e-GRO Alert


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Don't Let Fall Armyworms Cut into Fall Profits

Fall armyworms are common in turfgrass and landscape. While they are less common in the greenhouse they can cause extensive damage on a variety of crops if not closely monitored.

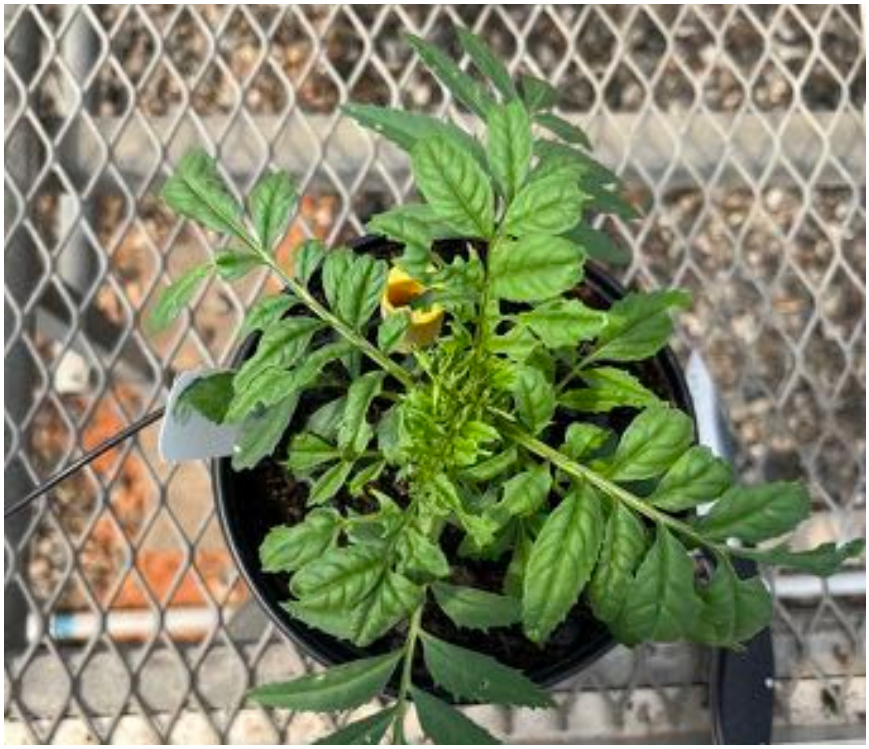

Figure 1. Tattered foliage accompanied by frass was observed on several plants. (Photo: Patrick Veazie)

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Signs. We were interested in growing fall marigolds and decided to conduct a trial this year at NC State University. Besides getting to know the crop better, we have been receiving additional education. When inspecting our greenhouses, tattered foliage accompanied by frass was observed on several plants (Fig. 1). However, upon closer investigation, the feeding damage was more prevalent on the lower foliage, and in some cases, the entire axillary shoots were removed, but no insects were located on the foliage. Upon further inspection and searching into the top strata of the substrate, fall armyworms (*Spodoptera frugiperda*) were determined to be the result of the damage. In

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advanced cases, the entire plant can be severed (Fig. 2). Fall armyworms (and cutworms) will feed on the foliage and burrow into the substrate making it difficult to identify the problem (Fig. 3).

Fall armyworms are not native to North Carolina and overwinter further south such as Southern Florida, South Texas, or Mexico. Because of its migratory pattern of moving up from the south, it is more commonly observed in the fall. While this pest is well-known for its damage to monocots (turfgrass, corn, and millet), it has been reported to feed on over 80 plant species. Additionally, the greenhouse provides a perfect environment for the larva to thrive. Fall armyworms can be observed in various colors ranging from light brown to almost black and can grow up to 1½ inches long (Fig. 4). One key identifier is an inverted "Y" located on the top of the head. Adults are 1.25 to 1.5 inches long (Figs. 5&6). They can be confused with cutworms and more in-depth inspection by a diagnostic clinic is needed to determine the species. We submitted caterpillars to the NC Plant Disease and Insect Clinic to obtain identification by Dr. Matt Bertone. Eggs are generally laid in clusters containing roughly 50 eggs and a life cycle can range from 22 to 46 days. The University of Florida has an excellent guide with additional lifecycle information (https://entnemdept.ufl.edu/creatures/field/fall_armyworm.htm).

