amino acids are the building blocks of proteins, the two most important being Lysine and Methionine. There is a greater requirement for amino acids when recovering from disease.

Vitamax is of particular benefit in parent flocks as they come into lay, to improve hatchability and early chick viability during the brooding period, prior to vaccination, prior to ration changes, before and after transport, during hot weather, following routine management treatments such as worming; as an aid to recovery following antibiotic treatment for infectious diseases.

Causes of poor vitamin uptake

- Competition between fat soluble vitamins. The balance in Vitamax of Vitamin A to Vitamin D3 avoids this problem.
- Poor quality fat in the diet will bind fat soluble vitamins so that they are unavailable to the bird.
- Alimentary and respiratory disease can reduce vitamin intake and the ability to absorb vitamins.
- Environmental factors such as hot weather, atmospheric ammonia and stocking density can reduce feed and hence vitamin intake.



Contra-indications

Do not mix Vitamax with vaccines, water sanitisers or antibiotics

Summary of vitamin and amino acid functions

Vitamin/Amino acid **Required for:** **Deficiency causes**

Water soluble

Thiamine (Vit B1)	Carbohydrate metabolism	Loss of energy, build up of lactic acid, decreased glucose absorption
Riboflavin (Vit B2)	Carbohydrate metabolism	Slow growth, anaemia, decreased fertility, ocular disorders, dermatitis
Pyridoxine (Vit B6)	Protein and mineral metabolism	Dermatitis, weak muscles, nervous disorders
Hydroxycyanocobalamin (Vit B12)	Haemopoiesis, neural development, fertility, tissue regeneration	Decreased growth rate, skin lesions, anaemia, loss of appetite, incoordination
Niacin	Carbohydrate/fat/protein metabolism	Decreased growth rate, fertility, dermatitis, oral/gastrointestinal ulceration
Biotin	Glucose and fat synthesis	Fatty liver and kidney syndrome
Folic Acid	Neural development, protein and nucleic acid metabolism	Neural tube defects, anaemia, diarrhoea, skin lesions, reduced growth rate
Panthenic acid	Carbohydrate/fat/protein metabolism	Dermatitis, loss of hair, foetal resorption, diarrhoea, weakness
Ascorbic acid (Vit C)	Wound healing, hormone synthesis maintaining healthy skin, alleviating stress, detoxifying	Lowered blood levels, skin problems

Fat soluble

Vitamin A	Night vision, immunity, monitoring healthy skin	Blindness, nervous disorders, keratinisation
Vitamin D	Calcium homeostosis	Rickets, osteomalacia (calcium/phosphorous metabolism)
Vitamin E	Regulating oxidising processes in the body	Muscular disorders, diminished fertility, oedema, steatitis
Vitamin K	Blood coagulation, protein synthesis	Prolonged bleeding, haemorrhagic anaemia/jaundice
Lysine and Methionine	Protein metabolism	Poor growth and feed consumption, lowered egg production and smaller egg size.

