



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505T)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

45002-57

Date of Issuance:

10/18/22

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Albaugh THX-4

Name and Address of Registrant (include ZIP Code):

Nathan P. Ehresman  
Albaugh LLC  
1525 NE 36th Street  
Ankeny, IA 50021

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

*Continues page 2*

Signature of Approving Official:

Venus Eagle, Product Manager 01  
Invertebrate &Vertebrate Branch 3, Registration Division  
Office of Pesticide Programs

Date:

10/18/22

2. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 45002-57.”
3. Submit one copy of the final printed label for the record before you release the product for shipment.
4. If, after formal consultation with the appropriate Service(s), additional modifications are identified in the Service’s Biological Opinion(s) for thiamethoxam, EPA will notify Albaugh LLC in writing consistent with the terms in the Biological Opinion of any necessary required changes. Albaugh LLC must submit an application for amendment incorporating any required changes, including amended labels, consistent with the timeline specified in EPA’s notification. If Albaugh LLC fails to comply with this term, Albaugh LLC has agreed in prior written acceptance on September 19, 2022, of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

The record for this product currently contains the following CSF(s):

- Basic CSF dated 09/01/2021

If you have any questions, please contact Ralph Narain by phone at 202-566-2853, or via email at [Narain.Ralph@epa.gov](mailto:Narain.Ralph@epa.gov).

Enclosure: Stamped label

THIAMETHOXAM	GROUP	4A	INSECTICIDE
THIOPHANATE-METHYL	GROUP	1	FUNGICIDE
THIABENDAZOLE	GROUP	1	FUNGICIDE
MEFENOXAM	GROUP	4	FUNGICIDE
AZOXYSTROBIN	GROUP	11	FUNGICIDE

**ALBAUGH THX-4**  
**[ABN: SoyStar Elite ST]**

SEED TREATMENT FOR PROTECTION OF SOYBEANS, LENTILS AND CHICKPEAS  
AGAINST LISTED PESTS and SOILBORNE DISEASES

**ACTIVE INGREDIENTS:**

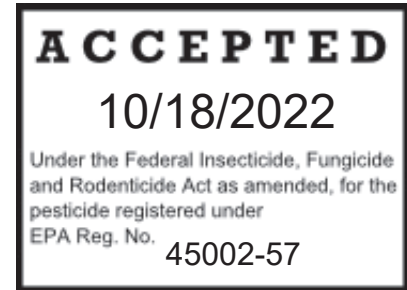
Thiamethoxam .....	22.40%
Thiophanate-methyl.....	4.49%
Mefenoxam .....	3.35%
Thiabendazole .....	2.23%
Azoxystrobin .....	1.07%

**OTHER INGREDIENTS:**..... 66.46%

**TOTAL:**..... 100.00%

Contains:

- 2.06 lbs Thiamethoxam per gallon (246.8 grams per liter)
- 0.41 lbs Thiophanate-methyl per gallon (49.1 grams per liter)
- 0.31 lbs Mefenoxam per gallon (37.2 grams per liter)
- 0.21 lbs Thiabendazole per gallon (25.2 grams per liter)
- 0.10 lbs Azoxystrobin per gallon (12.0 grams per liter)



**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

FIRST AID	
<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>• <b>DO NOT</b> induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• <b>DO NOT</b> give anything by mouth to an unconscious person.</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>
<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 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 treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center (888-347-6732) or doctor, or going for treatment. For 24-hour emergency assistance, chemical spill, leak, fire, exposure, or accident call CHEMTREC toll free at 1-800-424-9300.</p>	

See [inside] booklet for [Additional][complete] First Aid, Precautionary Statements, Directions for Use, and Storage and Disposal.

