

## **CUCURBIT VEGETABLES CROP GROUP 9**

### General Information

#### APPLICATION INFORMATION

Inspire Super is a broad-spectrum product containing two fungicides. It has preventative, systemic and curative properties and is labeled for the control of many important plant diseases. Inspire Super provides excellent disease control of many leaf spots and powdery mildews. Inspire Super is applied as a foliar spray and can be used in block, alternating spray, or tank-mix programs with other crop protection products. All applications should be made according to the use directions that follow.

For the crops to which aerial applications are allowed, refer to the specific crop directions for use.

#### PRODUCT USE INSTRUCTIONS

**Application:** Thorough coverage is necessary to provide good disease control. Make no more spray solution than is needed for application. Avoid spray overlap, as crop injury may occur.

**Adjuvants:** When an adjuvant is to be used with this product, the use of an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program is recommended.

**Efficacy:** Under certain conditions conducive to extended infection periods, use another registered fungicide for additional applications if the maximum amount of Inspire Super has been used. If resistant isolates to Group 3 or Group 9 fungicides are present, efficacy can be reduced for certain diseases. The higher rates in the rate range and/or shorter spray intervals may be required under conditions of heavy infection pressure, with highly susceptible varieties, or when environmental conditions are conducive to disease.

**Integrated Pest Management (IPM):** Integrate Inspire Super into an overall disease and pest management strategy whenever the use of a fungicide is required. Follow cultural practices known to reduce disease. Consult your local agricultural

authorities for additional IPM strategies established for your area. Inspire Super may be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.

## RESISTANCE MANAGEMENT

For resistance management, please note that Inspire Super contains both difenoconazole, a triazole fungicide in Group 3 and cyprodinil, an anilinopyrimidine in Group 9.

Any fungal population may contain individuals naturally resistant to either or both of the active ingredients in Inspire Super and other Group 3 or Group 9 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance, take one or more of the following steps:

- Apply a maximum of 5 sprays during one crop cycle.
- Apply no more than 2 sequential applications unless otherwise stated in the crop section.
- Rotate the use of Inspire Super or other Group 3 and 9 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.

- For further information or to report suspected resistance contact Syngenta Crop Protection at 1-866-796-4368. You can also contact your pesticide distributor or university extension specialist to report resistance.

**Crop Tolerance:** Plant tolerance has been found to be acceptable for all crops on the label, however, not all possible tank-mix combinations have been tested under all conditions. When possible, it is recommended to test the combinations on a small portion of the crop to ensure that a phytotoxic response will not occur as a result of application. See precautions regarding grape phytotoxicity.

**Spray Drift Management:** To prevent spray drift, do not apply when conditions favor drift beyond the target area. Spray overlap may cause crop injury. The interaction of many equipment and weather related factors determine the potential for spray drift. AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER. More information on managing spray drift can be found on the Syngenta Crop Protection website under Stewardship (<http://www.syngenta-us.com/practicing-stewardship/responsible-pesticide...>).

#### Application Instructions

Inspire Super may be applied with all types of spray equipment commonly used for making ground and aerial applications. Proper adjustments and calibration of spraying equipment to give good canopy penetration and coverage is essential for good disease control.

**RECOMMENDATION:** When using greater than 40 gallons per acre, it is advised to add a tank-mix adjuvant unless prohibited by the Specific Use Restrictions for the listed crop, of either NIS (minimum of 0.1% total spray volume in tank) or oil such as crop oil or horticultural spray oil (minimum of 1% total spray volume in tank).

**OBSERVE THE FOLLOWING RESTRICTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES, RESERVOIRS, RIVERS, PERMANENT STREAMS, MARSHES OR NATURAL PONDS, ESTUARIES, AND COMMERCIAL FISH PONDS.**

- Do not apply within 75 ft of estuarine marine bodies of water such as lakes, reservoirs, rivers, permanent streams, natural ponds, marshes or estuaries.
- Shut off the sprayer when row ends.
- Do not cultivate within 10 ft of aquatic areas in order to allow a vegetative filter strip.
- Do not apply when weather conditions favor drift to aquatic areas. Do not apply

when gusts or sustained winds exceed 10 mph.

- Do not apply during a temperature inversion. Mist or fog may indicate the presence of an inversion in humid areas.
- For perennial crops such as tree crops and grapes:
- For all plantings within 150 ft of bodies of water as described above, spray crops from outside the planting away from the bodies of water.
- Spray last three rows windward of aquatic areas using nozzles on one side only, with spray directed away from aquatic areas. Adjust or turn off top nozzles to prevent spray going over the tops of trees. Shut off nozzles on the side away from the grove/orchard when spraying the outside row. Shut off nozzles when turning at ends of row or passing tree gaps in the rows.

#### Ground Application

- Apply in a minimum of 10 gallons of water per acre, unless specified otherwise.
- Do not apply through any ultra-low volume (ULV) spray system.
- Thorough coverage is necessary to provide good disease control.

#### Aerial Spray Directions

Avoid applications under conditions when uniform coverage cannot be obtained or when excessive drift may occur

#### Aerial Spray Restrictions

Observe the following restrictions when spraying in the vicinity of aquatic areas such as lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish ponds.

