

# SUNFLOWER

## General Information

### DIRECTIONS FOR USE

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

DuPont LUMISENA fungicide seed treatment (referred to below as LUMISENA) must be used only in accordance with instructions on this label, in separately issued labeling or exemptions under FIFRA (Supplemental labels, Special Local Needs Registrations, FIFRA Section 18), or as otherwise permitted by FIFRA. Always read the entire label including the Limitation of Warranty and Liability.

LUMISENA is a fungicide seed treatment for soybean and sunflower seed for use by a DuPont-authorized seed company or a commercial seed treatment facility. Do not use on agricultural establishments in hopper-box, planter box, slurry box or other seed treatment applications at time of planting.

Do not use treated seed for food or animal feed, mix with food or animal feed, or process for oil.

This product contains no colorant. An EPA-approved colorant must be added when this product is applied to seed. Seed must be conspicuously colored at the time of treatment.

When applied according to this label, LUMISENA will provide early season protection against selected Oomycete pathogens including Phytophthora causing seed rot, root and stem rot and/or damping off in soybeans and Plasmopara halstedii causing downy mildew in sunflowers. Use tank mixtures with other appropriate fungicides to control these diseases or to otherwise extend the control spectrum (see Tank Mixing). Consult your local DuPont company representative or agricultural advisor for guidance on predicted disease pressure based on historical data for these diseases in your area.

LUMISENA treated seed may be replanted immediately if an emergency replanting is required due to an early season crop failure.

Treating significantly damaged seed or seed that is low vigor or overall poor quality

may result in reduced germination, seedling vigor and plant stand. Before treating an entire seed lot with the proposed seed treatment, treat a small portion of the seed lot and conduct subsequent germination tests. DuPont makes no guarantee regarding the germination of damaged or carry-over treated seed, since seed quality and storage conditions are beyond the control of DuPont.

## PRODUCT INFORMATION

LUMISENA fungicide is a flowable suspension containing oxathiapiprolin and is recommended for use as a seed treatment product, for early season protection from selected Oomycete pathogens including *Phytophthora* causing seed rot, root and stem rot and/or damping off in soybeans and *Plasmopara halstedii* causing downy mildew in sunflowers.

LUMISENA has preventive, residual, curative, eradicated, and antispore activity against selective Oomycete pathogens listed in this label.

### Mode-of-action

Oxathiapiprolin, the active ingredient in LUMISENA, acts as an oxysterol binding protein (OBSP) modulator in fungal cells and protects against sensitive Oomycete diseases by inhibiting OSBP.

### Cultivar/Varietal Seed Safety

Not all varieties, cultivars or hybrids of crops have been individually tested for seed safety. It is not possible to evaluate all applications of LUMISENA for seed safety on all varieties, cultivars, or hybrids of those crops, or under all environmental conditions and growing circumstances. To test for seed safety, apply the product in accordance with the label instructions to a small amount of target seed and confirm acceptable germination to ensure that a phytotoxic response will not occur, especially where the application is a new use of the product by the applicator.

### Resistance

LUMISENA fungicide contains the active ingredient oxathiapiprolin, which is novel and currently assigned the code U15 based on the mode of action classification system of the Fungicide Resistance Action Committee (FRAC). Oxathiapiprolin inhibits the oxysterol-binding protein (OSBP).

A disease management program that includes rotation and/or mixing with fungicides that have a different mode of action is essential to reduce the risk of fungicide resistance development.

## APPLICATION INFORMATION

### Mixing Procedures

LUMISENA is for use in commercial seed treaters only, operating standard, calibrated seed treatment equipment. Do not use this product on agricultural establishments in hopper-box, planter-box, slurry-box or other seed treatment applications at or immediately before planting. Treatment equipment must be clean and free of previous pesticide deposits before applying LUMISENA. Before transferring LUMISENA from its container, thoroughly mix the contents to ensure the product is homogenous. Add LUMISENA directly to the mixing tank. Mix thoroughly the recommended amount of LUMISENA with the required amount of water. If available on the application equipment, LUMISENA can be applied directly through dedicated application modules in place of a mixing tank.

Add an EPA approved colorant to treat the seeds per 40 CFR 153.155(b)(1) during the seed treatment process. Ensure that all treated seeds are dyed an unnatural color.

### Use Rate

For protection against seed-borne and soil-borne *Phytophthora sojae*, that cause soybean seed rot, root and stem rot or damping off, apply 0.012 to 0.024 mg ai/seed following the specific instructions in the Soybean and Sunflower table in the label. Use the higher rate in areas with a history of high disease pressure, or where extended early-season protection is required and/or field conditions favor seed and soil-borne pathogens.

For protection against soil-borne *Plasmopara halstedii*, that cause sunflower downy mildew, apply 0.0094 to 0.0188 mg ai/seed following the specific instructions in the Soybean and Sunflower table below. Use the higher rate in areas with a history of high disease pressure, or where extended early-season protection is required and/or field conditions favor seed and soil-borne pathogens.

