

Brassica Break

for Pest Management on Urban Farms

From kale and collards to mustards and radishes, brassicas (aka crucifers) are perhaps the most common crop family on urban farms. In New York, they are also host to a range of insect pests, including cabbageworms, flea beetles, cabbage aphid, swede midge, harlequin bug, and cabbage whitefly. Many urban farms seek to reduce or avoid spraying pesticides, using cultural controls when possible.



A dense planting of collards on a Brooklyn, NY farm in early July. Photo: Sam Anderson, CCE Harvest NY

In New York City, at least 10 urban farms have implemented a cultural control we're calling a "Brassica Break." In short: At some point during the year, **there are no brassicas available to insect pests anywhere on the farm.**

The concept isn't new. For example, greenhouses use a "crop-free period" to foil insect pests such as whiteflies, which cannot survive very long without feeding on a host plant. Because most of the important insect pests of brassicas on urban farms are specialists—surviving mostly or entirely on plants in the brassica family—a farm can break up these insects' life cycles by depriving them of any brassica crops for a period of time.

When Should You Take a Break from Brassicas?

This is the central decision in implementing a brassica break (or any similar crop-free period). First, you need to determine:

- Which pests am I targeting?
 - How and where do they overwinter? How do they arrive on the crop each year?
 - How long is each part of the insect's life cycle, and where does it occur?
- What time of year can I afford to have no standing (uncovered) brassicas anywhere on the farm?
- Is my site/situation appropriate for this strategy? (See "Caveats" at the end of Fig. 1)



Cabbage aphids and cabbage whitefly, two pests that readily overwinter on standing brassica crops. Photo: Sam Anderson, CCE Harvest NY



An urban farm's first brassica planting after a 3-month winter brassica break. Photo: Sam Anderson, Harvest NY

For example: If your primary brassica pests are **cabbage aphids** or **cabbage whiteflies**, a “**winter break**” from brassicas (Fig. 1) may give you a head start in spring with no aphids or whiteflies. This works because cabbage aphids and cabbage whiteflies spend the winter as eggs or nymphs on brassica plants; when you remove the plants, you remove the pests. They won’t be gone forever; while both are weak flyers, they can travel surprisingly long distances on the wind, and you can expect that they’ll reappear at some point. Urban farms in New York City found that a winter brassica break typically delayed the appearance of cabbage whitefly by **4 to 6 weeks**. This is a very valuable head start for crops like kale, collards, and broccoli, but its effects may not carry over into the following year unless you make the winter break an annual practice.

A “winter break” won’t do much for many of our other insect pests of brassicas, since those insects overwinter somewhere off the plants, such as under the soil or around field edges. For many of these, such as **flea beetle** or **Swede midge**, a “**spring break**” will be much more effective. Timing is critical: When the adults emerge in spring, they must not find any brassicas on the farm where they can feed or lay their eggs. If the insect species requires a host in the brassica family, it will either leave the site in search of other brassicas or die without successfully reproducing. When the coast is clear—July, perhaps—you can plant brassicas again. Note that a “spring break” should also help with other pests, especially **cabbage whitefly**, **cabbage aphid**, and **imported cabbageworm**. It may have carryover effects the following year as well, depending on how long it takes each pest to find its way back to the farm, meaning a spring break doesn’t necessarily need to be an annual practice.

Figure 1. Brassica Break Examples

Brassica Break Period	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Insect Pests Affected
Full Break <i>No brassicas for a full year.</i>	Brassica Break												Best for nearly all brassica pests , except the ones that migrate longer distances, such as diamondback moth .
Spring Break <i>No brassicas from April/May through late June or July.</i>				Brassica Break									Best for insects that migrate onto the crop in spring, such as flea beetles and Swede midge ; should also delay appearance of most other brassica specialists .
Summer Break <i>No brassicas for at least 5 weeks between June and September.</i>						Brassica Break							Best for interrupting summer infestations of harlequin bug , cabbageworms , or cabbage whitefly . May reduce flea beetle pressure the following year.
Winter Break <i>No standing brassicas for at least 1 month in winter.</i>	Brassica Break												Best for insects that overwinter on the crop, such as cabbage aphids and cabbage whitefly .

Caveats

- You will also need to remove brassica family weeds around the farm, since these may harbor the same insects as your brassica crops. Common brassica weeds include shepherd’s purse, wild mustard, and yellow rocket.
- A brassica break may not be effective if you are very close to another farm or garden that provides a haven for these pests.
- In a community garden, all gardeners will need to agree to implement the same brassica break.

Interested in Learning More?

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