

66222-150

05-06-2011

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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
WASHINGTON, DC 20460

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

**NOTIFICATION**

**MAY 06 2011**

Christie Hitchcock  
Makhteshim-Agan of North America  
4515 Falls of Neuse Rd  
Suite 300  
Raleigh, NC 27609

Subject: Application for Pesticide Notification (PRN 2007-4)  
Submission date: 3/24/2011  
Product Name: Equus 500 ZN  
EPA Reg. No.: 66222-150  
EPA Decision Number: 447695

Dear Ms Hitchcock:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 2007-4. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 2007-4 and finds that the action(s) requested fall within the scope of PRN 2007-4.

The Agency acknowledges the changes made to the storage and disposal statement.

The label submitted with the application has been stamped "Notification" and will be placed in our records. If you have questions concerning this letter, please contact Dominic Schuler at 703-347-0260 or via email at [schuler.dominic@epa.gov](mailto:schuler.dominic@epa.gov)

Sincerely,

A handwritten signature in black ink that reads "Tony Kish".

Tony Kish  
Product Manager 22  
Fungicide Branch  
Registration Division (7504P)



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

**Application for Pesticide - Section I**

1. Company/Product Number 66222-150	2. EPA Product Manager Paul Mastradone	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Equus® 500 ZN	PM# 22 Registration Support Branch	
5. Name and Address of Applicant (Include ZIP Code) Makhteshim Agan of North America, Inc. 4515 Falls of Neuse Rd., Suite 300 Raleigh, NC 27609 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

Notification of label change per PR Notice 2007-4. This notification is consistent with the guidance of PR Notice 2007-4 and requirements of EPA's regulations at 40 CFR §§156.10, 156.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statements to EPA. I further understand that if the amended label is not consistent with the requirements of 40 CFR §§156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	<input checked="" type="checkbox"/> Plastic	
		If "Yes" Package wgt	No. per container	<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 5 gals or less; more than 5 gals		5. Location of Label Directions <input checked="" type="checkbox"/> on label	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other		Self-adhesive	

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Christie Hitchcock		Title Regulatory Specialist	
		Telephone No. (Include Area Code) 919-256-9342	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			
2. Signature 		3. Title Regulatory Specialist	
4. Typed Name Christie Hitchcock		5. Date 03-24-11	
6. Date Application Received (Stamped)			



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NOTIFICATION

MAY 06 2011

# Equus<sup>®</sup> 500 ZN

Fungicide

**ACTIVE INGREDIENT:**

Chlorothalonil (tetrachloroisophthalonitrile)

**% BY WT.**

38.5%

**INERT INGREDIENTS:**

61.5%

**TOTAL:** 100.0%

Contains 4.17 Pounds of Active Ingredient per Gallon (500 Grams per Liter)

## KEEP OUT OF REACH OF CHILDREN WARNING-AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail).

Manufactured for:

Makhteshim Agan of North America, Inc.

4515 Falls of Neuse Road

Suite 300

Raleigh, NC 27609

EPA Reg. No. 66222-150

EPA Est. No. [REDACTED]

**Net Contents:** \_\_\_\_\_ Gallons

### FIRST AID

<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 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 a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious or convulsing person.</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 mouth-to-mouth if possible.</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>

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact Prosar at 1-877-250-9291 for emergency medical treatment information.

**NOTE TO PHYSICIAN:** Persons having temporary irritation may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### WARNING-AVISO

Causes eye irritation. May cause skin irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Do not get into eyes. Avoid prolonged contact with skin. Avoid breathing spray mist. Do not take internally.

**Note to user:** This product may produce temporary allergic side effects characterized by redness of the eyes, mild bronchial irritation, and redness or rash on exposed skin areas. Persons having allergic reactions should contact a physician.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

For WPS or non-WPS applications made in enclosed areas such as greenhouses, applicators and other handlers must wear dust mist filtering respirator (MSHA/NIOSH approval prefix TC-21C) or a NIOSH-approved respirator with any N, P, R, or HE filter.

### **WPS Uses (commercial production on farms, forests, nurseries, sodfarms, and in greenhouses):**

#### **Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as nitrile rubber, natural rubber, or butyl rubber
- Shoes plus socks
- Protective eyewear

### **Non-WPS Uses (such as applications to non-residential turf, golf courses, etc.):**

#### **Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as nitrile rubber, natural rubber, or butyl rubber
- Shoes plus socks
- Protective eyewear

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

## ENGINEERING CONTROLS STATEMENT

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

## USER SAFETY RECOMMENDATIONS

### **Users should:**

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

## ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates and wildlife. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

This chemical is known to leach through soil into groundwater under certain conditions as a result of labeled use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface waters for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas within field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

## DIRECTIONS FOR USE

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

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.

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### 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.

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, such as nitrile rubber, natural rubber, or butyl rubber
- Shoes plus socks
- Protective eyewear

**Special Eye Irritation Provisions:** This product is a severe eye irritant. Although the restricted-entry interval expires after 12 hours, for the next 6.5 days, entry is permitted only when the following safety measures are provided:

- (1) At least one container designed specifically for flushing eyes must be available in operating condition at the WPS-required decontamination site intended for workers entering the treated area.
- (2) Workers must be informed, in a manner they can understand:
  - that residues in the treated area may be highly irritating to their eyes,
  - that they should take precautions, such as refraining from rubbing their eyes, to keep residues out of their eyes,
  - that if they do get residues in their eyes, they should immediately flush their eyes using the eyeflush container that is located at the decontamination site or using other readily available clean water, and
  - how to operate the eyeflush container.

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides, 40 CFR Part 170.

The WPS applies when the product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter or allow others to enter the treated area until sprays have dried.

### APPLICATION INSTRUCTIONS

Equus 500 ZN, a flowable product containing chlorothalonil, is recommended for use as a spray for the control of many important plant diseases.

### RESISTANCE MANAGEMENT

To avoid the development of tolerant or resistant strains of fungi, Equus 500 ZN should always be tank mixed with a fungicide of different chemistry, and/or a fungicide of different chemistry should be alternated with Equus 500 ZN at each application. If after using Equus 500 ZN as recommended and the treatment is not effective, a tolerant or resistant strain of fungi may be present. Discontinue the use of Equus 500 ZN for at least one season.

Equus 500 ZN is effective for use in programs that attempt to minimize disease resistance to fungicides. Equus 500 ZN has a multi-site mode of action and may be used to delay or prevent the development of resistance to single-site fungicides. Consult with your Federal or State Cooperative Extension Service representatives for guidance on the proper use of Equus 500 ZN in programs that seek to minimize the occurrence of disease resistance to other fungicides.

### GENERAL PRECAUTIONS

Equus 500 ZN can be used effectively in dilute or concentrate sprays. Thorough, uniform coverage is essential for disease control.

Do not combine Equus 500 ZN in a spray tank with pesticides, surfactants, or fertilizers, unless prior use has shown the combination to be physically compatible, effective, and noninjurious under your conditions of use. Do not combine Equus 500 ZN with DiPel 4L, Foil®, Triton AG-98, Triton B-1956, or Latron B-1956 as phytotoxicity may result from the combination when applied to crops listed on this label.

