



“TKO” PHOSPHITE™ 0-22-20

PURE PHOSPHITE

- **pH Adjusted to Optimal 4.5**
- **pH Compatible for Tank Mixing**
- **Specifically Formulated For Use With Products That Require a Low pH**

GUARANTEED ANALYSIS:

Available Phosphoric Acid as P₂O₅ (AOAC Method 960.02)..... 22%
Soluble Potash (K₂O).....20%

Derived From: Phosphorus acid, potassium hydroxide.

TECHNICAL DATA:

Weight per gallon 12.2 lbs.
pH 4.5

Each gallon contains 2.68 lbs of phosphite P₃O₅
(Mono and Di-Potassium Salts of Phosphorus Acid)
CAS# 13977-65-6, CAS# 13492-26-7 F1521

PRODUCT DESCRIPTION:

“TKO” Phosphite 0-22-20 is a clear, highly concentrated P/K solution containing mono and di-potassium salts of phosphorous acid. The Phosphite in TKO is more soluble than phosphate. It is rapidly absorbed into plant tissue through leaves and roots with excellent movement in both xylem and phloem. Translocation in phloem allows TKO to move from leaf tissues to the branches, crowns and roots. Because of this unique property, phosphonates are viewed as excellent initiator to improve the plant’s resistance, by stimulation of natural host defenses against environmental and other stress.

Phosphonates are absorbed by plants and incorporated into cells as phosphite ions (H₂ PO₃). Over time, phosphonate fertilizer can be converted by bacteria to phosphate in soil, where it can be taken up and metabolized by plants.

Phosphites have greater solubility and are more readily available to microorganisms and plant roots than phosphates. At appropriate rates, TKO can provide stimulation to plants to make a broad spectrum of biologically active metabolites, which does not occur with phosphates. TKO foliar sprays can induce system protection against stress conditions.

TKO Phosphite has proven to be more readily absorbed into citrus and avocado leaves than conventional phosphates. A pre-bloom foliar application will produce growth-stimulating properties increasing flower number, yield, fruit size and total solids. TKO can be use on all crops, including but not limited to; leafy vegetables, legumes, tubers, and fruit and nut trees. See Crop application recommendations.

CAUTION:

The following conditions must be observed in order to apply product successfully. Failure to follow these instructions may result in damage to the plant.

- **Strengthens Plants Immune System**
- **Highly Systemic Via Xylem and Phloem**
- **Growth-Stimulating Effects**

- Use sufficient water to provide thorough coverage.
- A jar test is recommended before mixing chemicals in your tank.
- The following mixing procedures should be used after TKO Phosphite has been diluted with water. Add products to mix in this order: 1. wettable powders, 2. flowables, 3. water solubles, 4. emulsifiable concentrates.
- Agitate during each addition of products. Be sure each product is mixed well before adding the next technical material.
- Consult your local representative for rate and application questions.

APPLICATION RECOMMENDATIONS:

TKO is a clear liquid solution with a near neutral pH. It can be tank mixed with conventional fertilizers, most micronutrients, organic supplements and most biological fungicides. Be sure to add sufficient water to ensure adequate spray coverage. Always use a jar test with appropriate concentrations before mixing chemicals in your tank.

All recommendations are based on broadcast spray application. When band or directed sprays are used, calculate the rate for the "sprayed acre" only. For most field and horticultural crops the early season applications are directed sprays.

For treatment of individual trees and vines, divide rate per acre by number of trees or vines per acre.

Crop Application Recommendations

Crop	Rate	Application Timing / Intervals
Bananas	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply at 2 - 3 week intervals. 20 - 30 applications per year.
Berries , such as (but not limited to): Blueberry, Blackberry, Raspberry, Strawberry	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply after transplanting or prior to bloom. Repeat every 10 - 15 days.
Bulb Vegetables , such as (but not limited to): Onions, Garlic, Shallots	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply three times each season starting when first early-set is 3 inches, then at midseason, and then 2 - 3 weeks prior to harvest.
Citrus , such as (but not limited to): Grapefruit, Lemons, Limes, Oranges, Pomelo, Tangelo, Tangerines	Foliar: 1 - 3 quarts per acre (1 - 5 liters per hectare) Ground Applications: ½ - 1 gal per acre (5 - 9 liters per hectare)	Apply first application pre-bloom. Apply subsequent applications at mid-crop, and 3 - 4 weeks prior to harvest, or as needed to supplement nutritional requirements.
Cole Crops , such as (but not limited to): Broccoli, Cauliflower, Cabbage, Brussels Sprouts, Collards	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply at early head formation and repeat 10 - 15 days later.
Cucurbits , such as (but not limited to): Cucumber, Cantaloupe, Squash, Pumpkin, Melons	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply after transplanting, thinning, or at 2 nd true leaf stage. Apply 1 - 2 subsequent applications at 10 - 15 day intervals. Use as needed to supplement nutritional requirements.
Field Crops , such as (but not limited to): Barley, Corn, Oats, Peanut, Rice, Soybean, Sugar Beet and Wheat.	3 - 4 pints in 100-250 gallons water per acre (3.5 - 5 liters per hectare)	Apply at flag leaf emergence or early bloom and repeat in 14 - 21 day intervals. Assure good coverage.
Fruiting Vegetables , such as (but not limited to): Peppers, Tomato, Eggplant, Okra, Tomatillo	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply after transplanting, thinning, or at 2 nd true leaf stage. Apply subsequent application at 10 - 15 day intervals. Use as needed to supplement nutritional requirements.
Grapes , such as (but not limited to): Wine and Table Grapes	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply three to four times per season. Apply at first full leaf, then at post bloom berry size, and three to four weeks prior to harvest.
Grasses Grown for Seed, Sod Production, Pasture, Forage and Alfalfa	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply in early spring for good growth, then apply monthly and again after harvesting.
Herbs and Spices , such as (but not limited to): Coriander, Basil, Chives, Dill, Rosemary, Sage & Mint	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply after planting and reapply after harvesting.
Leafy Vegetables , such as (but not limited to): Lettuce, Celery, Spinach, Parsley, Radicchio	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply after transplanting, thinning, or at 2 nd true leaf stage. Apply 1 - 2 subsequent applications at 10 - 15 day intervals. Use as needed to supplement nutritional requirements.
Legumes and Pulses , such as (but not limited to): Beans, Green Beans, Snap Beans, Lentils, Peas	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply after transplanting, thinning, or at 2 nd true leaf stage. Apply 1 - 2 subsequent applications at 10 - 15 day intervals. Use as needed to supplement nutritional requirements.
Root, Tuber and Corm Vegetables , such as (but not limited to): Carrot, Potato, Sweet Potato, Beets, Ginger, Radish, Ginseng, Turnip	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply 3 - 4 times during season. The first application at early emergence, three to four weeks later, and at prebloom.
Tree Fruits and Nuts , such as (but not limited to): Almond, Apple, Apricot, Cacao, Cherry, Coffee, Filbert, Nectarine, Olive, Peach, Pear, Pecan, Pistachio, Plum, Prune, Quince and Walnut	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply three to four times per season, starting at three quarter leaf to first full leaf. Then at early fruit size/early nut development, fruit midsize, and three to four weeks prior to harvest. Apply as needed to supplement nutritional requirements.
Tropical / Sub Tropical Fruits , such as (but not limited to): Avocados, Coffee, Dragon Fruit, Durian, Mangos, Papaya, Pineapples, Rubber Trees	1 - 4 pints per acre (1 - 5 liters per hectare)	Apply on new major growth and on successive flushes. Spray monthly until harvest. Do not apply during bloom.

