









# **SECURE THIS SEASON AND BEYOND**

Cinnerate® is the right pest management tool to protect from diseases, mites, and insects and produce a high-quality crop.

TARGET DISEASES BROAD SPECTRUM PREVENTATIVE AND CURATIVE TARGET FUTURE PESTS MANAGE PESTS BEFORE THEY BECOME A PROBLEM

SUPPORTS BIOCONTROL CONSERVE BENEFICIAL PREDATORS TO REDUCE FUTURE PEST OUTBREAKS

FUK USE ON ALL CKUPS		
DISEASES	PESTS	
Powdery Mildew	Mites	
Botrytis	Aphids	
Monilinia	Pear Psylla	
Rust	Scale	
Fire Blight	Leaf Hopper	
Rhizopus	Flies/White Flies	
Mucor	Mealybugs	
Downy Mildew	Fruit Fly	
Alternaria	Thrips	

# **FEATURES AND BENEFITS**

- ✓ Broad spectrum fungicide/bactericide targets multiple life stages
- ✓ Powerful contact, curative, and preventative action stops disease
- ✓ Fast knockdown results with multiple modes of action
- Early season mite, insect and lepidoptera control targeting all life stages including ovicidal activity
- Stand alone or convenient tank mix partner with conventional pesticides
- As part of your biocontrol system, it can reduce the cost of mite and insect control year-over-year
- ✓ Proven crop safe for 15 years, and leaves no visible residue



Blue and Green Mold



Armyworms/Caterpillars

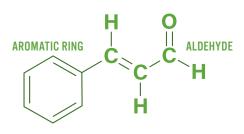








## **CINNERATE® ACTIVE INGREDIENT**



## BIOCHEMICAL

DISTILLED CINNAMON OIL 98% PURITY = 98% CINNAMALDEHYDE

Cinnamaldehyde is the most active chemical constituent of cinnamon oil. It is also an organic compound, a phenylpropanoid, and a naturally occurring flavonoid that delivers reliable biochemical performance.

# STOPS DISEASE ON CONTACT AND DISRUPTS MULTIPLE LIFE CYCLES

DISEASE CONTROL IS OBTAINED WITHIN 30 MINUTES OF APPLICATION

Cinnerate's multi-site mode of action makes it a superior disease management solution. Unlike other products that may promise multi-pest activity, 15+ years of success in the field prove Cinnerate® is a valuable management tool to efficiently and reliably produce clean, high-quality crops.

# **MODE OF ACTION - CONTACT AND FUMING ACTIVITY**

	Attacks the cell wall and cell membrane  Disrupts fungal cell function causing cellular damages and irreversible morphological changes	Contact Preventative and Curative  Disruption of cell wall leading to cell leakage  Significant antibiofilm activity against pre-formed biofilms and the formation of biofilms  Anti-Quorum sensing activity	MITICIDE / INSECTICIDE  Contact All Life Stages + Ovicide  High lipophilicity optimizes penetration into target pest  Softens exoskeleton leading to desiccation  Ovicide - Volatiles diffuse into eggs
FUNCTION	Leads to cell leakage and death Inhibits the formation of germ tubes and stops mycelial growth Inhibits chitin synthesis/ Prevents cell division	Prevents cell division Leads to cell leakage and death Causes cells to grow without dividing	Inhalation leads to insect respiratory malfunction Glucose metabolism interference Reduced hatch Reduced survivability

### FREE OF OIL LIMITATIONS

Cinnamon oil is not a "true oil" and does not have limitations associated with agricultural spray oils. There is no wait period for copper. Cinnerate® is tank mix compatible with sulfur and does not contribute to plant "oil loading" or residue.

## 15 YEARS OF PROVEN PERFORMANCE BASED ON 150+ TRIALS

### PROTECT BIOCONTROL

Cinnerate® is IPM compatible, and there are no chronic effects towards any predators. For newly released predators applying Cinnerate®.

#### PRESERVE BENEFICIAL PREDATORS TO REDUCE FUTURE PEST OUTBREAKS \*see complete list on our website

Bumble bee	Parasitic wasp
Green lacewing	Lady bug
Predatory midge	Leafminer parasite
Hoverfly	Predatory mirid bug
Whitefly parasite	Minute pirate bugs

# **RECOMMENDED USAGE AND RATES**

### **DIRECTIONS FOR USE:**

#### **FUNGAL AND BACTERIAL DISEASE**

- 32 oz / 100 gal
- Spray Interval recommended 5-10 days, depending on disease pressure

### **MITES. INSECTS. SCALE**

- 32-45 oz / 100 gal (early season, smaller pest)
- 45-64 oz / 100 gal (mid/late season, larger pest)
- For high populations sequential treatments are advised

### **IN-SEASON TANK MIX:**

Take your tank mix to the max. Cinnerate® allows you to expand the scope of diseases controlled in a single application for enhanced performance and better prevention with your existing pest control program including:



GONVENTIONAL FUNGICIDES: contact curative and extended control





feeding + extend control



**OILS:** improve disease range and different mode of action

#### **EARLY SEASON APPLICATIONS:**

- Complete disease sanitation
- Reduce insect and mite pests while allowing beneficial predators to catch up with unwanted pests. Best results are achieved when applications start pre-threshold
- Lower cost due to V/V use rate and lower spray solution on a smaller canopy
- Get ahead of egg production; better kill on soft body juveniles

## **PRE-HARVEST SANITATION:**

Cinnerate® is an excellent broad-range fungicide to reduce post-harvest rot and losses