**Note:** Prior to pouring, slowly invert container several times to assure uniform mixture.

The required amount of Equus 500 ZN should be added slowly into the spray tank during filling. With concentrate sprays, premix the required amount of Equus 500 ZN in a clean container and add to the spray tank as it is being filled. Keep agitator running when filling spray tank and during spray operations.

Dosage rates on this label indicate pints of Equus 500 ZN per acre, unless specified otherwise. Under conditions favoring disease development, the high rate specified and shortest application interval should be used.

When an adjuvant is to be used with this product, Makhteshim Agan of North America, Inc. suggests the use of a Chemical-Producers and Distributors Association certified adjuvant.

### APPLICATION PRECAUTIONS AND REQUIREMENTS

This product must not be applied within 150 feet for aerial and air-blast applications, or 25 feet for ground applications of marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

### SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications using dry formulations.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Excluding helicopters, nozzles must always point backward parallel with the airstream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information**.

### **Aerial Drift Reduction Advisory Information:**

#### INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable conditions (see **Wind, Temperature**).

#### CONTROLLING DROPLET SIZE—General Techniques

- **Volume**—Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure**—Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

#### CONTROLLING DROPLET SIZE—Aircraft

- **Number of nozzles**—Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation**—Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle type**—Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift potential.

#### BOOM HEIGHT

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

#### BOOM LENGTH

For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.

## APPLICATION HEIGHT

Application should not be made at a height greater than 10 ft. above the top of the largest plants, unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

## SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the upwind and downwind edges of the field, the application must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

## WIND

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

## TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

## TEMPERATURE INVERSIONS

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

## SENSITIVE AREAS

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

## SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

## AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring. **NOTE:** Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration.

## AIR ASSISTED (AIR BLAST) TREE AND VINE SPRAYERS

Air assisted tree and vine sprayers carry droplets into the canopy of trees and vines via a radially or laterally directed air stream. In addition to the general drift management principles already described, the following specific practices will further reduce the potential for drift:

- Adjust deflectors and aiming devices so that spray is only directed into the canopy.
- Block off upward pointed nozzles when there is no overhanging canopy
- Use only enough air volume to penetrate the canopy and provide good coverage.
- Do not allow spray to go beyond the edge of the cultivated area. Spray the outside row only from outside the planting.

## CHEMIGATION

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set, and portable (wheel move, side roll, end tow, or hand move) irrigation system(s). Do not apply this product through any other type of irrigation system. Use only on crops specifically designated in the **DIRECTIONS FOR USE**.



Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers, or other experts.

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.

#### **Specific Instructions for Public Water Systems:**

1. Public water system means a system for the provision to the public of piped water from 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, backflow 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, 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.
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. Always inject Equus 500 ZN into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides on the intake line on the suction side of the pump.
8. Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur.
9. Do not apply when wind speed favors drift beyond the area intended for treatment.

#### **Specific Instructions for Sprinkler Irrigation Systems:**

Equus 500 ZN may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B. Determine which type of system is in place, then refer to the appropriate directions provided for each type.

##### **A. Center Pivot, Motorized Lateral Move, and Traveling Gun Irrigation Equipment**

For injection of pesticides, these continuously moving systems must use a positive displacement injection pump, of either diaphragm or piston type, constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock and capable of injection at pressures approximately two to three times those encountered within the irrigation water line. Venturi application units cannot be used on these systems.

Fill chemical supply tank of injection equipment with water. Operate system for one complete revolution or run across the field, measuring time required, amount of water injected, and acreage covered. Thoroughly mix recommended amount of Equus 500 ZN for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until Equus 500 ZN has been cleared from last sprinkler head.

##### **B. Solid Set and Portable (Wheel Move, Side Roll, End Tow, or Hand Move) Irrigation Equipment**

With stationary systems, an effectively designed in-line venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides, however, a positive-displacement pump can also be used.

Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a 30 to 45 minute period. Mix desired amount of Equus 500 ZN for acreage to be covered with water so that the total mixture of Equus 500 ZN plus water in the injection tank is equal to the quantity of water used during calibration, and operate entire system at normal pressures recommended by the manufacturer of

injection equipment used for amount of time established during calibration. No agitation should be required. Equus 500 ZN can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until Equus 500 ZN has been cleared from last sprinkler head.

Do not use on greenhouse grown crops.

### CROP RECOMMENDATIONS FIELD AND ROW CROPS

**AS A SPRAY (Ground or Aerial Equipment)**-Apply Equus 500 ZN at the rate shown; use sufficient water to provide thorough coverage. Dosage rates on this label indicate pints of Equus 500ZN per acre, unless otherwise stated. The high rate specified and shortest application interval should be used under conditions favoring disease development.

The required amount of Equus 500ZN should be added slowly into the spray tank during filling. With concentrate sprays, pre-mix the required amount of Equus 500ZN in a clean container and add to the spray tank as it is being filled. Keep agitator running when filling spray tank and during operations.

Apply Equus 500ZN in sufficient water to obtain adequate coverage of foliage. Gallonage will vary with crop and amount of plant growth. Spray volume usually will range between 20 to 150 gallons per acre (200 to 1,400 liters per hectare) for dilute sprays and 5 to 10 gallons per acre (50 to 100 liters per hectare) for concentrate ground sprays and aircraft applications. Both ground and aircraft methods of application are recommended unless specific directions are given for a crop. Application through sprinkler irrigation systems is not recommended unless specific directions are given for a crop. See the following instructions for application and calibration.

#### FIELD AND ROW CROPS

CROP	DISEASES CONTROLLED	RATE OF EQUUS 500 ZN PER APPLICATION PINTS/ACRE	SEASONAL LIMITS (PINTS/ACRE/ YEAR)	APPLICATION DIRECTIONS
<b>ASPARAGUS</b>	Rust Purple Spot Cercospora Leaf Blight	2.75-5.75	17.0	Begin application after harvest of spears, when conditions favor disease development on ferns, generally when leaf wetness occurs. Repeat applications at 2 to 4 week intervals until ferns are no longer productive. Use high rate and shortest application interval when conditions favor disease development. Apply using ground equipment. Do not apply within 190 days (120 days in CA and AZ) before harvest.
<b>BEANS, DRY</b> Including but not limited to: Navy Bean Pinto Bean Kidney Bean Lima Bean Broad Bean Pink Bean Jack Bean Cow Pea Chick Pea (Garbanzo) Blackeyed Pea Southern Pea, etc. Except Soybeans	Rust Anthracnose Downy Mildew Cercospora Leaf Spot (for Blackeyed Pea only) Ascochyta Blight	2.0-2.75	11.5	Use in sufficient water to obtain adequate coverage. Begin applications at first onset of disease which may occur as early as 2 to 4 weeks before flowering. Repeat applications at 7 to 10 day intervals. For use only on beans to be harvested dry with pods removed. Do not apply within 14 days of harvest. Equus 500 ZN may be applied through sprinkler irrigation equipment. See calibration directions which appear on the product label.
<b>BEANS, SNAP</b>	Rust  Botrytis Blight (Gray Mold)	2.0-4.25  4.25	17.0	Use in sufficient water to obtain adequate coverage. Begin applications during early bloom stage or when disease first threatens and repeat at 7 day intervals. For resistance management of rust, alternate with another fungicide registered for bean rust control. Do not apply within 7 days of harvest. Equus 500 ZN may be applied through sprinkler irrigation equipment. See calibration directions which appear on the product label.