EPA Reg. No. 45002-LT  
EPA Est. No. \_\_\_\_\_

Net Contents: \_\_\_\_\_ gallons

**MANUFACTURED FOR**  
Albaugh, LLC  
1525 NE 36<sup>th</sup> Street  
Ankeny, IA 50021



# PRECAUTIONARY STATEMENTS

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION.** Harmful if swallowed. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Protective eyewear (face shield, goggles, or safety glasses)
- Chemical-resistant gloves made of any waterproof material: barrier laminate, butyl rubber  $\geq$  14 mils, natural rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils, polyethylene, polyvinyl chloride (PVC)  $\geq$  14 mils, or Viton®  $\geq$  14 mils

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

- The PPE required for applicators and handlers listed above
- Chemical resistant coveralls (over long-sleeved shirt and long pants)

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. **DO NOT** reuse them.

**ENGINEERING CONTROLS:** When handlers use enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.607(d)), the handler PPE requirements may be reduced or modified as specified in WPS.

## USER SAFETY RECOMMENDATIONS

Users should:

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

## ENVIRONMENTAL HAZARDS

This pesticide is highly toxic to mammals, birds, fish (freshwater and estuarine/marine), and aquatic invertebrates. **DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

Treated seeds expose on soil surface may be hazardous to wildlife and birds. Cover or collect treated seed spilled during loading and planting.

The active ingredient, azoxystrobin, in this product can be persistent for several months or longer and long-term use in the same field may result in accumulation of active ingredients.

**Pollinator Protection Statement:** Thiamethoxam is highly toxic to bees exposed to direct treatment, and effects may be possible as a result of exposure to translocated residues on blooming crops or weeds. Ensure that planting equipment is functioning properly in accordance with manufacturer specifications to minimize seed coat abrasion during planting to reduce dust which can drift to blooming crops or weeds.

**Groundwater Advisory Statement:** 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. Mefenoxam and azoxystrobin are known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of chemicals in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**Surface Water Advisory:** This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of mefenoxam from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during clean-up procedures and disposal of wastes.

### **PHYSICAL AND CHEMICAL HAZARDS**

**DO NOT** mix or allow product to come into contact with oxidizing agents (such as potassium permanganate), as a 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.

Read all label directions carefully before use.

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.

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Albaugh THX-4 may be applied by closed or open system seed treatment application processes. **DO NOT** apply more than 215 gallons of Albaugh THX-4 per 8-hour day for seed treatments utilizing a closed system. **DO NOT** apply more than 38 gallons of THX-4 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, 40CFR 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 **48 hours**.

Exception: Once the seeds are planted in soil, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area without restriction if there will be no worker contact with treated seed.

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 over long-sleeved shirt and long pants.
- Chemical-resistant gloves made of any waterproof material: barrier laminate, butyl rubber  $\geq$  14 mils, natural rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils, polyethylene, polyvinyl chloride (PVC)
- Shoes plus socks
- Protective eyewear

The purchaser of this product is responsible for ensuring that all seed treated with this product are adequately dyed with a suitable color to prevent its accidental use as food for man or feed for animals.