Nursery Applications		
Application	Rate	Notes
Containerized and Field Grown Crops (including but not limited to): Deciduous and Evergreen Trees, Foliage, Ornamental Grasses, Perennials, Tropicals, Woody Ornamentals	Foliar Spray: 2.5 pints per 100 gallons water or 1 quart per acre (310 ml per 100 L water)	Repeat the application every 30 days or as needed. Apply after transplanting
	Continuous Feed: 6 oz per 100 gallons of water (47 ml per 100 L water)	
	Soil Application: 3 - 4 pints per 100 gallons water (375 - 500 ml per 100 L water)	

Greenhouse Recommendations		
Application	Rate	Frequency / Notes
Foliar Spray	1 - 2 quarts per 100 gallons water or 1/8 - 3/8 fl oz per gallon of water. (250 - 500 ml per 100 liters water or 3 - 5 ml per liter water)	Transplanting: Soak plug tray or foliar spray after transplanting Propagation and Maintenance: Apply at 2 - 4 week intervals and repeat as needed.
Soil Drench	12 - 24 fluid ounce per 100 gallon of water or 1/8 - 1/4 fluid ounce per gallon of water (94 - 188 ml per 100 liters of water or 1 - 2 ml per liter of water)	
Irrigation	Overhead: 1 - 2 quarts per 100 gallons of water. (250 - 500 ml per 100 liters water) Drip: 1 - 2 quarts per 100 gallons of water. (250 - 500 ml per 100 liters water)	

Ferns	
Plant Type	Application Rate
Ferns	1 - 4 pints per acre (1 - 5 liters per hectare) Apply after ferns are developed. Repeat every 30 days. *Do not mix with other technical materials.

Foliar Turf Applications		
Application	Rate	Frequency / Notes
Fairways, Roughs, Sports Turf, Sod and Lawns	3 - 5 fl oz in a minimum of 2 gal water per 1,000 ft ² (88-147 ml per m ²) 1 - 2 quarts. per acre in 13 gallons of water	Repeat Every 14 - 30 days during active growing season Apply every 30 days.

The following precautionary statements and pictograms are based on The Globally harmonized System of Classifications and Labeling of Chemicals (GHS) and are mandated by the Occupational Safety and Health Administration (OSHA)



WARNING

H315 Causes Skin Irritation
H319 Causes Serious Eye Irritation
H335 May Cause Respiratory Irritation

FIRST AID	
IF SWALLOWED:	Call a poison center or doctor if you feel unwell: Rinse mouth.
IF IN EYES:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
IF ON SKIN:	Remove contaminated clothing and wash skin with plenty of soap and water. If skin irritation occurs, get medical advice/attention.
IF INHALED:	Call a poison center or doctor if you feel unwell.
You may also contact 1-800-992-5994 day or night for emergency treatment information. If medical advice is needed, have product container or label at hand (P101), Keep out of reach of children (P102), Read label before use (P103).	
STORAGE: Keep container tightly closed. May be stored in unheated area, but keep from freezing. Store in areas inaccessible to children and pets.	
DISPOSAL: Dispose of contents/container in accordance with local/regional/national/international regulations. Do not reuse container.	

Condition of Sale and Warranty: Growth Products, Ltd. warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. Handling, storage and use of the product by Buyer or User are beyond the control of Growth Products, Ltd. and Seller. Risks such as crop injury or other unintended consequences resulting from, but not limited to, weather or soil conditions, presence of other materials, disease, pests, drift to other crops or property, or failure to follow label directions will be assumed by Buyer or User. IN NO CASE WILL GROWTH PRODUCTS, LTD. OR SELLER BE HELD LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE HANDLING, STORAGE OR USE OF THIS PRODUCT.

Manufactured By:

