

# Common Garden Pests and strategies to manage them

- This presentation is organized by products and plant groups.
- Products
- Herbaceous plant pests
- Turf pests
- Woody plant pests



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# Managing garden pests

- Garden Hygiene; clean up, clean up, clean up!
- Soil fertility; feed the soil for healthy plants
- Water the soil not the leaves
- Mulching to reduce pests and disease transmission
  - Leave some soil bare for native bees and wasps
- Use products such as insecticidal soap or dormant oil if you need to

# **Products**

Diatomaceous Earth

Dormant Oil

Ferric Phosphate

Insecticidal Soap

Parasitic Nematodes

Pelletized Hen Manure

# Diatomaceous earth

It damages the exoskeleton of hard insects (the exoskeleton covers the outside of the insect and lines the internal organs).

- Ants, put it on the ant nest opening, reapply after every rainfall.
- Earwigs, sprinkle it at the opening of their nests which are often along the house foundations in the fall.
- Slugs, put on the soil and in between the leaves at the crown of the plant.



# Dormant oil

Many insect eggs  
overwintering on bark; even  
aphid eggs on fruit trees



Tent caterpillar egg



Adelgids



Scale



# Dormant oil in the late winter or insecticidal soap in the spring



Rose sawfly  
damage  
from egg  
laying and  
hatching



European apple  
sawfly



European Pine Sawfly

# Ferric phosphate

- Kills slugs when eaten
- Is a soil fertilizer adding iron and phosphorus
- Is harmless when ingested by mammals



# Insecticidal soap

**Kills many soft and hard bodied insects**

Aphids



Mealybug



Earwigs



White fly



# Insecticidal soap

**Lily Leaf beetle overwinters as an adult in the soil.**

- **Lily Leaf Beetle; adults drop and bury themselves into the soil so the bowl must be under the beetle.**

**Scrape off the eggs or larvae into a bowl or blast the plant with a garden hose weekly starting as soon as the plants emerge**



# Pelletized Hen Manure



- Repels mammal pests such as squirrels, chipmunks, rabbits, etc.
- Birds are predators of small mammals
- Breaks down with rain water adding fertilizer to the soil



# Herbaceous Plant Pests



# European Earwig

**Fossils date back 208 million years (Triassic)**

~ 1800 species most are tropical

**Adults:** are small to medium sized, brown or black insects with narrow elongate, slightly flattened bodies





## Damage

**European earwigs eat nocturnally, are omnivores** making irregular holes

**Preferring dead or dying** plant material, pollen, fungi and lichen

**They are beneficial's:** eating caterpillars, aphids and mites

**They also attach healthy plants herbaceous plants.**



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## Management

**Amend Soil** to increase the organic matter

**Remove** daytime hiding places; loose mulches, woodpiles, debris, pompom flower heads.

**Trap and kill** with commercial traps or rolled up newspaper, corrugated cardboard, bamboo or burlap

**Spray** with soap and water

**Diatomaceous earth** applied on food sources and nest sites

# Slugs and Snails

**Slugs and snails are terrestrial relatives of clams and oysters.** Snails have a spiral shell while slugs have small, internal scales. The eggs are oval to round, pearly white and look like jelly, are found in the soil, under leaves or other protected areas.

**Damage:** Their file-like mouthparts rasp irregular holes in foliage or clip off small seedlings. They prefer large, tender leaves and young seedlings. These pests move by gliding on a trail of slime that leaves a silvery trail.



