

# Cranberry

## Crop Management Newsletter



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### Cranberry Girdler Management

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#### Biology & Life History

Cranberry girdler can be a sporadic but serious soil insect pest for growers in Wisconsin. Although this insect is found to occur in all growing areas located throughout the state, girdler is not necessarily a pest on all cranberry acreage therefore, careful monitoring of your marsh is essential in order to detect any potential problems.

Cranberry girdler belongs to the Pyralidae family, also known as pyralid, grass, wax or snout moths of the order Lepidoptera (moths and butterflies). These complexes of moths are also referred to as sod webworms and are widely known to be pests of cultivated and wild grasses. Girdler overwinters as full-grown larvae in a cocoon buried in the leaf litter on the beds. In the spring, larvae complete their development, pupate and start to fly as adult moths in June. Adult activity periods generally occur from early June to mid-August; peak flight normally occurring during the last week in June or first week in July depending upon your location. Fortunately, there is only one generation per year.

Cranberry girdler larvae damage the vines by attacking the roots and chew through the bark of the underground stems and runners sometimes completely severing the vine. More often, larvae will gnaw or 'girdle' the bark completely around the runners or stems. Depending on the severity of attack, larval feeding can weaken and reduce the vigor of the vine limiting production. Above ground foliage eventually becomes red or brown and under severe infestations, may

eventually kill the vines beyond the point of attack. Damage from larvae can often times go undetected but usually can be found in August and continuing into September. The most notable damage is generally found the following spring after the winter flood has been removed and the plants start to grow out. Often times, the foliage drops off leaving areas or patches of dead vines where weed species can soon takeover. Injury from girdler is easily diagnosed by looking for the presence of larvae and chewing on the underground horizontal stems and runners during the summer months.

#### Scouting for Girdler and Economic Thresholds

Pheromone baits specific to capturing girdler moths are commercially available to growers and should be used to help monitor seasonal adult flight activity. Traps should be placed out in early June in suspected hot spots or areas that have had a history of girdler. In addition to using pheromone traps the sweep net can also serve as a monitoring tool however, adult moth activity can best be gauged by walking the fields and observing the amount of girdler moths that you "kick up". If you determine that indeed they are girdler (fruitworm moths may look similar), carefully monitor your weekly trap counts. Currently, no economic thresholds have been established for girdler adults; however, based on experience, if average counts exceed 50 moths/trap (particularly if peak flight



See *Cranberry Girdler Management* p. 2

## Cranberry Girdler Management *(continued from p. 1)*

is sustained), keep a close eye out for any potential, subsequent larval activity. Remember too that trap counts can be greatly influenced by the weather.

If vines start to show stress, become discolored or exhibit signs of dieback during the months of July or August, carefully check the underground portion of the plants for girdling or chewing. The best way to do this is by following the upright(s) in question back to runner portion of the plant to determine if there is any damage and/or presence of larvae. Larvae are generally white to cream-colored with a brown head and reach a little over a half inch long. Food waste, excrement or “frass” (little brown pellets) from the larvae is often times found in association with feeding.

### **Control Strategies**

Viable management strategies for the control of girdler are somewhat limited. However, by employing the use of multiple control tactics, one will hopefully be able to keep this pest in check. The use and practice of the following control options should help suppress girdler populations and hopefully reduce or even prevent them from causing economic plant injury.

**Cultural practices** are by far the most important methods for suppressing girdler infestations. Sanding will help bury overwintering pupae in the soil and hinder the adult moths from emerging the following year. Routine sanding every three to five years should help prevent girdler from becoming established as a major pest problem. Flooding has also proven to be very effective against girdler larvae. A deep flood over the top of the vines for a period of 24-48 hours in the later parts of August or early September will help drown the larvae. Try and choose a period of time that will be generally cool and cloudy or even during a rain event versus sunny, warm weather to help protect the fruit from scald conditions. Young green berries will not hold up as well to flood conditions versus berries that are more mature and starting to color.

