

# Pests in the Garden

## An Exercise in Appreciation

Anne Marceau and Michael Burzynski

I'm fascinated by plants and by invertebrates (see below!)  
I enjoy gardening, but I don't want to harm harmless species.





We all want to protect the plants that we raise for the garden.

What pests bother you the most?

What we will talk about today:

Pests vs Garden Allies

Safe techniques for reducing pests in your garden

Questions and, hopefully, answers.

# Garden Allies

- Worms (all are introduced species! They are great in the garden, but a problem in our forest).
- Insect-eating invertebrates such as centipedes, carabid beetles, spiders.
- Insect-eating mammals such as shrews, bats.
- Insect-eating birds such as crows, ravens.
- Rodent-eating birds and mammals: hawks, cats, foxes.

# Harmless Residents

- Sowbugs/pillbugs/woodlice/carpenters.
- Most other insects, spiders, and other invertebrates that you see in your garden.

- Encourage garden allies—the good guys!



Carabid beetles—helpful predators of other insects



Orb spider

# Spider hatchlings







Jumping spider



# Ladybird beetle

Photos from internet.





Goldeneye lacewing



Lacewing nymph. Photo from internet.



Darters and dragonflies



Parasitic wasp fly larvae hatching from a tussock moth cocoon



Tiger swallowtail—butterflies are important pollinators



Compton tortoiseshell



Bumblebee



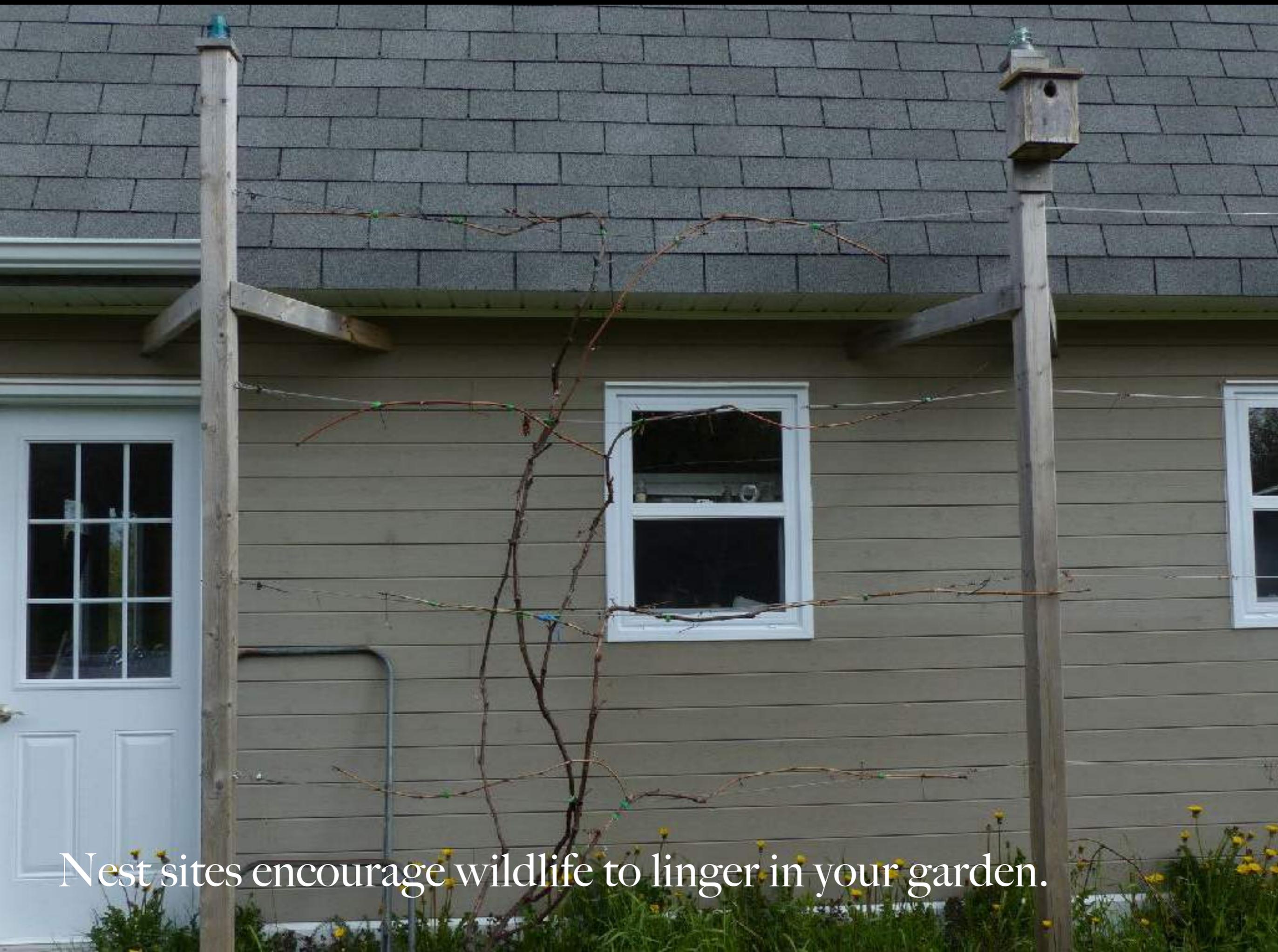
Flowerfly●●●●●●●●



Hoverfly



Merlin.



Nest sites encourage wildlife to linger in your garden.



Cats can be both allies and pests!

# Two Important Rules About Garden Allies

- Do them no harm!
- Encourage them to live in your garden!

# Garden Pests

- Insects and other arthropods: flea beetles, vine weevils, june bugs, earwigs, aphids, cabbage whites, cutworms, carrot whitefly.
- Molluscs and other invertebrates: slugs, snails, worms.
- Mammals: moose, hares, deer mice, voles, squirrels, chipmunks, cats.
- Birds: crows, ravens, sparrows, starlings.
- Weeds (plants not growing where and how you want them).
- That guy who always borrows a garden tool just before you realize that you need to use it.

# Pest Reduction Techniques

- Organic pesticides.
- Household chemistry.
- Physical barriers and hand removal.
- Garden hygiene.
- Companion planting.
- Isolation: greenhouses, raised beds, and cold frames.
- Introduce or encourage predators

# Organic Pesticides and Household Chemistry

- Plant alkaloids: nicotine, pyrethrin, capsaicin...
- Garlic.
- Dish detergent and other soaps.
- Cat urine.