# Management

**Clean up and Reduce hiding places.**

**Choose resistant plants**

**Make the environment less attractive.**

**Spray with solutions with;** ammonia, vinegar, aluminum sulphate, isopropyl alcohol

**Trap snails and slugs daily**

**Diatomaceous earth**

**Copper barriers**

**Encourage beneficial organisms, improve biodiversity**

**Work the soil**

**Slug baits; iron (ferric) phosphate**

**Remove and destroy slugs and snails by hand.**

# Frog Hoppers/Meadow Spittlebugs

**Adults** (froghoppers) are small hopping insects ~6mm long.

**Nymphs** are found in spittle masses on plants



**Damage** Meadow Spittlebugs nymphs produce spittle masses people find unpleasant to look at.



**No Management needed!**

Spittle masses can be sprayed off with a hose



# Leafhoppers

**Adults** are small (3mm) and brightly coloured.

**Nymphs** are pale green, yellow or white.

**Adults fly.**

## Damage

Spots and stunted foliage. Diseases; virus, phytoplasmas & bacteria.

## Management

Insecticidal soap kills nymphs.

Remove weeds and infected host plant material



# Aphids

**Aphids are small, pear-shaped, with long antennae**  
**Some adults possess a large pair of membranous wings.**  
**Aphids are usually found in large groups**  
**Aphids can reproduce without mating, producing 60-100 / female**



## Damage

**Aphids remove sap causing wilting and curling, galls or abnormal growth, honeydew, which supports sooty mould.**  
They are important vectors of plant viruses.



# Management

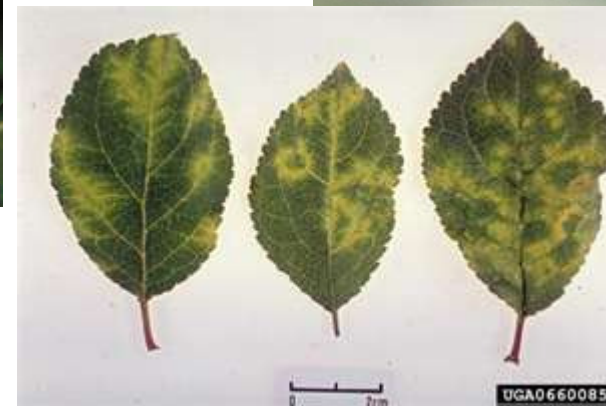
**Beneficial insects;** Ladybird beetles, lacewing larvae, earwigs! and syrphid fly larvae. Several species of wasp parasitize aphids.

