

# Specimen Label

THIAMETHOXAM    GROUP    4A    INSECTICIDE



# Phalanx™

## INSECTICIDE SEED TREATMENT

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An insecticide seed treatment product for protection against damage from, or control of, listed insects on alfalfa, cereal grains (including barley, buckwheat, corn, pearl millet, proso millet, oats, popcorn, rice (dry-seeded), rye, sorghum, teosinte, triticale, wheat and wild rice), cotton, cucurbit vegetables, legume vegetables (including soybean), oilseed crops (black mustard seed, borage seed, crambe seed, field mustard seed, flax seed, Indian mustard seed, Indian rapeseed seed, rapeseed seed, and safflower seed), peanuts, potatoes, sugarbeets, and sunflower.

<b>Active Ingredient</b>		
Thiamethoxam (CAS Nos. 153719-23-4).....	49.9%	
<b>Other Ingredients</b> .....	50.1%	
<b>Total</b> .....	100.0%	

Contains 5 pounds thiamethoxam per gallon (602.7 grams per liter).

**Keep Out of Reach of Children**

## CAUTION

FIRST AID	
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>

### FIRST AID (Cont.)

**HOT LINE NUMBER:** Have the product container or label with you when calling a poison control center or doctor or going for treatment. For 24-hour medical emergency assistance (human or animal) or chemical emergency assistance (spill, leak, fire, or accident) call 800-992-5994.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

EPA Reg. No. 45002-44-62719

**CAUTION.** Harmful if inhaled, swallowed, or absorbed through the skin. Causes moderate eye irritation. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Applicators, Other Handlers and Re-entry Workers Must Wear:**

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves (except for applicators using ground boom equipment, pilots, and flaggers) such as Barrier Laminate, Butyl Rubber ≥14 mils, Nitrile Rubber ≥14 mils, Neoprene Rubber ≥14 mils, Natural Rubber ≥14 mils, Polyethylene, Polyvinyl Chloride (PVC) ≥14 mils, or Viton ≥14 mils.
- Shoes plus socks.

**Multiple Task Workers must wear:** (Multiple task workers perform multiple tasks in one day such as mixing, bagging/filling seed containers, product application, bag sewing, and clean up)

- Chemical-resistant gloves (except for applicators using ground boom equipment, pilots, and flaggers) such as Barrier Laminate, Butyl Rubber ≥14 mils, Nitrile Rubber ≥14 mils, Neoprene Rubber ≥14 mils, Natural Rubber ≥14 mils, Polyethylene, Polyvinyl Chloride (PVC) ≥14 mils, or Viton ≥14 mils.
- Chemical-resistant coveralls over long sleeved shirt and long pants
- Shoes plus socks

#### USER SAFETY REQUIREMENTS

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### ENGINEERING CONTROLS STATEMENT

When handlers use closed systems in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### USER SAFETY RECOMMENDATIONS

Users should:

1. Wash thoroughly with soap and water after handling.
2. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
3. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
4. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

This product is toxic to wildlife and highly toxic to aquatic invertebrates. Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading. Thiamethoxam is highly toxic to bees exposed to direct treatment, and effects may be possible as a result of exposure to translocated residues in blooming crops. Do not contaminate water when disposing of equipment wash water.

**Pollinator Precautions:** Thiamethoxam is highly toxic to bees exposed to direct treatment, and effects may be possible as a result of exposure to translocated residues in blooming crops.

**Groundwater Advisory:** Thiamethoxam has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow, and may result in groundwater contamination.

#### PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow coming in contact with oxidizing agent. Hazardous chemical reaction may occur.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

This product is for use in commercial seed treatment facilities or as an end-use seed treatment on agricultural establishments at, or immediately before planting subject to the Restrictions listed below and as specified for each crop in the Crop Specific Use Instructions on this label.

Phalanx may be applied by closed or open system seed treatment application processes.

**DO NOT** apply more than 215 gallons of Phalanx per 8-hour day for seed treatments utilizing a closed system. **DO NOT** apply more than 38 gallons of Phalanx per 8-hour day for seed treatments utilizing an open system.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.** Exception: If the seed is treated with the product and the treated seed is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material - Barrier Laminate, Butyl Rubber ≥14 mils, Nitrile Rubber ≥14 mils, Neoprene Rubber ≥14 mils, Natural Rubber ≥14 mils, Polyethylene, Polyvinyl Chloride (PVC) ≥14 mils or Viton ≥14 mils.
- Shoes plus socks

#### FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT AND/OR DISEASE CONTROL, AND/OR ILLEGAL RESIDUES.

Treatment of highly mechanically scarred or damaged seed, or seed known to be of low vigor and poor quality, except for the purpose of curative control of existing disease pests, may result in reduced germination and/or reduction of seed and seedling vigor.

