Squashing the Squash Vine Borer
By Chelsea Gustafson

It’s a horrible experience to walk into a garden and discover that over half of the squash crop was destroyed overnight. This is what happened during the summer of 2011 at the Carolina Campus Community Garden (CCCG), a sustainable garden that supplies food for UNC employees. What could have possibly depleted and destroyed the majority of the CCCG’s squash crop so quickly? The prime suspect is the squash vine borer.

The Carolina Campus Community Garden
(Photograph taken by Chelsea Gustafson)

Why worry about the squash vine borer?

The adult squash vine borer, a black and orange moth that closely resembles a wasp, can infest a garden in the blink of an eye (UI 2012). It is imperative that the CCCG prevents infestations from these destructive pests because the borer “can infest 25 percent or more of the crop” (Ghidiu 2005). Claire Lorch, director of CCCG, stated that the CCCG had a problem with the squash vine borer during the summer of 2011 and "it was probably responsible for our losing 50 -75% of our summer squash crop” (a 2012 interview with Claire Lorch; unreferenced.) The CCCG must take action to prevent the borer from returning because gardens are prone to another squash vine borer infestation if they have previously been infested (Ghidiu 2005). Another infestation would be devastating to the CCCG.

How does one spot a borer infestation?

A squash vine borer infestation begins when moths lay “brown eggs on the stem near the base of the plants” (Evans 2003). It is crucial to find the eggs before they hatch or the larvae will begin to destroy the plant’s internal vascular system (Evans 2003). To identify if borers are present in a plant, one must look for a wilting vine or examine the stem for small holes or oozing (SVB 2012). The oozing is caused by recently hatched...
larvae that “push masses of greenish excrement called frass out of their entry holes in plant stems” (Evans 2003). It is important to spot a borer infestation early before it can spread to the other plants in the garden.

How does one treat a plant that has been infested by the borer?

If a squash vine borer infestation is detected, borers may be removed by splitting open the stem and physically removing the individual eggs (Evans 2003). Although removing the eggs is a sustainable method, this method may only work in a large garden like the CCCG if the borer is detected in a small number of plants. Another strategy that allows a plant to survive, even if the borer is present, is to cover the nodes of the plant. Covering the nodes is suggested because "many squash cultivators produce secondary root systems at their nodes. Covering the nodes with a little soil will provide insurance against the main stem" (SVB 2012, p.16). If the infestation is detected early, these methods may help the plant survive.

How does one prevent a borer infestation?

Although there are ways to revive a plant after a borer infestation, the best way to ensure that a garden stays borer-free is to use preventative planting. Crops planted after the borers’ peak season, usually after July 1, are less likely to become infested (Ghidiu 2005). Additionally, Evans suggested to “avoid planting squashes in the same place where you grew cucurbits the previous season” (2003). Crop rotations and staggered plantings have also been known to keep the borer at bay (SVB 2012). Along with preventative planting, there are methods to prevent the borer from laying eggs on susceptible plants. One of the most common practices is to use row covers that “exclude moths from the plant during the flight period of the adults” (Ghidiu 2005). Although row covers offer good protection from the moths, gardeners must remember to expose the flowers during the day to allow for pollination (Ghidiu 2005). Sustainable methods to prevent the squash vine borer exist and will allow the gardeners at the CCCG to plant a variety of crops.

What types of plants are susceptible to the squash vine borer?

Some plants in a garden are more susceptible to a borer attack than others. Ghidiu stated that the "order of preference for borer feeding is winter squash, summer squash, pumpkin, gourd, cucumber, and muskmelon" (2005). This is evident because when the gardeners at the CCCG tried to plant squash in 2011, the borer attacked it (a 2012 interview with Claire Lorch; unreferenced.) Additionally, cucumbers and muskmelons are commonly planted and the gardeners at the CCCG should be aware that these plants are susceptible to the borer before they plant them.

What types of plants are resistant to the squash vine borer?

Although the borer seems to infest every plant it comes in contact with, a few plant varieties are tolerant of the squash vine borer. The plant that shows the most
resistance is the butternut squash; other tolerant varieties include the green striped
cushaw, dickenson pumpkin, summer crookneck, and acorn squash (UI 2012). Claire
Lorch stated that this year’s crop of Seminole pumpkins seemed to be resisting the pest (a
2012 interview with Claire Lorch; unreferenced.) This makes sense because the Seminole
pumpkin is a member of the crookneck winter squash family and a close cousin to the
cushaw and butternut squash, which are both tolerant of the squash vine borer. According
to the National Research Council, the Seminole pumpkin “is notably resistant to the
pesky squash vine borer” (NRC 1989). The CCCG should be able to grow plants that are
resistant to the borer.

The Squash Vine Borer is a pesky bug, notorious for depleting and destroying
squash plants. After the pest has infested a garden, it could take a long time for the
garden to recover and return to the usual level of productivity. It is essential that the
CCCG prevent the borer from returning because many employees depend on the CCCG’s
crops. By using methods to prevent the squash vine borer, planting resistant crops, and
spotting the warnings of an infestation as soon as possible, the CCCG should be able to
keep the borer at bay.
Bibliography