Many plants produce protective chemicals that we can use:  
Alkaloids: nicotine, pyrethrin, capsaicin...  
Sulphur compounds in garlic







Diatomaceous earth

Diatomaceous earth



Photo from internet.

# Diatoms

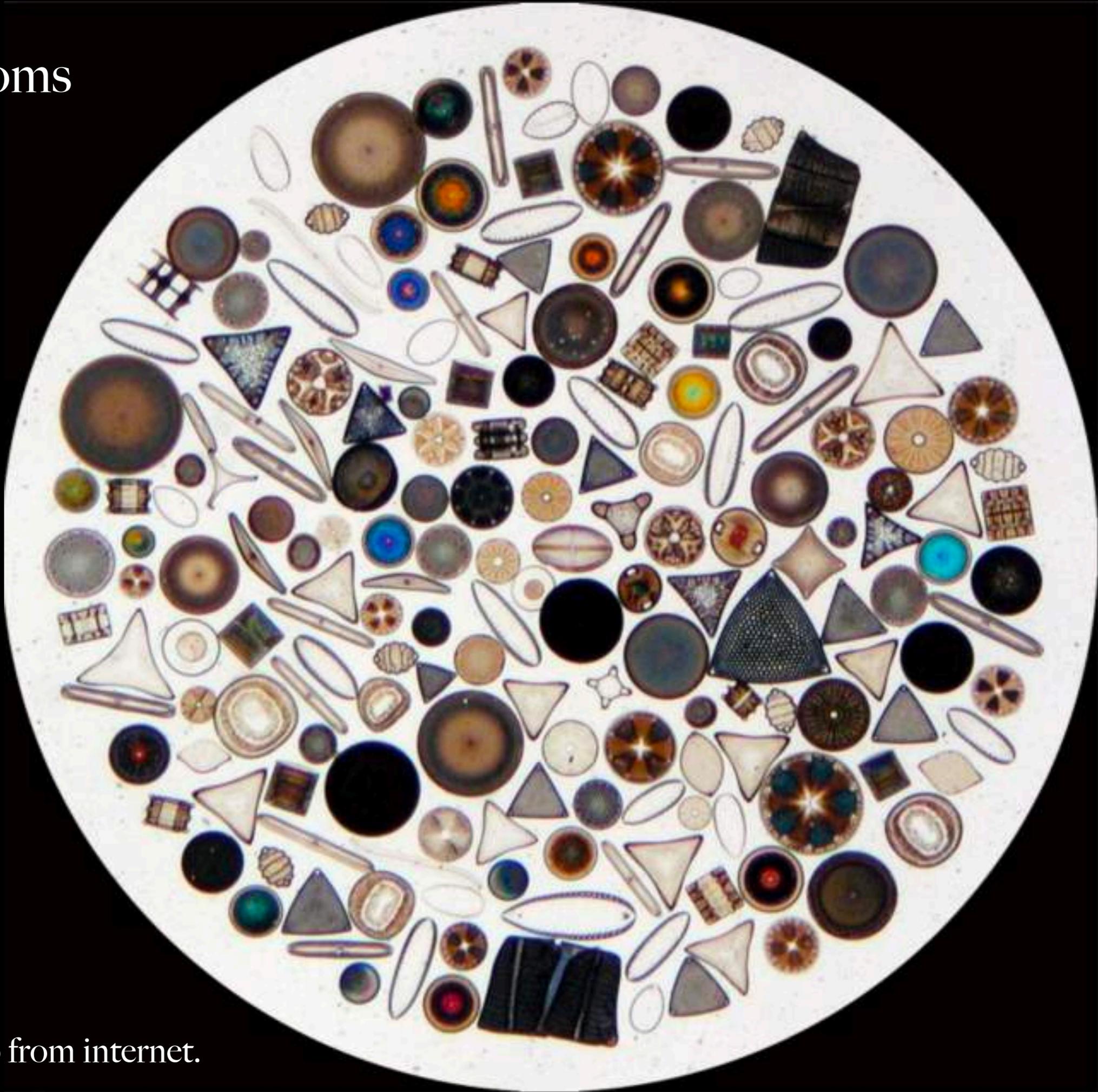
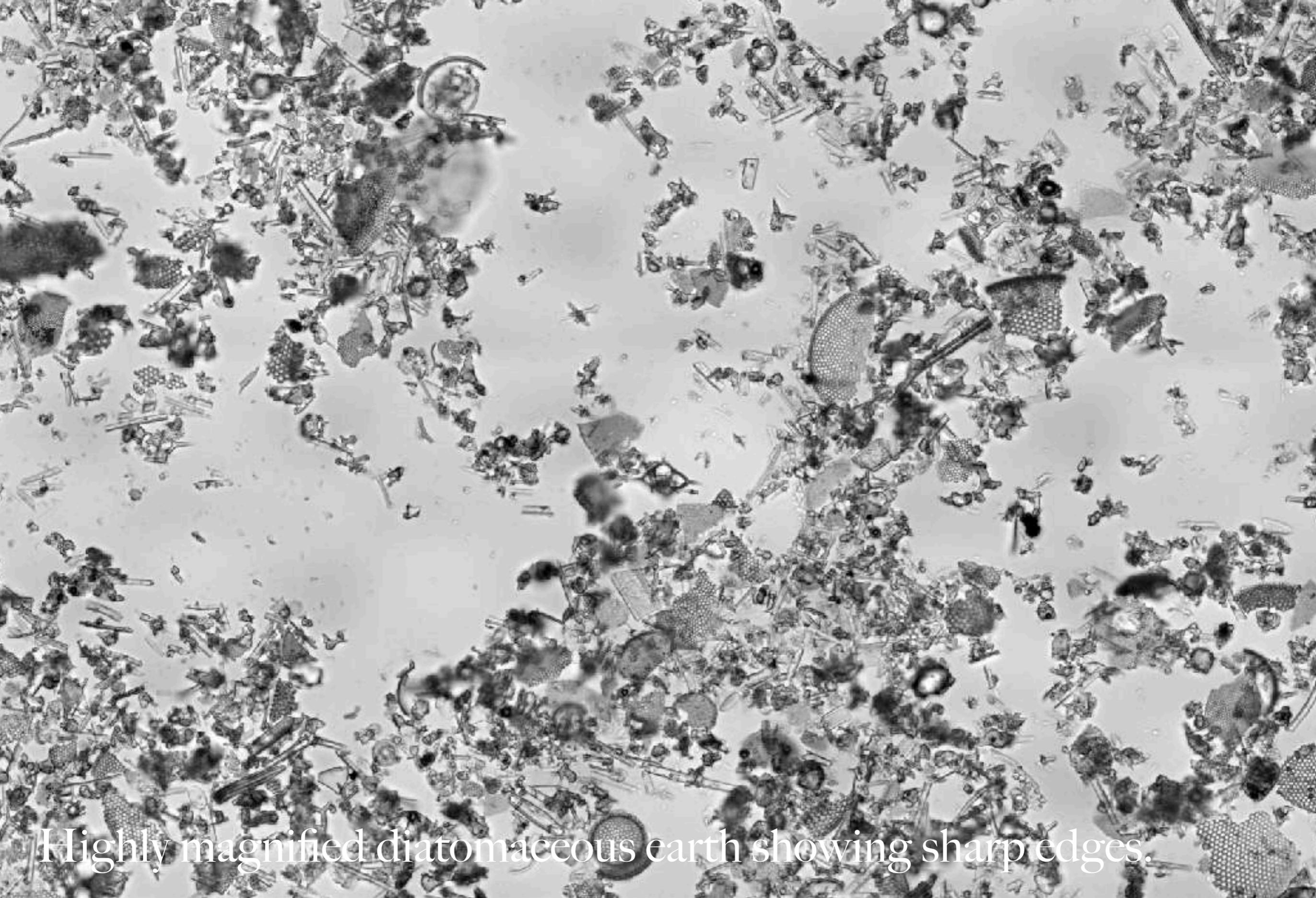