Treat a small quantity of seed using equipment similar to that planned for treating the total seed lot. Conduct germination tests on a small portion of seed before committing the total seed lot to a selected seed treatment. Due to seed quality, crop or variety sensitivity, and seed storage conditions beyond the control of Corteva Agriscience, no claims are made to guarantee the germination of carry-over seed or propagating material for all crop seed.

#### ROTATIONAL CROPS

In the event of crop failure or harvest of a crop grown from Phalanx-treated seed, the field may be replanted immediately to alfalfa, Brassica (cole) leafy vegetables, cereal grains (including barley, buckwheat, corn, pearl millet, proso millet, oats, popcorn, rice (dry-seeded), rye, sorghum, teosinte, triticale, wheat and wild rice), canola, cotton, cucurbit vegetables, dry bulb onions, fruiting vegetables, leafy vegetables, legume vegetables, mint (peppermint and spearmint), oil seed crops (black mustard seed, borage seed, crame seed, field mustard seed, flax seed, Indian mustard seed, Indian rapeseed seed, peanuts, rapeseed seed, and safflower seed), root vegetables, strawberry, sunflowers, tobacco, and tuberous and corm vegetables. For any other crop, the minimum plant back interval is 120 days from the date the Phalanx-treated seed was planted. A cover crop other than the crops listed above that is planted for erosion control or soil improvement may be planted sooner than the 120 day interval; however, the crop may not be grazed or harvested for food or feed.

#### USE INFORMATION

Phalanx is a systemic seed treatment insecticide belonging to the neonicotinoid class of chemistry. Phalanx controls certain chewing and sucking insects through contact and ingestion. The plant rapidly takes up the active ingredient in Phalanx as it starts to emerge and establish. The use of Phalanx is compatible with integrated pest management programs. The length of control of the major insect pests will vary depending on the product use rate, insect pressure, crop growth and maturity, and soil and environmental conditions. When rate ranges are given, use the higher rate when insect pressure is expected to be high.

#### RESISTANCE MANAGEMENT

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Some insect pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Corteva Agriscience

encourages responsible product stewardship to ensure effective long-term control of the insects on this label.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

Phalanx contains a Group 4A insecticide (thiamethoxam, belonging to the neonicotinoid class of chemistry). Insect biotypes with acquired or inherent resistance to Group 4A insecticides may eventually dominate the insect population if Group 4A insecticides are used repeatedly as the predominant method of control for targeted species. This may result in partial or total loss of control of those species by Phalanx or other Group 4A insecticides.

#### In order to maintain susceptibility to this class of chemistry:

- Avoid using Group 4A insecticides exclusively for season long control of insect species with more than one generation per crop season.
- For insect species with successive or overlapping generations, apply Phalanx or other Group 4A insecticides using a "treatment window" approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (seed treatment, soil, foliar, unless otherwise stated) of the Group 4A insecticides. **DO NOT** exceed the maximum Phalanx allowed per growing season.
- Following a treatment window of Group 4A insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 4A insecticides.
- A treatment window rotation, along with other IPM practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest's ability to develop resistance to this class of chemistry.
- If resistance is suspected, **do not** reapply Phalanx or any other Group 4A insecticides.

#### Other Insect Resistance Management (IRM) practices include:

- Incorporating IPM techniques into your insect control program.
- Monitoring treated insect populations for loss of field efficacy.
- Using tank-mixtures or premixes with insecticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied.

#### For additional information on Insect Resistance Management:

- Contact your local extension specialist, certified crop advisor, and/or product manufacturer for additional insect resistance management recommendations.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org/>.

#### USE RESTRICTIONS

- **DO NOT** apply more than 215 gallons of Phalanx per 8-hour day for seed treatments utilizing a closed system.
- **DO NOT** apply more than 38 gallons of Phalanx per 8-hour day for seed treatments utilizing an open system. Commercial treatment of sorghum seed requires the use of a closed system.
- **DO NOT** allow children, pets, or livestock to have access to treated seed.
- Treated seed must be planted into the soil at a depth greater than 1 inch.
- With the exception of cotton and soybeans, do not make any soil or foliar application of products containing thiamethoxam to crops grown from seed treated with Phalanx (thiamethoxam).
- For cotton and soybeans, do not apply a neonicotinoid insecticide within 45 days of planting seed treated with Phalanx.
- Dispose of all excess treated seed. Leftover treated seed may be doublesown around the headland or buried away from water sources in accordance with local requirements.
- **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- Excess treated seed may be used for ethanol production only if (1) by-products are not used for livestock feed and (2) no measurable residues of pesticide remain in the ethanol byproducts that are used in agronomic practice.

