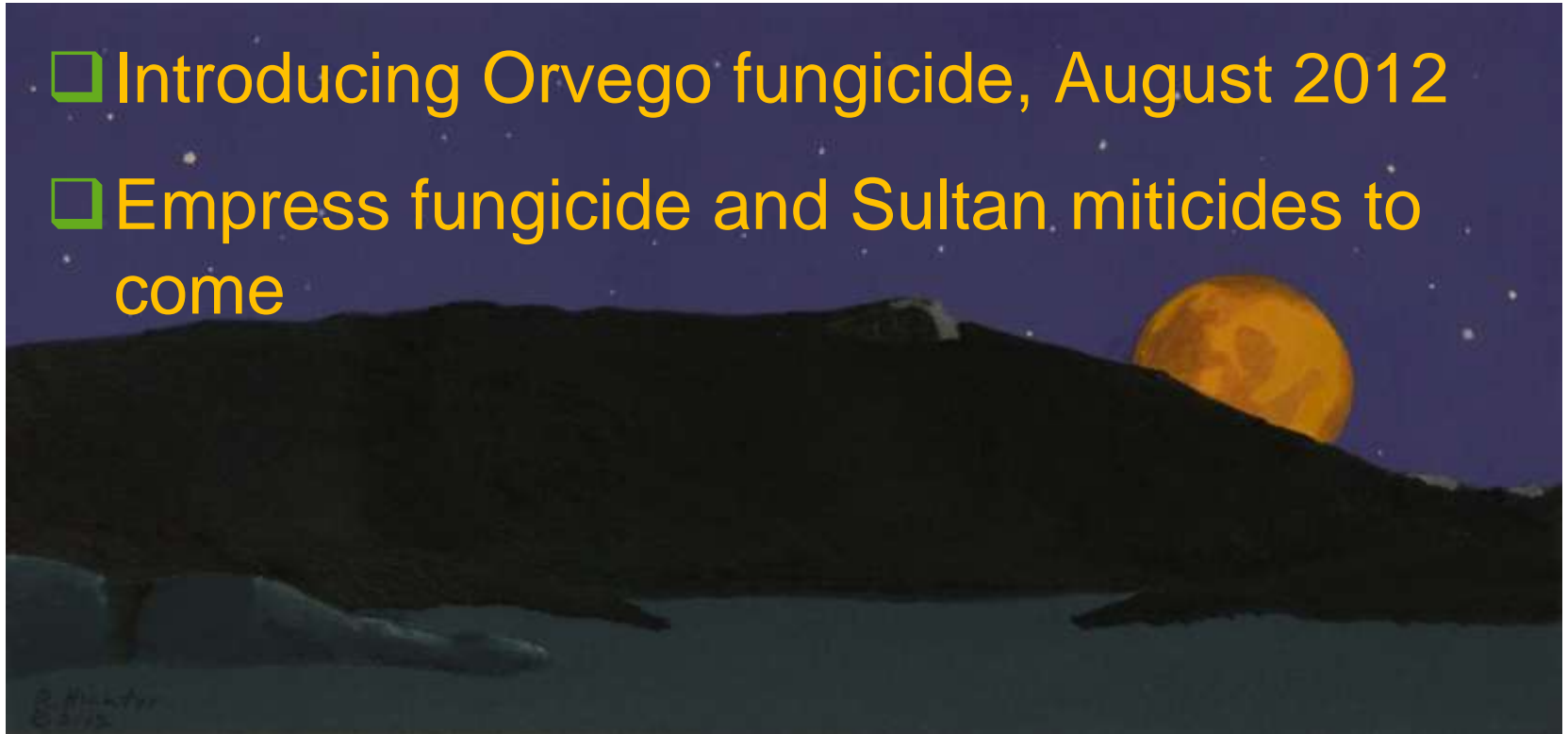


BASF Ornamental Solutions

Making the most out of the day!

