

Sustainable Pest Management

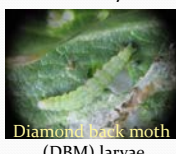
Examine Insectary Settings against Insect Pests on Pak Choi in a Hydroponic System



Sustainable Pest Management Lab
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Imported cabbage worm larvae



Diamond back moth (DBM) larvae



Aphids



Hoverfly



Hoverfly larvae eating an aphid



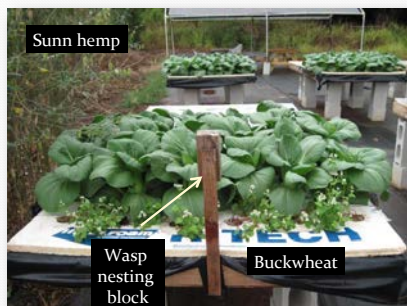
A parasitized DBM

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Treatments



Insectary Settings



Reflective (Metalic) Board

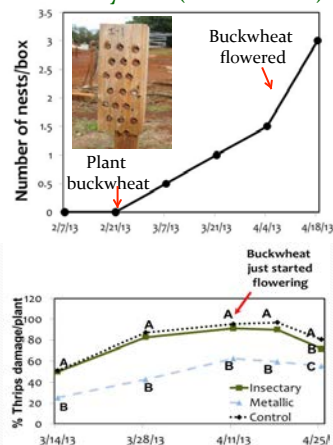


Control

Objectives were to examine if:

1. wasp nesting block attracts beneficial wasps,
2. insectary plants attract predatory insects,
3. reflective board repels insect pests.

Preliminary Trial (Green Onion)



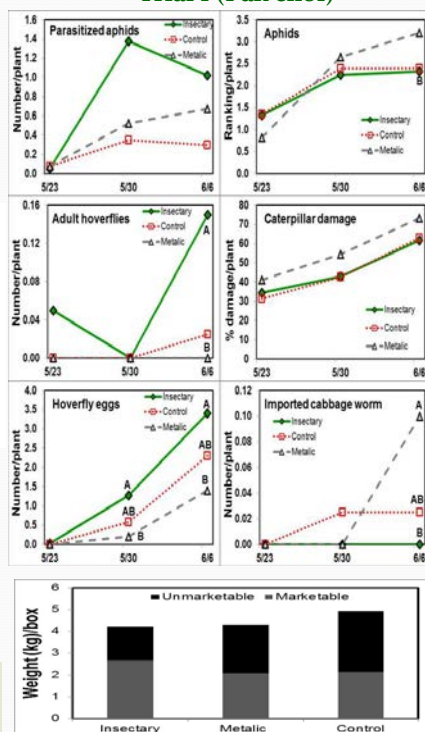
Results from Green Onion Trial:

- Buckwheat flowered about 3 weeks after seeding.
- Reflective board was effective in reducing thrips damage but not the insectary setting.

Summary

- Wasp nesting block + 3-wk old buckwheat + sunn hemp border increased beneficial insects and suppressed aphids and caterpillar pests on well established pak choi seedlings in a hydroponic system.

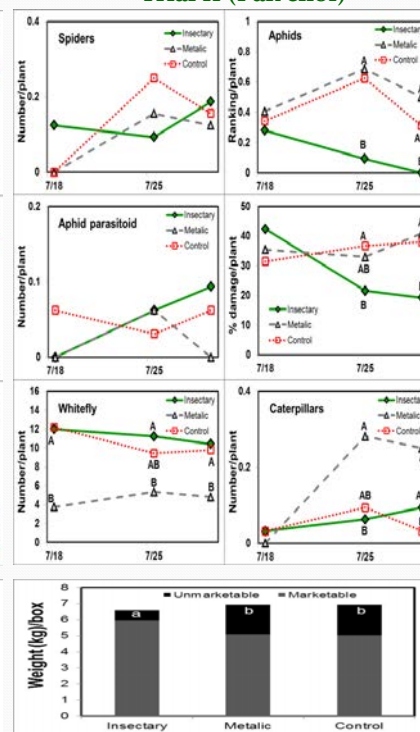
Trial I (Pak choi)



Results from Pak Choi Trial I:

- Buckwheat planted 3 wks after seeding, thus increased hoverflies and parasitized aphids soon after pak choi planting.
- Reflective board was not effective in reducing aphids and caterpillar pests.
- Pak chois were transplanted at 2-wk old, seedlings struggled to establish.
- Reflective board was more effective in repelling thrips and whiteflies but might also repel hoverflies and parasitoids.

Trial II (Pak choi)



Results from Pak Choi Trial II:

- Pak choi was transplanted at 3-wk old, seedlings were sprayed with Bt once before transplanting. Pak choi established well thereafter.
- Insectary setting increased aphid parasitoids and reduced caterpillar pests, and significantly reduced unmarketable pak choi.
- Metallic board only reduced white flies numbers.