#### MIXING PROCEDURES

**Important:** Thoroughly shake the container of Phalanx prior to use.

Apply Phalanx as a water-based slurry utilizing standard slurry seed treatment equipment which provides uniform seed coverage. Uneven or incomplete seed coverage may not give the desired level of insect or disease control. Thoroughly mix the specified amount of Phalanx into the required amount of water for the slurry treater and dilution rate to be used. The typical density of Phalanx is 10.5 pounds per gallon. Consult the manufacturer of the application equipment you plan to use for suitability for this application and for instructions on operation and calibration of the equipment.

- Use an EPA-approved dye or colorant that imparts an unnatural color to the seed as stated in 40 CFR 153.155 (c).

- Allow seed to dry before bagging.
- Store away from feed and foodstuffs.

Phalanx has been found to be compatible with some liquid inoculant products. Phalanx may be mixed or applied sequentially with approved liquid inoculants. Consult the maker of the liquid inoculants and a Corteva Agriscience representative for directions before applying Phalanx with inoculants.

#### SEED BAG LABEL REQUIREMENTS

The Federal Seed Act requires that bags containing treated seeds shall be labeled with the following statements:

- This seed has been treated with thiamethoxam insecticide.
- **DO NOT** use for feed, food or oil purposes.
- User is responsible for ensuring, that the seed bag meets all requirements under the Federal Seed Act.

In addition, the U.S. Environmental Protection Agency requires the following statements on bags containing seeds treated with Phalanx (thiamethoxam) (EPA Reg. No. 45002-44-62719):

- Ground Water Advisory: This product has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into the ground water if used in areas where soils are permeable, particularly where the water table is shallow.
- Pollinator Precautions: Thiamethoxam is highly toxic to bees, and effects are possible as a result of exposure to translocated residues in blooming crops. To mitigate this potential exposure, the first cutting of alfalfa should occur before bloom.
- Store away from food and feedstuffs.
- Wear long-sleeved shirt, long pants and chemical-resistant gloves when handling treated seed.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading.
- Dispose of seed packaging in accordance with local requirements.
- In the event of crop failure or harvest of a crop grown from Phalanx-treated seed, the field may be replanted immediately to alfalfa, Brassica (cole) leafy vegetables, cereal grains (including barley, buckwheat, corn, pearl millet, proso millet, oats, popcorn, rice (dry-seeded), rye, sorghum, teosinte, triticale, wheat and wild rice), canola, cotton, cucurbit vegetables, dry bulb onions, fruiting vegetables, leafy vegetables, legume vegetables, mint (peppermint and spearmint), oil seed crops (black mustard seed, borage seed, crambe seed, field mustard seed, flax seed, Indian mustard seed, Indian rapeseed seed, peanuts, rapeseed seed, and safflower seed), root vegetables, strawberry, sunflowers, tobacco, and tuberous and corm vegetables. For any other crop, the minimum plant back interval is 120 days from the date the Phalanx-treated seed was planted. A cover crop other than the crops listed above that is planted for erosion control or soil improvement may be planted sooner than the 120-day interval; however, the crop may not be grazed or harvested for food or feed.
- **DO NOT** allow children, pets, or livestock to have access to treated seed.
- Treated seed must be planted into the soil at a depth greater than 1 inch.
- Dispose of all excess treated seed. Leftover treated seed may be double-sown around the headland or buried away from water sources in accordance with local requirements. **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- Regardless of the thiamethoxam product used or method of application, the maximum application rate is 0.266 lbs. AI per acre per calendar year. **DO NOT** apply more than 0.266 lbs. thiamethoxam ai per acre per calendar year.
- With the exception of cotton and soybeans, **do not** make any soil or foliar application of products containing thiamethoxam to crops grown from seed treated with Phalanx (thiamethoxam). For cotton and soybeans, **do not** apply a neonicotinoid insecticide within 45 days of planting seed treated with Phalanx.
- For alfalfa: Do not use at a rate that will result in more than 0.022 lb. thiamethoxam per acre (10.0 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For barley: **DO NOT** use at a rate that will result in more than 0.052 lb. thiamethoxam per acre (23.6 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For buckwheat, pearl millet, proso millet, oats, rye, teosinte, triticale, and wild rice: **DO NOT** use at a rate that will result in more than 0.04 lb. thiamethoxam per acre (18.4 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For corn: **DO NOT** use at a rate that will result in more than 0.21 lb. thiamethoxam per acre (93.75 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For cotton: **DO NOT** use at a rate that will result in more than 0.075 lb. thiamethoxam per acre (34.0 grams ai/A) as a seed treatment application. This seed has been treated with thiamethoxam at    mg ai/seed. **DO NOT** apply a neonicotinoid insecticide within 45 days of planting seed treated with Phalanx.

