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| **Starter Base Mix Specification – Page 1 of 2**  Last updated December, 2021 | | | | | | | |
| Name:  Address:    Phone:  Fax:  Date: Date Needed: | | | | | Product name: Starter Base Mix    Quantity, lb Package size, lb  Use level, lb/ton Sow diets:  Nursery diets: 65 lb  Grower diets:  Finisher diets:  Price desired (circle one) $/ton FOB $/ton Delivered | | |
| **Amino acids** | **Units** | **Guaranteed Potency**  **per Lb of Base Mix** | | | | Sources | |
| Lysine | % | 7.25 | | | | Lysine HCl | |
| Methionine | % | 5.2 | | | | DL-Methionine | |
| Threonine | % | 4.3 | | | | L-Threonine | |
| Vitamins | Units | **Guaranteed Potency**  **per Lb of Base Mix** | | | | **Sources** | |
| Vitamin A | IU | 57,690 | | | | Vitamin A acetate (retinyl acetate) supplied by cross-linked beadlet | |
| Vitamin D | IU | 23,070 | | | | Vitamin D3 (cholecalciferol) with at least 50% supplied by a vitamin A/D3 cross-linked beadlet | |
| Vitamin E (Pick one source and provide source with quotation) | IU | 615 | | | | dl--tocophorol acetate | |
| IU | 307 | | | | d--tocophorol acetate (Natural vitamin E) | |
| Vitamin K (menadione) | mg | 46 | | | | MNB (Menadione nicotinamide bisulfite) | |
| Vitamin B12 | mg | 0.46 | | | | Cyanocobalamin | |
| Niacin | mg | 692 | | | | Niacinamide, Nicotinic acid | |
| Pantothenic acid | mg | 380 | | | | d-calcium pantothenate | |
| Riboflavin | mg | 115 | | | | Crystalline riboflavin | |
|  |  |  | | | |  | |
| Minerals | Units | **Guaranteed Potency**  **of Base Mix** | | | | **Sources** | |
| **mg/lb** | | **ppm** | |
| Copper |  | 230 | | 500 | | Copper sulfate | |
| Iodine |  | 4.10 | | 9.1 | | Ca iodate, Ethylenediamine dihydriodide (EDDI) | |
| Iron |  | 1,535 | | 3,380 | | Ferrous sulfate | |
| Manganese |  | 460 | | 1,015 | | Manganese sulfate, manganese oxide | |
| Selenium |  | 4.10 | | 9.1 | | Sodium selenite | |
| Zinc |  | 1,535 | | 3,380 | | Zinc sulfate, zinc oxide | |
| Calcium (Minimum)  (Maximum) | % | 15.8 | | | | Calcium carbonate, monocalcium phosphate,  or dicalcium phosphate | |
| % | 17.0 | | | |
| Available phosphorus | % | 6.6 | | | | Monocalcium or dicalcium phosphate | |
| NaCl (Minimum)  (Maximum) | % | 10.0 | | | | Feed or food-grade salt | |
| % | 11.5 | | | |
|  |  |  | | | |  | |
| Starter Base Mix Specification – Page 2 of 2 | | | | | | | |
| Other | Units | | **Guaranteed Potency**  **per Lb of Base Mix** | | | | **Sources** |
| Phytase (Pick one source and provide source with quotation) – Must use guaranteed phytase level provided by the phytase manufacturer. | FTU of FYT | | 18,144 | | | | Axtra PHY GOLD (Dupont); |
| 43,730 | | | | Empirical (ADM) |
| 82,345 | | | | Grainzyme (Agrivida) |
| 26,983 | | | | Natuphos E 5,000 G (BASF) |
| 33,031 | | | | OptiPhos Plus (Huevepharma) |
| 22,331 | | | | Quantum Blue G (AB Vista) |
| 46,058 | | | | Ronozyme Hi-Phos GT (DSM) |
| 64,201 | | | | Smizyme Thermostable (Origination) |
| Carrier |  | |  | | | |  |
| Oil | % | |  | | | | Mineral or vegetable |
| The following points must be followed unless approval for changes have been made:   1. Guaranteed to stay free-flowing, lump free, and non-dusty. 2. The final moisture level will be less than 10% and 98% product will flow through #20 U.S./Canadian screen. 3. When bagged, all bags must be labeled with tags. Tags should include date of manufacture, lot number, guaranteed analysis, inclusion rate, and proposed use of the product. 4. Formulate using the guaranteed analysis from the supplier for the nutrient. We can request label copies of your ingredients and copies of your mixing records to show quantities of ingredients per batch. 5. Permission must be obtained before using an alternative source for any ingredient. | | | | | | | |

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| Sow Base Mix Specification – Page 1 of 2 Last updated December, 2021 | | | | | | | | |
