

Vegetable Pest Alert

June 10, 2023

Squash bugs are active this week. Adults survive the winter in the field margins or under plant debris within fields. Adult squash bugs move into vine crops this time of year to mate and lay eggs.

Among cucurbits, the crops that are most susceptible and attractive to squash bug are yellow summer squash, zucchini, Hubbard, and pumpkin, especially thick-stemmed types. Watermelon, cucumber, muskmelon and butternut resist damage and also provide poor food quality for adult and nymph survival.

Adults often hide around the base of the plant or under plastic mulch and are hard to target with sprays. Eggs are usually deposited on the leaves in an organized, neatly-spaced pattern, in groups of 10 to 20. Scout undersides of leaves for squash bug adults and eggs and treat if egg masses exceed 1 per plant. Time squash bug sprays to kill young nymphs which are easiest to control. Thorough coverage is necessary. As this often coincides with the bloom period, treat late in the day to reduce risk to bees and select products with lower bee toxicity. See [the New England Vegetable Management Guide](#) for spray options.



Figure 1. Eggs and newly hatched nymphs (Photo: UMass Extension)

Cutworm

Black cutworm is the most common of the many cutworm species that damage vegetables in New England. Moths from the South arrive between March and June. Eggs are laid mostly on grasses and winter annual weeds. The larvae feed after dark while hiding under the soil surface adjacent to the plant stem during the day. There are 2-3 generations per year but only the first generation, which produces larvae in May and June, damages seedlings.

Ground beetles, parasitic flies and wasps and other general predators help reduce populations. Plantings on plastic mulch experience less cutworm damage, while weedy or reduced-till fields tend to suffer greater damage. Hardening seedlings before transplanting toughens stems and reduces damage.

Spot spray heavily damaged areas or edges of the field if 1-2% of the plants have been cut down. For best results, make application between midnight and dawn while cutworms are feeding aboveground. Dipel (Bt), Venerate, Grandivo, and Seduce are among the labeled pesticides for organic systems. For the more comprehensive list, please see [the New England Vegetable Management Guide](#).



Figure 2. Cutworm damage in a broccoli field

Continue to be on the lookout for the following pests that were covered in [the previous pest alerts](#):

- **Colorado potato beetles:** they are actively laying eggs now. Adults are
- **Striped cucumber beetles**
- **Onion thrips**
- **Solanaceous flea beetles**
- **Brassica flea beetles**

Can the particles in the air currently from the Canadian wildfires get into the soil and then into our food being grown locally?



Smoke and ash from current Canadian wildfires have raised questions about the safety of produce growing on farms and gardens in Connecticut and beyond. While the number 1 concern from wildfire smoke is human health, chemicals found in the smoke don't just stay in the air and can deposit onto plants and soils.

From a food safety perspective, there is generally low concern about the chemicals present on soils and produce. A study conducted in California examined 200 samples of greens (collard greens, lettuces, kale, and chard) that were exposed to wildfire smoke and ash. The study found no detectable levels of lead, arsenic, mercury, or chromium in any of the samples. However, it is still important to practice basic food safety measures, such as washing hands before handling produce and thoroughly washing produce before consumption.

When the smoke is light to moderate, it can actually enhance crop growth by diffusing light into the plant canopy. However, severe smoke that blocks sunlight can negatively impact photosynthesis and hinder plant growth and development.

Toxic gases present in smoke, such as nitrous oxide, sulfur dioxide, and ozone, can enter plants through their stomata and cause damage to plant tissues. Ozone, in particular, can burn or oxidize tissues in sensitive plants like cucumber, watermelons, beans, and potatoes. Exposure to wildfire smoke can affect the flavor of certain crops like wine grapes, giving them a smoky taste. The reduced photosynthesis and presence of toxic gases can increase plant stress and delay the physiological processes, resulting in delayed growth and harvest. Pollinator activity is also reduced due to smoke there by having a potential issue with crop pollination.

Smoke from wildfires can also have indirect effects on agriculture, creating a ripple effect throughout the farming process. The health concerns of farm workers due to the presence of smoke can hinder various farm activities, including crop scouting, fertilization, spraying, and other essential tasks. These disruptions have the potential to adversely impact crop production and overall agricultural output.

FSMA Produce Safety Rule: Agricultural Water System Inspection is Different from the Proposed Agricultural Water Assessment

This new fact sheet covers the differences between an Agricultural Water System Inspection (§ 112.42) and the *proposed* Agricultural Water Assessment (AgWA) from the Food Safety Modernization Act (FSMA) Produce Safety Rule (PSR). This resource highlights differences in compliance dates, required frequency, evaluation parameters, and documentation requirements. This fact sheet is currently available in [English](#) and also is being translated into Spanish.

Produce Safety ALLIANCE

FSMA Produce Safety Rule: Agricultural Water System Inspection is Different from the Proposed Agricultural Water Assessment

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This fact sheet provides information about the differences between an Agricultural Water System Inspection (§ 112.42) and the proposed Agricultural Water Assessment (AgWA) from the Food Safety Modernization Act (FSMA) Produce Safety Rule (PSR). This information is based on the current FSMA PSR requirements for agricultural water² as well as proposed revisions to the current requirements that were published in 2021².

Subpart E of the FSMA PSR for fruit and vegetables producers can be grouped into requirements related to:

- Growing covered produce other than sprouts (production/ pre-harvest water)
- Harvesting and packing covered produce other than sprouts (harvest/ postharvest water)

Differences between FSMA PSR Requirements for Agricultural Water System Inspection and Agricultural Water Assessment

The **Agricultural Water System Inspection** is a requirement in the FSMA PSR¹, with enforcement dates phased in (according to business size class) beginning in January 26, 2023 for harvest/ postharvest water. This requirement will eventually include all agricultural water systems at covered farms, including those used for production/ pre-harvest and harvest/ postharvest agricultural water, but currently only apply to harvest/ postharvest water until the final production/pre-harvest standards are published. The requirement covers agricultural water systems to the extent that they are under the farm's control, but requires consideration of off-site influences that could introduce human pathogens to water and the use of practices that reduce these risks.

The **Agricultural Water Assessment (AgWA)** is a proposed requirement³, subject to change until it is finalized. This requirement would be in addition to the Agricultural Water System Inspection. The AgWA is specific to production/ pre-harvest agricultural water that is used to grow covered produce. The AgWA is proposed to be completed at least once per year, to identify conditions that may result in contamination of the water source or otherwise increase the likelihood of human pathogens being in the water. In contrast to the Agricultural Water System Inspection which focuses on the physical agricultural water system, the AgWA requires consideration of crops being grown, weather impacts, adjacent land uses, and other things that can influence risks to fruits and vegetables being produced. Observations made during the AgWA enable a farm to reduce risks by determining what uses are appropriate for the water source, including application of measures that may be necessary to reduce produce safety risks. The findings of the AgWA, and any corrective measures or mitigation measures applied as an outcome of the assessment, must be documented in the farm's record.

The table on the following page provides a more detailed comparison of the two requirements.

Agricultural water system means a source of agricultural water, the water distribution system, any building or structure that is part of the water distribution system (such as a well house, pump station, or shed), and any equipment used for application of agricultural water to covered produce during growing, harvesting, packing, or holding activities⁵.

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Fact Sheet

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