- For cucurbit vegetables (based on pickling cucumbers seeding rate): **DO NOT** use at a rate that will result in more than 0.164 lb. thiamethoxam per acre (74.4 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For legume vegetables (other than soybeans): **DO NOT** use at a rate that will result in more than 0.075 lb. thiamethoxam per acre (34.0 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For oil seed crops (based on safflower seeding rate): **DO NOT** use at a rate that will result in more than 0.14 lb. thiamethoxam per acre (63.5 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For peanuts: **do not** use at a rate that will result in more than 0.08 lb. thiamethoxam per acre (35.0 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed. **DO NOT** use a Phalanx rate that will result in more than 0.08 lbs thiamethoxam per acre (35.0 grams ai/A) per season, based on a maximum seeding rate of 120,700 seeds/acre.
- For potatoes: **DO NOT** use at a rate that will result in more than 0.125 lb. thiamethoxam per acre (56.7 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed. **DO NOT** plant potato seed pieces treated with Phalanx in Nassau or Suffolk County, New York. **DO NOT** pile cut and treated seeds above 6 feet in height. When transporting cut and Phalanx-treated seed, make sure the seed is covered.
- For rice (dry seeded): **DO NOT** use at a rate that will result in more than 0.17 lb. thiamethoxam per acre (75.6 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed. Not for use in water seeded rice production. **DO NOT** plant or sow Phalanx-treated rice seed by aerial application equipment. **DO NOT** use treated fields for the aquaculture of edible fish and crustacean.
- For sorghum: **DO NOT** use at a rate that will result in more than 0.03 lb. thiamethoxam per acre (13.5 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For soybeans: **DO NOT** use at a rate that will result in more than 0.083 lb. thiamethoxam per acre (37.8 grams ai/A) as a seed treatment application. This seed has been treated with thiamethoxam at    mg ai/seed. **DO NOT** apply a neonicotinoid insecticide within 45 days of planting seed treated with Phalanx.
- For sugarbeets: **DO NOT** use at a rate that will result in more than 0.206 lb. thiamethoxam per acre (93.4 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For sunflower: **DO NOT** use at a rate that will result in more than 0.14 lb. thiamethoxam per acre (63.5 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- For wheat: **DO NOT** use at a rate that will result in more than 0.08 lb. thiamethoxam per acre (36.3 grams ai/A) per season. This seed has been treated with thiamethoxam at    mg ai/seed.
- Excess treated seed may be used for ethanol production only if (1) by-products are not used for livestock feed and (2) no measurable residues of pesticide remain in ethanol by-products that are used for agronomic practice.

#### Sunflower Seed Bags Only:

- To protect the Preble's Meadow Jumping Mouse, sunflower seed treated with Phalanx may not be planted in Elbert or Weld Counties in Colorado. Treated sunflower seed must be planted at a minimum depth of one inch.

#### CROP SPECIFIC USE INSTRUCTIONS

Regardless of the thiamethoxam product used or method of application, the maximum application rate is 0.266 lbs. AI per acre per calendar year. **DO NOT** apply more than 0.266 lbs. thiamethoxam ai per acre per calendar year.

#### ALFALFA

Phalanx seed treatment will protect against damage caused by aphids and leaf hoppers for the first cut crop only. Apply Phalanx at 0.001 milligrams thiamethoxam per seed\* (each fluid ounce of Phalanx contains 17.7 grams of thiamethoxam).

\*Based on an average of 210,000 alfalfa seeds per pound.

It is highly recommended to use Phalanx with compatible and registered seed treatment fungicides proven to protect seed and seedlings against diseases. These fungicides must show safety on treated seed, alone or in combination with Phalanx.

#### Restrictions (for Alfalfa):

- **DO NOT** use a Phalanx rate that will result in more than 0.022 lb thiamethoxam per acre (10 grams ai/A) per season.
- Apply Phalanx to alfalfa seed in commercial seed treatment facilities only.
- **DO NOT** use in hopper box, slurry box, or other farmer-applied applications.

**CEREALS GRAINS (barley, buckwheat, corn, pearl millet, proso millet, oats, popcorn, rice (dry-seeded), rye, sorghum, teosinte, triticale, wheat and wild rice)**

## BARLEY

To provide early season protection against injury by bird cherry-oat aphids, English grain aphid, greenbug, Hessian fly, Russian wheat aphid, and wireworm, and to reduce potential spread of barley yellow dwarf virus due to aphid vectors, apply Phalanx at 0.75-1.33 fluid ounces per 100 pounds of seed. At the high rate, Phalanx will reduce grasshopper damage in barley during the early season. For early season wireworm protection, apply Phalanx at 0.19 to 0.50 fluid ounces per 100 pounds of seed.