Photo from internet.



Highly magnified diatomaceous earth showing sharp edges.

Photo from internet.



End All potassium salts of fatty acids (i.e., soap), pyrethrin 0.2%

Dish detergent and other soaps.





- BugBGon Canola oil and 0.5% pyrethrin

Bat must be made of wood  
to be considered organic

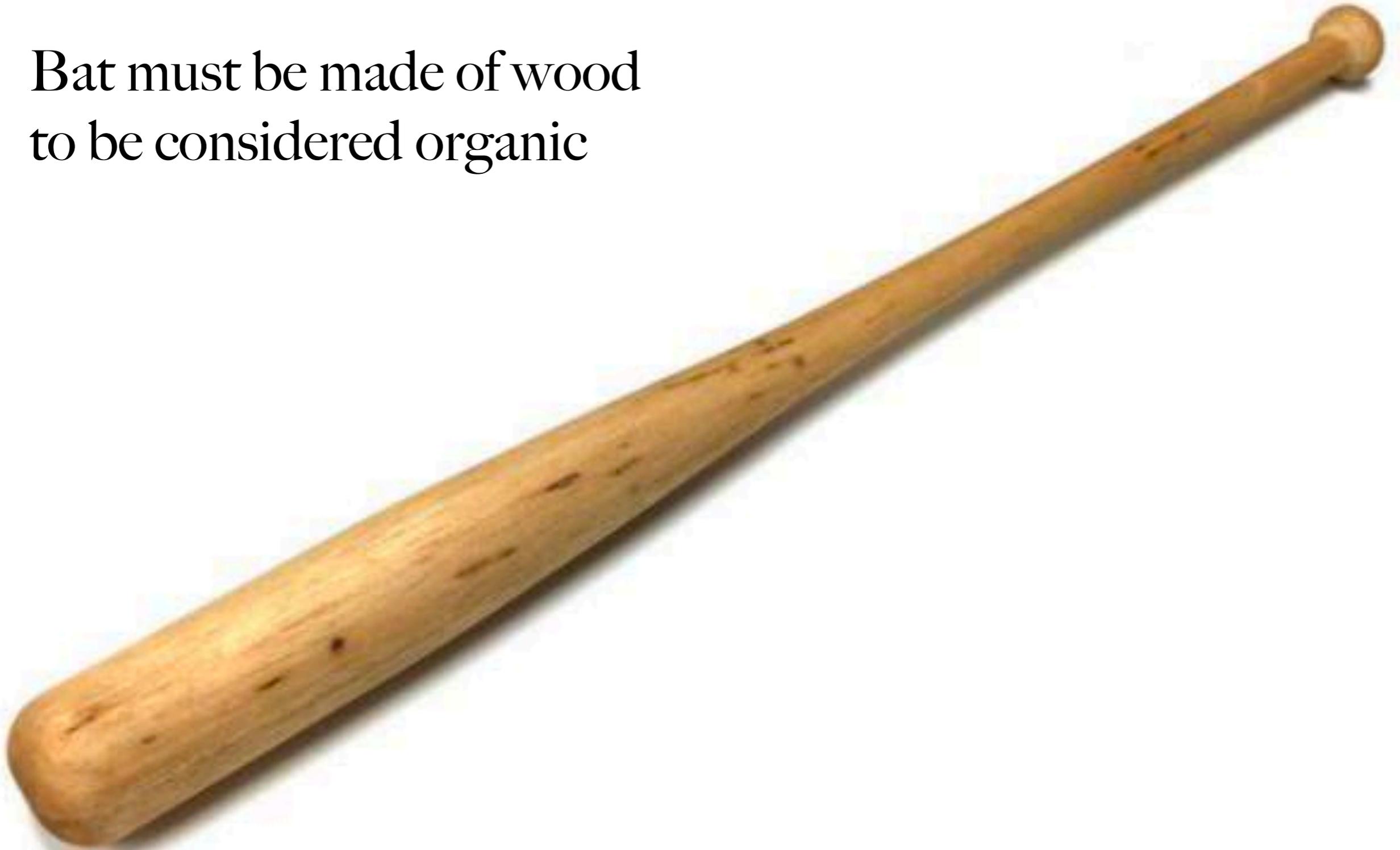


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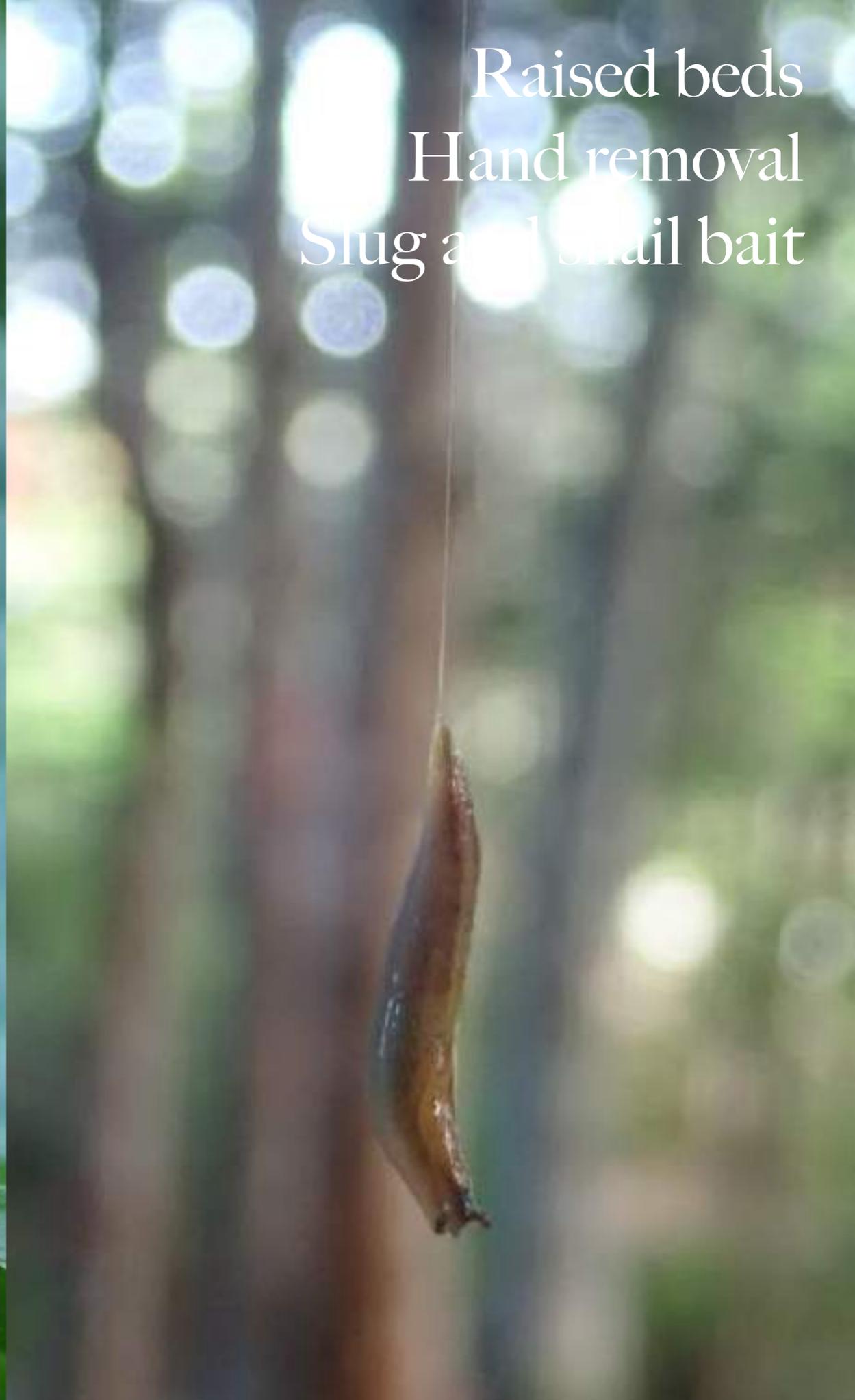
Leopard slug, to 15 cm long.



Slugs can also drop from trees and bushes!



Raised beds  
Hand removal  
Slug and snail bait



## Copper Blocker



100' roll shown.



Photo from internet.



Copper is supposed to react with the slime of slugs. But: Success stories are only anecdotal. Really requires a battery.

Best slug control techniques:

Raised beds or isolation of sensitive plants

Hand picking

Organic slug bait



- slug bait iron phosphate

European crane fly,  
or daddy long-legs,  
*Tipula paludosa*,  
hatching from  
pupal case.

Eats root hairs,  
roots, crowns of  
plants. Larvae are  
called  
“leatherjackets”



Remove larvae as you find them.



Spittlebug/Froghopper.



The foam worked: parasitic wasps drowned while trying to reach spittlebugs.

Hose spittlebugs off plants, or spray with garlic/hot pepper/detergent spray.



Woolly aphids.



Aphids. Photo from internet.



Photos from internet.

Spray with hose  
Insecticidal soap  
Garlic-pepper spray



Flea beetles: remove host plants such as red-osier dogwood  
Spray with soapy water. Wait for them to quit! Photo from internet.

# Earwig damage



Protect plants while still small.  
Hand-remove earwigs at night, or use traps  
Spray with insecticidal soap  
Dust with diatomaceous earth

Photos from internet.

