Vannamin®

Concentrated with 77 Organic Minerals

CAGE LAYER FATIGUE

Cage layer fatigue is the most important prevalent problem of bones in modern layers used for egg production. It is mainly due to poor bone structure in laying hens kept in cages. Due to lack of Exercise birds become weak. Breaking strength of bones of layers in cages is less than that of the birds reared on litter floor.

Poor bone strength is the single greatest factor responsible for cage layer fatigue leading to loss of production and death of birds in severe conditions of osteoporosis.

Causes

- Confinement of laying hens in cages
- Low phosphorus, low calcium and vitamin D deficiency in diet.
- The modern laying hen has a very active calcium metabolism and high egg production that may result in cage layer osteoporosis.

The condition is aggravated by inadequate amounts of calcium in the feed during peak egg laying period.

Cage layer fatigue is seen in caged hens in good body condition. Post mortem of High yielding hens may have active ovary.

Increased calcium in the ration before egg production in order to improve the quality of structural and medullary bones are helpful in reducing the incidence of cage layer fatigue.

As the age advances the intestinal walls of Duodenum, Jejunum and Ileum where feed absorption takes place becomes thick – thus restricting feed absorption resulting fatigue, reduced egg production, soft shelled eggs, shell-less eggs.

Intestinal wall thickness after feeding fat/oil (300mg/kg) in feed

Wall Thickness	Control (mm)	Oil (mm)	Increased thickness
Duodenum	134.43	202.20	+ 50.4 %
Jejunum	119.70	132.05	+ 10.32 %
Ileum	60.32	65.55	+ 8.67 %

Trials conducted in animals with feeding Inorganic minerals, (Proteinated chelated minerals) and **Vannamin – Organic Minerals** for period 3 months.

Blood Serum Calcium level is the highest with Vannamin Organic mineral feeding

Calcium (mg/dl)	3 months age	6 months age	Change
Vannamin	**15.8**	**18.28**	**+15.69**
Chelated minerals	16.6	15.23	-8.25
Inorganic mineral - Control	15.93	15.6	-2.07

Highest level of Calcium in Serum helps to maintain good egg shell since it meets Calcium level of birds i.e. average 1.7 – 2.4 gm/egg.

Vannamin feeding is proved to be booster for improving egg shell structure, improving bone health, minimizing effects of cage layer fatigue.

Vannamin - feeding has succeeded
improving egg production, minimizing breakage
- Every season, whatever age

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