To provide protection of barley seed against damage from stored grain pests, rusty grain beetle, saw-toothed grain beetle, red flour beetle, rice weevil, lesser grain borer, European corn borer and Indian moth, apply Phalanx at 0.025-1.33 fluid ounces per 100 pounds of seed.

### Restrictions (for Barley):

- **DO NOT** use a Phalanx rate that will result in more than 0.052 lb thiamethoxam per acre (23.6 grams ai/A) per season.

## CORN (FIELD, POP, SEED, AND SWEET CORN)

**Note:** If corn seed to be treated with Phalanx has existing infestations of stored grain pests, fumigate the seed with a registered product approved for such use, prior to treating with Phalanx and bagging.

**Note:** When treated according to the following directions for post-planting protection against listed pests, Phalanx will also provide protection during post treatment storage of the seed against damage from the following insects: Indian Meal Moth (*Plodia interpunctella*), Lesser Grain Borer (*Rhyzopertha dominica*), Red Flour Beetle (*Tribolium castaneum*), and Rice Weevil (*Sitophilus oryza*).

Consult your Corteva Agriscience seed treatment representative for specifics on slurry additives to use during application of Phalanx.

Follow planter manufacturer instructions for use of fluency agents, or other hopper box additives at planting.

It is highly recommended to use registered broad spectrum seed treatment fungicides with Phalanx applications on corn.

To provide early season protection against injury by wireworm, seedcorn maggot, southern corn leaf beetle, chinch bug, corn flea beetle, grape colaspis, white grub (including Japanese beetle larvae, European Chafer larvae, true white grub, annual white grub, May/June beetle larvae), black cutworm, thrips, southern green stinkbug, seedcorn beetle, sugarcane beetle, and corn leaf aphid, apply Phalanx at a rate to achieve between 0.125 and 0.80 milligrams thiamethoxam per kernel (each fluid ounce of Phalanx contains 17.7 grams thiamethoxam).

To provide corn rootworm (including Mexican, Northern, Southern, and Western corn rootworm) and billbug protection, apply Phalanx at a rate to achieve 1.25 milligrams thiamethoxam per kernel (each fluid ounce of Phalanx contains 17.7 grams thiamethoxam).

### Restrictions (for Field, Pop, Seed and Sweet corn):

- **DO NOT** use a Phalanx rate that will result in more than 0.21 lb thiamethoxam per acre (93.75 grams ai/A) based on a maximum seeding rate for sweet corn of 75,000 seeds/acre.
- **DO NOT** apply more than 215 gallons per 8-hour day for seed treatments utilizing a closed system. **DO NOT** apply more than 38 gallons of Phalanx per 8-hour day for seed treatments utilizing an open system. If it is necessary to apply more than 38 gallons of Phalanx per 8-hour day, a closed system must be used.

## RICE (DRY-SEEDED USE ONLY)

To provide early season protection against injury by grape colaspis rice, water weevil, chinch bugs, and thrips, apply Phalanx at a rate to achieve 0.03 milligrams thiamethoxam per seed\* (each fluid ounce of Phalanx contains 17.7 grams thiamethoxam).

### Restrictions (for Rice dry-seeded use only):

- **DO NOT** use a Phalanx rate that will result in more than 0.17 lb thiamethoxam per acre (75.6 grams ai/A) per season.
- Phalanx is not labeled for use in water seeded rice production.
- **DO NOT** plant or sow Phalanx treated rice seed by aerial application equipment.
- **DO NOT** use treated fields for the aquaculture of edible fish and crustacean.

\*Not to exceed 120 lb. seed/Acre Seeding Rate.

## BUCKWHEAT, PEARL MILLET, PROSO MILLET, OATS, RYE, TEOSINTE, TRITICALE, AND WILD RICE

To provide early season protection against injury by bird cherry-oat aphids, English grain aphid, greenbug, Hessian fly, Russian wheat aphid, and wireworm, and to reduce potential spread of barley yellow dwarf virus due to aphid vectors, apply Phalanx at 0.75-1.33 fluid ounces per 100 pounds of seed. At the high rate, Phalanx will reduce grasshopper damage during the early season. For early season wireworm protection, apply Phalanx at 0.19 to 0.50 fluid ounces per 100 pounds of seed.

## Restrictions (Buckwheat, Pearl Millet, Proso Millet, Oats, Rye, Teosinte, Triticale, and Wild Rice):

- **DO NOT** use a Phalanx rate that will result in more than 0.04 lb thiamethoxam per acre (18.4 grams ai/A) per season.