Females dig nests and protect their young.



It could be worse, but the St. Helena earwig is extinct!

(C) Takeshi Yamada. St. Helena Giant Earwig

Extinct 1967



Cutworms are the larvae (caterpillars) of several species of moth.  
Photo from internet.



Gardeners often dig up cutworm caterpillars and pupae.  
Photo from internet.



Noctua pronuba—an adult cutworm. Photo from internet.



Hand picking at night.  
Collars of card or plastic.  
Diatomaceous earth.



Cabbage white butterfly  
Pieris rapae. Photos from internet.





Hand-remove  
Spray with insecticidal soap  
Dust with diatomaceous earth

Safer's®

**BTK™**

**BIOLOGICAL INSECTICIDE  
INSECTICIDE BIOLOGIQUE**

Gypsy Moth



Spongieuse

Tent Caterpillar



Livree

Cabbage Looper



Farouche-jeune  
d'arborescence

Controls caterpillars including cabbage worm, tomato hornworm, tent caterpillars, gypsy moth, leafrollers and other listed insects on vegetables, fruits, shade trees, ornamentals and evergreens.

Combat les chenilles, y compris la piéride du chou, le sphinx de la tomate, la livrée, la spongieuse, les tordeuses et autres insectes spécifiques qui s'attaquent aux légumes, aux fruits, aux arbres d'ombrage, aux ornementaux et aux conifères à feuilles persistantes.

**MAKES OVER/DONNE  
30 LITRES**

READ THE LABEL BEFORE USING  
LIRE LE MODE D'EMPLOI AVANT D'UTILISER

**CONTROLS CATERPILLARS!  
CONTRÔLE LES CHENILLES!**



4735

\$11.95

Insecticides Safer's BTK 1



- BTK bacillus thuringiensis – for caterpillars and larvae, must be ingested



Grow varieties that are less susceptible to damage

Crows eat insects, but their inquisitive nature can become a problem for gardeners—they often pull up germinating seeds and onion sets.



