



POCKET GARDENER

Who is Eating Your Plant?

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Hornworms

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Flea Beetles

Fig 2, 3, 4: W. Cranshaw, Colorado State Univ, Bugwood.org

Aphids

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Squash Bugs

Fig 1, 5: G. Holmes, Strawberry Ctr, Cal Poly SLO, Bugwood.org

Leafminers

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Codling Moths

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Hornworms

Chewing Insect



FIG 1. MISSING LEAVES



FIG 2. ADULT



FIG 3. DROPPINGS



FIG 4. PARASITIZED ADULT



FIG 5. EGG

Hornworms

Overview: These caterpillars are larvae of sphinx moths ('hummingbird moths') which are important pollinators.

Garden Plants Affected:

Typically tomato plants, less commonly eggplant, pepper, potato.

Signs to look for:

Missing/eaten leaves, typically starting at the top of the plant first. Round (~2 mm) green/black droppings on leaves or ground.

Identification:

Large (1 to 4 inch) green or brown caterpillar with a horn-like tail.

What to do:

- Starting in early summer, look for hornworms weekly by checking under leaves and along stems.
- Consider relocating hornworms to non-garden plants in the nightshade family.
- If plant damage is significant, handpick hornworms and drop in soapy water.
- Leave hornworms with white fuzzy cocoons (see bottom left image) – these are beneficial parasitic wasps.

Flea Beetles

Chewing Insect



FIG 1. HOLES IN LEAVES



FIG 2. PALESTRIPED FLEA BEETLE



FIG 3. SHOT-HOLE PATTERN



FIG 4. DIFFERENT SPECIES



FIG 5. LARGE HIND LEGS

Flea Beetles

Overview: This subfamily of small beetles gets its common name from their small size and characteristic jumping ability.

Garden Plants Affected:

Tomato, potato, pepper, eggplant, cabbage, broccoli, bean, radish, turnip, beet, lettuce and some ornamentals (notably primrose).

Signs to look for:

Many tiny holes chewed in leaves, often in shot-hole patterns. Young plants are often severely damaged; mature plants are usually only slightly damaged.

Identification:

Small (2 to 4 mm) shiny dark beetle with characteristic enlarged hind legs. Beetles often jump quickly when disturbed.

What to do:

- Monitor seedlings 2x/week.
- Consider plant covers for seedlings.
- Keep plants well watered and fertilized.
- Remove nearby weeds/plant debris (overwintering habitat).

Aphids

Sucking Insect



FIG 1. LOW APHID PRESENCE



FIG 2. DISFIGURED LEAVES



FIG 3. ADULT



FIG 4. SOOTY MOLD



FIG 5. INFESTATION

Aphids

Overview: Aphids are important prey for beneficial insects, but in large numbers they can cause damage.

Garden Plants Affected:

Almost all vegetable and garden plants.

Signs to look for:

Infestations (over a dozen aphids per square inch), poor plant growth, black sooty mold, or disfigured leaves.

Identification:

Small (2 to 4 mm) soft-bodied, and range in color from green/yellow/orange. Aphids are slow-moving and often appear motionless. They secrete a clear substance called honeydew. Some have clear wings.

What to do:

- Avoid over-fertilizing and over-watering.
- Leave small numbers to sustain predators.
- Remove infestations by spraying with water.
- If ants are seen, use sticky barriers to discourage them from farming and protecting the aphids.



Squash Bugs

Sucking Insect



FIG 1. WILTING LEAVES



FIG 2. NYMPHS



FIG 3. EGGS



FIG 4. NYMPHS



FIG 5. ADULT

Squash Bugs

Overview: Squash bugs are native to North America and have a long history as a pest in the U.S. They are a difficult pest to control.

Garden Plants Affected:

Commonly squash, zucchini, and pumpkin. Less commonly cucumber, melon, gourds.

Signs to look for:

Yellow or wilting leaves. Adults, nymphs, and eggs are often on the underside of leaves.

Identification:

Medium (just over 1/2 inch) gray/black flat-bodied insect with black legs. Shiny bronze eggs are in clusters. Newly hatched nymphs are pale green with black legs.

What to do:

- Early physical removal is key. Check the undersides of leaves/stems once or twice per day.
- Use tape to remove eggs from leaves.
- Remove nymphs/adults. Drop in soapy water or crush.
- Remove nearby weeds/plant debris.



Leafminers

Tunneling Insect



FIG 1. TUNNELS



FIG 2. LARVAE

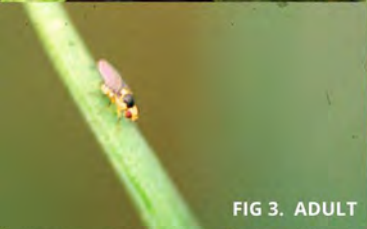


FIG 3. ADULT



FIG 4. TUNNELS

Leafminers

Overview: The name "leafminer" commonly describes the tunneling larval stage of various insects (often small flies).

Garden Plants Affected:

Many vegetables, including lettuce, chard, onion, bean, tomato, potato, pepper, squash and more.

Signs to look for:

Long meandering tunnel patterns on leaves.

Identification:

Tiny (2 to 3 mm) pale maggot burrowed within the leaf. Usually, adults are small (less than 2 mm) flies.

What to do:

- Leave small numbers, they are harmless.
- Remove and destroy infested leaves.
- Check on leafy greens and lettuces more often.



Codling Moths

Tunneling Insect



FIG 1. HOLE IN FRUIT



FIG 2. LARVAE



FIG 3. DROPPINGS



FIG 4. ADULT



FIG 5. EGGS

Codling Moths

Overview: Codling moth damage is done by the fruit-tunneling larval stage of a species of moth (*Cydia pomonella*).

Garden Plants Affected:

Commonly apple, pear, crabapple, and English walnut. Less commonly quince, apricot, plum, and peach.

Signs to look for:

Look for holes in fruit, which can have dark crumbly granules.

Identification:

Medium (1/2 to 3/4 inch) pale tan/gray/pink caterpillar with a dark head. Adults are medium (1/2 inch) cylindrically shaped moths with bands of gray and white and a bronze/copper spot on the tip of each wing.

What to do:

- Remove and destroy fallen fruit daily.
- Thin fruits to prevent fruits from touching.
- Consider encasing developing fruits in paper bags.
- In winter, clear plant debris from near tree trunks.

Key Concepts and Vocabulary

Integrated Pest Management (IPM) is an approach to pest management that uses a variety of management strategies to suppress pests and keep their populations below damaging levels. The 4 practices of IPM are:

1. **Prevention** – Reduce or eliminate pest establishment before they become a problem.
2. **Monitoring** – Regularly scouting for pests or signs of damage or disease on your plants.
3. **Identification** – Correctly identify pests through visual inspection, trapping, or consulting a specialist.
4. **Management** – Use the appropriate cultural, mechanical, biological, and chemical measures to control pest populations to an acceptable level.

Larva: An intermediate stage of an insect. Larva are often wormlike and look very different than the adult.

Nymph: An intermediate stage of an insect. Nymphs often resemble smaller versions of the adult.

Pest: A living organism (such as insects, animals, fungi, bacteria, etc.) which can have a negative impact in your garden.

POCKET GARDENER

Who is Eating Your Plant Garden Insect Identification Cards

Contributors

Miranda Kersten - Program Manager

Jessica Jia - Outreach and Education Specialist

Summary

These cards are meant to help readers identify and manage common pest problems in New Mexico home gardens. The suggestions provided are not comprehensive nor intended for commercial purposes. Please consult additional resources for further information.

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Learn more at : ipm.nmsu.edu



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