Other more recent research suggests that weed control may also be an important factor in reducing girdler populations. Newly hatched cranberry girdler larvae (aka neonates) need and prefer soft, succulent plant tissue at or below ground level to feed on to enhance their survival rate. In the cranberry bed, grasses are probably crucial for their survival. Young larvae can become established on grass crowns or roots then move to cranberry

at a later stage when their mandibles can process woody substrate. If grasses can be prevented from growing in a bed, particularly during July and August when the eggs are laid, then the girdlers will also be prevented from establishing themselves in great numbers. In the lab, when given a choice between reed canary grass and cranberry, most larvae were found in the roots of the grass. In a no-choice situation where neonates were given access to grass plants only or cranberry only, nine times as many neonates survived on the grass than on cranberry, and most were in the roots. Apart from grasses that are generally the preferred host plants, girdler is also known to attack cranberry, Sheep Sorrel and Doug-fir plantings.

**Chemical control** tactics have been employed in the past but with limited success. Currently, the only product labeled for Cranberry girdler in Wisconsin is the relatively new insecticide Belay®. Recent studies and evidence suggests that Belay® applied as a post-bloom soil application at the 12 fluid oz/acre rate will help control girdler larvae feeding underground. Spot treatments of affected areas within a bed or treating whole beds may be sufficient while broadcast applications on the entire marsh often times may not be necessary. Timing of applications is made approximately 2-3 weeks following peak flight as first signs of girdler larvae appear, normally between July 21 and August 10. A degree-day model developed by the University of Wisconsin is also available to assist with the timing of this application. Note that only one application of Belay® at the 12 oz/acre rate is allowed in Wisconsin. Please refer to the supplemental label for cranberry for further use instructions.



*References to products in this publication are for your convenience and are not an endorsement of one product over similar products. You are responsible for using pesticides according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from pesticide exposure. Failure to do so violates the law.*

## OBSERVATIONS FROM THE FIELD

**Theresa Cira**  
**Lady Bug IPM, LLC**

Pheromone baited traps are used during bloom as a way to monitor the adult flight of cranberry pests. The traps consist of a lure scented with a chemical in a sticky white cardboard tent. The intended purpose of the pheromone scent is to attract the males of pest moths however there is always a variety of creatures to be found in the traps. Some other moth species are also drawn in by the pheromones and the traps are like a giant buffet for predatory insects and spiders who then can wind up getting stuck in the sticky traps themselves. We have even found tree frogs taking advantage of the trapped insects for an easy lunch. Additionally many insects meet their demise in the trap simply because they landed to rest on the sticky surface.

The following descriptions are just a small example of the variety of insects and other arthropods we find in the traps in the field. In the Cranberry Fruitworm traps we have seen Bilobed Loopers otherwise known as *Megalographa biloba* (Lepidoptera: Noctuidae). These moths have two characteristic camel hump like bumps along their backs and a white splotch on each of its two brown front wings. The cat-



**Bilobed Looper**



**Bilobed Looper**

erpillars are light green with black shiny eyes and a white strip along their side. They are known to eat alfalfa, cabbage, dandelion, barley, sage, and tobacco, among other plants. No research has been conducted to determine their effect on cranberries.

In the Blackheaded Fire Worm traps we see many different kinds of Owlet moths (Lepidoptera: Noctuidae). One example is the Grey Half Spot or *Nedra ramosula*. The immatures of this moth feed on St. John's Wort plants, which are a common weed found in cranberry beds. Certainly a helpful moth to have around! Also in the Blackheaded Fireworm traps one may find the Red-banded Leafroller *Argyrotaenia velutinana* (Lepidoptera: Tortricidae). Both kinds of moths are leafrollers but the Red-banded Leafroller is a pest in apple orchards where they eat the leaves and fruit.



**Grey Half Spot**



**Red-banded Leafroller**



## OBSERVATIONS FROM THE FIELD

Jane Sojka  
Lady Bug IPM, LLC

### MARSH SIDE OBSERVATIONS

Cranberry Flea Beetle have started to work the marshes. On Friday July 22 we found our first of the season but we expect many more. Remember that the adult is the easiest to control. They typically like weeds but they can and will work our tender new vine growth as well.