- Use only on crops where aerial applications are indicated.
- Do not apply by air within 150 ft of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish ponds.
- Mount the spray boom on the aircraft so as to minimize the drift caused by wing tip vortices. Use the minimum practical boom length, and do not exceed 75% of wing span or rotor diameter.
- Release spray at the lowest height consistent with pest control and flight safety. Do not make applications more than 10 feet above the crop canopy.
- Do not apply when weather conditions favor drift to aquatic areas. Do not apply when gusts or sustained winds exceed 10 mph.
- Do not apply during a temperature inversion. Mist or fog may indicate the presence of an inversion in humid areas.

## Aerial Spray Precautions

Observe the following precautions when spraying in the vicinity of aquatic areas such as lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish ponds.

- Use the largest droplet size consistent with good pest control.
- Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.
- Reduce risk of exposure to aquatic areas by avoiding applications when wind direction is toward the aquatic area.
- Low humidity and high temperatures increase the evaporation rate of spray droplets, and therefore the likelihood of increased spray drift to aquatic area. Do not spray during conditions of low humidity and/or high temperatures.

## Application Through Irrigation Systems (Chemigation)

- Use only on crops for which chemigation is specified on this label.
- Apply this product only through center pivot, solid set, hand move, or moving wheel irrigation systems. Do not apply this product through any other type of irrigation system.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- Apply in 0.125-0.25 inches/A of water. Excessive water may reduce efficacy.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Note: Do not inject Inspire Super at full strength or deterioration of valves and seals may occur. Use a dilution ratio of at least 10 parts water to 1 part Inspire Super. Inspire Super is corrosive to many seal materials. Leather seals are best. EPDM or silicone rubber seals can be used, but should be replaced once a year. Do not use Viton, Buna-N, Neoprene, or PVC seals.

## Operating Instructions

1. The system must contain a functional check-valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended.

## Center Pivot Irrigation Equipment

Restrictions: (1) Use only with drive systems which provide uniform water distribution. (2) Do not use end guns when chemigating Inspire Super through center pivot systems because of non-uniform application.

- Determine the size of the area to be treated.
- Determine the time required to apply 1/8-1/2 inch of water over the area to be treated when the system and injection equipment are operated at normal pressures as recommended by the equipment manufacturer. When applying Inspire Super through irrigation equipment use the lowest obtainable water volume while maintaining uniform distribution. Run the system at 80-95% of the manufacturer's rated capacity.
- Using water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of Inspire Super required to treat the area covered by the

irrigation system.

- Add the required amount of Inspire Super and sufficient water to meet the injection time requirements to the solution tank.
- Make sure the system is fully charged with water before starting injection of the Inspire Super solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
- Maintain constant solution tank agitation during the injection period.
- Continue to operate the system until the Inspire Super solution has cleared the sprinkler head.

#### Solid Set, Hand Move, and Moving Wheel Irrigation Equipment

- Determine the acreage covered by the sprinklers.
- Fill injector solution tank with water and adjust flow rate to use the contents over a 20 to 30-minute interval. When applying Inspire Super through irrigation equipment use the lowest obtainable water volume while maintaining uniform distribution.
- Determine the amount of Inspire Super required to treat the area covered by the irrigation system.
- Add the required amount of Inspire Super into the same quantity of water used to calibrate the injection period.
- Operate the system at the same pressure and time interval established during the calibration.
- Stop injection equipment after treatment is completed. Continue to operate the system until the Inspire Super solution has cleared the last sprinkler head.

#### SPECIFIC INSTRUCTIONS FOR PUBLIC WATER SYSTEMS

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

Refer in the label for Product Conversion Table.

#### Limitations, Restrictions, and Exceptions

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#### Remarks:

- Begin applications prior to disease onset when conditions are conducive for disease. Apply Inspire Super on a 7- to 10 - day schedule making no more than 2 sequential applications before alternating to another fungicide with a different mode of action.
- If disease pressure is high, use the shortest interval and highest rate.

Application: Application may be made by ground, air, or chemigation. For best results, sufficient water volume must be used to provide thorough coverage. Use a minimum of 30 gal/A of water for ground applications (20 for gummy stem blight). If using more than 40 gal/A of water, refer to Application Instructions under MIXING AND APPLICATION METHODS. Use a minimum of 10 gal/A for aerial applications. Make no more than two applications by air. For chemigation, apply in 0.1-0.25 inches/A of water. Chemigation with excessive water may lead to a decrease in

efficacy.

#### Specific Use Restrictions:

- Make no more than two applications by air.
- Do not apply more than 80 fl oz/A of Inspire Super per year.
- Do not apply more than 0.46 lb ai/A/year of difenoconazole-containing products.
- Do not apply more than 1.3 lb ai/A/year of cyprodinil-containing products.

#### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

#### Pre-Harvest Interval

7 days

#### Rates

[field\\_rates 0](#)

[field\\_rates 1](#)

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#### Restricted Entry Interval

12 hours

#### Timings

[Prior to disease onset when conditions are conducive for disease.](#)