## USE RESTRICTIONS

- **DO NOT** use treated seed for feed, food, or oil purposes.
- Store treated seed away from feed and foodstuffs.
- **DO NOT** allow children, pets, or livestock to have access to treated seed.
- **DO NOT** use at a rate that will result in more than 0.083 lb (37.8 grams) thiamethoxam per acre as a seed treatment application for soybean.
- **DO NOT** use at a rate that will result in more than 0.075 lb (34.0 grams) thiamethoxam per acre as a seed treatment application for chickpeas or lentils.
- Regardless of the method of application, **DO NOT** apply more than 0.266 lb thiamethoxam per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 0.15 lb thiophanate-methyl per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 0.15 lb thiabendazole per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 1.5 lb azoxystrobin per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 1.25 lb mefenoxam per acre per calendar year to soybean.
- Regardless of the method of application, **DO NOT** apply more than 1.0 lb mefenoxam or metalaxyl per acre per calendar year to chickpeas/lentils.
- Treated seed must be planted into the soil at a depth greater than 1 inch.
- Exposed treated seed is highly toxic to birds. Cover or incorporate spilled treated seed during loading and planting.
- Excess or leftover seed may be double-sown around the headland or buried away from bodies of water in accordance with local requirements.
- **DO NOT** store treated seed in burlap bags or impervious bags/container or in areas that are poorly ventilated.
- **DO NOT** store leftover treated seed where there is a chance of it becoming mixed with untreated seed.
- Store treated seed in cool, dry conditions.
- **DO NOT** use empty seed bags for any other purpose.
- 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 pesticides remain in the ethanol by-products that are used in agronomic practice.
- Dispose of seed packaging in accordance with local requirements.
- With the exception of soybeans, **DO NOT** make any soil or foliar application of products containing thiamethoxam to crops grown from seed treated with thiamethoxam. For soybeans, **DO NOT** apply a neonicotinoid insecticide within 45 days of planting seed treated with this product.
- When applying both metalaxyl-containing and mefenoxam-containing products to the same crop within the same season **DO NOT** apply more than the maximum yearly total application rate for the active ingredient as stated on the label of the product containing the lowest yearly total on that crop.
- The maximum application rate for mefenoxam- and metalaxyl-containing products (including seed treatments, foliar applications, soil application) is 12.3 lb per acre per calendar year. **DO NOT** apply more than 12.3 lb of active ingredients, mefenoxam and metalaxyl per calendar year.
- **Rotational Crop Intervals:**
  - Alfalfa, Brassica (cole) leafy vegetables, buckwheat, corn, pearl millet, proso millet, popcorn, rice (dry-seeded), sorghum, teosinte, wild rice, 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 may be planted 30 days from the date the Albaugh THX-4 treated seed was planted.

- For any other crop, the minimum plant back interval is 120 days from the date the Albaugh THX-4 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.
- If this product is undyed, the purchaser of this product is responsible for ensuring that all seed treated with this product are adequately dyed with a suitable color to prevent its accidental use as a food for man or feed for animals. Refer to 21 CFR, Part 2.25. Any dye added to treated seed must be cleared for use under 40 CFR, Part 180.1001.
- **DO NOT** apply more than 215 gallons of Albaugh THX-4 per 8-hour day for seed treatments utilizing a closed system. **DO NOT** apply more than 38 gallons of THX-4 per 8-hour day for seed treatments utilizing an open system.

### RESISTANCE MANAGEMENT

THIOPHANATE-METHYL	GROUP	<b>1</b>	FUNGICIDE
THIABENDAZOLE	GROUP	<b>1</b>	FUNGICIDE
MEFENOXAM	GROUP	<b>4</b>	FUNGICIDE
AZOXYSTROBIN	GROUP	<b>11</b>	FUNGICIDE

For fungicide resistance management, this product contains thiophanate-methyl and thiabendazole, Group 1 fungicides; mefenoxam, a Group 4 fungicide; and azoxystrobin, a Group 11 fungicide. Thiophanate-methyl and Thiabendazole belong to the methyl-benzimidazole carbamate class of chemistry which disrupts  $\beta$ -tubuline assembly in mitosis. Mefenoxam belongs to the phenylamide class of chemistry which interferes with fungal RNA synthesis. Azoxystrobin belongs to the methoxyacrylate class of chemistry which interferes with fungal respiration preventing ATP synthesis.

Fungal populations may contain individuals naturally resistant to Group 1, 4, or 11 fungicides and if used repeatedly in the same fields, then resistant members may eventually dominate the population. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies such as alternation with fungicides with a different mode of action and/or tank mixes established for the crop and use area.

Use should be based on an IPM program that includes field sanitation, scouting, historical information related to pesticide use, and crop rotation. The IPM program should also consider cultural, biological, and other chemical control practices.

Albaugh encourages responsible product stewardship to ensure effective long term control of the fungal diseases on this label.

**For additional information on Fungicide Resistance Management:**

- Contact your local extension specialist or certified crop advisor
- Visit the Fungicide Resistance Action Committee (FRAC) on the web at: <http://www.frac.info>

THIAMETHOXAM	GROUP	<b>4A</b>	INSECTICIDE
--------------	-------	-----------	-------------

For insecticide resistance management, this product contains a Group 4A insecticide. Any insect population may contain individuals naturally resistant to this product and other Group 4A insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

Thiamethoxam is a systemic insecticide belonging to the neonicotinoid class of chemistry which includes nicotinic acetylcholine receptor (nAChR) agonists.

