

BASIL

Sanitation is critical for control of Basil Downy Mildew (BDM).

- The spores of BDM can move rapidly within the greenhouse so barriers between crops can reduce airborne spore movement within the greenhouse.
- Isolate production blocks to prevent mechanical spread by personnel or equipment.
- Thoroughly clean all equipment and production areas between production cycles.
- Refer to 'Sanitation for @Risk Crops' for additional tips to make sure you have reduced the risk of spreading this disease within your production.
- **Growers are responsible for preventing the spread of BDM in their operations.**

Basil @ Risk Crop
*Basil Downy Mildew is a seed and airborne disease that, if not managed throughout the production cycle, will cause serious plant losses. Ball has worked diligently to minimize the risk, BUT growers are **solely responsible** for growing the plants under clean cultural conditions and applying correct fungicides to suppress the disease.*

FUNGICIDE PROGRAM FOR BASIL DOWNY MILDEW MANAGEMENT*

- ⇒ Day 0-1 Sow seed and **drench** Subdue MAXX (1 oz/100 gal) within one day of sowing
- ⇒ Day 14 Spray Subdue MAXX (1.0 oz/100 gal) and Nutriphite (32 oz/100 gal)
- ⇒ Day 28-30 Transplant plugs, then **spray** or **boom** Subdue MAXX (1 oz/100 gal)+Cease (2%)
- ⇒ Day 35-37 Spray with Nutriphite (64 oz/100 gal)
- ⇒ Day 42-44 Spray with Cease (2%)
- ⇒ Day 49-51 Spray with Nutriphite 64 oz/100 gal)
- ⇒ Day 56-58 Spray with Cease (2%)
- ⇒ Day before shipping spray with Nutriphite (64 oz/100 gal)

Recent trials have shown positive results from Micora among other fungicides.

PLUG CULTURE

STAGE 1 - Time of radicle emergence (2-4 days)

- ◆ Soil temperature 65-70°F (18-21° C).
- ◆ Keep media very moist, near saturation.
- ◆ Seed may be left covered or uncovered.
- ◆ Soil pH 5.5-5.8 and soluble salts (EC) less than 0.75 mmhos/cm (2:1 extraction).

STAGE 2 - Stem and cotyledon emergence (7 days)

- ◆ Soil temperature 65-70° F (18-21° C).
- ◆ Reduce moisture levels once radicle emergence occurs! Allow the soil to dry out slightly before watering for best germination and rooting.
- ◆ Keep soil pH 5.5-5.8 and EC less than 0.75 mmhos/cm.
- ◆ Keep ammonium levels less than 10 ppm.
- ◆ Begin fertilizing with 50 - 75 ppm N once cotyledons are fully expanded.
- ◆ Alternate feed with clear water.
- ◆ Irrigate early in the day so foliage is dry by nightfall to prevent diseases.

STAGE 3 - Growth and development of true leaves (7-10 days)

- ◆ Soil temperature 62-65° F (17-18°C).
- ◆ Allow the soil to dry thoroughly between irrigations but avoid permanent wilting to promote root growth and control shoot growth.
- ◆ Maintain soil pH 5.5-5.8 and EC less than 1.0 mmhos/cm.
- ◆ Increase feed to 50-75 ppm N every 2 - 3 irrigations.
- ◆ Supplement with magnesium sulfate (16 oz/100 gal). Do not mix magnesium sulfate with calcium nitrate as precipitate will form!
- ◆ Long Day treatments starting at sunset for at least 6 hours (dark period <7 hours) effectively prevent spore germination. This is most effective during early development.
- ◆ Use DIF whenever possible, especially the first 2 hours after sunrise, to control plant height.

STAGE 4 - Plants ready for transplanting or shipping (7 days)

- ◆ Soil temperature 62-65° F (17-18°C).
- ◆ Allow soil to dry thoroughly between irrigations.
- ◆ Fertilize with 14-0-14 or calcium/potassium nitrate feed at 50-75 ppm N as needed.

FINISHED CULTURE

TEMPERATURE

- ◆ Night -- 62-65° F (17-18° C)
- ◆ Day -- 65-70° F (18-21° C)

LIGHT

- ◆ Long Day treatments starting at sunset for at least 6 hours (dark period <7 hours) effectively prevent spore germination. This is most effective during early development.
- ◆ Maintain light levels as high as possible while maintaining moderate temperatures.

MEDIA

- ◆ Use a well-drained, disease-free soilless medium with a medium initial nutrient charge and a pH 5.5-6.2.

FERTILIZATION

- ◆ Fertilize every irrigation with 50-75 ppm from 13-2-13.
- ◆ Maintain medium electrical conductivity around 1.0 mmhos/cm (using 1:2 extraction).

CONTROLLING HEIGHT

- ◆ Once plants are rooted to the sides of the containers allow the plants to slightly wilt prior to irrigation to provide some height control.
- ◆ Basil is responsive to day/night temperature differential (DIF) and are shorter with a negative DIF.

For further information (vegetablemdonline.ppath.cornell.edu/NewsArticles/BasilDowny.html)

**Be sure to read and follow all pesticide label and instructions.*