BLUEBERRY	Mummy Berry (suppression) Anthracnose	4.25-5.75	17.0	Begin applications at budbreak (green tip). Repeat applications until early bloom at 10 day intervals. DO NOT APPLY AFTER FULL BLOOM except for foliar use after harvest, or within 42 days of harvest, otherwise phytotoxicity may occur to developing fruit. Do not apply within a week before or after an oil application or a tank-mix containing oil-based pesticides. Use a spray volume of 20 GPA for concentrate sprays and 100 GPA for full dilute sprays.
	Septoria Leaf Spot Rust	4.25-5.75	17.0	After all berries are harvested, a foliar application may be made to maintain healthy leaves for the following season. Apply in sufficient water (normally 20 to 100 gallons per acre) and repeat at 10 to 14 days intervals.
CABBAGE BROCCOLI CAULIFLOWER CHINESE BROCCOLI CHINESE CABBAGE (only tight-headed varieties) BRUSSELS SPROUTS	Alternaria Leaf Spot Downy Mildew	2.25	23.0	Use in sufficient water to obtain adequate coverage. Begin applications after transplants are set in field, or shortly after emergence of field-seeded crop, or when conditions favor disease development. Repeat at 7 to 10 day intervals. Do not apply within 7 days of harvest. Equus 500 ZN may be applied through sprinkler irrigation equipment. See calibration directions which appear on the product label.
BRUSSELS SPROUTS (CA only)	Ring Spot	2.75	23.0	For field-seeded Brussels sprouts begin application at time of early sprout development or when conditions favor disease development. Repeat at 7 to 10 day intervals. Do not apply within 7 days of harvest.
CARROT	Cercospora (Early) Blight Alternaria (Late) Blight	2.25-2.75	29.0	Use in sufficient water to obtain adequate coverage. Start applications when disease threatens and repeat at 7 to 10 day intervals. Equus 500 ZN may be applied the day of harvest. Equus 500 ZN may be applied through sprinkler irrigation equipment (solid set, portable wheel move, motorized lateral move, or center pivot systems only). See calibration directions preceding this section.
CELERY	Cercospora (Early) Blight Septoria Late Blight Basal Stalk Rot ( <i>Rhizoctonia solani</i> )	2.75-4.25	34.5	Use recommended rate per acre on a 7 day schedule. Start applications when transplants are set in the field. Apply in sufficient water to obtain adequate coverage. Equus 500 ZN may be applied through sprinkler irrigation equipment (solid set, portable wheel move, motorized lateral move, or center pivot systems only). See calibration directions preceding this section. Do not apply within 7 days of harvest.
	Pink Rot (suppression)	4.25		
	Early Blight Late Blight	2.25-2.75 pts. Per 100 gallons		
CORN (Sweet) CORN (Grown for seed)	Helminthosporium Leaf Blight Rust	1.125-2.75	17.0	Use in sufficient water to obtain adequate coverage. Begin applications when conditions favor disease development and repeat at 7 day intervals. Under severe disease conditions, use 2.125-2.75 pints per acre. Do not apply within 14 days of harvest. Do not apply to sweet corn to be processed. Do not ensile treated corn or use as livestock forage. Do not allow livestock to graze in treated fields. Equus 500 ZN may be applied through sprinkler irrigation equipment. See calibration

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				directions which appear on the product label.
<b>CRANBERRY</b>	Fruit Rot Lophodermium Leaf/Twig Blight	5.75-9.25	29.0	Apply at early bloom and repeat at 10 to 14 day intervals. Under severe disease conditions, use the 9.25 pints per acre rate on a 10 day schedule. Do not apply within 50 days of harvest. Do not apply to bogs when flooded or allow release of irrigation water from bogs for at least 3 days following application. Equus 500 ZN may be applied through sprinkler irrigation equipment. Use 300 gallons of water per acre through solid set systems only. See calibration directions preceding this section.
	Upright Dieback	5.75-9.25	29.0	Apply in sufficient water to uprights and runners making the first application before bloom when shoots begin growth in the spring. Apply at 10 to 14 day intervals. Do not apply within 50 days of harvest. Do not apply to bogs when flooded or allow release of irrigation water from bogs for at least 3 days following application. Equus 500 ZN may be applied through sprinkler irrigation equipment. Use 300 gallons of water per acre through solid set systems only. See calibration directions preceding this section.
<b>CUCURBITS</b> Cantaloupe, Cucumbers, Honeydew, Muskmelon, Pumpkin, Squash, Watermelon	Anthracnose Downy Mildew Target Spot	2.25-2.75	30.0	Use in sufficient water to obtain adequate coverage. Begin applications when plants are in first true leaf stage or when conditions are favorable for disease development. Repeat applications at 7 day intervals. Equus 500 ZN may be applied the day of harvest. Equus 500 ZN may be applied through sprinkler irrigation equipment (solid set, portable wheel move, or center pivot systems only). See Calibration directions preceding this section. <b>Note:</b> Spraying mature watermelons may result in sunburn of the upper surface of the fruit. Do not apply Equus 500 ZN to watermelons when any of the following conditions are present: <ul style="list-style-type: none"> <li>• Intense heat and sunlight,</li> <li>• Drought conditions,</li> <li>• Poor vine canopy,</li> <li>• Other crop and environmental conditions which may be conducive to increased natural sunburn.</li> </ul> Do not combine Equus 500 ZN with anything except water for application to watermelons unless your prior use has shown the combination to be non-injurious to watermelons under your conditions of use.
	Cercospora Leaf Spot Gummy Stem Blight (Black Rot) Alternaria Leaf Blight Alternaria Leaf Spot Scab Powdery Mildew (Sphaerotheca only)	2.75-4.25		
<b>GRASSES GROWN FOR SEED</b>	Stem Rust Leaf Rust Stripe Rust Septoria Leaf Spot Glume Blotch Bipolaris Leaf Spot Drechslera Leaf Spot	1.5-2.25	8.5	Use in sufficient water to obtain adequate coverage. Begin applications during stem elongation when conditions favor disease development. Re-apply at flag-leaf emergence and repeat applications at 14 day intervals. Do not apply within 14 days of harvest. Do not allow livestock to graze on treated areas or feed hay produced before harvest. Feeding of treated plant parts after harvest of seed is allowed. Equus 500 ZN may be applied through sprinkler irrigation equipment (solid set, portable wheel move, or center pivot systems only). See Calibration directions preceding this section.
	Selenophoma (Eyespot)	1.5-2.75		

