**Controlling bacterial wilt in muskmelon with Perimeter Trap Cropping.**

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**What is Perimeter trap cropping (PTC)?** PTC involves planting one or more rows of a cucurbit crop that is highly attractive to cucumber beetles around the border of a main cucurbit cash crop that is less attractive to the beetles. Cucumber beetles attempting to migrate into the field are concentrated in the relatively more attractive border crop, where they can be controlled by insecticides.

**Where has PTC been successful?**  In New England, perimeter trap cropping using 'Blue Hubbard' squash as the border crop around pumpkin, cucumber, or butternut squash controlled cucumber beetle/bacterial wilt with as few as one border spray of insecticide. **This strategy** **reduced insecticide use on the main crop by up to 94%**, nearly eliminating sprays on the main cash crop**.** In on-farm trials, **8 of 10 Massachusetts growers found that using perimeter trap cropping saved them money.** The same tactic also effectively managed cucumber beetles on muskmelon and squash in Oklahoma.

**What are the benefits of PTC to conventional growers?**

* Curtailing insecticide use could also help growers’ profits by providing a potential advantage in direct marketing.
* Reduce insecticide use in conventional and organic production – in some cases, by 90%. These cutbacks in insecticide sprays have important environmental benefits, because reducing the insecticide load mitigates chemical contamination of honey bee hives, thereby safeguarding crop pollination.
* Cutting insecticide costs with perimeter trap cropping could raise profits, and protect pollinators and natural enemies, and reduce the risk of developing insecticide resistance in pest insects.

**How is PTC done?** Successful perimeter trap cropping would require several changes in crop management practices.

1. The trap crop needs to be up and growing a week or two before the main crop emerges or is transplanted, in order to intercept cucumber beetles at the critical early-season stage. We applied an insecticide drench (Admire-Pro) to the seedling transplants.
2. The trap crop needs to be considerably more beetle-attractive than the main crop, so that beetles will not continue migrating into the main crop. *Cucurbita maxima* is highly attractive to cucumber beetles.
3. The trap crop needs to be durable. If it dies early from bacterial wilt, the cucumber beetles are likely to move into the main crop.
4. The trap-crop rows and main crop will need to be scouted for cucumber beetles, and insecticide sprays would be needed when thresholds were reached.
5. The trap crop itself should be marketable in the growers’ region. We are trying buttercup because is as attractive to cucumber beetles and has a higher acceptance by consumer
6. An insecticide application should sharply curtail cucumber beetle populations in the trap crop once scouting thresholds are reached.