

# NUTRIENT FEED ADDITIVES

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# CLASSIFICATION

- Vitamins
- Trace Minerals
- Aminoacids
- Urea and other NPN compounds
- Energy Providing Substances
- Rumen-protected fats (By-pass fats)

# VITAMINS

- Vitamins are organic substances that are necessary for the maintenance of vital functions in animals and for the health and production of livestock.
- Absence or insufficiency of one or more vitamins leads to the occurrence of many metabolic diseases, problems in production, growth depression, reproductive system disorders.

# VITAMINS

- Fat Soluable Vitamins
  - **Vitamin A** – Provitamin form B-caroten
  - **Vitamin D** – Vitamin D<sub>2</sub> – Vitamin D<sub>3</sub>
  - **Vitamin E** – Provitamin form  $\alpha$ -tocopherol
  - **Vitamin K** – Menadione Sodium
- Water Soluable Vitamins
  - **Vitamin B** – Tiamin, Riboflavin, Nicotinic acid, Pantothenic acid, B6, Biotin  
Folic acid, B12, Choline
  - **Vitamin C**

<b>ADDED VITAMINS PER KG</b>		<b>Wheat based feed</b>	<b>Maize based feed</b>
Vitamin A	IU	13,000	12,000
Vitamin D3	IU	5000	5000
Vitamin E	IU	80	80
Vitamin K (Menadione)	mg	3.2	3.2
Thiamin (B1)	mg	3.2	3.2
Riboflavin (B2)	mg	8.6	8.6
Niacin	mg	60	65
Pantothenic Acid	mg	17	20
Pyridoxine (B6)	mg	5.4	4.3
Biotin	mg	0.30	0.22
Folic Acid	mg	2.20	2.20
Vitamin B12	mg	0.017	0.017

## — Conversion Factors

<b>Vitamin activity (active substance)</b>	<b>Conversion factor from active substance to vitamin form</b>
1 IU Vitamin A (retinol)	0,344 µg Vitamin A acetate (retinyl acetate)
1 IU Vitamin D3 (cholecalciferol)	0,025 µg Vitamin D3
1 µg 25OHD3	40 IU Vitamin D3 (cholecalciferol)
1,0 mg Vitamin E (tocopherol)	1,0 mg DL- α-Tocopheryl acetate
1,0 mg Vitamin K3 (menadione)	2,0 mg Menadione Sodium Bisulfite (MSB) 2,3 mg Menadione Nicotinamide Bisulfite (MNB)
1,0 mg Vitamin B1 (thiamine)	1,088 mg Thiamine mononitrate 1,12 mg Thiamine hydrochloride
1,0 mg Vitamin B6 (pyridoxine)	1,215 mg Pyridoxine hydrochloride
1,0 mg d-Pantothenic acid	1,087 mg Calcium d-pantothenate 2,174 mg Calcium dl-pantothenate
1,0 mg Biotin	1 mg D-Biotin
1,0 mg Vitamin C	1 mg L-Ascorbic acid
1,0 mg Choline	1,15 mg Choline chloride

# TRACE MINERALS

- Some chemical elements that are found in human and animal body in very low concentrations are called **trace minerals**.
- Iron (Fe) – a component of hemoglobine
- Copper (Cu),
- Cobalt (Co), Vitamin B12
- Manganese (Mn),
- Zinc (Zn),
- Selenium (Se)



# PREMIX NUTRI-LAYER

FOR LAYERS

PREMIX



### Composition per kg

E672	Vitamin A	3,650,000 UI
E671	Vitamin D3	670,000 UI
3a700	Vitamin E	3,370 mg
	Vitamin K3	3,340 mg
	Vitamin B1	334 mg
	Vitamin B2	1,670 mg
	Vitamin PP	11,000 mg
	Vitamin B6	500 mg
	Vitamin H(Biotin)	16,7 mg
	Vitamin B9(Folic acid)	334 mg
E1	Vitamin B12	3,4 mg
E4	Iron-Ferrous (Oxide)	15,000 mg
E6	Copper (Oxide)	3,500 mg
E5	Zinc (Oxide)	18,000 mg
E2	Manganese (Oxide)	27,000 mg
E3	Iodine (Potassium iodide)	500 mg
E8	Cobalt (Sulphate)	84 mg
E320	Sodium Selenite	67 mg
3.2.3	Antioxidants(BHA)	600 mg
3.1.1	Lysine	3 %
3.3.1	Methionine	5 %
	Threonine	2 %
	Carrier:Calcium carbonate up to	1,000 gr

### Indications

- It increase the egg production.
- It increase the hardness of the egg shell.
- Gives an intense color at crocus of the egg.
- Prevents cases of rachitis.
- Increases the appetite.
- Stimulates the metabolism.
- Achieve better absorption of feed through the digestive system.