To delay insecticide resistance, take the following steps:

- Rotate the use of this product or other Group 4A insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider

any known cross- resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):

- Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
  - Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.

**For additional information on Insecticide Resistance Management:**

- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org>

### PRODUCT INFORMATION

This product (ALBAUGH THX-4) is for use in commercial seed treatment facilities or as an end-use seed treatment on agricultural establishments at, or immediately before planting. This product is a seed treatment insecticide/fungicide mixture that protects against listed pests and diseases.

<b>TARGET INSECTS (THIAMETHOXAM)</b>
Early season protection against injury by aphids, bean leaf beetle, grape colaspis, leaf miners, leaf hoppers, Mexican bean beetle, seed corn maggot, three-cornered alfalfa hopper, thrips, white grubs, and wireworm.
<b>TARGET DISEASES (THIOPHANATE-METHYL, THIABENDAZOLE, MEFENOXAM &amp; AZOXYSTROBIN)</b>
Protection against damping-off and seed-borne rots due to <i>Pythium</i> , <i>Phytophthora</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> species and <i>Phytophthora</i> root rot.
This product also suppresses seed-borne <i>Sclerotinia</i> and <i>Phomopsis</i> species.

Apply as a seed treatment using standard slurry or mist-type seed treatment equipment. Apply a uniform application to seed to ensure seed safety and best disease and insect protection. Seed must be sound and well cured prior to treatment. Product must be diluted with sufficient water to ensure complete seed coverage.

**Tank Mixing:** It is the pesticide user’s responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**Compatibility:** Before mixing this product with other seed treatment products conduct a compatibility test before use:

- Use a clear glass container, thoroughly mix all intended seed treatment products with appropriate amount of water;
- Allow the mixture to sit for one hour;
- Remix and observe for incompatibility



## SEED TREATMENT

### MIXING INSTRUCTIONS FOR SOYBEANS

This product is formulated as a seed treatment to be used with liquid rhizobia products, using standard mechanical slurry or mist-type seed treatment equipment which accurately measures and mixes a flowable seed treatment. The equipment must provide uniform coverage of this product on the seed. Uneven seed coverage may not give the desired level of disease control. This product must be diluted with either water or liquid inoculants prior to application to soybeans. 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.

**DO NOT** mix this product with other pesticides unless sufficient compatibility, loading rates, and seed and crop safety factors are determined.

In a clean container large enough to contain the entire mixture add half of the required water or liquid inoculant. Add the desired amount of this product and mix thoroughly. Add the remaining amount of water or liquid inoculant and mix again. The slurry is ready for application to the soybeans. Mix as needed and **DO NOT** store diluted mixture.

Additional or continuous agitation or mixing of the slurry mixture may be necessary to prevent this product from settling out of solution when using water or liquid inoculants.

This product has been found to be compatible with some liquid inoculant products. This product may be mixed or applied sequentially with approved liquid inoculants. Consult the maker of the liquid inoculants and an ALBAUGH, LLC representative for directions before applying this product with liquid inoculants.

### Precaution:

This product is formulated to be compatible with some liquid inoculants. If water is used to further dilute this product when rhizobia are present, use only non-chlorinated water. Chlorinated water will kill the live rhizobia contained in the inoculant.

### MIXING INSTRUCTIONS FOR CHICKPEAS AND LENTILS

Apply this product 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 disease protection. Thoroughly mix the specified amount of this product into the required amount of water for the slurry treater and dilution rate to be used.

Follow the manufacturer application instructions for the seed treatment equipment being used. Maintain constant agitation of the slurry during the treatment. Allow seed to dry before bagging.

## CROP USE DIRECTIONS

### SOYBEANS

This product provides protection against damping-off and seed rots due to *Pythium*, *Phytophthora*, *Fusarium*, and *Rhizoctonia* spp., and early season *Phytophthora* root rot. This product also suppresses seed-borne *Sclerotinia* and *Phomopsis* spp. This product also provides early season insect protection against aphids, bean leaf beetle, grape colaspis, leaf miners, leaf hoppers, Mexican bean beetle, seed corn maggot, three-cornered alfalfa hopper, thrips, white grubs, and wireworm.