## SORGHUM

To provide early season protection against injury by chinch bug, corn leaf aphid, fire ants, greenbug, seed corn maggot, stored grain insects, wireworm, and yellow sugarcane aphid, apply Phalanx at 5.1 to 7.6 fluid ounces per 100 pounds of seed, or 0.062 to 0.093 milligrams thiamethoxam per seed\* (each fluid ounce of Phalanx contains 17.7 grams of thiamethoxam).

\* Based on an average of 14,500 sorghum seeds per pound.

Follow planter manufacturer instructions for use of talc or other hopper box additives at planting.

### Restrictions (for Sorghum):

- **DO NOT** use a Phalanx rate that will result in more than 0.03 lb thiamethoxam per acre (13.5 grams ai/A) per season.
- A closed system must be used for commercial seed treatment of sorghum seed.

## WHEAT

To provide protection against injury by bird cherry-oat aphids, English grain aphid, greenbug, Hessian fly, and Russian wheat aphid, and to reduce potential spread of barley yellow dwarf virus due to aphid vectors, apply Phalanx at 0.75-1.33 fluid ounces per 100 pounds of seed. At the high rate, Phalanx will reduce grasshopper damage in wheat during the early season. For early season wireworm protection, apply Phalanx at 0.19 to 0.50 fluid ounces per 100 pounds of seed.

To provide protection of wheat seed, against damage from stored grain pests, rusty grain beetle, saw-toothed grain beetle, red flour beetle, rice weevil, lesser grain borer, European corn borer and Indian moth, apply Phalanx at 0.025-1.33 fluid ounces per 100 pounds of seed.

### Restrictions (for Wheat):

- **DO NOT** use a Phalanx rate that will result in more than 0.08 lb thiamethoxam per acre (36.3 grams ai/A) per season.

## COTTON (DELINTED ONLY)

To provide early season protection against injury by cotton aphid, tobacco thrips, western flower thrips, wireworm, and the suppression of cotton fleahopper and plant bugs, apply Phalanx at a rate to achieve between 0.300 and 0.375 milligrams thiamethoxam per seed (each fluid ounce of Phalanx contains 17.7 grams thiamethoxam).

Plant Phalanx-treated cotton seed based on specified planting dates and soil temperatures made by your state agricultural extension agent. In areas that have a history of high thrips pressure or when cotton is grown in North Carolina or Virginia, use Phalanx seed treatment followed by a foliar insecticide spray when cotton is between the 1st and 3rd leaf stage.

### Restrictions (for Cotton – delinted only):

- **DO NOT** apply a neonicotinoid insecticide within 45 days of planting seed treated with Phalanx.
- **DO NOT** use a Phalanx rate that will result in more than 0.075 lb thiamethoxam per acre (34.0 grams ai/A) per season.

## CUCURBIT VEGETABLE GROUP (Chayote, Chinese Waxgourd, Citron

Melon, Cucumber, Gherkin, Edible Gourd (includes hyotan, cucuzza, Chinese okra, and hechima), *Momordica* spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), **Muskmelon** (includes true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon), **Pumpkin**, **Summer Squash** (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, and zucchini), **Winter squash** (includes butternut squash, calabaza, hubbard squash, acorn squash and spaghetti squash), **Watermelon**)

To provide early season protection against injury by aphids, cucumber beetle, flea beetle, leafminers, seedcorn maggots, white fly and wireworms, apply Phalanx at a rate to achieve between 0.25 to 0.75 milligrams thiamethoxam per seed\* (each fluid ounce of Phalanx contains 17.7 grams of thiamethoxam).

\*Based on an average range of 4,000 to 27,000 cucurbit seeds per pound.

### Restrictions (for Cucurbit vegetables):

- **DO NOT** use a Phalanx rate that will result in more than 0.164 lb thiamethoxam per acre (74.4 grams ai/A) per season.

**LEGUME VEGETABLE GROUP (Bean (*Lupinus* species) (includes grain, sweet, white, white sweet lupin), **Bean (*Phaseolus* species) (includes field bean, kidney bean, lima bean, navy bean, runner bean, snap bean, tepary bean, wax bean), **Bean (*Vigna* species) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), **Broad bean (fava bean), Chickpea (garbanzo bean), Guar, Jackbean,********

**Lablab bean (hyacinth bean), Lentil, Pea (*Pisum species*)** (includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea). **Pigeon pea, Sword bean)**

To provide early season protection against injury by aphids, bean leaf beetle, leafhoppers, leaf miner, Mexican bean beetle, pea leaf weevil, plant leaf hopper, seed corn maggot, thrips, white grub and wireworm, apply Phalanx at 1.28 fluid ounces per 100 pounds of seed.