Prevention and Treatment. The best method for controlling fall armyworms is to scout your crops regularly and be on the lookout for abnormal lower leaf defoliation. Monitoring and excluding adult moth populations in the greenhouse is also important. Inspecting insect screens and limiting entrance points is the best prevention method. There are a

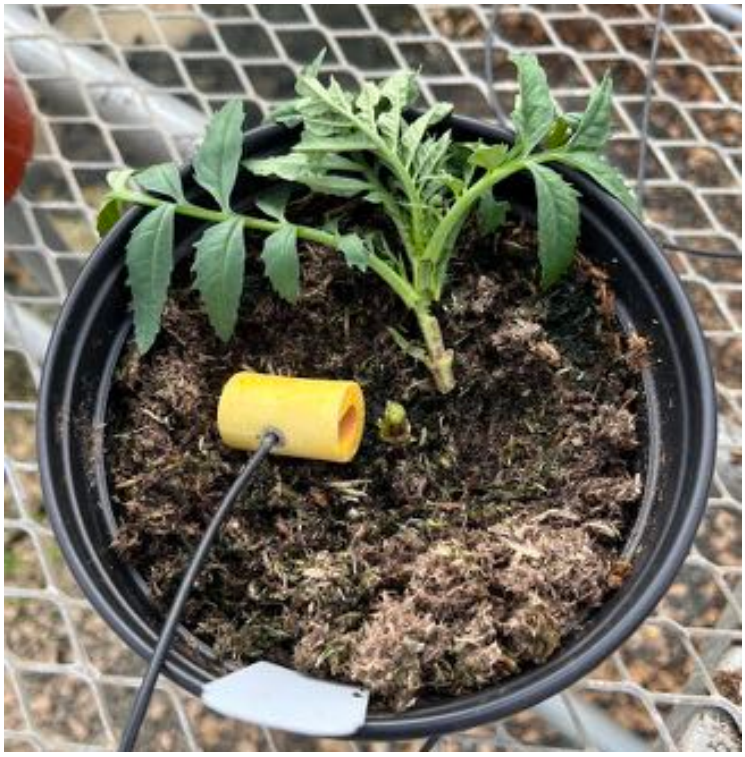

Figure 2. In advanced cases, entire plant can be severed. (Photo: Patrick Veazie)

Figure 3. Fall armyworms will feed on the foliage and burrow into the substrate making it difficult to identify the problem. (Photo: Patrick Veazie)

variety of organic and conventional methods for controlling populations including neem oil and pyrethroids are available. Chemical applications to control the population when insects are less developed will yield better results. For additional control options, refer to online guides such as: https://wiki.bugwood.org/HPIPM:Fall_Armyworm

Conclusion. Fall marigolds are an excellent Halloween or Day of the Dead crop. Growing marigolds during a different time of the year can result in a totally new set of pests. So be on the lookout for fall armyworms if you notice entire shoots cut off from the plant.

Figure 4. Fall armyworms can be observed in various colors ranging from light brown to almost black and can grow up to 1½ inches long. (Photo: Patrick Veazie)

Figure 5. Adult fall armyworms have dark gray front wings and lighter grayish-white hind wings. (Photo: Robert J. Bauernfeind, Kansas State University, Bugwood.org)

Figure 6. View of an adult fall armyworm on a plant. (Photo: John C. French, Jr., Universities: Auburn, Georgia, Clemson and Missouri (retired), Bugwood.org)

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