

HOPS

General Information

GENERAL INFORMATION

VACCIPLANT is an extract from the plant *Laminaria digitata* for use on food and non-food crops. VACCIPLANT applied to actively growing plants (see DIRECTIONS FOR USE) will improve plant health, and will help make the treated portions resistant to certain plant diseases. Plant health benefits often result in greater yields at harvest. Use VACCIPLANT as a preventative rather than a curative application. Apply prior to disease infestation to protect the growing leaf tissue. See specific information for diseases controlled and use rates on food and non-food crops.

VACCIPLANT can be used as a foliar spray, plant dip, and soil drench to control or suppress certain soil-borne diseases and to promote healthy root growth.

MODE OF ACTION

The extract obtained from *Laminaria digitata* plant material contains active biological compounds. The extract, when applied to the host plant, increases the plant's natural defense system and strengthens cell walls. This induced resistance against important diseases is systemic. Repeat applications according to the Application Instructions to maintain induction and to protect new plant growth. The resistance induction takes place within one to two days. Use VACCIPLANT, therefore, as a preventative treatment.

PREPARATION OF THE MIXTURE

Shake the container and pour the required amount of VACCIPLANT into the sprayer tank partially filled with water while filling with the appropriate amount of water. Maintain good agitation. Do not store the mixture overnight.

GENERAL APPLICATION INSTRUCTIONS

Do not apply this product post-harvest. Apply the required amount of VACCIPLANT according to the table below.

PRE-PLANT DIP / SOIL DRENCH USE DIRECTIONS

VACCIPLANT can be applied as a pre-plant dip or soil drench application for improved plant health and suppression of certain soil-borne diseases. Apply

VACCIPLANT in a 0.15% v / v solution as a pre-plant dip or soil drench immediately prior to transplanting, unless specified differently in the SELECTED CROPS section.

GREENHOUSE APPLICATION INSTRUCTIONS

VACCIPLANT can be used in greenhouse applications prior to transplant. At low water volumes, where acreage calculations do not apply, mix VACCIPLANT at 0.15% v / v solution. Start applications preventatively before the onset of disease.

AERIAL APPLICATION INSTRUCTIONS

VACCIPLANT may be applied aerially in low volume applications. For any water volume less than 70 gallons per acre apply VACCIPLANT at 14 fl oz per acre.

INTEGRATED PEST MANAGEMENT (IPM)

Many conventional fungicides have been tested in an IPM regime with VACCIPLANT with very satisfactory results. One of the major objectives of IPM has been to reduce the probability of disease resistance development to a particular active ingredient. The alternate use of (1-2 sprays) followed by a conventional, registered fungicide (1-2 sprays) has been successfully used in many crops. In addition, the use of tank mixes with a conventional fungicide has also been successful. Follow label instructions of the particular registered product: Do not exceed amounts or treatment intervals on the label.

Limitations, Restrictions, and Exceptions

Application Instructions

- Start VACCIPLANT applications preventatively or when conditions for disease development become favorable. At water volumes less than 70 gallons per acre apply VACCIPLANT at 14 fl oz per acre. At water volumes above 70 gallons per acre apply VACCIPLANT at 0.15% v / v.
- Repeat applications at 7 - 10 day intervals.
- Under moderate to heavy disease pressure, tank mix this product with another registered fungicide.
- Not for use in California.
- Minimum spray volumes for hop growth stages are as follows:

Emergence to Training: Apply 14 fl oz of this product per acre using a minimum spray volume of 20 gallons per acre. Coverage will vary with the size of the vines and the type of spray equipment. Apply adequate spray volume to achieve

complete spray coverage.

Training to Wire-Touch: Apply 14 fl oz of this product per acre using a minimum spray volume of 50 gallons per acre. Coverage will vary with the size of the vines and the type of spray equipment. Apply adequate spray volume to achieve complete spray coverage.

Wire-Touch through Harvest: Apply VACCIPLANT at 0.15% v / v in volumes above 70 gallons per acre. Higher water volumes may be necessary to achieve thorough coverage.

For control of Downy Mildew: Tank mix this product with another fungicide labeled for Downy Mildew control and re-apply at a 7-day interval or according to the label directions of the tank mix partner. Under moderate to heavy disease pressure, tank mix this product with another registered fungicide.

Method

[Foliar Spray](#)

Rates

[field rates 0](#)

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Restricted Entry Interval

4 hours

Timings

[When conditions for disease development become favorable.](#)