MANGO	Anthracnose	2.75-5.0	46.0	Use a water volume of 20 to 300 gallons per acre. Begin applications at early bloom and repeat on a 7-14 day interval until early fruit development. Begin the season with the 2.75 pint rate on a 14-day interval. If disease pressure is severe, use the higher rate and shorter interval. Do not apply within 21 days of harvest.												
MINT (IN, MI, WI only)	Rust Septoria Leaf Spot	2.0	5.75	Use in sufficient water to obtain adequate coverage, normally 20 to 150 gallons per acre for dilute sprays and 5 to 10 gallons per acre for concentrate ground and aircraft applications. Begin applications when emerging plants are 4 to 8 inches high. Repeat applications at 7 to 10 day intervals. Do not apply within 80 days of harvest. Do not feed fresh or extracted mint hay from treated fields to livestock.												
ONION (Dry bulb) GARLIC	Botrytis Leaf Blight/Blast Purple Blotch  Suppression: Botrytis Neck Rot Downy Mildew	1.5-4.25	29.0	Apply in sufficient water to obtain thorough coverage of tops. Equus 500 ZN is recommended for use with disease monitoring systems which adjust fungicide rates and frequency of application according to disease hazard. Apply as follows: <table><tr><th></th><th>Rate/Acre</th><th>Frequency</th></tr><tr><td>Low Disease Hazard, prior to Infection</td><td>1.5 pts.</td><td>10 days</td></tr><tr><td>Low Disease Hazard, some disease present</td><td>2.0 pts.</td><td>7-10 days</td></tr><tr><td>High Disease hazard</td><td>4.25 pts.</td><td>7 days</td></tr></table> For suppression of neck rot ( <i>Botrytis</i> spp.) during storage, a minimum of 3 weekly applications prior to lifting, using 2.0-4.25 pts. of Equus 500 ZN per acre is recommended. Equus 500 ZN may be applied through sprinkler irrigation equipment. See calibration directions which appear on the product label. Do not apply within 7 days of harvest.		Rate/Acre	Frequency	Low Disease Hazard, prior to Infection	1.5 pts.	10 days	Low Disease Hazard, some disease present	2.0 pts.	7-10 days	High Disease hazard	4.25 pts.	7 days
	Rate/Acre	Frequency														
Low Disease Hazard, prior to Infection	1.5 pts.	10 days														
Low Disease Hazard, some disease present	2.0 pts.	7-10 days														
High Disease hazard	4.25 pts.	7 days														
ONION (Green bunching) LEEK, SHALLOT, ONION AND GARLIC GROWN FOR SEED	Botrytis Leaf Blight/Blast Purple Blotch Downy Mildew (suppression)	2.25-4.25	13.0	Use in sufficient water to obtain thorough coverage of tops. Begin applications prior to favorable infection periods and repeat at 7 to 10 day intervals for as long as conditions favor disease. Use the high rate and a 7 day schedule of applications when heavy dew or rain persists. Do not apply within 7 days of harvest on garlic. Do not apply within 14 days of harvest on green bunching onions, leeks, or shallots. Equus 500 ZN may be applied through sprinkler irrigation equipment (solid set, portable wheel move, or center pivot systems only). See Calibration directions preceding this section.												
PAPAYA	Alternaria Fruit Spot Anthracnose Stem End Rot	2.25-4.25	13.0	Apply with ground equipment only. Use sufficient water to obtain adequate coverage of fruit and leaves. Begin treatment when conditions favor development of disease and continue treatments at 14 day intervals until weather conditions no longer favor disease development. Equus 500 ZN may be applied the day of harvest.												

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<b>PARSNIP</b>	Alternaria Leaf Spot Downy Mildew Anthracnose Botrytis Blight (Gray Mold) Bottom Rot (Rhizoctonia)	2.25-2.75	11.5	Apply in sufficient water to obtain adequate coverage. Make the first application at the first sign of disease or when conditions are favorable for infection. Continue applications on a 7 to 10 day schedule. Do not apply within 10 days of harvest. Equus 500 ZN may be applied through sprinkler irrigation equipment. See calibration directions which appear on the product label.
<b>PASSION FRUIT</b> (HI only)	Alternaria Fruit and Leaf Spot (Passion Fruit Brown Spot) Anthracnose Cercospora Fruit Spot	2.75	14.5	Apply with ground equipment in sufficient water to obtain adequate coverage of fruit and leaves. Begin treatment when fruit spots appear (April to July) and continue treatments at 14 day intervals until weather conditions no longer favor disease development. Do not apply within 7 days of harvest.
<b>PEANUT</b>	Early Leaf Spot (Cercospora) Late Leaf Spot (Cercosporidium) Pepper Spot <hr/> Rust Web Blotch	1.5-2.25 <hr/> 2.25	17.0	Apply in sufficient water for coverage when leaf wetness first occurs or 30 to 40 days after planting. Repeat at 14 day intervals. When conditions favor late leaf spot or when rust or web blotch occur, apply 1.5 pts. per acre at 14 day intervals for the remainder of the season. Do not apply within 14 days of harvest. Equus 500 ZN may be applied through sprinkler irrigation equipment. Use 2.25 pints per acre in solid set, portable wheel move, center pivot, motorized lateral move, or traveling gun sprinkler irrigation equipment. See calibration directions preceding this section. It is recommended to alternate chemigation applications with ground or aerial applications. Do not allow livestock to graze in treated areas. Do not feed hay or threshings from treated fields to livestock.
<b>POTATO</b>	Late Blight Early Blight Botrytis Vine Rot Black Dot	1.125 then 1.5-2.25	21.5	Begin applications at the low rate when vines are first exposed and leaf wetness occurs. Repeat applications at 5 to 10 day intervals. Begin applying the higher label rates at 5 to 10 day intervals when any one of the following events occur: <ul style="list-style-type: none"> <li>• Vines close within the rows;</li> <li>• Late blight forecasting measures 18 disease severity values (DSV);</li> <li>• The crop reaches 300 P-days</li> </ul> Increase water spray volume as canopy density increases. Use the highest rate and shortest interval when plants are rapidly growing and disease conditions are severe. Do not apply within 7 days of harvest. Equus 500 ZN may be applied through sprinkler irrigation equipment. See calibration directions which appear on the product label. Do not exceed a 10 day interval between applications when using this technique. See calibration directions preceding this section.

