

## Organic Pest Control

Organically, the best way to control pests is to keep a good eye on your plants. You can do this each day when you water. Look closely at your plants. If you notice a leaf being eaten or something funky, investigate it! Look on the undersides of leaves for worms or caterpillars, look in damp spots for snails, look on new growth for aphids... and smash em! It's a little tough at first, but smashing bugs is just part of the process. When smashing isn't enough, try the following. Note – you should only apply pesticides in the evening, when the sun wont burn your leaves.

1. Neem – this is a natural oil from the Neem tree, which grows in the tropics. It is an effective solution for SO many things, such as aphids, white flies, powdery mildew, army worms, etc. Good for insects, mites, and fungal problems. Spray on leaf where chewing occurs.
2. Pyrethrin – Use with care. Organic does not always mean non-toxic. Read label. Often combined with Neem oil.
3. BT – trade name Dipel or Thuricide. *Bacillus thuringiensis*. This is a bacteria that specifically targets caterpillars. Caterpillar must ingest to be effective. The bacteria will only be alive for 12 hours. So spray on the leaves in the evening where you have noticed caterpillars feeding. They will ingest at night when they feed. Any residue will be dead by the morning when you harvest. The caterpillars will have ingested it and the bacteria will give them a tummy ache and they will eventually die.
4. Insecticidal Soap – made with 1 tablespoon liquid soap per gallon of water (biodegradable soap recommended). Works best on soft-bodied insets such as aphids, spider mites, thrips.
5. Diatomaceous Earth – made from the exoskeletons of ancient sea creatures. Effective control for snails and bad nematodes in the soil. Also shows potential for fire ant control.
6. Kaolin clay – deters leaf footed bug. Spray on fruit to act as a deterrent then plant trap crops in another area to attract them (ornamental millet and sunflowers). Be sure to wash the fruit before you eat it as it will have a coating of clay on it.
7. Junior's Old Time Tonic:
  - a. 1 gallon water (first)
  - b. 3 T ammonia
  - c. 3 T instant tea
  - d. 6 T baby shampoo

### Common Pests in our area:

- Aphids – usually on new growth or under leaves. Can smash with fingers to control or use insecticidal soap
- White flies – underside of leaf. Can place a yellow card with petroleum jelly on a stick – they are attracted to it and get stuck in the jelly
- Cabbage looper – usually around in the winter on cabbage family plants. Check for small green caterpillar on the underside of leaves. Can smash with fingers to control.
- Army worms – Will devastate tomato plants and other in summertime. Small green with 2 black stripes. Undersides of leaves. Smash, smash, smash...BT, BT, BT
- Squash borer – in the tips of vines or in the actual fruit – squash, cucumber, etc. Look for wilting vine tips or small pile of flesh eaten out near a small hole on the fruit. Slice open the vine or fruit to find him inside and smash
- Grasshoppers – use garlic/pepper spray
- Leaf nematodes – create trails in leaves. Usually not a big deal. Can try horticultural oil.
- Powdery mildew – white, powdery looking substance on leaves. Usually on squash, zucchini, cucumbers. Usually on plants not getting enough sun or planted to close together and not getting enough air circulation. Spores are carried in water droplets so it spreads easily. Use Neem at first onset to prevent further. If prolific however, get rid of plant – do NOT compost – throw away

- Thrips – tiny, oblong. They eat pollen, causing blossoms to fall off instead of become pollinated and fruit. If suspected, tap the blossom above your hand to see if they fall out. Smash them. Yellow sticky traps are often used if the numbers become too extreme.
- Cut worms – small night feeding caterpillar that shears off small seedlings at ground level. Try making a collar out of toilet paper tubes or cans with both ends cut out as protection.
- Stink bugs or leaf footed bugs – sucking insect that causes cloudy spot (yellow spot on the leaf surface). Use Kaolin clay sprayed on fruit and use trap plants sunflowers and ornamental millet far away from veggies



Aphids



White Flies



Cabbage Looper



Army worm



Squash Borer & the moth that lays it



Thrips



Cutworm