Most Attractive Stage!



As a bean breaks the surface, it attracts crows.

Photo from internet.



Reemay sheets hide bulbs and germinating seeds from birds.



Crows and other birds love ripe fruit



Photo from internet.



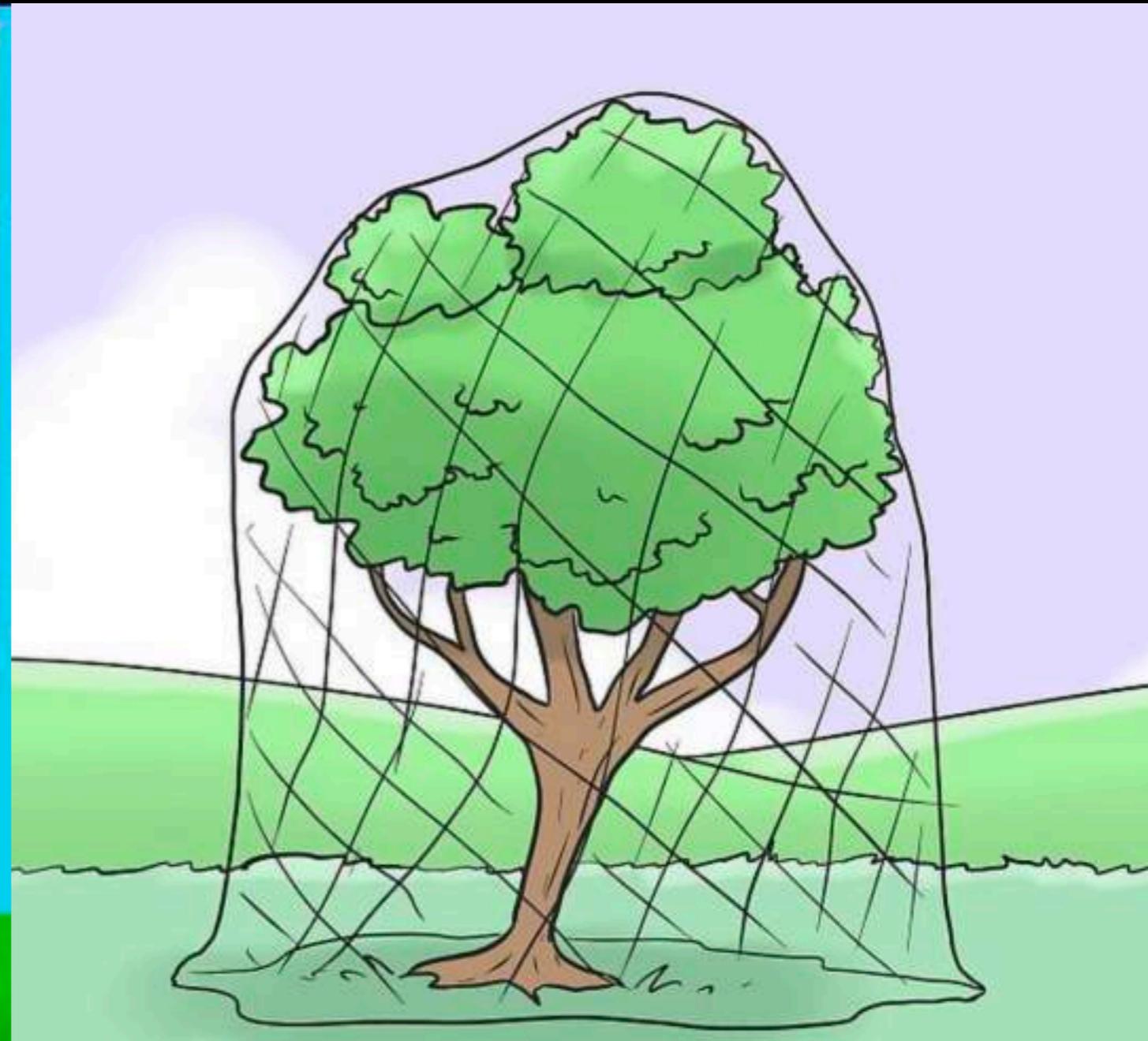


Photo from internet.

Carrot fly can affect an entire crop, and can shorten winter storage





Carrotfly

Rusty or red leaves.

Ugly carrots with tunnels, reduced storage life.

Photos from internet.





Carrot fly barrier, Reemay or plastic, about 50 cm tall.





Can also work as wind shelter for peppers and other plants



Currant and Gooseberry problems



Currant borer moth



Photo from internet.



Photo from internet.

Prune damaged stems and burn them .



Gooseberry sawfly (also eats currant leaves)

Photo from internet.