- ❑ Introducing Orvego fungicide, August 2012
- ❑ Empress fungicide and Sultan miticides to come



BASF products make a difference for the customer



for Ornamentals *with Ametoctrachin*

- **An innovative new chemical class fungicide for control of oomycetes**
- **Complex III inhibitor; and a new tool in resistance management**
- **Very favorable regulatory profile**
- **Premium preventive action and good plant selectivity**

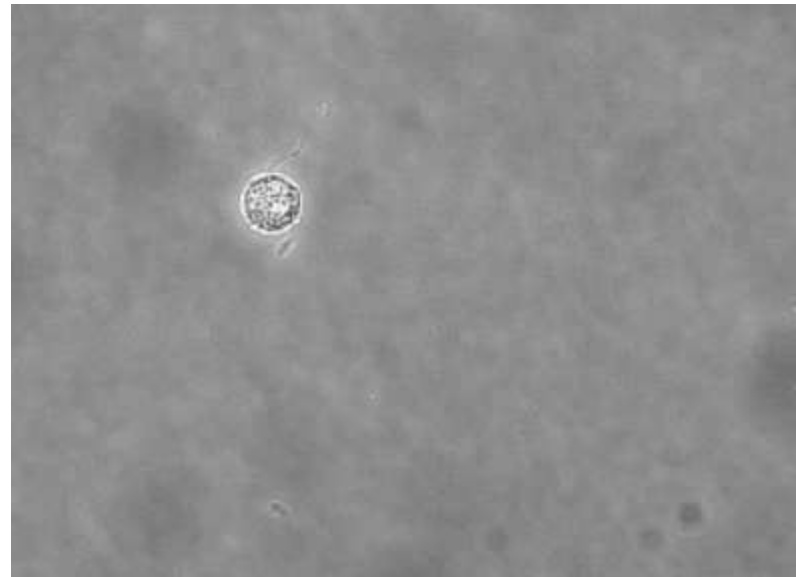


The Chemical Company

May 2012 US EPA registered ametoctradin, the active and Orvego™ fungicide. State registrations pending. Orvego is not registered for sale in CA and NY.

Ametoctradin the Active

- Active ingredient = Ametoctradin[®]
- Modes of action: mitochondrial respiration inhibitor (FRAC Group 45) **MOA:** Cuts the energy flow of the fungus by in mitochondria at an unknown binding site in complex III. New proprietary chemical class: pyrimidylamines (= no cross resistance to QoI)
- Ametoctradin has been shown to be active against zoospores and zoosporangia (infectious stages)
- Zoospores burst within seconds at very low concentrations (= high intrinsic activity)



Ametoctradin Active - Behavior in Plants

Root uptake

No active uptake of Orvego via the roots

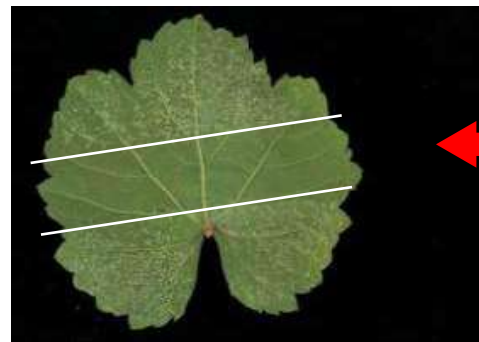
Curative activity

Orvego works best preventively

Vapour phase

No vapour phase movement

Systemicity

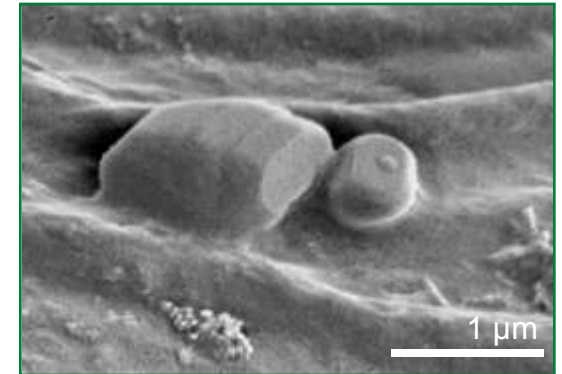
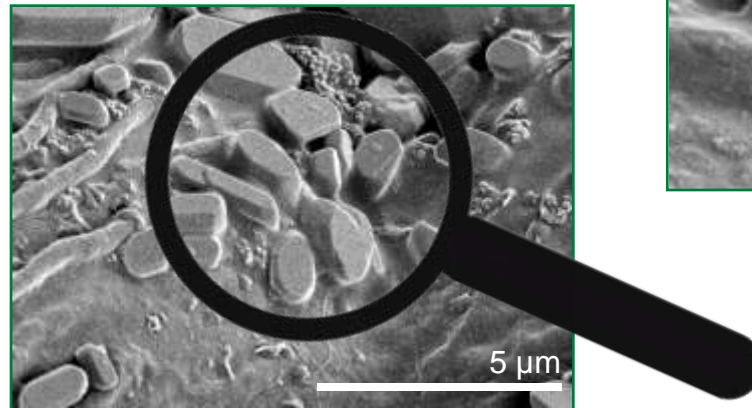
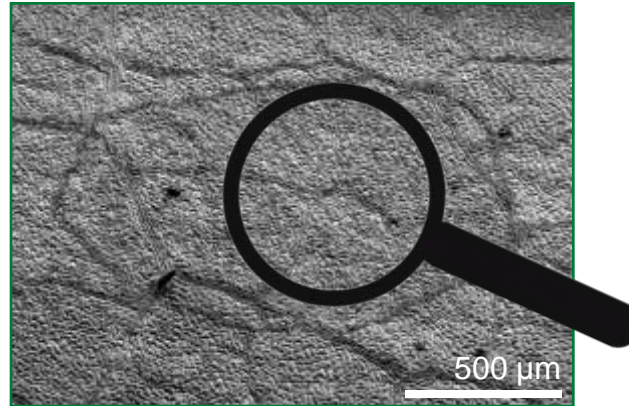