| Name:  Address:    Phone:  Fax:  Date: Date Needed: | | | | | | Product name: Sow Base Mix with phytase    Quantity, lb Package size, lb  Use level, lb/ton Sow diets: 75  Nursery diets:  Grower diets:  Finisher diets:  Price desired (circle one) $/ton FOB $/ton Delivered | | |
| Vitamins | Units | | **Guaranteed Potency**  **per Lb of Base Mix** | | | | **Sources** | |
| Vitamin A | IU | | 100,000 | | | | Vitamin A acetate (retinyl acetate) supplied by cross-linked beadlet | |
| Vitamin D (Pick one source and provide source with quotation) | IU | | 20,000 | | | | Vitamin D3 (cholecalciferol) with at least 50% supplied by a vitamin A/D3 cross-linked beadlet | |
| mg | | 0.60 | | | | 25-OH D3 (Hy-D) | |
| Vitamin E (Pick one source and provide source with quotation) | IU | | 800 | | | | dl--tocophorol acetate | |
| IU | | 400 | | | | d--tocophorol acetate (Natural vitamin E) | |
| Vitamin K (menadione) | mg | | 40 | | | | MNB (Menadione nicotinamide bisulfite) | |
| Vitamin B12 | mg | | 0.40 | | | | Cyanocobalamin | |
| Niacin | mg | | 600 | | | | Niacinamide, Nicotinic acid | |
| Pantothenic acid | mg | | 333 | | | | d-calcium pantothenate | |
| Riboflavin | mg | | 100 | | | | Crystalline riboflavin | |
| Choline | mg | | 6,660 | | | | Choline chloride | |
| Biotin | mg | | 2.66 | | | | Spray dried biotin | |
| Folacin | mg | | 26 | | | | Folic acid | |
| Pyridoxine | mg | | 12 | | | | Pyridoxine HCl | |
| Carnitine | mg | | 600 | | | | L-carnitine | |
| Chromium | mg | | 2.40 | | | | Chromium picolinate | |
|  |  | |  | | | |  | |
| Minerals | Units | | **Guaranteed Potency**  **of Base Mix** | | | | **Sources** | |
| **mg/lb** | | **ppm** | |
| Copper |  | | 200 | | 440 | | Copper sulfate, Copper chloride | |
| Iodine |  | | 3.60 | | 7.9 | | Ca iodate, Ethylenediamine dihydriodide (EDDI) | |
| Iron |  | | 1,330 | | 2,930 | | Ferrous sulfate | |
| Manganese |  | | 400 | | 880 | | Manganese sulfate, manganese oxide | |
| Selenium |  | | 3.60 | | 7.9 | | Sodium selenite | |
| Zinc |  | | 1,330 | | 2,930 | | Zinc sulfate, zinc oxide | |
| Calcium (Minimum)  (Maximum) | % | | 19.5 | | | | Calcium carbonate, monocalcium phosphate,  or dicalcium phosphate | |
| % | | 21.5 | | | |
| Available phosphorus | % | | 9.2 | | | | Monocalcium or dicalcium phosphate | |
| NaCl (Minimum)  (Maximum) | % | | 13.3 | | | | Feed or food-grade salt | |
| % | | 14.0 | | | |
| Sow Base Mix Specification – Page 2 of 2 | | | | | | | | |
| Other | | Units | | **Guaranteed Potency**  **per Lb of Base Mix** | | | | **Sources** |
| Phytase (Pick one source and provide source with quotation) – Must use guaranteed phytase level provided by the phytase manufacturer. | | FTU of FYT | | 9,435 | | | | Axtra PHY GOLD (Dupont); |
| 22,740 | | | | Empirical (ADM) |
| 42,820 | | | | Grainzyme (Agrivida) |
| 14,031 | | | | Natuphos E 5,000 G (BASF) |
| 17,176 | | | | OptiPhos Plus (Huevepharma) |
| 11,612 | | | | Quantum Blue G (AB Vista) |
| 23,950 | | | | Ronozyme Hi-Phos GT (DSM) |
| 33,385 | | | | Smizyme Thermostable (Origination) |
| Carrier | |  | |  | | | |  |
| Oil | | % | |  | | | | Mineral or vegetable |
| The following points must be followed unless approval for changes have been made:   1. Guaranteed to stay free-flowing, lump free, and non-dusty. 2. The final moisture level will be less than 10% and 98% product will flow through #20 U.S./Canadian screen. 3. When bagged, all bags must be labeled with tags. Tags should include date of manufacture, lot number, guaranteed analysis, inclusion rate, and proposed use of the product. 4. Formulate using the guaranteed analysis from the supplier for the nutrient. We can request label copies of your ingredients and copies of your mixing records to show quantities of ingredients per batch. 5. Chelated or hydroxy trace minerals can replace a portion or all of the listed inorganic sources listed for improved stability of the vitamins in the premix and for reproduction. Replacement should be on an equal mg basis. Permission must be obtained before using other alternative sources for any ingredient. | | | | | | | | |

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| Grow-Finish Base Mix Specification – Page 1 of 2 Last updated December, 2021 | | | | | | | | |
| Name:  Address:    Phone:  Fax:  Date:  Date Needed: | | | | | | Product name: GF Base Mix with lysine & phytase    Quantity, lb Package size, lb  Use level, lb/ton Sow diets:  Nursery diets:  Grower diets: 45-50  Finisher diets: 35-40  Price desired (circle one) $/ton FOB $/ton Delivered | | |
| **Amino acids** | **Units** | | **Guaranteed Potency**  **per Lb of Base Mix** | | | | | Sources |
| Lysine | % | | 5.24 | | | | | Lysine HCl |
|  |  | |  | | | | |  |
| Vitamins | Units | | **Guaranteed Potency**  **per Lb of Base Mix** | | | | | **Sources** |
| Vitamin A | IU | | 45,000 | | | | | Vitamin A acetate (retinyl acetate) supplied by cross-linked beadlet |
| Vitamin D | IU | | 18,000 | | | | | Vitamin D3 (cholecalciferol) with at least 50% supplied by a vitamin A/D3 cross-linked beadlet |
| Vitamin E (Pick one source and provide source with quotation) | IU | | 480 | | | | | dl--tocophorol acetate |
| IU | | 240 | | | | | d--tocophorol acetate (Natural vitamin E) |
| Vitamin K (menadione) | mg | | 36 | | | | | MNB (Menadione nicotinamide bisulfite) |
| Vitamin B12 | mg | | 0.36 | | | | | Cyanocobalamin |
| Niacin | mg | | 540 | | | | | Niacinamide, Nicotinic acid |
| Pantothenic acid | mg | | 300 | | | | | d-calcium pantothenate |
| Riboflavin | mg | | 90 | | | | | Crystalline riboflavin |
|  |  | |  | | | | |  |
| Minerals | Units | | **Guaranteed Potency**  **of Base Mix** | | | | | **Sources** |
| **mg/lb** | | **ppm** | | |
| Copper |  | | 300 | | 660 | | | Copper sulfate |
| Iodine |  | | 5.4 | | 11.9 | | | Ca iodate, Ethylenediamine dihydriodide (EDDI) |
| Iron |  | | 2,000 | | 4,400 | | | Ferrous sulfate |
| Manganese |  | | 600 | | 1,320 | | | Manganese sulfate, manganese oxide |
| Selenium |  | | 5.4 | | 11.9 | | | Sodium selenite |
| Zinc |  | | 2,000 | | 4,400 | | | Zinc sulfate, zinc oxide |
| Calcium (Minimum)  (Maximum) | % | | 20.0 | | | | | Calcium carbonate, monocalcium phosphate,  or dicalcium phosphate |
| % | | 21.5 | | | | |
| Available phosphorus | % | | 4.8 | | | | | Monocalcium or dicalcium phosphate |
| NaCl (Minimum)  (Maximum) | % | | 17.0 | | | | | Feed or food-grade salt |
| % | | 20.0 | | | | |
| Grow-Finish Base Mix Specification – Page 2 of 2 | | | | | | | | |
|  | | Units | | **Guaranteed Potency**  **per Lb of Base Mix** | | | **Sources** | |
| Phytase (Pick one source and provide source with quotation) – Must use guaranteed phytase level provided by the phytase manufacturer. | | FTU or FYT | | 14,152 | | | Axtra PHY GOLD (Dupont); | |
| 34,110 | | | Empirical (ADM) | |
| 64,229 | | | Grainzyme (Agrivida) | |
| 21,047 | | | Natuphos E 5,000 G (BASF) | |
| 25,764 | | | OptiPhos Plus (Huevepharma) | |
| 17,418 | | | Quantum Blue G (AB Vista) | |
| 35,925 | | | Ronozyme Hi-Phos GT (DSM) | |
| 50,077 | | | Smizyme Thermostable (Origination) | |
| Carrier | |  | |  | | |  | |
| Oil | | % | |  | | | Mineral or vegetable | |
| The following points must be followed unless approval for changes have been made:   1. Guaranteed to stay free-flowing, lump free, and non-dusty. 2. The final moisture level will be less than 10% and 98% product will flow through #20 U.S./Canadian screen. 3. When bagged, all bags must be labeled with tags. Tags should include date of manufacture, lot number, guaranteed analysis, inclusion rate, and proposed use of the product. 4. Formulate using the guaranteed analysis from the supplier for the nutrient. We can request label copies of your ingredients and copies of your mixing records to show quantities of ingredients per batch. 5. Permission must be obtained before using an alternative source for any ingredient. | | | | | | | | |

