

TOP 10 REASONS WHY YOUR PEST MANAGEMENT DIDN'T WORK

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#10 You didn't get the pest right



You must correctly identify the insect or mite.

- ☐ Take a look at this image. It is a photo of only Aphids: in the adult, sexual, winged phase; and in the haploid asexual phase; and, exoskeletons of aphids---Not Whitefly!

IPM

Successful integrated pest management (IPM) is easy if you:

- Start early
- Only use chemicals as a last resort
- Accept that eradication is unrealistic

SO WHAT WENT WRONG?

#9 You ignored the "Modus Operandi" of the Beneficial

Make sure your beneficials are comfortable.

- ☐ For example, Encarsia works preventatively. Once there is honeydew present, they are less effective.
- ☐ Predatory mites (except persimilis) also work best preventatively. They cannot tolerate webbing or honeydew.



#8

Your Beneficials don't play well with others



Did you know:

- ❑ barkeri eats persimilis
- ❑ degenerans eats Aphidoletes
- ❑ californicus eats persimilis
- ❑ swirski eats Aphidoletes

#6

You Got the Temperature Range Wrong



All Beneficials have an effective Temperature Range.

- ❑ Fresh Encarsia can control Whitefly as low as 10C, while stored Encarsia is ineffective below 18.7C
- ❑ Mediterranean mites, such as swirski, need 26C

#7

Your Bios were improperly applied

Follow the instructions.

- ❑ Mounds of cucumeris cannot be used if Atheta or any soil mite is also being used
- ❑ Apply Spider mite predators based on pest density, not level of damage



#5

You Got the Math Wrong Playing the Numbers Game

- ❑ If you have 10,000 plants, each with 10 leaves, and the average number of Aphids per leaf is 10, you are the proud owner of 1 million Aphids
- ❑ One adult Aphidoletes can handle 100 aphids
- ❑ You need 10,000 Aa to handle the population in one generation



#4

You Failed to Recognize Success



Your IPM is successful if you see:

- ▣ 1 persimilis per leaf
- ▣ 1 Aa larvae per 100 Aphids
- ▣ 75% parasitism
- ▣ clean new growth
- ▣ an influx of Native Beneficials

#2

You Have Chemical Interference

All chemicals have some effect on beneficials.



- ▣ Never make an early application of chemicals in order to "start clean"
- ▣ Never use the "side effects" charts as a justification for using chemicals
- ▣ Always multiply the number of weeks after chemical application by three before using beneficials

#3

You Used Poor Quality Beneficials

Fresh is best. Stored beneficials have reduced:

- ▣ Temperature Range
- ▣ Efficacy
- ▣ Searching ability

They also experience:

- ▣ Shifted sex ratios
- ▣ Increased mortality
- ▣ Higher likelihood for disease



#1

Your Timing Was Off

- ▣ Start your attack early. You have to shoot **before** you see the "whites of their eyes"
- ▣ If you are growing plants that are susceptible to certain pests, start preventatively.
- ▣ 2 fallacis per square meter will prevent significant Spider Mites for the life of the plant
- ▣ 0.1 Aphidoletes per square meter per week will prevent Aphids from establishing
- ▣ 0.25 Encarsia per square meter per week will prevent Whitefly from establishing



Conclusions

Successful IPM is possible if you:

- ▣ Identify your pest
- ▣ Understand how your beneficial operates
- ▣ Follow the instructions for application (timing, temperature, rate)
- ▣ Use fresh products
- ▣ Keep your chemical use for emergencies (chemicals cost you by reducing your crop yield by 10 to 25%, requiring equipment purchase and maintenance, causing delays with re-entry periods, and jeopardizing worker health)
- ▣ Think about prevention rather than cure (zero tolerance and eradication are not realistic concepts)



Users of Beneficial Insects and Mites have to be confident in the products that they use and the advice they receive.