Apical translocation
Treated area
leaf under side
Basal translocation



Ametoctradin Active

- Behaviour on Leaf Surface, Grapes



forms a stable depot on the plant surface

Orvego™ fungicide

A combination fungicide from BASF

Orvego is a Combination product = Ametoctradin + Dimethomorph

- 525g/L SC formulation is Ametoctradin 300g + Dimethomorph 225g
- **Modes of Action:** Combines a mitochondrial respiration inhibitor and cell wall synthesis inhibitor (FRAC Groups 45 and 40)
- Exhibits excellent efficacy on downy mildew species and *Phytophthora* species; inhibits sporulation; *the product will not control pythium spp.*
- **Rates:** 11 to 14 fl oz of Orvego
- ***At the registered rates the equivalent of 4.8-6.12 fl oz of Stature SC (0.156-0.2 lb ai of dimethomorph) will be delivered.***
- **REI:** 12 hr; **Signal Word:** Caution

Orvego fungicide state registrations are pending. It is not yet available for sale

Orvego™ Fungicide

A new combination fungicide from BASF

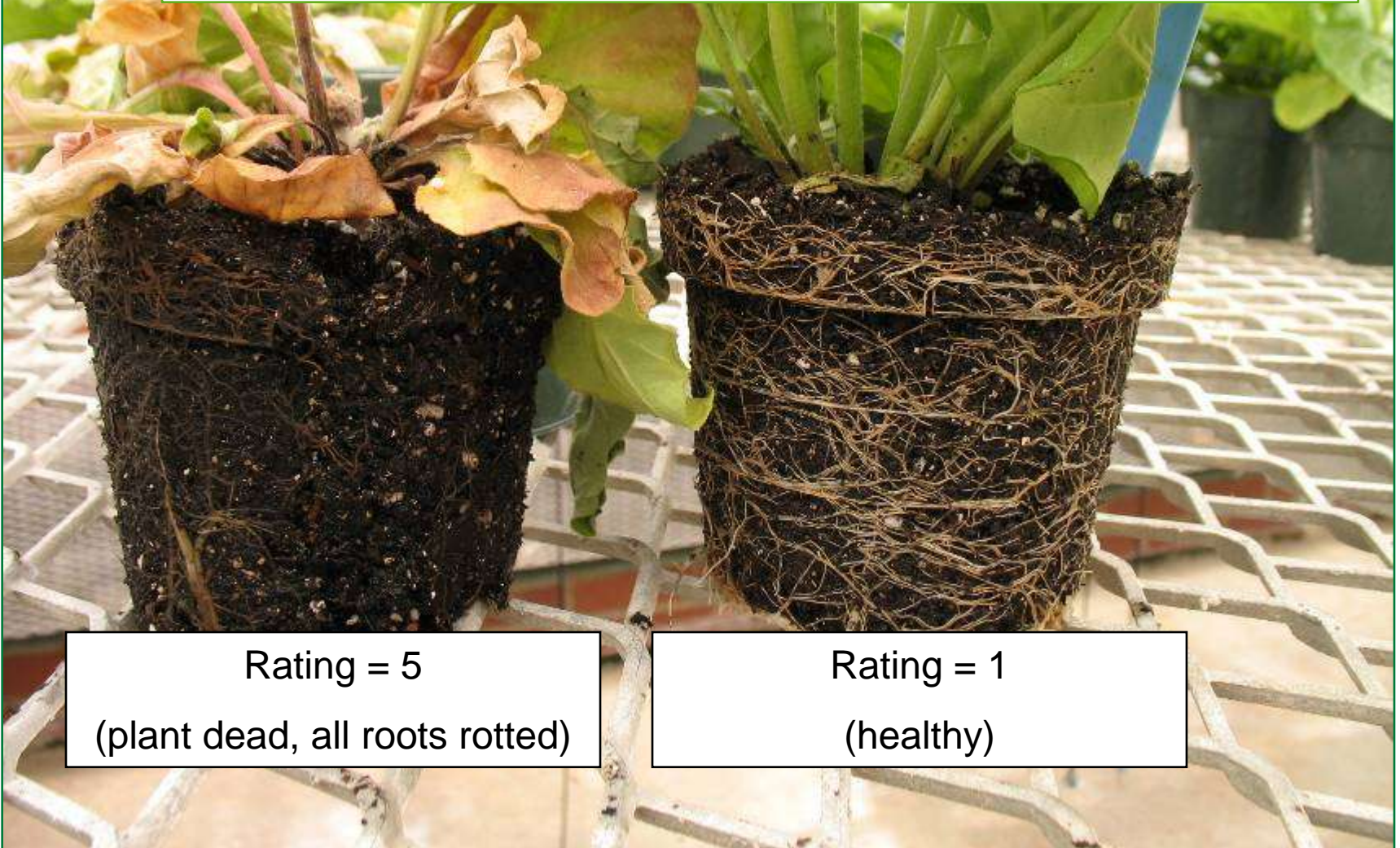


- Orvego fungicide will best applied preventively and with early curative control
- Use rates: 11-14 fl oz/100 gal; up to 56 fl oz for plant safety
- Use sites: Production greenhouses, lathhouses and container, field nurseries and interiorscapes
- Restrictions and Limitations:
 - 4 applications of Orvego fungicide per crop per season

 - Not intended for use through irrigation systems unless following instructions for chemigation use
- *To be resubmitted to add landscape uses in 2012 and petition EPA for a 4 hr REI.*



Phytophthora Crown and Root Rot



Rating = 5
(plant dead, all roots rotted)

Rating = 1
(healthy)

