

## MANUFACTURING GOOD QUALITY PREMIX FOR DAIRY AND BROILERS

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Deficiencies in essential minerals, particularly micro minerals, within the diet of growing birds and dairy animals can lead to abnormal bone development, despite adequate vitamin D3 levels. This deficiency often manifests as rickets in growing birds and as reduced shell quality and Cage Layer Fatigue (osteoporosis) in laying hens. Furthermore, animals with such deficiencies may experience multiple issues, including milk fever. So, balanced mineral inclusion reduces the chances of health and production problems. By prioritizing the below mentioned factors, manufacturers can develop vitamin and mineral premix formulations that effectively support animal health, performance, and overall well-being.

The basis of a good-quality vitamin and mineral premix formulation lies in several key factors:

**Ingredient Selection:** Choose high-quality, bioavailable sources of vitamins and minerals to ensure optimal absorption and utilization by the animal's body.

### MINERALS PREMIX FOR MEAT TYPE BROILER

|                             | Ross 308 (Broiler)        |    | Ross 308 (Broiler)         |    | Mineral Premix                       |      |               |
|-----------------------------|---------------------------|----|----------------------------|----|--------------------------------------|------|---------------|
|                             | All Stages                |    | All Stages                 |    | Dose Rate, 1 Kg per Ton Feed         |      |               |
|                             | Added Mineral per Kg Feed |    | Added Mineral per Ton Feed |    | Quantity of Mineral per Kg of Premix |      | 100 Kg Premix |
| Zinc Sulfate (35.5%)        | 120                       | mg | 120,000                    | mg | 338                                  | gram | 33.8 kg       |
| Manganese Sulfate (32%)     | 120                       | mg | 120,000                    | mg | 375                                  | gram | 37.5 kg       |
| Copper Sulfate (25%)        | 16                        | mg | 16,000                     | mg | 64                                   | gram | 6.4 kg        |
| Ferrous Sulfate (30%)       | 20                        | mg | 20,000                     | mg | 67                                   | gram | 6.7 kg        |
| Potassium Iodide (69%)      | 1.25                      | mg | 1,250                      | mg | 1.8                                  | gram | 0.18 kg       |
| Sodium Selenite (1%)        | 0.3                       | mg | 300                        | mg | 30                                   | gram | 3 kg          |
| Carrier (Calcium Carbodate) |                           |    |                            |    | 124                                  | gram | 12.4 kg       |
| Total Q5                    |                           |    |                            |    | 1000                                 | gram | 99.98 kg      |

### VITAMINS PREMIX FOR MEAT TYPE BROILER

|                             | Ross 308                  |    | Ross 308                   |    | Vitamin Premix                     |      |           |
|-----------------------------|---------------------------|----|----------------------------|----|------------------------------------|------|-----------|
|                             | Broiler Finisher          |    | Broiler Finisher           |    | Dose Rate, 1 Kg per Ton Feed       |      |           |
|                             | Added Vitamin per Kg Feed |    | Added Vitamin per Ton Feed |    | Quantity of Vitamin per Kg of Prem |      |           |
| Vitamin A (1,000,000 IU/g)  | 15,000                    | IU | 15,000,000                 | IU | 15                                 | gram | 1.5 kg    |
| Vitamin D3 (500,000 IU/g)   | 4,500                     | IU | 4,500,000                  | IU | 9                                  | gram | 0.9 kg    |
| Vitamin E (50%)             | 100                       | mg | 100,000                    | mg | 100                                | gram | 10 kg     |
| Vitamin K3 (51.5%)          | 5                         | mg | 5,000                      | mg | 9.7                                | gram | 0.97 kg   |
| Thiamine (B1) (98%)         | 3.5                       | mg | 3,500                      | mg | 3.57                               | gram | 0.357 kg  |
| Riboflavin (B2) (80%)       | 12                        | mg | 12,000                     | mg | 15                                 | gram | 1.5 kg    |
| Niacin (B3) (99.5%)         | 50                        | mg | 50,000                     | mg | 50.25                              | gram | 5.025 kg  |
| Pantothenic Acid (B5) (98%) | 15                        | mg | 15,000                     | mg | 15.3                               | gram | 1.53 kg   |
| Pyridoxine (B6) (99%)       | 6                         | mg | 6,000                      | mg | 6.06                               | gram | 0.606 kg  |
| Cobalamin (B12) (1%)        | 0.04                      | mg | 40                         | mg | 4                                  | gram | 0.4 kg    |
| Biotin (2%)                 | 0.4                       | mg | 400                        | mg | 20                                 | gram | 2 kg      |
| Folic Acid (80%)            | 3                         | mg | 3,000                      | mg | 3.75                               | gram | 0.375 kg  |
|                             |                           |    |                            |    |                                    |      | 25.163 kg |
| SBM Fine                    |                           |    |                            |    |                                    |      | 87.063 kg |

**Nutrient Requirements:** Understand the specific nutrient requirements of the target animal species, taking into account factors such as age, weight, physiological status (e.g., growth, lactation, reproduction), and environmental conditions.

### **PREMIX FOR DAIRY LACTATION**

|            |        |           |
|------------|--------|-----------|
| V_VIT A    | MIU/KG | 1.8005    |
| V_VIT D3   | MIU/KG | 0.400     |
| V_VIT E AD | MG/KG  | 7,998.549 |
| BIOTIN ADD | MG/KG  | 200.000   |
| V_CU (SUL) | MG/KG  | 2,499.840 |
| CU CHELTD  | MG/KG  | 1,000.080 |
| V_ZN (SUL) | MG/KG  | 9,137.700 |
| ZN CHELTD  | MG/KG  | 2,861.340 |
| V_MN (SUL) | MG/KG  | 9,411.200 |
| MN CHELTD  | MG/KG  | 1,589.016 |
| SE ORGANIC | MG/KG  | 80.000    |
| V_I (CA_I) | MG/KG  | 99.693    |
| V_CO (CAR) | MG/KG  | 297.808   |
| V_MG (OX)  | %      | 16.365    |
| CALCIUM    | %      | 14.850    |
| PHOS       | %      | 0.097     |

**Nutrient Interactions:** Consider the interactions between different vitamins and minerals to avoid antagonistic effects that may reduce their effectiveness or cause imbalances.

**Dosage Accuracy and Precise Weighing:** Ensure accurate dosing of vitamins and minerals to meet the precise nutritional needs of the animals without risking over-supplementation, which can be wasteful and potentially harmful.

**Uniformity and Homogeneity:** Achieve uniform distribution of vitamins and minerals throughout the premix to guarantee consistency in nutrient content in the final feed.

**Stability:** Select ingredients and formulations that maintain nutrient stability throughout storage and handling to prevent degradation and loss of potency over time.

**Regulatory Compliance:** Adhere to regulatory guidelines and standards for vitamin and mineral supplementation in animal feeds to ensure safety and compliance with legal requirements.

**Quality Assurance:** Implement rigorous quality control measures throughout the manufacturing process to verify the accuracy, purity, and safety of the premix formulation