## CROP ROTATION

The following list of crops and crop groups may be planted immediately after harvest of crops grown from LUMISENA-treated seed, or following a LUMISENA-

treated seed crop failure: tuberous and corm vegetables (Subgroup 1C); bulb vegetables (Group 3-07); leafy greens (Subgroup 4A); brassica, head and stem (Subgroup 5A); peas, succulent shelled; peas, edible-podded; fruiting vegetables (Group 8-10); cucurbit vegetables (Group 9); strawberries; herbs and spices (Group 19); oilseed (Group 20); ginseng; and tobacco.

The following crops and crop groups may be planted immediately after harvest of crops grown from LUMISENA-treated seeds, or in the case of crop failure, 30 days after the planting of LUMISENA-treated seeds: cereals (Groups 15 and 16) and grass animal feeds (Group 17).

All other crops cannot be planted until 180 days after the planting of LUMISENA-treated seeds.

#### SEED STORAGE

Field and laboratory tests have demonstrated that an application of LUMISENA to soybeans or sunflowers will not negatively affect germination. Due to seed quality and seed storage conditions beyond the control of DuPont, no claims are made to guarantee the germination of carry-over seed.

#### COMMERCIAL SEED BAG LABELING

In accordance with the Federal Seed Act and the US Environmental Protection Agency recommendations, seed commercially treated with DuPont LUMISENA must include the following on its labeling:

- Treated seed. Do not use for food, feed or oil purposes.
- This seed has been treated with LUMISENA fungicide which contains oxathiapiprolin.
- Store away from food or feed.
- Dispose of all obsolete treated seed away from bodies of water and according to federal and state regulations.
- Do not allow children, pets, or livestock to have access to treated seed.
- Dispose of seed packaging in accordance with local requirements.
- Wear long pants, long-sleeved shirt, shoes, and socks when handling treated seed.

#### Crop Rotation

- The following list of crops and crop groups may be planted immediately after harvest of crops grown from LUMISENA-treated seed, or following a LUMISENA-treated seed crop failure: tuberous and corm vegetables

(Subgroup 1C); bulb vegetables (Group 3-07); leafy greens (Subgroup 4A); brassica, head and stem (Subgroup 5A); peas, succulent shelled; peas, edible-podded; fruiting vegetables (Group 8-10); cucurbit vegetables (Group 9); strawberries; herbs and spices (Group 19); oilseed (Group 20); ginseng; and tobacco.

- The following crops and crop groups may be planted immediately after harvest of crops grown from LUMISENA-treated seeds, or in the case of crop failure, 30 days after the planting of LUMISENA-treated seeds: cereals (Groups 15 and 16) and grass animal feeds (Group 17).
- All other crops cannot be planted until 180 days after the planting of LUMISENA-treated seeds.

#### RESISTANCE MANAGEMENT RECOMMENDATIONS:

For resistance management, please note that LUMISENA contains the active ingredient oxathiapiprolin which is novel and is currently assigned the Code U15 by the Fungicide Resistance Action Committee (FRAC). Oxathiapiprolin inhibits the oxysterol-binding protein (OSBP). A disease management program that includes rotation and/or mixing with fungicides that have a different mode of action is essential to reduce the risk of fungicide resistance development. Any pathogen population may contain individuals naturally resistant to LUMISENA and other OSBP-inhibiting fungicide. The resistant individuals may dominate the pathogen population if these groups of fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

- GENERAL GUIDANCE: Seed treatment applications of oxathiapiprolin in mixture with a different mode of action fungicide active against the target oomycete disease are encouraged whenever feasible.
- No foliar or soil fungicide application of an OSBP-inhibiting fungicide should be made following a seed treatment application of oxathiapiprolin or other OSBP-inhibiting fungicides.
- For resistance management, do not make more than one seed treatment application of oxathiapiprolin per year on the same acreage, targeting the same pathogen, except in the case of crop failure.

To delay fungicide resistance:

- Where possible, rotate the use of LUMISENA with fungicides with a different FRAC group that control the same pathogen.
- Use tank mixtures with fungicides from a different FRAC group when such use is

permitted.

- Fungicide use should be based on an IPM program that includes scouting, record keeping and considers cultural, biological and other chemical control practices.
- Monitor treated pathogen populations for resistance development.
- 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.

#### Limitations, Restrictions, and Exceptions

- 0.318 to 0.636 fl. oz /200,000 seeds (based on an average of 6,500 seeds per pound)

#### Specific Directions

Use the higher rate in areas with a history of high disease pressure, or where extended early season protection is required and/or field conditions favor development of seed and soilborne pathogens

#### Method

##### [Seed Treatment](#)

##### Rates

[field rates 0](#)

[field rates 1](#)

[field rates 2](#)

[field rates 3](#)

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##### Timings

[N.A.](#)