It is highly recommended to use Phalanx with compatible and registered seed treatment fungicides proven to control diseases in legume vegetables. These fungicides must show safety on treated seed, alone and in combination with Phalanx.

**Restrictions (for Legume vegetables):**

- **DO NOT** use a Phalanx rate that will result in more than 0.075 lb thiamethoxam per acre (34.0 grams ai/A) per season.

**Soybeans (including soybeans, vegetable)**

To provide early season protection against injury by aphids, bean leaf beetle, grape colaspis, leafhoppers, seedcorn maggot, three-cornered alfalfa hopper, thrips, white grubs, and wireworm, apply Phalanx at 1.28 fluid ounces per 100 pounds of seed. Alternatively, for those who wish to treat on a milligram per seed basis, apply 0.0756 to 0.1512 mg. a.i. per seed.

It is highly recommended to use Phalanx with compatible and registered seed treatment fungicides proven to control diseases in soybeans. These fungicides must show safety on treated seed, alone and in combination with Phalanx.

**Restrictions (for Soybeans):**

- **DO NOT** apply a neonicotinoid insecticide within 45 days of planting seed treated with Phalanx.
- **DO NOT** use a Phalanx rate that will result in more than 0.083 lb thiamethoxam per acre (37.8 grams ai/A) per season.

**OIL SEED CROPS** (black mustard seed, borage seed, crambe seed, field mustard seed, flax seed, Indian mustard seed, Indian rapeseed seed, rapeseed seed, and safflower seed)

To provide early season protection against injury by crucifer flea beetles and wireworms, apply Phalanx at 10.24 fluid ounces per 100 pounds of seed.

It is highly recommended to use Phalanx with compatible and registered seed treatment fungicides proven to control seed and seedling diseases in oil seed crops. These fungicides must show safety on treated seed, alone and in combination with Phalanx.

**Restrictions (for Oil Seed Crops):**

- **DO NOT** use a Phalanx rate that will result in more than 0.075 lb thiamethoxam per acre (34.0 grams ai/A) per season.

**PEANUTS**

To provide early season protection against injury by thrips, aphids, wireworm, white grubs, and the suppression of three-cornered alfalfa hopper and plant bugs, apply Phalanx at 0.20 to 0.29 mg thiamethoxam per seed (each fluid ounce of Phalanx contains 17.7 grams thiamethoxam).

It is highly recommended to use Phalanx with compatible and registered seed treatment fungicides proven to control diseases in peanuts. These fungicides must show safety on treated seed, alone and in combination with Phalanx.

Plant Phalanx-treated peanuts based on specified planting dates and soil temperatures made by your state agricultural extension agent.

**Restrictions (for Peanuts):**

- **DO NOT** use a Phalanx rate that will result in more than 0.08 lbs thiamethoxam per acre (35.0 grams ai/A) per season, based on a maximum seeding rate of 120,700 seeds/acre.
- **DO NOT** use in hopper box, planter box, slurry box, or other farmer-applied applications.
- Apply Phalanx in commercial seed treatment facilities only.

**POTATOES**

**Note: DO NOT** use this product on potatoes in Nassau or Suffolk County, New York.

Phalanx potato seed treatment is to be used as an integral part of a potato pest management strategy. This strategy includes the use of certified seed, proper crop rotation, insect population thresholds, appropriate control measures, optimal harvest time for tubers and proper handling of tubers without bruising. Consult your local agricultural extension agent for more detailed information on insect management practices.

**Application methods:**

Apply Phalanx using equipment that is designed to apply liquid seed treatment products to potatoes. Follow the equipment instructions for set-up and calibration. Phalanx may require dilution prior to atomization and application to potatoes (see equipment use instructions). Ensure that spray nozzles are properly hooded and shielded to prevent any spray from moving off target. Apply Phalanx only in well-ventilated areas. The mixture

is applied as a fine spray over the cut or whole seed tubers. The quantity of water and Phalanx volume is adjusted based on the amount of seed moved under the hood. It is mandatory that the equipment be calibrated to deliver a maximum of 4 fluid ounces of the mixture per 100 pounds of seed consistently. Applying excess moisture may predispose the seed to rotting, resulting in poor emergence and stand. Generally, liquid based fungicides approved for potato seed treatment, can be applied with Phalanx, however, check compatibility of the fungicides with Phalanx before use. If inert dust (fir bark, talc, etc.) or a dustbased fungicide is used, apply the Phalanx seed treatment before applying the dust.