SOYBEAN	Anthracnose Diaporthe Pod and Stem Blight Frogeye Leaf Spot ( <i>Cercospora soja</i> ) Purple Seed Stain Cercospora Leaf Blight ( <i>Cercospora kikuchii</i> ) Septoria Brown Spot Rust (Suppression)	See Below	See Below	Apply in sufficient water to obtain complete coverage, using at least 5 gallons of water per acre for aerial application. Use the three application program in areas having a history of moderate to severe disease intensity. The minimum retreatment interval is 14 days. Equus 500 ZN may be applied through sprinkler irrigation equipment. Follow application and calibration direction preceding this section. Do not apply within 6 weeks of harvest. Do not feed hay or threshings from treated fields to livestock.
		2.25-3.25	8.5	<b>Two application program:</b> For determinate varieties, make the first application at early pod set (R3 stage, when the majority of pods are 1/8 to 3/8 inches in length) and the second at beginning of seed formation (R5). For indeterminate varieties, make the first application when largest pods are 1 to 1.25 inches in length. Make the second application 14 days later.
		1.5-2.75	8.5	<b>Three application program:</b> For determinate varieties, make the first application at the beginning of flowering (R1), the second at early pod set (R3), and the third at beginning of seed formation (R5). For the indeterminate varieties, make the first application one week after first flowering and continue applications at 14 day intervals.
	Stem Canker ( <i>Diaporthe phaseolorum</i> var. <i>caulivora</i> )	1.5	8.5	Apply in 10 to 20 gallons of water per acre, as a band treatment, directing spray to provide coverage of entire plant. Make the first application at time of emergence of the second trifoliate leaves (V2). If conditions favor stem canker disease, make a second and third application. Make all applications at 14 day intervals.
TOMATO	Foliage: Early Blight Late Blight Gray Leaf Spot Gray Leaf Mold Septoria Leaf Spot Target Spot	2.0-2.75	28.5	Apply in sufficient water to obtain adequate coverage. Begin applications when dew or rain occurs and disease threatens. Apply every 7 to 10 days for foliage diseases. For fruit diseases, begin at fruit set and apply every 7 to 14 days. Use the highest rate and shortest interval when disease is severe. Equus 500 ZN may be applied the day of harvest. Equus 500 ZN may be applied through sprinkler irrigation equipment (solid set or portable wheel move systems only). See calibration directions preceding this section.
	Fruit: Anthracnose Alternaria Fruit Rot (Black Mold) Botrytis Gray Mold Late Blight Fruit Rot Rhizoctonia Fruit Rot	2.75-4.0		

#### TREE AND ORCHARD CROPS—APPLICATION INSTRUCTIONS

Apply Equus 500 ZN in sufficient water and with proper calibration to obtain uniform coverage of tree canopy. Application with ground equipment is preferable to aerial application because ground applications generally give better coverage of the tree canopy. If application with ground equipment is not feasible, Equus 500 ZN may be applied with aircraft using at least 20 gallons of spray per acre. When concentrate sprays are used or when treating non-bearing or immature trees, the lower rate of Equus 500 ZN listed may be used. Both ground and aircraft methods of application are recommended unless specific directions are given for a crop. Application through sprinkler irrigation systems is not recommended unless specific directions are given for a crop. See the following instructions for application and calibration.

DO NOT allow livestock to graze treated areas. The following spray volumes are recommended as gallons of spray per acre:

CROP	SPRAY VOLUME (Gallons per Acre)	
Almonds	20 (concentrate) to 300 (full dilute)	
Filberts (Hazelnuts) (Oregon only)	20 (concentrate) to 300 (full dilute)	
Peach, Nectarine, Apricot, Tart Cherry, Plum, Prune	20 (concentrate) to 300 (full dilute)	
Conifers:	<b>Dilute</b> <b>Concentrate</b>	
	Not used	10 to 20 (aircraft)
	100	10 to 50 (aircraft or ground equipment)
	100	5 to 10 (ground equipment only)
Christmas Trees		
Nursery Beds		

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CROP	DISEASES CONTROLLED	EQUUS 500 ZN RATE PINTS/ACRE	EQUUS 500 ZN RATE PINTS/100 GALLONS*	SEASONAL LIMIT PINTS/ ACRE	APPLICATION DIRECTIONS
ALMONDS	Blossom Blight /Brown Rot Shothole Scab	5.75	1.91	36.0	For blossom blight, begin application at popcorn (pink bud) and follow with an application at full bloom. If weather is still conducive for disease development, another application may be made at petal fall. For control of shothole, make an application in the autumn at leaf fall. In the spring, make the first application at budbreak, followed by an application at shuck split to control nut infections and to control scab. Do not apply within 150 days of harvest.
FILBERTS (Hazelnuts)	Eastern Filbert Blight	5.75	1.91	17.0	Begin applications at leaf bud break and repeat applications at 2 to 4 week intervals. Do not apply within a week before or after an oil application or a tank-mix containing oil-based pesticides. Do not apply within 120 days before harvest.
FRUIT TREES Apricot Cherry (Sweet), Cherry (Tart), Nectarine, Peach, Plum, Prune	Leaf Curl Coryneum Blight (Shothole)	4.5-6.0	1.5-2.0	29.5	For best control of both diseases, apply at leaf fall in late autumn, using sufficient water and proper sprayer calibration to obtain uniform coverage. When conditions favor high disease levels, use the high rate of application and apply once or twice more in mid-to-late winter before budswell. If the leaf fall application is not practical, application of Equus 500 ZN for control of leaf curl may be made at any time prior to budswell the following spring. Where Coryneum blight (shothole) occurs, also apply at budbreak to protect newly emerging leaves and at shuck split to prevent fruit infections. Make applications at a minimum of 10 day intervals. Equus 500 ZN may be applied the day of harvest.
	Brown Rot Blossom Blight Lacy Russet Scab (Plum/Prune)	4.5-6.0	1.5-2.0		Make one application at popcorn (pink, red, or early white bud) and a second application at full bloom. If weather conditions favor disease development, make an additional application at petal fall. Make applications at a minimum of 10 day intervals. Equus 500 ZN may be applied the day of harvest.
	Cherry Leaf Spot Scab Black Knot (Cherry, Plum)	4.5-6.0	1.5-2.0		In addition to the bloom application listed above, make one application at shuck split. Do not apply Equus 500 ZN after shuck split and before harvest. If additional disease control is needed before harvest, use another registered fungicide. For control of cherry leaf spot after harvest, make one application to foliage within 7 days after fruit is removed. In orchards with a history of high leaf spot incidence, make a second application 10 to 14 days later. Make applications at a minimum of 10 day intervals.