### Use / Dosage

2 - 3 kg /2,000 kg of final feed.  
Good mix at the final feed of layers.

### Storage

Store in a cool and dry place.

**NF NUTRI FARM**  
FEED SUPPLEMENT INDUSTRY

Approval from the Greek Ministry of Rural Development & Food with Code: EL5400004



# Nutra P 2-300

## VITAMINS & MINERALS For Cows

Premix 0,25%

### Vitamins & minerals added per 2,5 kg

Vitamin A	20.000.000 UI
Vitamin D <sub>3</sub>	4.000.000 UI
Vitamin E	20.000 mg
Niacine	50.000 mg
Vitamin B1	1.000 mg
Vitamin B2	1.400 mg
Vitamin B6	1.000 mg
Biotine	1.000 mg
Zinc (Oxide)	120.000 mg
Iron (Oxide)	100.000 mg
Manganese (Oxide)	90.000 mg
Copper (Sulphate)	7.000 mg
Iodine (IK)	2.500 mg
Selenium (SelNa)	400 mg
Cobalt (Sulphate)	400 mg
Antioxidants	++
Carrier CaCo <sub>3</sub> up to	2.500 gr

### Dosage

2,5 kg per tone of final feed.

### Use

Nutra P 2-300 is used as a feed supplement for Cows.

### Storage

Store in a cool and dry dark place.

### Package

25 kg.



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# Amino acids

- Amino acids are organic compounds that combine to form [proteins](#).
- Although animals can synthesize certain amino acids from substances found in their bodies, they must also take some essential amino acids with their feed.
- Amino acids are classified into three groups:
  - Essential amino acids
  - Nonessential amino acids
  - Conditional amino acids

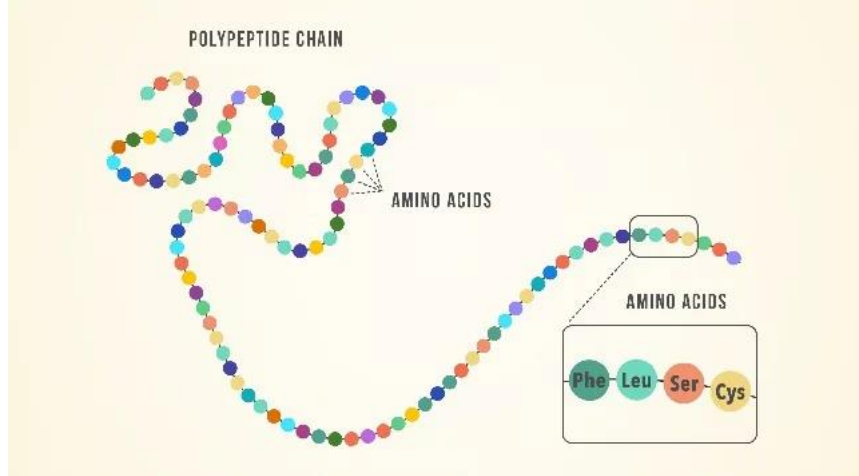
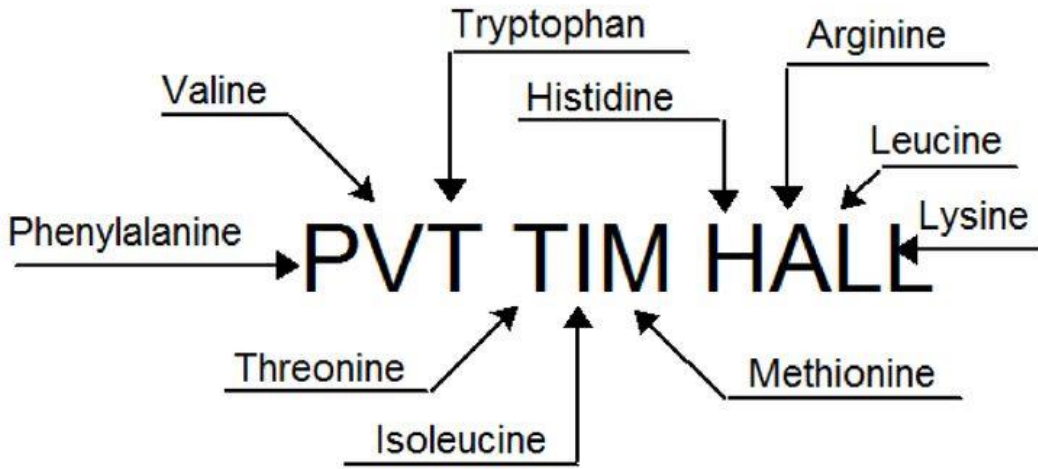
Essential	Conditionally Non-Essential	Non-Essential
Histidine	Arginine	Alanine
Isoleucine	Asparagine	Asparatate
Leucine	Glutamine	Cysteine
Methionine	Glycine	Glutamate
Phenylalanine	Proline	
Threonine	Serine	
Tryptophan	Tyrosine	
Valine		
Lysine		

