

# ORGANIC CONTROL OPTIONS FOR INSECT MANAGEMENT

Adapted from Anne L. Averill's section in the UMass Cranberry Chart Book.

Cranberry insect management is difficult even with all the commercial synthetic compounds available. Be aware that organic production may not be a viable option unless there is low insect pressure and a good water supply available. Cranberry fruitworm, black-headed fireworm, cranberry weevil, and perhaps cranberry tipworm, pose the greatest threats to viability.

Maine growers who wish to be certified by an organic certification organization need to go through MOFGA Certification Services, LLC, a wholly-owned subsidiary of the Maine Organic Farmers and Gardeners Association ([www.mofga.org/](http://www.mofga.org/)). They are a USDA-accredited organic certifier, operating principally in the state of Maine. MOFGA has operated a certification program since 1972, the first state-level program in the country. Every certifier must work under standardized USDA rules and all inputs must be listed with OMRI (Organic Materials Review Institute). This list can be found on the web [www.omri.org](http://www.omri.org) and a hard copy is supplied with certification. Some products are referred to as 'Restricted.' The restricted products have certain conditions attached to them that have to do with the generic materials in the product (amounts or frequency of application, etc.). OMRI also puts out a Generic Materials List. Three years of no synthetic chemical applications are necessary before a crop can be certified organic.

**Use of cultural practices (sanding and/or flooding) is the most effective way of managing insects organically.**

- Late Water (LW) -- Holding late water is an excellent choice to greatly reduce cranberry fruitworm levels; however, moths may move into LW-treated beds from other areas of infestation, including areas with wild cranberries. False armyworm, blossomworm, and southern red mite may be managed with late water. Holding late water kills gypsy moth eggs laid on the bog as well as prevents establishment of many tiny caterpillars that drift in from infested uplands. See Late Water Section (pp 45-47).
- Sanding -- If you can sand, populations of most insects should be less abundant. A minimum depth of 1" is best for suppressing cranberry tipworm populations.
- Winter Flood -- If you can winter flood, populations of most insects should be less abundant.

**The following are options that are cleared for organic management on cranberry:**

## **Azadirachtin products**

Aza-Direct at 1-3.5 pt / A  
Neemix at 4.5 4-16 oz / A

Target small caterpillars with this biological insecticide – it serves as a repellent, and antifeedant, and interferes with the molting process. Restricted. Neemix was sprayed on a small test plot in downeast Maine in 2004, targeting cranberry tipworm, but infestation and tip damage levels did not decline.

## **Bacillus thuringiensis (B.t.) products**

Dipel DF (*kurstaki* strain) ½-1 lb / A  
Biobit HP (*kurstaki* strain) ½-1 lb / A  
Xentari (*aizawai* strain) ½-1½lb / A

These compounds are most effective when applied multiple times in low gallonage against small caterpillars feeding on foliage. Treating early infestations is critical. Well timed chemigation systems are critical for good efficacy (6 min or less rinse time). Be aware that not all *B.t.*'s are certified organically or have cranberry on the label.

**M-pede Insecticidal Soap** || 1-2% solution || no chemigation

## **Neem Oil Products**

Trilogy

Useful as a dormant application for suppression of southern red mite egg hatch. Do not chemigate. Use 1% rate for ground application. Be aware that it accelerates plant growth stage and adjust frost protection accordingly. Also suppresses eggs and motile mites post bloom.

**Nematodes** (Availability limited) || Expensive, but a good organic option for grub and girdler management.

**Pyganic EC** || 1.4 16-64 oz / A

**Pyganic EC** || 5.0 4.5-18 oz / A

Restricted. Spot-treating using low gallonage may be helpful for patchy infestations. Note that any Pyrethins with added piperonyl butoxide are not allowed.

## **Spinosyn products**

Entrust 80W || 1.25-3 oz / A

Entrust is an effective, fast-acting, but quite short-lived insecticide. Do not exceed 9 oz per season. This is the better tool to use (compared to *Bt*) once caterpillars have already reached a larger size. When chemigating, a short rinse time (6 minutes or less) is necessary for good efficacy. Only use lowered rates if chemigation system is 4 minutes or under. **Keep in mind that Entrust is moderately toxic to aquatic invertebrates and bees.**