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CROP	DISEASES CONTROLLED	EQUUS 500 ZN RATE PINTS/ACRE	SEASONAL LIMIT PINTS/ ACRE	APPLICATION DIRECTIONS
CONIFERS Pines, Spruces	See Below	See Below	31.6	The minimum retreatment interval for established trees is 21 days. The minimum retreatment in nursery beds is 7 days.
	Swiss Needlecast	4.0-8.0		Single-application technique: In Christmas tree plantations or forest stands, make one application in the spring when new shoot growth is ½ to 2 inches in length.
	Sclerodermis Canker (Pines), Swiss Needlecast	2.25-4.0		Make the first application in spring when new shoot growth is ½ to 2 inches in length. Make additional applications at 4 week intervals until conditions no longer favor disease development. For use in nursery beds, apply the highest rate specified on a 4 week schedule.
	Sirococcus Tip Blight	2.75-5.0		
	Rhizosphaera Needlecast (Spruces), Scirrhia Brown Spot (Pines)	8.0		Apply in early spring prior to budbreak. Repeat applications at approximately 6 to 8 week intervals, until spore release ceases in late fall. Apply monthly during periods of frequent rainfall, and where Lophodermium infections occur during dormancy (Pacific Northwest). During drought periods, applications may be suspended, then resumed upon next occurrence of needle wetness.
	Cyclaneusma and Lophodermium Needlecasts (Pines)	4.0-8.0		
	Rhabdocline Needlecast (Douglas fir)	2.25-4.0		Apply at budbreak and repeat at 3 to 4 week intervals until needles are fully elongated and conditions no longer favor disease development. In plantations of mixed provenance, or when irregular budbreak occurs, apply weekly until all trees have broken bud, then every 3 to 4 weeks as specified above. In nursery beds, use the high rate on a 3 week schedule.
	Botrytis Seedling Blight Phoma Twig Blight	2.25-4.0		Begin applications in nursery beds when seedlings are 4 inches tall and when cool, moist conditions favor disease development. Make additional applications at 7 to 14 day intervals as long as disease favorable conditions persist.
	Autoecious Needle Rust (Weir's Cushion)(Spruces)	8.0		Begin applications when 10% of buds have broken and twice thereafter at 7 to 10 day intervals.

\*Volumetric rates to be used only with full dilute spray volume specified on this label for tree and orchard crops.

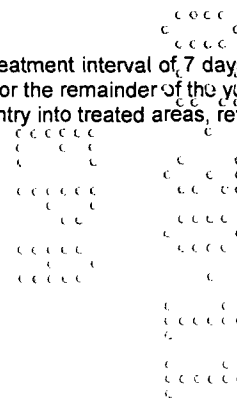
**MUSHROOMS:** Verticillium Brown Spot and Dry Bubble – Apply 4.0-8.0 fl. oz. of Equus 500 ZN per 1,000 sq. ft. of mushroom bed. Apply as a drench to the mushroom bed surface in at least 12.5 gallons of water per 1,000 sq. ft. of mushroom bed. Make two applications. Apply the high rate (8.0 fl. oz.) of Equus 500 ZN in the first application and the low rate (4.0 fl. oz.) of Equus 500 ZN in the second application. The first application should be made within two days of top-dressing the spawn-colonized mushroom compost with a casing layer. The second application should be made at pinning. Do not apply within 5 days of first harvest. Make no more than two applications per cropping cycle. Do not apply more than 12.0 fl. oz. of Equus 500 ZN per cropping cycle.

#### GRASSES: GOLF COURSE FAIRWAYS

For low disease pressure, follow the retreatment intervals and the application rates provided below.

For an extreme disease condition, a single maximum application of 21.6 pints per acre with a minimum retreatment interval of 7 days can be made each year. After making the 21.6 pints per acre application, the low disease regime must be followed for the remainder of the year.

For Equus 500 ZN Flowable, no more than 49.8 pints per acre may be applied per year on fairways. For reentry into treated areas, refer to the Non-Agricultural Use Requirements box.



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DISEASES CONTROLLED	LOW DISEASE PRESSURE TREATMENT REGIME		EXTREME DISEASE CONDITION		Maximum Application Rate Per Year for Fairways (Pints/Acre)
	Retreatment Interval (Days)	Application Rate (Pints/Acre)	Maximum Single Application Allowed in a Year (Pints/Acre)	Minimum Retreatment Interval for the Maximum Single Application (Days)	
Dollar Spot	7-10	3.88 <sup>a</sup> -7.2	21.6	7	49.8
	14 - 21	7.2-13.9			
Leaf Spot, Melting Out, Brown Blight	7-10	7.2			
	14 - 21	7.2-13.9			
Brown Patch	7-14	7.2-13.9			
Gray Leaf Spot	7-10	7.2-13.9			
Red Thread	7-10	7.2-13.9			
Anthrachnose	7-14	11.6-13.9			

<sup>a</sup>Low rate is not effective on intensively mowed grasses.

Diseases are caused by some of the following fungi:

Dollar Spot: *Sclerotinia homeocarpa*, *Lanzia* or *Moellerodiscus* spp.

Leaf Spot, Melting Out and Brown Blight: *Drechslera* spp., *Bipolaris* spp., *Curvularia* spp.

Brown Patch: *Rhizoctonia* spp.

Anthrachnose: *Collectotrichum*

#### GRASSES: GOLF COURSE TEES, GREENS, AND ORNAMENTAL TURF USES

Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, playfields, recreational park athletic fields located on or next to schools (i.e., elementary, middle, and high schools), campgrounds, churches, and theme parks.

For low disease pressure, follow the retreatment intervals and the application rates provided below. For an extreme disease condition, a single maximum application of 21.6 pints per acre with a minimum retreatment interval of 7 days can be made. For Equus 500 ZN Flowable, maximum yearly application limits exist for fairways, greens, and other nonresidential ornamental turf. For reentry into treated areas, refer to the Non-Agricultural Use Requirements box.

DISEASES CONTROLLED	RE-TREATMENT INTERVAL (DAYS)	APPLICATION RATE (FL OZ/1000 SQ FT)		Maximum Application Rate per Year for Ornamental turf, Tees, and Greens (FL. oz. per 1000 sq. ft.)
		Low disease pressure regime	High disease pressure regime Single Maximum application (FL. oz.) and Retreatment Interval (days)	
Dollar Spot	7-14	3.0 - 5	7.9 (14)	18.2 fl. oz. per 1000 sq. ft (ornamental turf)
Brown Patch	7-14	3.0 - 5	7.9 (14)	
Leaf Spot, Melting Out	7-10	3.0 - 5	7.9 (14)	36.5 fl. oz. per 1000 sq ft (tees)
Gray Leaf Spot	7-10	3.0 - 5	7.9 (14)	
Red Thread	7-10	3.0 - 5	7.9 (14)	51.4 fl. oz. per 1000 sq ft (greens)
Anthrachnose	7-14	3.0 - 5	7.9 (14)	
Copper Spot	7-10	3.0 - 5	7.9 (14)	
Stem Rust (Bluegrass)	7-14	3.0 - 5	7.9 (14)	
DICHONDRA: Leaf Spot (CALIFORNIA ONLY)	7-14	3.0 - 5	7.9 (14)	

Diseases listed are caused by fungi, some of which are named as follows:

1. Dollar Spot: *Sclerotinia homeocarpa*; *Lanzia* or *Moellerodiscus* spp.

2. Brown Patch: *Rhizoctonia solani*, *R. zeae*, *R. cerealis*.

3. Leaf Spots; Melting Out; Brown Blight; *Drechslera* spp. (including *D. poae*, *D. siccans*, *Bipolaris sorokiniana*, *Curvularia* spp.).

