



## Frequently Asked Questions

### CEASE<sup>®</sup>

#### What is CEASE?

CEASE is a biological fungicide that contains a patented strain of the bacterium, *Bacillus subtilis*, QST 713. In multiple field trials, it has been shown to be an effective treatment for a variety of fungal and bacterial pathogens that can cause plant diseases. CEASE is extremely safe to use and can be used in an integrated management program and as part of a resistance management program.

#### How does CEASE biological fungicide work?

CEASE has multiple modes of action. The bacterial spores occupy spaces on the plant surface and compete with pathogens. Once CEASE is applied, active compounds called lipopeptides are produced by the bacterium. These lipopeptides, disrupt cell membranes inhibiting the germination and growth of the pathogen.

#### Is CEASE organic?

CEASE is OMRI Listed and certified for organic production under the National Organic Program (NOP).

#### What is the formulation of CEASE?

CEASE is an aqueous suspension (AS) which means the carrier is primarily water with the active ingredients suspended within the liquid. A type of flowable formulation, it is not a true solution, therefore requires constant spray tank agitation.

#### How much CEASE do I use?

The rate for CEASE ranges from 2 quarts to 8 quarts per 100 gallons. The typical starting rate is 4 quarts per 100 gallons per acre. See the label for recommendations.

#### What type of application equipment can be used?

CEASE is formulated for use in all common ground spray equipment such as hose-end, pressurized hydraulic, greenhouse and hand-held sprayers. Use proper spray pressure, nozzles, nozzle spacing and ground speed. With hydraulic spray equipment, using a hand operated gun, adjust to the smallest droplet size possible for effective coverage. CEASE can be used in electrostatic, cold or thermal foggers, or other ultra-low volume application equipment.

CEASE can also be applied via aerial and chemigation means. See the label for specific recommendations.

#### How often does CEASE need to be reapplied?

For effective preventative control of diseases and under normal conditions, apply CEASE at a rate of 2 - 4 quarts per 100 gallons per acre on a 7-day schedule. If conditions favor severe disease development shorten the spray interval. CEASE can be applied as often as every 3 days.

#### Can I tank-mix CEASE with other materials?

CEASE is tank mix compatible with many products but has not been evaluated with all. Perform physical compatibility tests as outlined on the label. As recommended with most chemicals, always test a small area to observe for potential phytotoxicity.

#### What materials should NOT be mixed with CEASE?

Tests have shown that CEASE is not physically compatible with the WDG formulation of Aliette<sup>®</sup>.



### **Does CEASE contain a surfactant?**

CEASE does not contain a surfactant. It is recommended that one be added to improve coverage and canopy penetration. When adding a surfactant as with any tank mixes, check for phytotoxicity on a small portion of the crop.

### **Is CEASE safe?**

CEASE is labeled as a category III pesticide with the word CAUTION. CEASE is exempt from residue tolerances in food crops and has a 0-day PHI (Pre-Harvest Interval). CEASE has a 4-hour REI and no special Worker Protection Standard (WPS) safety requirements. CEASE is OMRI Listed and NOP certified for organic production.

### **How safe is CEASE to plants?**

Research trials and grower experience has shown CEASE to be safe on sensitive foliage and open blooms. If tank-mixed, testing must be carried out to prove whether the mixture is still as safe as CEASE alone.

### **Does rainfall or overhead irrigation affect CEASE results; is it rain-fast?**

CEASE can be affected by rain or overhead irrigation as it is not rain-fast without the addition of a spreader-sticker. Reapplication intervals may have to be shortened under conditions of frequent rainfall or daily overhead irrigation.

### **Does CEASE help with resistance management?**

Due to CEASE's mode of action, resistance is not likely to develop. This makes it an excellent rotational partner with other products like MilStop® and coppers, etc. BioWorks recommends that CEASE be used in combination and/or rotation with other products as part of an effective resistance management spray program.

### **Is CEASE systemic?**

No. CEASE is a contact fungicide.

### **Does CEASE provide any curative control?**

CEASE is a preventative fungicide and does not provide any curative or eradicator control.

### **Where can CEASE be used?**

The CEASE label indicates SITES of usage and CROPS. Some of the sites of usage include greenhouses, shadehouses, indoors, outdoors, interiorscape, nurseries open or enclosed, containers or field, forests, seedling production sites, forest seedling production sites, residential and commercial landscapes. Crops include ornamentals, trees, shrubs, flowers, bedding plants, tropical plants, seedlings, conifers, greenhouse vegetables. See label for more specific crop information.

In addition to foliar spraying, CEASE can be used as a drench for root diseases and as a post-harvest dip for cut flowers/buds.

### **How is CEASE packaged?**

CEASE is packaged in a 1-gallon plastic, stackable jug. A case contains 4 x 1 gallons.

### **Where can I get CEASE?**

BioWorks has selected distribution partners in virtually all areas of the US. Visit our website ([www.bioworksinc.com](http://www.bioworksinc.com)) or call 800-877-9443 to locate the closest supplier in your area.

Refer to product labels for complete application details. Additional technical information is available on our website ([bioworksinc.com](http://bioworksinc.com)) or from your BioWorks technical sales representative. CEASE® is a registered trademark of BioWorks, Inc. Always read and follow label directions.