PRODUCT RATE						
Use Rate based on 3,000 seeds / lb (150,000 seeds / 50 lb bushel)						
Fl. Oz. /			ml / 1,000 seeds	Grams AI / 100 kg of seed		mg AI / Seed
100 lbs seed	1,000 seeds	140,000 seeds				
3.0	0.01	1.4	0.30	Thiamethoxam	48.3	0.073
				Thiophanate-methyl	9.6	0.015
				Thiabendazole	5.0	0.0075
				Mefenoxam	7.3	0.011
				Azoxystrobin	2.3	0.0035

**IMPORTANT:** To maintain mg ai / seed, adjust fluid ounces / 100 lb of seed in proportion to the actual seed count / lb compared to the standard number of seeds / lb for that crop; fluid ounces per number of seeds (i.e., 1000, 80,000, 140,000) does not need to be adjusted. For example, if there are actually 2800 soybean seeds / lb use:  $2800 \div 3000 \times 3.0 = 2.8$  fl. oz THX-4 / 100 lb of seed.

#### RESTRICTIONS:

- **DO NOT** apply more than 215 gallons of Albaugh THX-4 per 8-hour day for seed treatments utilizing a closed system. **DO NOT** apply more than 38 gallons of Albaugh THX-4 per 8-hour day for seed treatments utilizing an open system.
- **DO NOT** apply a neonicotinoid insecticide within 45 days of planting seed treated with Albaugh THX-4.
- Maximum one application per year.
- This product must not be tank mixed with any pesticide unless physical compatibility and phytotoxicity tests have been completed and proved to be satisfactory.
- **DO NOT** use at a rate that will result in more than 0.083 lb (37.8 grams) thiamethoxam per acre as a seed treatment application for soybeans
- Regardless of type of application, **DO NOT** apply more than 0.266 lb (120.7 grams) thiamethoxam per acre per calendar year.
- Regardless of type of application, **DO NOT** apply more than 0.15 lb (68.0 grams) thiophanate-methyl per acre per calendar year.
- Regardless of the type of application, **DO NOT** apply more than 0.15 lb (68.0 grams) thiabendazole per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 1.25 lb (567.0 grams) mefenoxam per acre per calendar year for soybean.
- Regardless of type of application, **DO NOT** apply more than 1.5 lb (680.4 grams) azoxystrobin per acre per calendar year.

**CHICKPEAS (Garbanzo bean) and LENTILS:**

This product provides protection against damping-off and seed rots due to *Pythium*, *Phytophthora*, *Fusarium*, and *Rhizoctonia* spp., seed-borne sclerotinia, phomopsis seed decay and early season Phytophthora root rot. This product also provides early season insect protection against aphids, bean leaf beetle, grape colaspis, leaf miners, leaf hoppers, Mexican bean beetle, seed corn maggot, three-cornered alfalfa hopper, thrips, white grubs, and wireworm.

PRODUCT RATE		
Fl. Oz. / 100 lb of seed	Grams AI / 100 kg of seed	
3.0	Thiamethoxam	48.3
	Thiophanate-methyl	9.6
	Thiabendazole	5.0
	Mefenoxam	7.3
	Azoxystrobin	2.3

**RESTRICTIONS:**

- **DO NOT** apply more than 215 gallons of Albaugh THX-4 per 8-hour day for seed treatments utilizing a closed system. **DO NOT** apply more than 38 gallons of Albaugh THX-4 per 8-hour day for seed treatments utilizing an open system.
- **DO NOT** apply a neonicotinoid insecticide within 45 days of planting seed treated with Albaugh THX-4.
- Maximum one application per year.
- This product must not be tank mixed with any pesticide unless physical compatibility and phytotoxicity tests have been completed and proved to be satisfactory.
- **DO NOT** use at a rate that will result in more than 0.075 lb (34.0 grams) thiamethoxam per acre as a seed treatment application for chickpeas or lentils.
- Regardless of the type of application, **DO NOT** apply more than 0.266 lb (120.7 grams) thiamethoxam per acre per calendar year.
- Regardless of type of application, **DO NOT** apply more than 0.15 lb (68.0 grams) thiophanate-methyl per acre per calendar year.
- Regardless of type of application, **DO NOT** apply more than 0.15 lb (68.0 grams) thiabendazole per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 1.0 lb (453.6 grams) mefenoxam or metalaxyl per acre per calendar year for chickpea or lentils.
- Regardless of type of application, **DO NOT** apply more than 1.5 lb (680.4 grams) azoxystrobin per acre per calendar year.