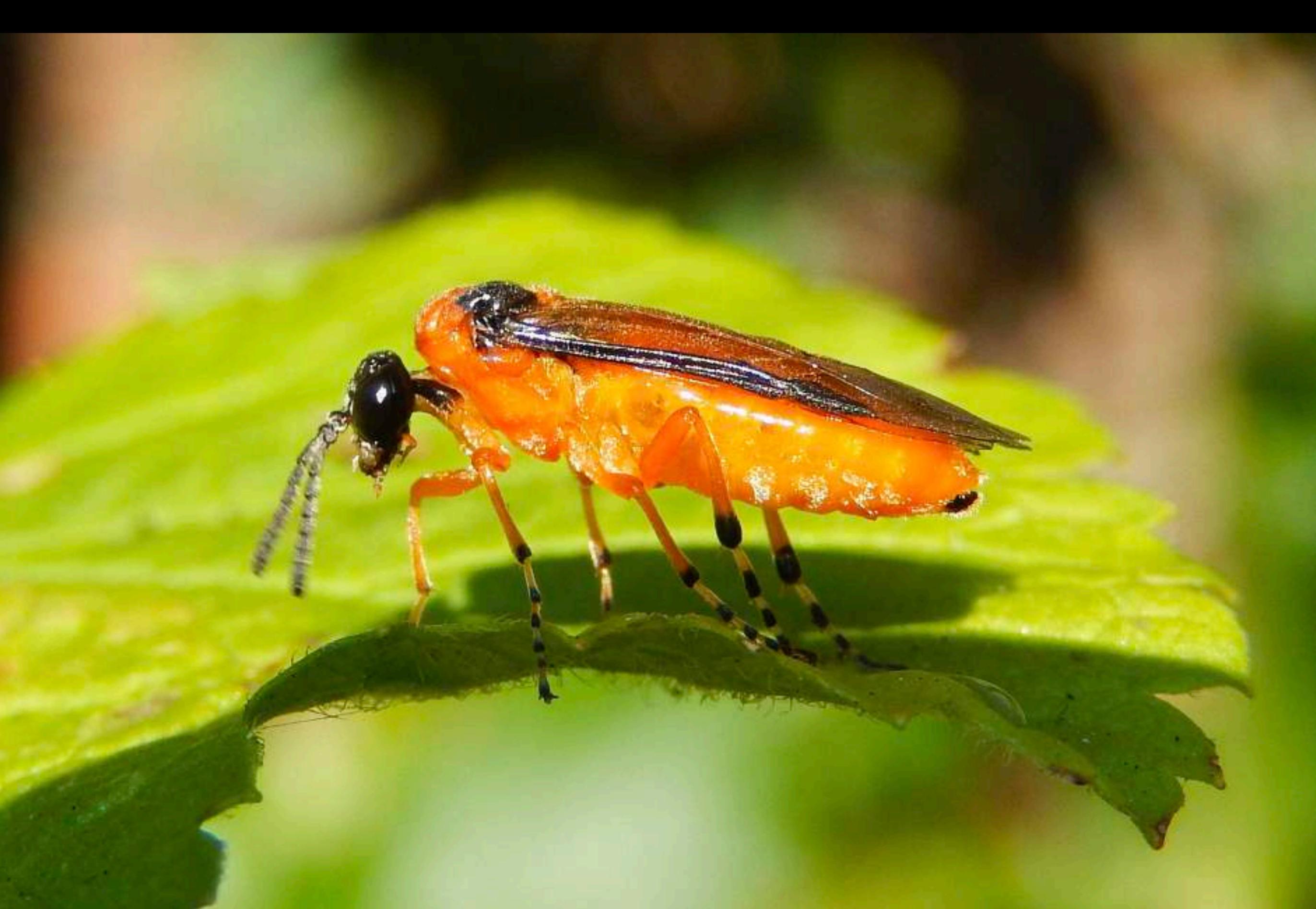


Photo from internet.



Hand-remove  
Spray with insecticidal soap  
Dust with diatomaceous earth



Vine weevil grubs eat roots of plants, here primrose. Photo from internet.



Adult vine weevils eat leaves from the edges.



Strawberries



Ferns



Heuchera

# Nemasys®

## Biological vine weevil killer

- Fast and effective control
- Compatible with organic gardening
- Easy to use, just add water



Refrigerate on receipt. Adhere to the Use By Date.

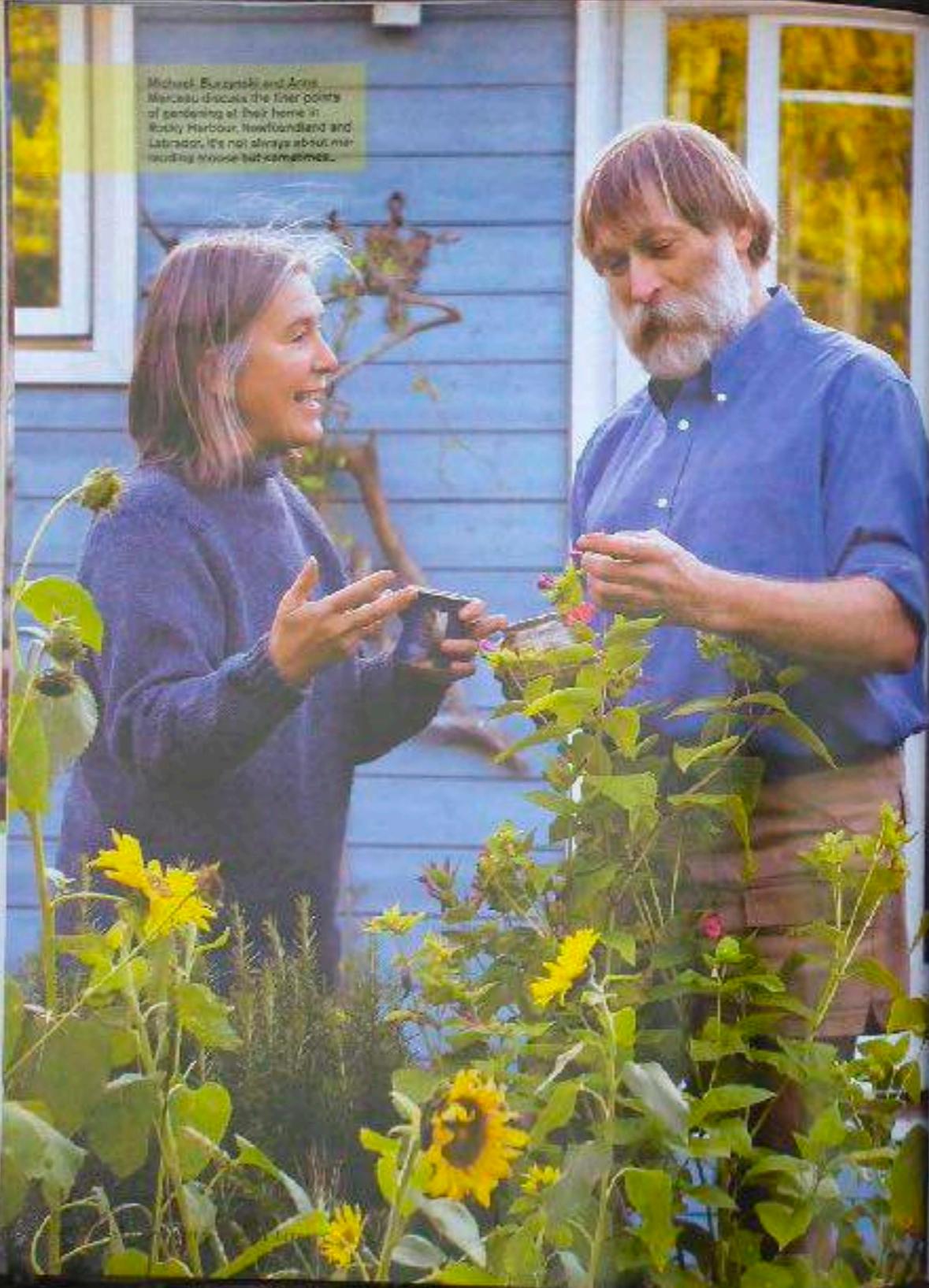
Treats up to 100m<sup>2</sup>.