4. Gray Leaf Spot: *Pyricularia grisea*, *P. oryzae*

5. Red Thread: *Laetisaria fuciformis*

6. Anthrachnose: *Collectotrichum graminicola*

7. Copper Spot: *Gloeocercospora sorghi*

8. Stem Rust: *Puccinia graminis*

9. Dichondra Leaf Spot: *Alternaria* spp.

**Gray Snow Mold caused by *Typhula* spp.:** Apply in sufficient water to obtain adequate spray coverage (2.9-14.4 gallons per 1000 sq ft). Apply a single application of 7.9 fl oz of Equus 500 ZN per 1000 sq ft of turf area. Application must be made before snow cover in autumn. If snow cover is intermittent or lacking during the winter, reapply at 7.9 fl oz per 1000 sq ft at monthly intervals until gray snow mold conditions no longer prevail. In areas where pink snow mold (*Gerlachia* or *Fusarium* patch) is likely to occur, apply Equus 500 ZN at 7.9 fl oz in combination with products containing iprodione at 2 oz. active ingredient per 1000 sq. ft. of turf area. Read and observe all label directions for products containing this active ingredient. The maximum seasonal limit of 18.2 oz. per 1000 sq ft may be applied to ornamental turf, no more than 36.5 oz. per 1000 sq. ft. may be applied to tees, and a maximum seasonal amount of 51.4 oz. per 1000 sq ft of Equus 500 ZN may be applied to greens.

**Fusarium (Gerlachia) Patch:** For control of *Fusarium* patch only in areas where snow cover is intermittent or lacking during the winter, apply 7.9 fl. oz. of Equus 500 ZN per 1000 sq. ft. Begin applications in autumn and reapply at 21 to 28 day intervals until conditions favoring

Fusarium patch no longer prevail. A maximum seasonal limit of 18.2 oz. per 1000 sq. ft. may be applied to ornamental turf, no more than 36.5 oz. per 1000 sq ft may be applied to tees, and a maximum seasonal amount of 51.4 oz. per 1000 sq ft. of Equus 500 ZN may be applied to greens.

**Algae:** For prevention of algae on turfgrasses, apply Equus 500 ZN at the rate of 3 to 7.9 fl. oz. per 1000 sq. ft. on a 7 to 14 day schedule. When algae is well established, every attempt should be made to dry out the afflicted area. Once dry, spiking or verticutting should be done to enhance turfgrass recovery in conjunction with an Equus 500 ZN applications. Several applications may be necessary for turfgrass recovery. Only a preventative spray program with Equus 500 ZN will prevent a recurrence of the algae when environmental conditions are favorable for algal growth. A maximum seasonal limit of 18.2 oz. per 1000 sq. ft. may be applied to ornamental turf, no more than 36.5 oz. per 1000 sq. ft. may be applied to tees, and a maximum seasonal amount of 51.4 oz. per 1000 sq. ft. of Equus 500 ZN may be applied to greens.

#### GRASS: SODFARMS

Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, playfields, recreational park athletic fields located on or next to schools (i.e., elementary, middle, and high schools), campgrounds, churches, and theme parks.

Apply Equus 500 ZN in 30 to 40 gallons of water per acre. Begin applications when conditions favor disease development and repeat applications as long as these conditions persist using the rates recommended in the following table.

Under severe disease conditions, a single application of 21.6 pints per acre may be made with a 7 day retreatment interval. Subsequent applications must follow the rates and retreatment intervals outlined in the following table for the remainder of the year.

Do not mow or water after treatment until spray deposited on grass is thoroughly dry. Equus 500 ZN should always be used in conjunction with good turf management practices.

Sodfarm turf treated with chlorothalonil prior to harvest must be mechanically cut, rolled, and harvested. Follow all provisions outlined in the **Agricultural Use Requirements** box.

DISEASES CONTROLLED	LOW DISEASE PRESSURE TREATMENT REGIME		EXTREME DISEASE CONDITION		Application Limit Per Year for Sodfarms (Pints./Acre)*
	Retreatment Interval (Days)	Application Rate (Pints./Acre) <sup>1</sup>	Maximum Single Application Allowed in a Year (Pts./Acre)	Minimum Retreatment Interval for the Maximum Single Application (Days)	
Dollar Spot	7-10	3.88 <sup>a</sup> -7.2	21.6	7	25.0
	14-21	7.2-13.9			
Leaf Spot, Melting Out, Brown Blight	7-10	7.2			
	14-21	7.2-13.9			
Brown Patch	7-14	7.2-13.9			
Gray Leaf Spot	7-10	7.2-13.9			
Red Thread	7-10	7.2-13.9			
Anthrachnose	7-14	11.6-13.9			

<sup>a</sup>Low rate is not effective on intensively mowed grasses.

Diseases are caused by some of the following fungi:

Dollar Spot: *Sclerotinia homeocarpa*, *Lanzia* or *Moellerodiscus* spp.

Leaf Spot, Melting Out and Brown Blight: *Drechslera* spp., *Bipolaris* spp., *Curvularia* spp.

Brown Patch: *Rhizoctonia* spp.

Anthrachnose: *Collectotrichum*

\*Do not use for sodfarms at application rates greater than 13 lbs. a.i. (25 pints of Equus 500 ZN) per acre per year.

#### ORNAMENTAL PLANTS

Equus 500 ZN may be used on ornamental plants grown in the field, nurseries, or greenhouses, and for spot treatment of ornamental plants growing in landscapes. Due to the large number of species and varieties of ornamental and nursery plants, and the widely varying growing conditions, it is impossible to test every variety for sensitivity to Equus 500 ZN. Prior to commercial use, apply the recommended rates to a small area of plants in question, i.e. bedding plants, foliage, etc., and observe for 7 to 10 days prior to treatment of a commercial crop.

**Field grown ornamentals:** No more than 69.1 pints per acre of Equus 500 ZN may be applied to field-grown ornamentals per year.

For aerial application to field-planted ornamentals, a minimum rate of 10 gallons of spray per acre should be used during application. Equus 500 ZN should be applied to plants when both foliage and flowers are dry or nearly dry. For field-grown roses, apply 2 pints of Equus 500 ZN per acre for a single application. For field-planted pachysandra, apply 5.9 pints of Equus 500 ZN per acre for a single application.

**Ornamentals grown in nurseries, greenhouses:** Do not use mistblowers or high pressure spray equipment when making applications of Equus 500 ZN in greenhouses. Apply Equus 500 ZN at the rate of 1.9 pints per 100 gallons of water unless other directions are given in the tables below. Apply in a spray until foliage run-off occurs when conditions are favorable for disease development. Repeat applications at 7 to 14 day intervals until conditions are no longer favorable. During periods when conditions favor severe disease incidence, generally cloudy or wet weather, apply Equus 500 ZN at 7 day intervals. Equus 500 ZN should be applied to plants when both foliage and flowers are dry or nearly dry.

Do not combine Equus 500 ZN in the spray tank with pesticides, surfactants, or fertilizers unless prior use has shown the combination to be physically compatible, effective, and noninjurious under your conditions of use.