**Insecticidal soap**

**Dormant oils** on affected trees for overwintering eggs.

**Reducing nitrogen fertilizer**

**Good weed control** limits host plants for these pests





# SCALES

Scale attacks trees, shrubs and indoor plants

They remove sap, reducing vigour

An entire tree or shrub may be killed by infestations



## Management

**Remove scales**

**Prune and destroy**

**Dormant oil**

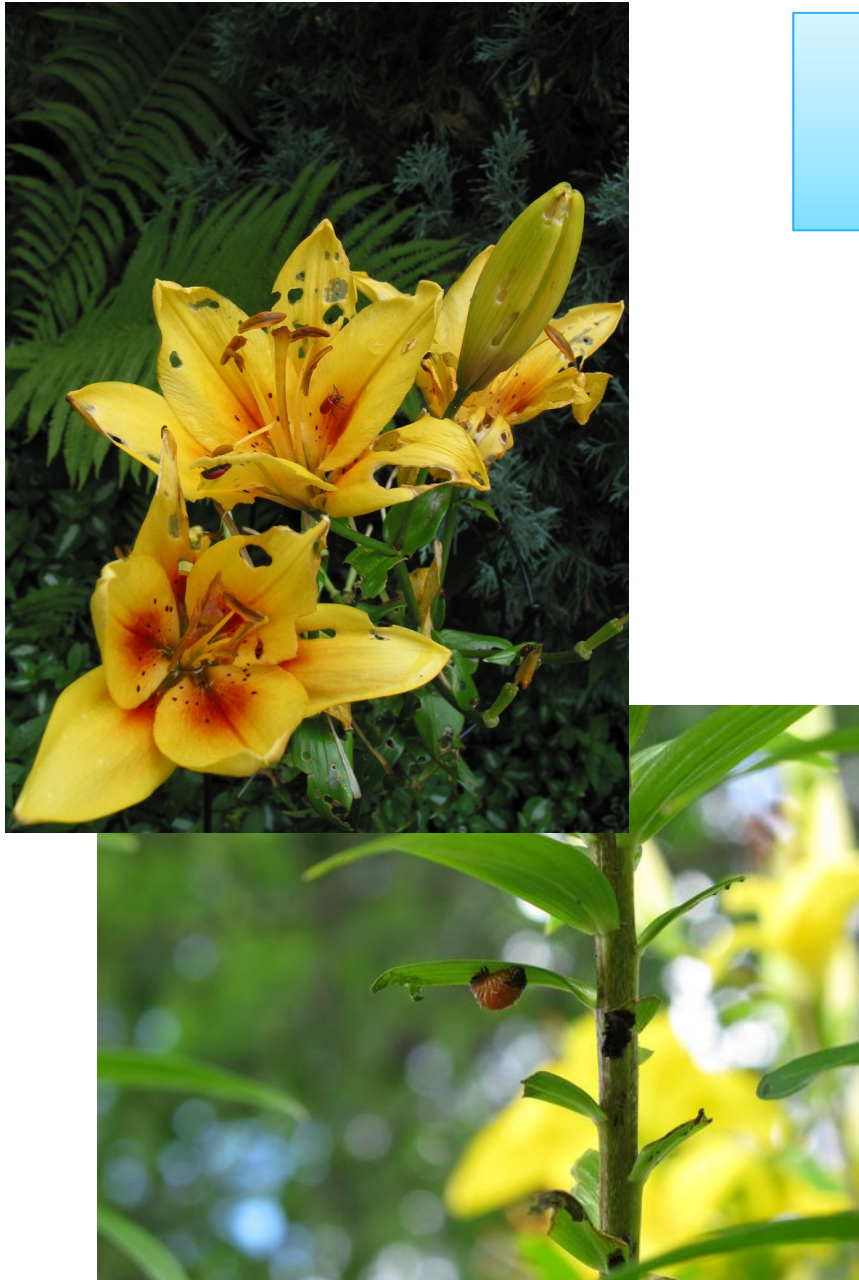
**Horticultural oils**

# Lily Leaf Beetle

**Adult beetles** are 6-9 mm long, with bright red wing covers, and black head, legs and antennae.

**Overwinter** as adults in plant debris or in the soil





# Management

**Inspect** susceptible plants as soon as the frost leaves the ground

**Remove and destroy** adult beetles (crush or drop into soapy water)

**Destroy eggs** pull infested leaves between your thumb and forefinger to crush the eggs

**Dislodge the larvae** by blasting plants with water from the garden hose



# Turf Pests



# Hairy Chinch Bug



**This native insect** is a serious pest of turf grasses, by removing sap from and blocking the xylem and phloem

**Chinch bug damage appears suddenly in mid-August** as straw brown patches of dead grass on lawns

**Looks like drought damage and roots are attached** to the soil

**Damage will probably be noticed** first on south facing slopes, central areas of lawns, near hedges or trees.



# Management

**As a native pest;** it has many predators, parasites and pathogens

**Encourage these beneficials, apply OM to the soil**

**They thrive in hot dry conditions;** keep lawn moist

**Topdress or apply a soap** solution in late May

**Reduce the amount of nitrogen fertilizer**

**Dethatch lawns,** thatch provides shelter

**Use endophyte-enhanced grasses:** they don't like it

**Monitor using the tin can method**



# May or June Beetles European Chafer

**May or June Beetles** are native insects of eastern Canada.

**European Chafer** is introduced

**Adult** June Beetles (1.2-2.5 cm) and European Chafer (~1.4 cm) look similar, They are light or dark brown beetles.

**Adults deposit the eggs** in the soil, 2.5 to 20 cm deep

**Larvae feed** on grass roots when the soil is warm.



June beetle



European chafer grubs



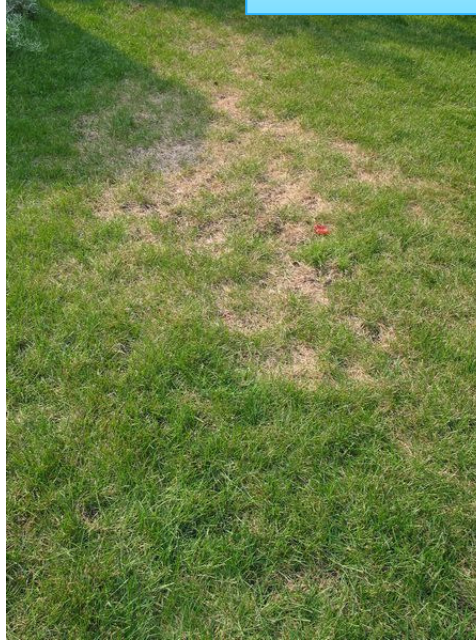
June beetle grub



Pupa



# Damage



# Management

- Proper turf maintenance
- Adequate irrigation
- Parasitic nematodes





**Other insects that mature in the soil and may cause turf damage.**

**Parasitic nematodes kill the larvae.**



**Japanese Beetle**



**Black vine**



**Rose chafer**



# Parasitic Nematodes can also kill ants and caterpillars in the soil



**Cut worms**



**Ants**



**Iris borer**



# Life Cycle

Insect		Month												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
