



# Zucchini Pests

Created by Global Garden Refugee Training Farm, Chicago Ill.

## Summary

This is a slide show that introduces three insect pests and one disease which singly or together can destroy a zucchini crop (striped cucumber beetle, squash bug, squash vine borer, and powdery mildew). Trap crops and rogueing are suggested as control method strategies. Slides can be printed (and laminated) for field instruction.

## Who made this guide?

This teaching resource was developed by the Global Garden Refugee Training Farm in Chicago Illinois, and enhanced in collaboration with the Institute for Social and Economic Development (ISED). From 2015-2017, ISED partnered with refugee farmer training programs throughout the country to support the design of new and shareable teaching resources for culturally and linguistically diverse farmers. To access the whole list of newly developed teaching resources for refugee farmer training program, follow this link <https://nesfp.org/new-american-resources>. For more in-depth explanations of the teaching approaches and activities used in these materials, you can refer to [this Refugee Farmer Training handbook](#).



This resource was prepared by ISED Solutions - a fiscally sponsored program of TSNE MissionWorks – and supported by grant no. 2015-70017-22886 from the USDA National Institute of Food and Agriculture.

Audience (TA Or Tot)	TA (Technical Assistance for farmers)
Language and Literacy Level	All
Farmer Experience	Beginner to advanced
Pre-Requisites	Previous experience growing zucchini
Region or Climate	Midwest and Northeastern United States
Program Structure	Communal urban farm with additional family plots
Season	Early summer
Time	1 hour
Staff and Interpreters	One instructor, interpreters as needed
Additional Supplies Needed	PowerPoint and projector for the classroom. Pre-printed slides for field instruction. Live specimens are recommended if they are available.
Background Material	Basic knowledge of insect life-cycles

## TEACHING MATERIALS INCLUDED

### 1. PowerPoint presentation "Zucchini Pests"



## CORE SKILLS IN THIS LESSON

- Disease identification
- Insect identification
- Row cover usage
- Pest life cycles
- Succession planting as a pest management strategy

## SUGGESTED TEACHING METHODS

### *Tell me about this picture*

- Using the photos of pests in the slideshow (either causing damage or illustrating the life-cycle), you can ask farmers: “What is happening here in this picture?” “What is this and why does the plant look like this?” Etc.

### *Realia*

- This strategy suggests that if you are in season, the best way to teach about this pest problem is to show live specimens (at any stage of the life cycle) and to show application of control methods in the actual field. If you have zucchini plants currently battling one or all the mentioned pests and diseases, you can bring farmers to the plant, bring the plants to the farmers, or bring live specimens of the pests to show farmers. This can provide the backbone of your session or supplement the use of the ppt. Only the Squash Vine Borer will be difficult to capture because it flies at dawn and dusk and is very fast.

### *Reflection questions*

- You can ask farmers: “Have you seen any/each of these pests in the field?” “What kind of damage have you seen on your crops?” “Have you dealt with this pest in the past?” “What have you done?” “What might you do differently after this lesson?” “Are there any new control methods you would like to try?” “Does this picture look familiar to you?”

### *Oral drills*

- This is essentially a vocabulary activity you could add to make sure farmers are able to communicate with staff about the pests in their fields. You could point to the pictures in the slides and ask farmers to name the pest. Make sure each farmer is able. You can do a similar drill with the control methods.

## TEACHING TIPS AND VARIATIONS

- This can be combined with presentations on other pests for a more extensive pest management lesson. Farmers can learn to associate different control methods with different kinds of pests.
- PowerPoint notes:
  - SLIDE 1: This slide presentation describes the sequence and severity of pests on zucchini in Chicago, where the pest pressure is the worst I have ever witnessed. For us there is no point to trying to control any one of these pests separately because, while they are each bad enough to destroy a crop on their own, they enjoy an amazing synergy at our farm. While the Cucumber Beetles and Squash Bugs party above, the Squash Vine Borers feast below, and the Powdery Mildew hitches a ride on all of them. That's why I don't go into detail about any one of these pests, and it's also why continually rogueing and replanting is the best and only strategy for us. Hubbard Squash as a trap crop does slow the buggers down.
  - SLIDE 2: We begin with healthy, productive zucchini plants like this.
  - SLIDE 3: The first pest to appear is the striped cucumber beetle (spotted cucumber beetles are less common in Northern Illinois). They feed on leaves and flowers and prevent squash production.
  - SLIDE 4: Next Squash Bugs arrive. First the adults fly into our farm. They lay eggs on the underside of zucchini leaves. For very small plantings, you can scout for the eggs every 2 to 3 days and remove them by hand. When the eggs hatch, swarms of nymphs begin to feed on the leaves, flowers, and squash. This can become very messy.
  - SLIDE 5: The Squash Vine Borer is sneaky and you may never see one. They females fly in at dawn and dusk and lay one or a few tiny eggs at the base of the zucchini plant. When these eggs hatch, the larvae eat through the base of the plant. If you find them in time, you can surgically remove the larvae, then re-bury the wounded plant base so that it can grow new roots and stem tissue. But, often the first sign of Squash Vine Borer damage is total collapse of a healthy-looking plant.
  - SLIDE 6: Finally, plants stressed by any of these three-insect pests become especially vulnerable to Powdery Mildew, a disease which destroys the plants leaves. This disease also affects cucumbers and other crops.
  - SLIDE 7: With all these insects, plus Powdery Mildew, our healthy zucchini plant can end up like this.
  - SLIDE 8: Crop trap: Plant one Hubbard Squash plant at both ends of each row of zucchini and pest insects will (mostly) stay on this trap crop.
  - SLIDE 9: Rogueing: Replace zucchini plants every 3 to 4 weeks with new transplants. Pull out the old plants as soon as production slows down or before pest pressure becomes strong. Remove and destroy the old zucchini plants. Re-seed every 3-4 weeks for a constant supply of fresh transplants. Transplants can be protected under floating row cover until they start to bloom and require pollination