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| Grow-Finish DDGS Base Mix Specification – Page 1 of 2 Last updated December, 2021 | | | | | |
| Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Address\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Phone\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Fax\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Email\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | Product name: GF DDGS Base Mix    Quantity, lb Package size, lb  Use level, lb/ton Sow diets:  Nursery diets:  Grower diets: 40 to 45 lb  Finisher diets: 35  Price desired (circle one) $/ton FOB $/ton Delivered | |
| **Amino acids** | **Units** | **Guaranteed Potency**  **per Lb of Base Mix** | | | Sources |
| Lysine | % | 11.8 | | | Lysine HCl |
|  |  |  | | |  |
| Vitamins | Units | **Guaranteed Potency**  **per Lb of Base Mix** | | | **Sources** |
| Vitamin A | IU | 45,000 | | | Vitamin A acetate (retinyl acetate) supplied by cross-linked beadlet |
| Vitamin D | IU | 18,000 | | | Vitamin D3 (cholecalciferol) with at least 50% supplied by a vitamin A/D3 cross-linked beadlet |
| Vitamin E (Pick one source and provide source with quotation) | IU | 480 | | | dl--tocophorol acetate |
| IU | 240 | | | d--tocophorol acetate (Natural vitamin E) |
| Vitamin K (menadione) | mg | 36 | | | MNB (Menadione nicotinamide bisulfite) |
| Vitamin B12 | mg | 0.36 | | | Cyanocobalamin |
| Niacin | mg | 540 | | | Niacinamide, Nicotinic acid |
| Pantothenic acid | mg | 300 | | | d-calcium pantothenate |
| Riboflavin | mg | 90 | | | Crystalline riboflavin |
| Minerals | Units | **Guaranteed Potency**  **of Base Mix** | | | **Sources** |
| **mg/lb** | **ppm** | |
| Copper |  | 300 | 660 | | Copper sulfate |
| Iodine |  | 5.4 | 11.9 | | Ca iodate, Ethylenediamine dihydriodide (EDDI) |
| Iron |  | 2,000 | 4,400 | | Ferrous sulfate |
| Manganese |  | 600 | 1,320 | | Manganese sulfate, manganese oxide |
| Selenium |  | 5.4 | 11.9 | | Sodium selenite |
| Zinc |  | 2,000 | 4,400 | | Zinc sulfate, zinc oxide |
| Calcium (Minimum)  (Maximum) | % | 20.0 | | | Calcium carbonate, monocalcium phosphate,  or dicalcium phosphate |
| % | 23.0 | | |
| Available phosphorus | % | 0.2 | | | Monocalcium or dicalcium phosphate |
| NaCl (Minimum)  (Maximum) | % | 17.0 | | | Feed or food-grade salt |
| % | 20.0 | | |
| Grow-Finish DDGS Base Mix Specification – Page 2 of 2 | | | | | |
|  | Units | **Guaranteed Potency**  **per Lb of Base Mix** | | | **Sources** |
| Phytase (Pick one source and provide source with quotation) – Must use guaranteed phytase level provided by the phytase manufacturer. | FTU or FYT | 14,152 | | | Axtra PHY GOLD (Dupont); |
| 34,110 | | | Empirical (ADM) |
| 64,229 | | | Grainzyme (Agrivida) |
| 21,047 | | | Natuphos E 5,000 G (BASF) |
| 25,764 | | | OptiPhos Plus (Huevepharma) |
| 17,418 | | | Quantum Blue G (AB Vista) |
| 35,925 | | | Ronozyme Hi-Phos GT (DSM) |
| 50,077 | | | Smizyme Thermostable (Origination) |
| Carrier |  |  | | |  |
| Oil | % |  | | | Mineral or vegetable |
| The following points must be followed unless approval for changes have been made:   1. Guaranteed to stay free-flowing, lump free, and non-dusty. 2. The final moisture level will be less than 10% and 98% product will flow through #20 U.S./Canadian screen. 3. When bagged, all bags must be labeled with tags. Tags should include date of manufacture, lot number, guaranteed analysis, inclusion rate, and proposed use of the product. 4. Formulate using the guaranteed analysis from the supplier for the nutrient. We can request label copies of your ingredients and copies of your mixing records to show quantities of ingredients per batch. 5. Permission must be obtained before using an alternative source for any ingredient. | | | | | |