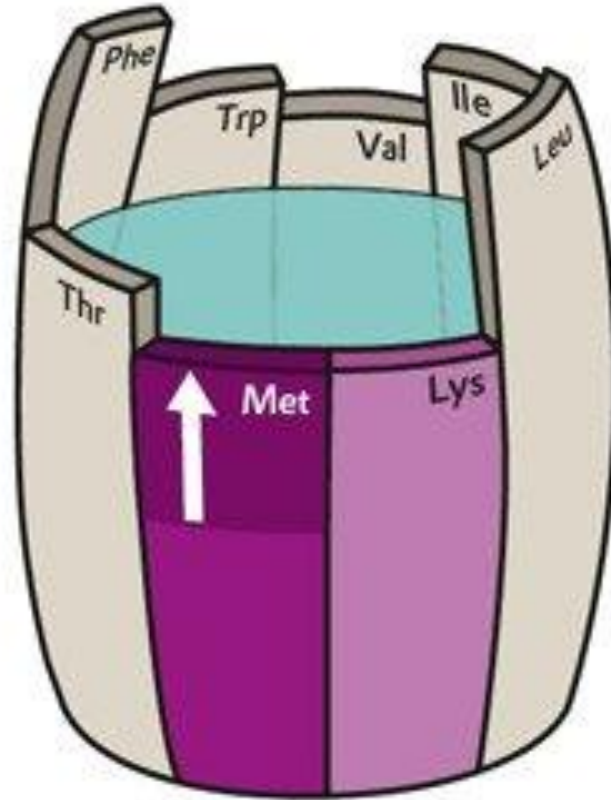
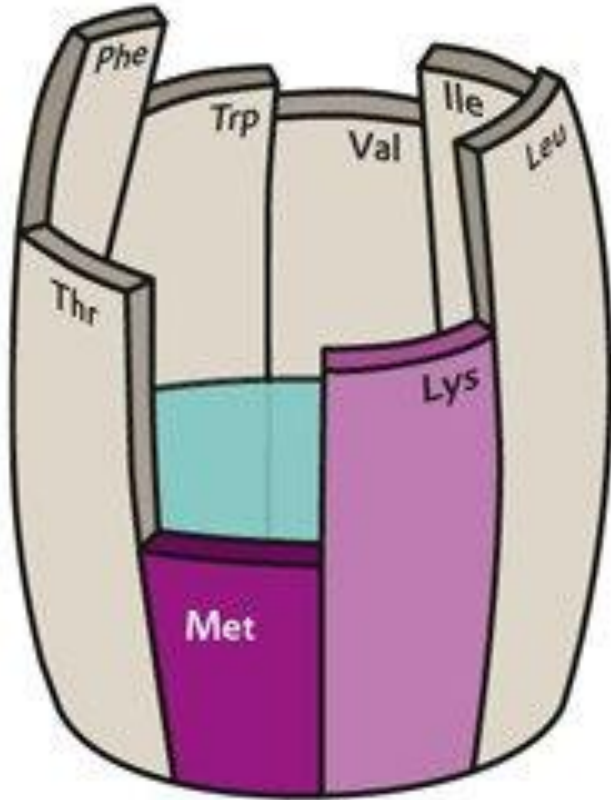
# ESSENTIAL AMINO ACIDS

- Essential amino acids cannot be made by the body. As a result, they must come from food.

## PVT. TIM HALL

Essential Amino Acids





- The lack of one or more essential amino acids in the diet reduces the synthesis of body proteins and reduces the health, development and yield of animals.

# SYNTHETIC AMINOACIDS

- Proteins are one of the costly major item in animal diets.
- Therefore, maximizing the efficiency of protein and amino acid utilization is very important for the reduction of feed cost and improving animal performance in terms of lean meat, milk or egg production.
- L-Lysine and DL-Methionine commonly used to improve diets aminoacid composition.

# L-LYSINE



# DL-METHIONINE



# Urea and Other NPN Compounds