Additional thiabendazole fungicide can be added to effectively suppress seed borne *Ascochyta* blight caused by the pathogen *Ascochyta rabiei*, when used according to label directions of a separately registered thiabendazole fungicide product. Additional thiabendazole seed treatment may also be added to minimize the threat of highly infectious diseases and limit spread of residue-borne and wind-borne infection of chickpeas and lentil crops by *Ascochyta* blight.

## SEED BAG LABELING REQUIREMENTS

Seed treated with this product must be labeled in accordance with all applicable requirements of the Federal Seed Act. The user of this product is responsible for ensuring that the seed bag meets all requirements under the Federal Seed Act.

### THE FEDERAL SEED ACT REQUIRES THAT BAGS CONTAINING TREATED SEEDS BE LABELED WITH THE FOLLOWING STATEMENTS:

- This seed has been treated with Albaugh THX-4, EPA Reg. No. 45002-LT (thiamethoxam, mefenoxam, thiabendazole, thiophanate-methyl and azoxystrobin).
- **DO NOT** use for feed, food, or oil purpose.

### THE US ENVIRONMENTAL PROTECTION AGENCY REQUIRES THE FOLLOWING STATEMENTS ON BAGS CONTAINING SEEDS TREATED WITH ALBAUGH THX-4, EPA Reg. No. 45002-LT (thiamethoxam, mefenoxam, thiabendazole, thiophanate-methyl, and azoxystrobin):

- **Pollinator Protection Statement:** Thiamethoxam is highly toxic to bees exposed to direct treatment, and effects may be possible as a result of exposure to translocated residues on blooming crops or weeds. Ensure that planting equipment is functioning properly in accordance with manufacturer specifications to minimize seed coat abrasion during planting to reduce dust which can drift to blooming crops or weeds.
- **Groundwater Advisory Statement:** 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. Mefenoxam and azoxystrobin are known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of chemicals in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.
- **Surface Water Advisory:** This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of mefenoxam from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.
- This pesticide is toxic to fish. **DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. Runoff may be hazardous to aquatic organisms in water adjacent to treated areas.
- **DO NOT** allow children, pets or livestock to have access to treated seeds.
- Wear long-sleeved shirt and long pants, shoes plus socks, protective eyewear (face shield, goggles, or safety glasses), chemical-resistant gloves made of any waterproof material: barrier laminate, butyl rubber ≥ 14 mils, natural rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or Viton® ≥ 14 mils Store treated seed in cool, dry conditions away from feed and foodstuffs.
- Treated seed must be planted into the soil at a depth greater than 1 inch.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting.
- Excess or leftover seed may be double-sown around the headland or buried away from bodies of water in accordance with local requirements.
- Dispose of seed packaging in accordance with local requirements. **DO NOT** use empty seed bags for any other purpose.
- **DO NOT** contaminate bodies of water when disposing of planting equipment wash water. **DO NOT** use at a rate that will result in more than 0.083 lb (37.8 grams) thiamethoxam per acre as a seed treatment application for soybean.
- **DO NOT** use at a rate that will result in more than 0.075 lb (34.0 grams) thiamethoxam per acre as a seed treatment application for chickpeas or lentils.