June Beetle	Yr1													
	Yr2													
	Yr3													
European Chafer	Yr1													
Japanese Beetle	yr1													

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# Woody Plants



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# Cedar Leaf Miner

**This is a native pest.** Many are parasitized by wasps. **The tiny larvae** (~ 3 mm) are pale green with a dark head capsule, living inside leaf mines.

**Adults** are tiny gray-silver moths (8 mm spread), flying in late June/early July.



**Damage:** The cedar “leaves” turn brown, randomly and is easily confused with winterkill.

**Management:** Prune cedars before adults emerge; fall, winter, and early spring. Remove and destroy clippings.





# Tent Caterpillars

Eggs are laid on branches in the fall. They hatch in early spring. The larvae shelter in a silken tent

In late spring, they pupate in sheltered places within a cocoon into adult moths.

**Damage:** Larvae defoliate host species. The preferred host is *Prunus*, however feed on any plants in the Rosaceae (especially apple) and have been found on aspen, poplar, willow, ash and birch.



forest tent



eastern tent

# Management

**They are native to North America**, therefore parasites, predators and disease organisms help regulate pest populations.

**Scrape** and destroy egg masses in the fall.

**Apply insecticidal soap** on tents in the evening or on overcast days when the majority of larvae are inside or on the tent. Apply soaps onto the caterpillars.

**Apply dormant oil** late winter/early spring in **Spray B.t.** on foliage of preferred hosts.

# Gypsy Moth

**Female moths** large (40-50 mm wingspan) and heavy bodied. Their wings are white with black markings.

**Males** are gray and smaller.

**Egg masses** are covered in scales from the female moth's body.

**Larvae** are large, dark, hairy, with rows of blue tufts and red tufts.





**Damage:** Larvae devour deciduous and conifer foliage.

**Management:**

**Scrape** off egg masses

**Spray** B.t. on foliage.

**Apply** insecticide soap on caterpillars

**Apply dormant oil** in late winter/early spring

A band of burlap tied around tree trunks and folded can trap sheltering larvae and females attempting to lay eggs.

**Traps** baited with synthetic pheromones are commercially available but are useful as a monitoring tool

# There are many more insect pests but love the beneficial insects



Preying mantis  
adult and egg case



Stink bug adult and  
eggs



Lacewing adult and  
larvae (aphid lion)



## Ladybird Beetles



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## Ground Beetles



## Syrphid Flies





### Tachinid Flies



### Aphid Midges



### Ichneumonid wasp



### Braconid wasp