We are getting some strange BFW flight indicators which may very well give us a third generation pest. Keep a close eye on your marsh in the next week or two as stranger things have happened. I believe that the heat has played havoc with this species once again this growing season. Not all growers will have issues but some of you with "HISTORY" may very well see something.

We are observing early blight – aborting pin-heads. Once again the HEAT has pushed some of our vines far too hard but we just cannot set every single berry that we have the potential for.

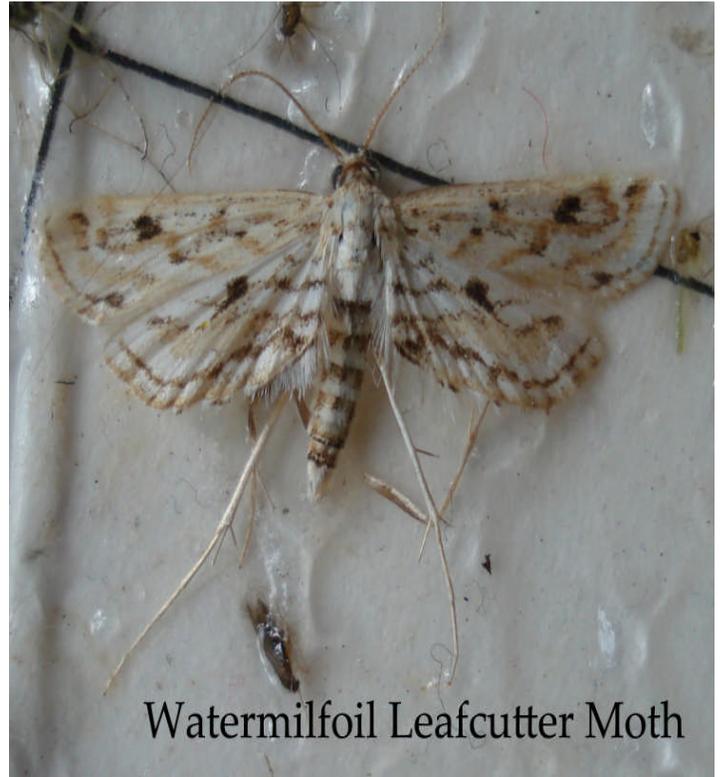
I commend each of you for a job well done with handling that extreme heat. For the most part your vines are not showing excessive drought stress nor yellow vine syndrome. Some of you had trouble with scald, half circles, and irrigation uniformity. Changing sprinkler heads is a never ending job once you see a problem but please be extra careful with worn out parts, seals and just plain coverage during the heat. I hate to be the one with bad news but guess what?

“ August is typically our HOT and DRY month!” .

Food for thought concerning fall weed control: Make sure that you look ahead to your projected harvest date and check the label for all the herbicides you may use yet this growing season. – Callisto has a 45 day PHI. Roundup has a 30 day PHI while grass control measures may have up to 60 days PHI so please check BEFORE you apply. Right now we are seeing the fall weed invasion and for some of you it sure is coming on strong. It is like all the spring herbicides are gone and those fall weeds are having a “free for all” with nothing out there to stop them.



Continued from *What We Find in Pheromone Baited Traps* p. 3



In the Girdler traps there can be found a very common moth that looks similar to the girdler itself. It has white wings spotted with grey and black markings and some stripes while the true Girdler has white wings banded with light stripes and spots only at the end of the wings. These “false girdlers” are called Watermilfoil Leafcutter Moths, *Parapoynx allionealis* (Lepidoptera: Carambidae). In the immature stage the caterpillars eat aquatic plants such as water lilies, common arrow head (which is found in ditches on marshes across Wisconsin), pond weeds and watermilfoils. They are from the same family of moths as Girdlers and so are most likely in the traps because they are attracted to the pheromone.

Pheromone baited traps are considered to be fairly species specific and work well for attracting pest species, yet there can be other casualties arising from the sticky surface. ❖❖❖

### Address Correction

If you have any address corrections, additions, or deletions, please let us know. Please call 715-421-8440 or e-mail: [mspencer@co.wood.wi.us](mailto:mspencer@co.wood.wi.us)

Thank you!



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