**Spot treatment of ornamental plants growing in landscapes:** Apply Equus 500 ZN at the rate of 1.9 teaspoons per 2 gallons of water. Apply in a spray until foliage run-off occurs when conditions are favorable for disease development. Repeat applications at 7 to 14 day intervals until conditions are no longer favorable. During periods when conditions favor severe disease incidence, generally cloudy or wet weather, apply Equus 500 ZN at 7 day intervals. Equus 500 ZN should be applied to plants when both foliage and flowers are dry or nearly dry.

$$\begin{array}{r} 20 \\ \hline 23 \end{array}$$

### 1. Leaf Spots/Foliar Blights:

**2. Flower Spots/Blights:**

### 3. *Cylindrocladium* Stem Canker

#### 4. Phytophthora Leaf Blight/Dieback

### 5. Powdery Mildews:

19	13	7	1	25
20	14	8	2	24
21	15	9	3	23
22	16	10	4	22
23	17	11	5	19

## 6. Rusts:

## 7. Taphrina Blister

**8. Scab:**

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PLANT	DISEASES	COMMENTS
Aglaonema	1	
Andromeda (Pieris)	4	
Arabian Violet	2	
Areca Palm	1	
Artemesia	1	
Ash, Fraxinus	1	
Aspen	1	
Azalea	1,2, 4	
Begonia	1	
Boston Fern	1	
Buckeye, Horsechestnut	1	
Camellia	2	
Carnation	1,2	
Cherry-laurel	1	
Chrysanthemum	1,2	
Crabapple	1,6,8	
Crocus	1	
Daffodil	1	
Daisy	1	
Daylily	6	
Dogwood	1	
Dumbcane, Dieffenbachia	1	
Dracaena	1	
Eucalyptus	3	
Euonymus	1	
Fatsia (Aralia)	1	
Ficus	1	
Firethorn, Pyracantha	1	
Florida Ruffie Fern	1	
Flowering Almond	1,2	
Flowering Cherry	1,2	
Flowering Peach	1,2	
Flowering Plum	1,2	
Flowering Quince	1,2	
Geranium	1,6	
Gladiolus	1,2	
Hawthorn	1,6	
Holly	1	
Hollyhock	6	
Hydrangea (Foliage Only)	1,6	
Iris	1,2	
Leatherleaf Fern	1	
Lilac	5	
Lily	1	
Lipstick Plant	1	
Magnolia	1	
Maple	1	
Marigold	1	
Ming aralia	1	
Mountain Laurel	1	
Narcissus	1	
Oak (Red Group Only)	1,7	
Oregon Grape (Mahonia)	6	
Oyster Plant (Rhoeoe)	1	
Pachysandra	1	Use 4.3 pints of Equus 500 ZN per 100 gallons of water for greenhouse-grown plants
Pansy	1	
Parlor Palm (Chamaedorea)	1	
Peperomia	1	
Petunia	1,4	
Philodendron	1,4	
Phlox	1	
Photinia	1	
Poinsettia	1	Discontinue applications prior to bract formation; phytotoxicity is possible
Poplar	1	
Prayer Plant (Maranta)	1	
Privet, Ligustrum	1	

Rhododendron	1,2,4	
Rose	1	Use 1.6 pints per 100 gallons of water for greenhouse grown plants.
Sand Cherry	1,2	
Sequoia	1	
Spiraea	1	
Statice	1	
Sycamore, Planetree	1	
Syngonium	1	
Tulip	1	
Viburnum	5	
Walnut, Juglans	1	
Zebra Plant (Aphelandra)	1	
Zinnia	1,5	

The following ornamental plant species which have been tested with Equus 500 ZN at recommended rates (1.9 teaspoons per 2 gallons of water, 7 to 14 days retreatment interval) did not exhibit phototoxicity

Botanical name	Common name
<i>Aechmea fasciata</i>	Aechmea
<i>Araucaria heterophylla</i>	Norfolk Island Pine
<i>Asplenium nidus</i>	Birdnest Fern
<i>Bougainvillea</i> spp.	Bougainvillea
<i>Caladium</i> spp.	Caladium
<i>Calathea makoyana</i>	Peacock Plant
<i>Calistephus chinensis</i>	Aster
<i>Carissa grandiflora</i>	Natal Plum
<i>Clerodendron thomsonae</i>	Bleeding Heart
<i>Codiaeum</i> spp.	Croton
<i>Cordylone terminalis</i>	Ti Plant
<i>Crassula argentea</i>	Jade Plant
<i>Cyrtomium falcatum</i>	Holly Leaf Fern
<i>Dionaea muscipula</i>	Venus Fly Trap
<i>Dizygotheca elegantissima</i>	False Aralia
<i>Epipremnum aureum</i>	Golden Pothos, Scindapsus
<i>Episcia cupreata</i>	Flame Violet
<i>Fittonia</i> spp.	Silver-Nerve Plant
<i>Gerbera jamesonii</i>	Gerbera Daisy
<i>Gynura sarmetosa</i>	Purple Passion Vine
<i>Gypsophila paniculata</i>	Baby's Breath
<i>Hoya</i> spp.	Wax Plant
<i>Ilex cornuta</i>	Chinese Holly
<i>Ilex crenata</i>	Japanese Holly
<i>Impatiens</i> spp.	Impatiens
<i>Pilea cadierei</i>	Aluminum plant
<i>Platynerium</i> spp.	Staghorn Fern
<i>Sansevieria trifasciata</i> "Hahnii"	Birdsnest Sansevieria
<i>Tolmeia menziesii</i>	Piggy-Back Plant
<i>Yucca elephantipes</i>	Spineless Yucca
<i>Zygocactus truncatus</i>	Christmas Cactus

**Note:** Do not apply Equus 500 ZN to either green or variegated Pittosporum or to Schefflera as multiple applications have been demonstrated to cause phytotoxic responses.

#### STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed, or seed by storage or disposal.

**PESTICIDE STORAGE:** Store in a cool place. Protect from excessive heat. Store product in original container only way from water, food, or feed. Keep container closed to prevent spills and contamination. Carefully open containers. After partial use, replace lid and close tightly. Do not put concentrate or diluted product into food or drink containers.

**PESTICIDE DISPOSAL:** Do not contaminate water, food, or feed by disposal. Improper disposal of excess pesticide, pesticide spray, or rinsate is a violation of Federal law. Wastes resulting from the use of this product that cannot be used according to the label instructions or chemically reprocessed must be disposed of on site or at a landfill or waste disposal facility approved for pesticide disposal, or in accordance with all applicable Federal, state, or local regulations. For further guidance, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### CONTAINER DISPOSAL:

**Nonrefillable Container (five gallons or less):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container 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 ¼ 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 incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (greater than five gallons):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix

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**Refillable Container (greater than 55 gallons):** Refillable container. Refill this container with chlorothalonil 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 refiller. To clean the 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. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

## LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES** and **LIMITATIONS OF LIABILITY**.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Makhteshim Agan of North America, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc.'s election, the replacement of product.

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Equus 500ZN (66222-150) (notif to EPA 03-24-11)

Figure 1 consists of 20 small diagrams, each showing a different configuration of points and lines. The diagrams are arranged in a grid-like fashion, with some having labels like 'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't', 'u', 'v', 'w', 'x', 'y', 'z'.