 **BASF**  
We create chemistry

A specific predator that you can introduce to your soil.



Moose can be a large problem



Michael Burzynski and Arne Marcou discuss the finer points of gardening at their home in Rocky Harbour, Newfoundland and Labrador. It's not always about marauding moose but sometimes...



# The Battle With BULLWINKLE

Meet a Newfoundland couple who have a special take on intruders in the garden.

Story by TOM CRUICKSHANK Photography by DALE WILSON

And you think you have your back full with summer pests in the garden: earwigs, slugs, cicadas and crickets. Well, Michael Burzynski and Arne Marcou can top that. One day, at the height of the vegetable growing season, they looked out their window in Rocky Harbour, on Newfoundland's west coast, to see a small crowd of crickets at the side of the road, crawling into their garden. They were

pointing and chatting among themselves. Some had tussocks. Meanwhile, traffic was slowing to a crawl as drivers craned their necks for a better view. Without even turning its head in the direction of the commotion, Michael knew what all the fuss was about, for he had seen the evidence before: entire beds of carrots and leeks wiped clean, strawberries hoovered up in a single sweep, what wasn't eaten trampled to a pulp.

Seems a certain four-legged intruder was up to his old tricks, tearing Arne and Michael's veggie patch to his own personal shambles. This time, Michael remembered to grab his camera before shooing the intruder away. "I wanted a specimen," he says, "something to prove to non-believers that we have a real scourge in our back yard in Newfoundland." But even Michael was surprised by what he saw. It was the biggest moose

Our garden's claim to fame—marauding moose.



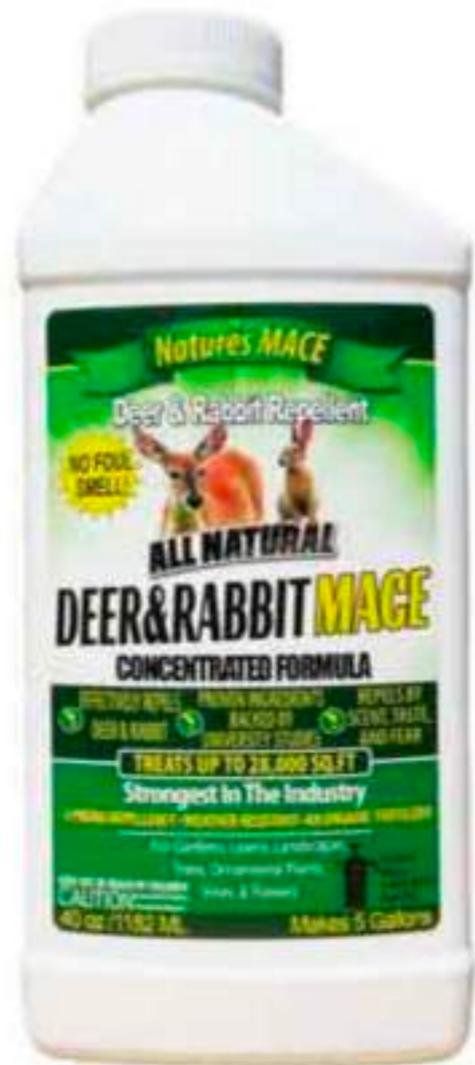
Garden near Indian Pond with a "moose-proof" fence.



Seriously ugly scarecrow moose.



Protect particularly vulnerable plants with chicken wire net.



Photos from internet.

Strong smells often deter moose and hares  
Do not bother trying:  
Yelling and running at the moose  
Slingshot  
Fences shorter than 2 metres



Distract them from your garden >

Fireweed and red-osier dogwood are favourite foods of moose.





Some garden plants are distasteful to moose and hares  
Lenten rose or Heleborus.



Snowshoe hares enjoy gardens in summer and winter.



Garden near St. Anthony combining moose and rabbit fencing.



All-in-one fencing near Port au Choix.



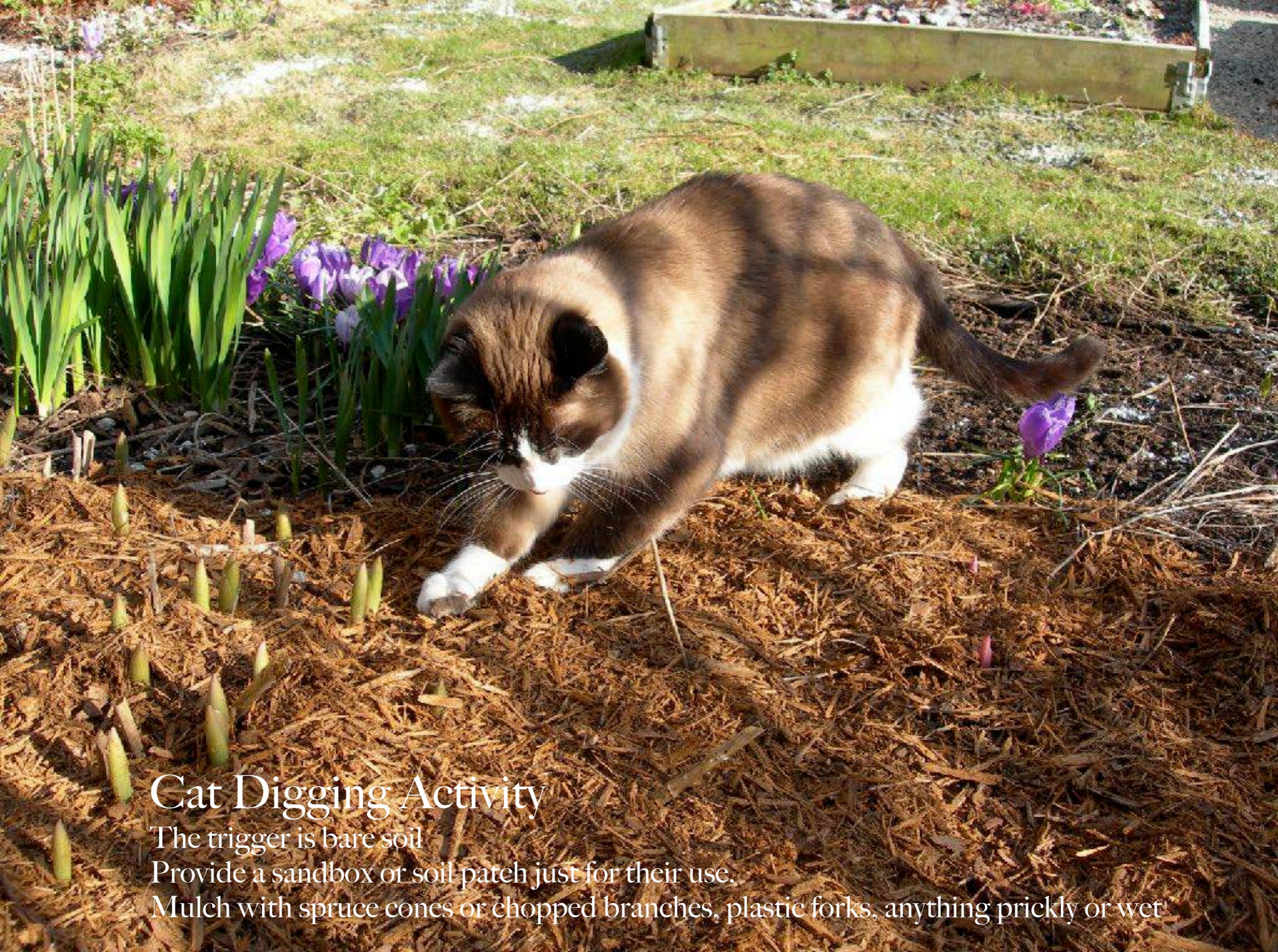
Near St. Pauls.



