



ORGANIC FLUE-CURED & BURLEY TOBACCO PROGRAM



Enhance your tobacco integrated pest management program with the power of biologicals. Marrone Bio Innovations provides proven biological solutions for problematic disease & insect challenges in tobacco. This program guide explains when & how to use biologicals for the best control possible. Have questions? Contact a biological expert today. Contact info on back.

PROTECT TOBACCO CROPS FROM:

- ✓ Aphids
- ✓ Nematodes
- ✓ Target Spot
- ✓ Black Shank
- ✓ Wireworms
- ✓ Greenhouse Damping-Off

GREENHOUSE CLEANING

Treat all surfaces (including floors, benches, ceilings, walls, plumbing, irrigation, drain areas, fans, heating vents, etc.) with Jet-Ag® 5% @ 7.8 oz./5 gal. of clean water (156 fl. oz. / 100 gal.) PLUS Jet-Wash @ 1.6 fl. oz./5 gal. (1 qt./100 gal.) of clean water. Coat surfaces thoroughly. No rinsing required. Make sure no heavy metal products (Copper, Zinc) are in tank.

GREENHOUSE – PRE-TRANSPLANT

Disease Control (damping-off, *Fusarium*, *Pythium*, etc.) Soil drench with Stargus® Biofungicide @ 1% v/v (1.28 fl. oz./gal. of water) prior to transplant & can be applied weekly during the period in the greenhouse.

Damping Off & Foliar Diseases

Spray Jet-Ag 5% preventively 0.75-1.5 fl. oz/5 gal. of clean water (15-30 fl. oz./100 gal.); curatively 3.9-7.8 fl oz. / 5 gal. of clean water (78-156 fl. oz / 100 gal.)

Drench at 3.9-7.8 fl. oz./5 gal. of clean water (78-156 fl. oz./100 gal.)

Soilborne Diseases

Soilborne diseases can be treated with a drench of Stargus® Biofungicide @ 1% v/v or 1.28 fl. oz./gal. of water. Apply drench solution at 2.3 gal./1,000 sqft.

Plant Health

Boost plant health via induced systemic resistance (ISR) & systemic acquired resistance (SAR) mechanisms with Regalia® Biofungicide. Treat by spraying with Regalia Biofungicide at a rate of either 2 qts./A or 2 qts./100 gal. (3.2 fl. oz./5 gal.).

AT TRANSPLANT

Nematode, Wireworm & Soilborne Disease Control

Apply in Transplant Water (TPW) in 75–200 GPA.

TPW Tank-Mix Recommendation

- Majestene® @ 1-2 gal./A
- Stargus Biofungicide @ 3-4 qts./A
- Azera® @ 1-2 pts./A OR azadirachtin (see label)
- Starter Fertilizer



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IN-SEASON INSECT CONTROL

Aphids & Flea Beetles

- Azera @ 1-2 pts./A
- Azadirachtin (Various, see label)
- M-Pede® @ 1% v/v (aphids only)
- M-Pede + Grandevo® WDG @ 1 lb./A

Tobacco Budworm & Tobacco Hornworm

- DiPel® DF or Javelin® @ 0.75-1 lb./A
- XenTari® DF @ 0.75-1 lb./A
- Grandevo WDG Bioinsecticide @ 1 lb./A OR
- Grandevo WDG Bioinsecticide @ 1 lb./A + DiPel or Javelin or XenTari DF @ 0.5-1 lb./A

CULTIVATION TANK-MIX

Nematode & Wireworm Control, Foliar Disease & Insects

- Majestene Bionematicide @ 1 gal./A
- Stargus Biofungicide @ 2-4 qts./A
- Azera @ 1-2 pts./A (aphids & flea beetles) & DiPel DF @ 0.5 to 1 lb./A (TBW)



Top: Tobacco Hornworm. Inset: Stargus University Trial assessing target spot & foliar disease control.

Target Spot, Frog Eye Leaf Spot Control & Plant Health

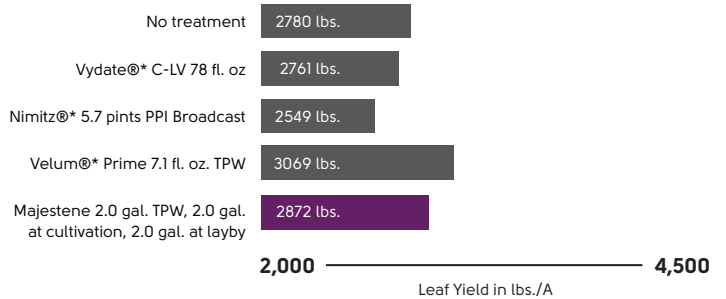
- Jet-Ag 5% @ 2-3 qts./100 gal. of spray solution + Regalia Biofungicide @ 2 qts./A followed by Stargus Biofungicide @ 2 qts./A (within a few days).
- Spray Jet-Ag 5% at dawn or dusk to slow the dry time of Jet-Ag 5%. Once it's dry, it's done.

Note: Performance of Grandevo WDG Bioinsecticide & Venerate® XC Bioinsecticide are significantly improved with the addition of a high-quality spreader sticker. Check with your crop protection supplier for recommendations.

Both Grandevo WDG Bioinsecticide & Venerate XC Bioinsecticide (as well as Bt's) are easy on beneficial insects & may be used in conjunction with them for enhanced biological control.

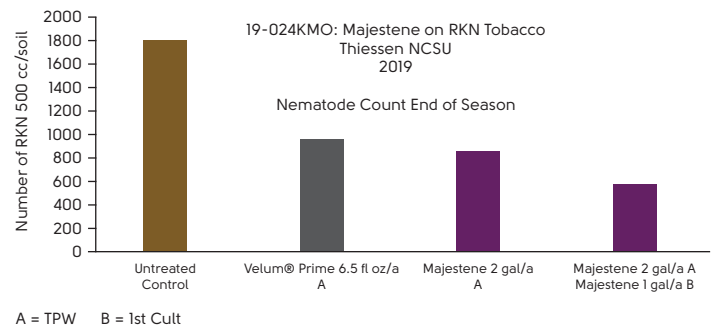
Root Knot Nematode Control in Tobacco

Virginia Tech 2018 Tobacco Cyst Nematode Trial



*Vydate® & Nimitz® are not approved for organic production.

Majestene® Bionematicide Reduces Root Knot Nematode in Tobacco



TALK TO A BIOLOGICAL EXPERT

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Always read & follow label directions. Not all products approved for use in every state.

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