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# **Insect Management for Peppers**

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***Insect Management for  
Peppers***

**Aphids**

**Thrips**

**Psyllids**

**Symphylans**

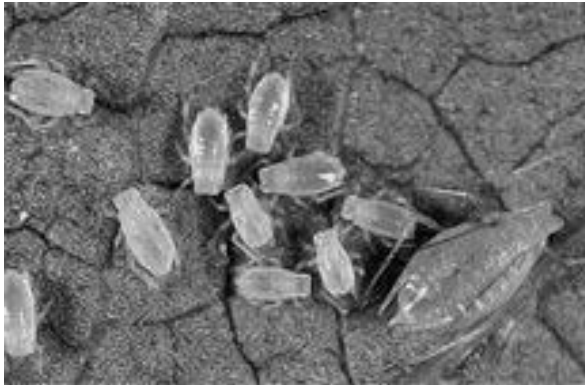
**Others**

**2**

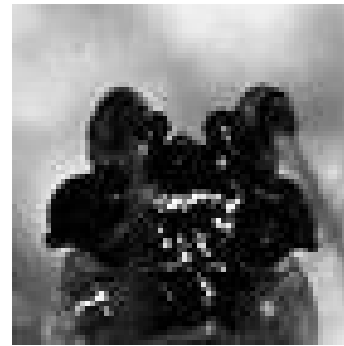
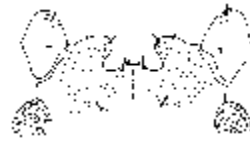
# ***Insect Management for Peppers***

## **Aphids**

### ***Green Peach Aphid***



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# ***Insect Management for Peppers***

## **Aphids**

### **Damage:**

**Honeydew**

**Viruses**

### **Management**

**Insecticides**

**Weed Control**

**Biological Control**

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## ***Insect Management for Peppers***

### **Aphids**

**Management by insecticides is usually not successful in preventing virus transmission.**

**It may be helpful in slowing the in-field spread of these viruses.**

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## ***Insect Management for Peppers***

### **Thrips**

***Western Flower Thrips***  
***Onion Thrips***



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# ***Insect Management for Peppers***

## **Thrips**

### **Damage:**

**Scaring**

**Tomato Spotted Wilt**

### **Management**

**Insecticides**

**Weed Control**

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# ***Insect Management for Peppers***

## **Thrips**

**Management by insecticides is usually not successful in preventing virus transmission.**

**It may be helpful in slowing the in-field spread of these viruses.**

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## ***Potato Psyllid***

**Egg: 3 to 9 days**

**Nymphs: five instars - 12 to 21 days**

**Adult Females: lay up to 1000 eggs**

**over about 3 weeks**

**Optimum Temperature range: 60 to 90 deg F**

**Lethal temp: 104 deg F -eggs and nymphs**

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## ***Potato Psyllid***

**"psyllid yellows"**

**honeydew**

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## **Damage symptoms (tomato)**

- Psyllid yellow from salivary toxin:
  - Reduces levels of nitrogen;
  - Inhibition of material translocation;
  - Smaller and distorted chloroplasts.
- Symptoms:
  - Retarded growth; erectness of new growth; yellowing of leaves;
  - production of small fruit.

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## ***Insect Management for Peppers***

### **Psyllid Management**

- Insecticides
  - Avoid carbamates.
  - Use contact materials early
  - Use high volumes to insure coverage

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# Garden Symphylan



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# Field damage



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## **Symphylans (Garden Centipedes)**

**Small (1/4 inch) white soft-bodied  
'centipede-like' animals**

**Eyeless**

**Sense the world with antennae**

**15 body segments**

**12 pairs of legs**

**paired spinnerets**

**“Nervous” movement, running!!**

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## **Symphylans**

**Class: Symphyla NOT INSECTS**

**Long lived (5+ years in the lab)**

**1 generation per year...2 or 3 possible**

**Eggs laid in groups in the soil and tended**

**Newly emerged nymphs have 6 pairs of legs**

**Molt throughout life; do not feed during molting**



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# Symphylans

- **Generalist feeders but with a preference for the tissues of higher plants**
- **May eat 3-15 times their own weight per day**
- **Antennae sensitive to vapors: chloropicrin, ether, chloroform, and ethyl alcohol...**
- **Tend to avoid light, but will feed above ground**

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# Symphylans



**Move in soil pores...fast and far**

– **More than 10 feet per day.**

**Diurnal movements...up and down in the soil profile**

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## Symphylan Sampling



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## Symphylan Sampling



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## Symphylan Sampling



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## Symphylan Sampling



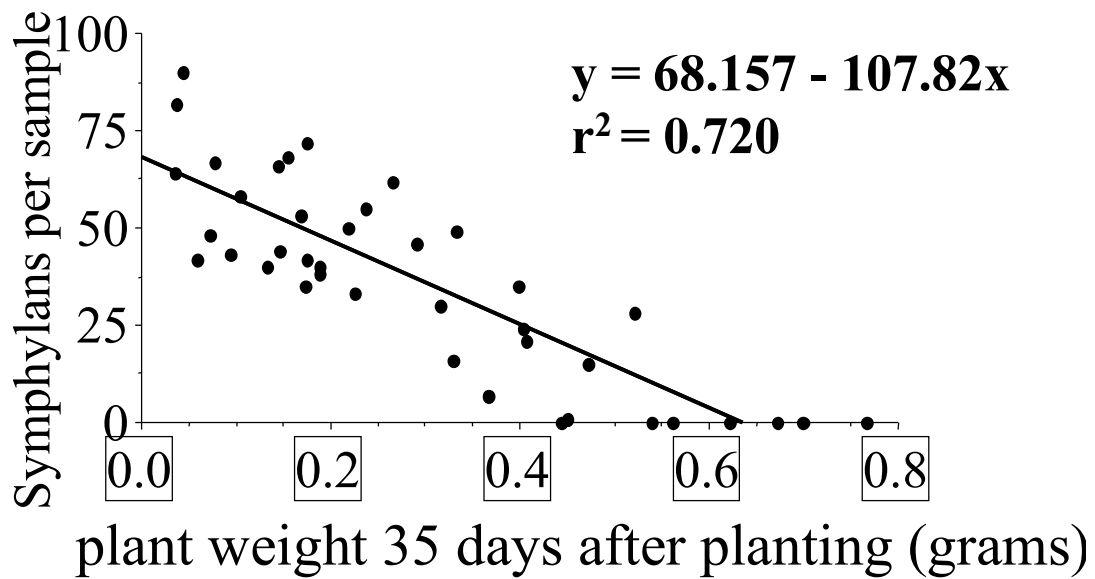
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# Symphylans per bait station



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## Symphylan-plant weight regression



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## ***Insect Management for Peppers***

### **Symphylans**

**Management by insecticides is difficult and still being investigated.**

**It may be helpful to carefully manage soil moisture and tillage.**

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## ***Insect Management for Peppers***

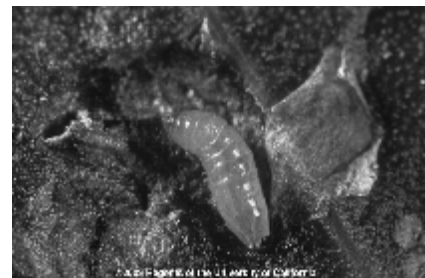
### **Other Pests**

**Leafminers**

**Pepper Weevil**

**Worms**

**Flea Beetles**



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**Thanks for your attention.**

**Questions?  
Comments?**

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