- Regardless of the method of application, **DO NOT** apply more than 0.266 lb thiamethoxam per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 0.15 lb thiophanate-methyl per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 0.15 lb thiabendazole per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 1.5 lb azoxystrobin per acre per calendar year.
- Regardless of the method of application, **DO NOT** apply more than 1.25 lb mefenoxam per acre per calendar year to soybean.
- Regardless of the method of application, **DO NOT** apply more than 1.0 lb mefenoxam or metalaxyl per acre per calendar year to chickpeas/lentils.
- **Rotational Crop Intervals:**
  - Alfalfa, Brassica (cole) leafy vegetables, buckwheat, corn, pearl millet, proso millet, popcorn, rice (dry-seeded), sorghum, teosinte, wild rice, 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 may be planted 30 days from the date the Albaugh THX-4 treated seed was planted.
  - For any other crop, the minimum plant back interval is 120 days from the date the Albaugh THX-4 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.
- This seed has been treated with    lbs thiamethoxam,    lbs azoxystrobin,    lbs mefenoxam,    lbs thiabendazole, and    lbs thiophanate methyl per 100 lb of seed.
- This seed has been treated with    grams thiamethoxam,    grams azoxystrobin,    grams mefenoxam,    grams thiabendazole, and    grams thiophanate-methyl per 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 pesticides remain in the ethanol by-products that are used in agronomic practice.
- **DO NOT** store leftover treated seed where there is a chance of it becoming mixed with untreated seed.
- **DO NOT** store treated seed in burlap bags or impervious bags/container or in areas that are poorly ventilated.
- With the exception of soybeans, **DO NOT** make any soil or foliar application of products containing thiamethoxam to crops grown from seed treated with thiamethoxam. For soybeans, **DO NOT** apply a neonicotinoid insecticide within 45 days of planting seed treated with this product.
- When applying both metalaxyl-containing and mefenoxam-containing products to the same crop within the same season **DO NOT** apply more than the maximum yearly total application rate for the active ingredient as stated on the label of the product containing the lowest yearly total on that crop.
- The maximum application rate for mefenoxam- and metalaxyl-containing products (including seed treatments, foliar applications, soil application) is 12.3 lb per acre per calendar year. **DO NOT** apply more than 12.3 lb of active ingredients, mefenoxam and metalaxyl per calendar year.
- When using formulations that do not contain dye, to comply with 40 CFR153.155, all seed treated with an economic poison must be colored with an EPA approved dye such as one of the dyes listed in 40 CFR Sections 180.910 and 180.920 to distinguish and prevent subsequent inadvertent use as a food for man or feed animals.

## STORAGE AND DISPOSAL

**DO NOT** contaminate water, food or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in a cool dry location. **DO NOT** store in direct sunlight. Protect from freezing temperatures. **DO NOT** store above 90 degrees F for prolonged periods of time. After prolonged storage in intense cold, allow product to return to approximately 75 degrees before use.

**PESTICIDE DISPOSAL:** 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.

### CONTAINER HANDLING:

[Nonrefillable Containers 5 Gallons or Less]

Nonrefillable HDPE 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 or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration.

[Nonrefillable containers larger than 5 gallons]

Nonrefillable HDPE container. **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Offer for recycling if available. If recycling or reconditioning is not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

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. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

## **CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of this product, which are beyond the control of ALBAUGH, LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold ALBAUGH, LLC and Seller harmless for any claims relating to such factors.

ALBAUGH, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent consistent with applicable law, this warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or ALBAUGH, LLC and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALBAUGH, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, in no event shall ALBAUGH, LLC or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ALBAUGH, LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ALBAUGH, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

ALBAUGH, LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of ALBAUGH, LLC.

All trademarks are the property of their respective owners.

[Optional Marketing Graphics]



[ ]

101822

## LABEL HISTORY

(Not included in Final Printed Label)

File Name	Version Mark	Comment
045002-000##.20210922.DRAFT (THX-4)	092221	Section 3 application
045002-000LT.20220908.DRAFT	090822	(e) Label Revisions
045002-000LT.20220920.DRAFT	092022	Revisions requested by EPA
045002-000LT.20221014.DRAFT	101422	(e) Label Revisions
045002-000LT.20221014.DRAFT 2	101422.2	(e) Label Revisions
045002-000LT.20221018.DRAFT	101822	Revisions requested by EPA