Talking Product Recommendations



Orvego™



Pageant™



Orvego™/
Stature™

Control of Downy mildews and Phytophthora species

Orvego™ fungicide providing excellent preventive and early curative control.

Talking Product Rotation Recommendations- *Pythiums*

Pageant

Pageant

FenStop

Segway

FenStop

Pageant

FenStop

Segway

Pageant

Empress™

Intrinsic brand fungicide

- ❑ Pyraclostrobin based liquid fungicide – SC
- ❑ **Used as a drench for soilborne pathogens,** Rhizoctonia, Pythium, Fusarium and Phytophthora in production ornamentals
- ❑ Use rates as low as 1 oz, primarily for propagation trays, bedding plants and herbaceous pots. Will have full range woody nursery uses on label as well
- ❑ To be available early spring of 2013

Sultan™ Miticide

with cyflumetofen

- ❑ For use in mite control on ornamentals grown in production nurseries, greenhouses; outdoor landscape use sites; interiorscapes; and, forest and conifer nurseries and plantations
- ❑ **Sultan** highly active on all life stages of tetranychid mites, including eggs, nymphs, and adults.
- ❑ **Sultan** provides knockdown and residual control of a variety of tetranychid mite species with contact activity
- ❑ **Sultan** is tolerant against many beneficial arthropods and is a good fit within IPM and resistance management programs
- ❑ **Sultan** is benzoylacetone nitrile class of chemistry. MOA respiration inhibitors classified by the IRAC as **Mitochondria complex II electron transport inhibitor new Group 25**.

Cyflumetofen is not yet registered by US EPA. It is not available for sale.

Verbena – URC Trial



Untreated

Pageant 4 oz
Applied After
Sticking

7 Days After Sticking