It is highly recommended to use Phalanx with compatible and registered seed treatment fungicides proven to control diseases in potatoes. These fungicides must show safety on treated seed.

Use Phalanx seed treatment to provide protection against injury from Colorado potato beetles, flea beetles, green peach aphids, leafhoppers, leafminers, potato aphids, psyllids, and whiteflies. Phalanx will also control wireworms that feed on the seed piece.

The expected length of protection is dependent upon the rate used, soil and environmental conditions and insect pressure. Select the appropriate Phalanx rate based upon the history of pest pressure in the region and the length of the growing season. In general, use the high rate of Phalanx in the following table for areas where high insect pressure is expected. Consult your Corteva Agriscience representative for information specific to your area or region.

**Choose the appropriate Phalanx rate from the following chart, based upon your seeding rate:**

Potato Seeding Rate: 100 lbs. per Acre	Fluid Ounces of Phalanx per 100 lbs of Potato Seed Tubers
16-19	0.11-0.16
20-21	0.11-0.15
22-24	0.11-0.13
25-26	0.11-0.12
27-29	0.11

**Restrictions (for Potatoes):**

For seeding rates not covered by the above table, do not use a Phalanx rate that will result in more than 0.125 pounds thiamethoxam per acre.

**Treated seed storage**

If the treated seed needs to be stored or held for a few days, make sure that there is adequate cool air (60°F) movement through the pile of cut seed potatoes at relative humidity of 85-90%. Do not pile cut and treated seeds above 6 feet in height. Best results are obtained if potatoes are planted immediately after Phalanx seed treatment. When transporting cut and Phalanx treated seed, make sure the seed is covered.

**SUGARBEETS**

Phalanx is a seed treatment insecticide that provides early season protection against injury from sugarbeet root maggot, leaf miners, wireworms, root aphids, white grubs, spring tails, and beet leaf hopper. Phalanx protects sugarbeets from beet leaf hoppers which may spread curly top virus. Thorough seed coverage will offer the best protection of the seed from insect damage.

Apply Phalanx at 3.39 to 3.95 fl. oz. (equivalent to 60 to 70 grams a.i. of thiamethoxam respectively) per unit of sugarbeet seed. A unit of sugarbeet seed is 100,000 seeds.

For protection against Pythium damping-off or Rhizoctonia species diseases in sugarbeets, Phalanx may be applied with fungicide seed treatments approved for use on sugarbeets.

Phalanx may be applied in conjunction with polymers, pelleting materials and seed coating materials that are approved as food-use inert ingredients by EPA and listed in 40 CFR 180.910-960. These materials must show safety on treated seed. The seed treatment mixture that combines Phalanx with labeled fungicides must be tested for seed safety without any detrimental effects on seed germination or plant stand establishment. Pre-test the germination of a small sample of seed lot with Phalanx prior to large scale commercial application.

**Restrictions (for Sugarbeets):**

- **DO NOT** use a Phalanx rate that will result in more than 0.206 lbs thiamethoxam per acre (93.4 grams ai/A) per season.

**SUNFLOWER**

To provide early season protection against injury by flea beetle, stored grain insects, sunflower beetle, and wireworm, apply Phalanx at 0.25 milligrams thiamethoxam per seed (each fluid ounce of Phalanx contains 17.7 grams thiamethoxam).

It is highly recommended to use Phalanx with compatible and registered broad spectrum seed treatment fungicides which are proven to control sunflower diseases.

Follow planter manufacturer instructions for use of talc or other hopper box additives at planting.

**Restrictions (for Sunflower):**

- **DO NOT** use a Phalanx rate that will result in more than 0.14 lb. thiamethoxam per acre (63.5 grams ai/A) per season.
- To protect the Preble's Meadow Jumping Mouse, sunflower seed treated with Phalanx may not be planted in Elbert or Weld Counties in Colorado. Treated sunflower seed must be planted at a minimum depth of one inch.

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.

**Storage:** Store in original container only. Keep container closed when not in use. **DO NOT** store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to label.

**Pesticide Disposal:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional office.

**Less than or equal to 5 gallons:**

**Container Handling:** Non-refillable HDPE Plastic container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**Greater than 5 gallons:**

**Container Handling:** Non-refillable HDPE Plastic container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**Refillable containers:**

**Container Handling:** Refillable HDPE Plastic container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.**

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**Warranty Disclaimer**

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It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Corteva Agriscience or the seller. Corteva Agriscience will not be responsible for losses or damages resulting from the use of this product in any manner not specifically directed by Corteva Agriscience. To the extent consistent with applicable law, all such risks associated with non-directed use shall be assumed by buyer and/or user.

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To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, tort, strict liability, or other legal theories) shall be limited to, at Corteva Agriscience's election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

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