Winyer wrapping in burlap or chickenwire can help



Cat “pest” helping with Reemay blanket.



## Cat Digging Activity

The trigger is bare soil

Provide a sandbox or soil patch just for their use.

Mulch with spruce cones or chopped branches, plastic forks, anything prickly or wet



Chipmunks eat bulbs, can be a real problem, trapping may help.

Physical barriers

Grow your most sensitive plants in a greenhouse









Raised beds and cold frames





Grow plants in pots or troughs on a patio  
Warmer and pest free





Other types of container growing



# Hygiene

- Keep vegetable garden paths weed-free.
- Remove dead leaves and stems in autumn.
- Burn or dispose of infected material.
- Compost carefully.
- Rotate crops annually



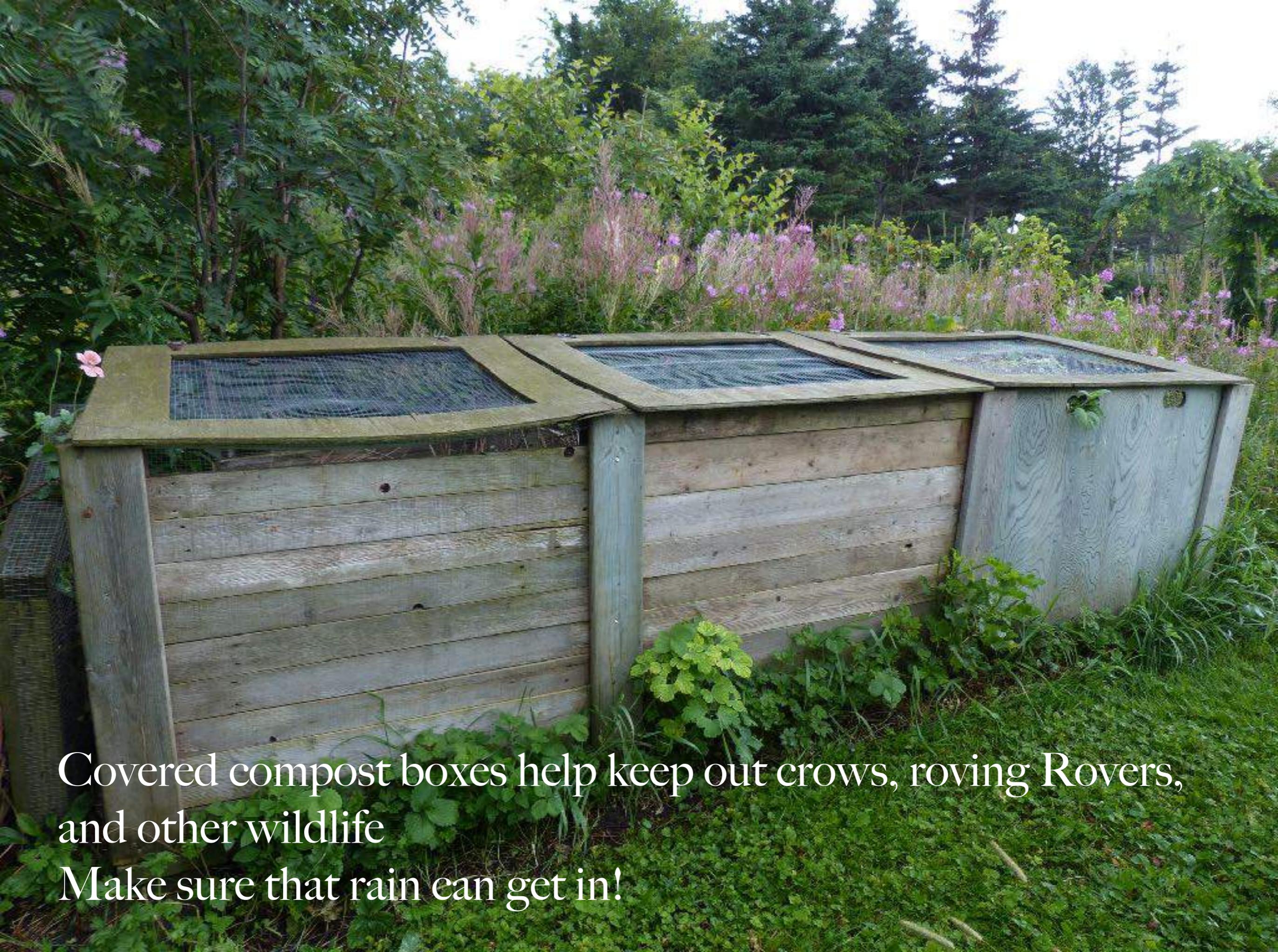
Weeding removes shelter and extra food for pest species.



Keep paths between rows clear of weeds.  
Moveable boards can be turned over to search for slugs.



Beware of seeds that can survive composting!



Covered compost boxes help keep out crows, roving Rovers,  
and other wildlife  
Make sure that rain can get in!



Rotate planting locations from year to year to preserve soil fertility, and to reduce disease organisms from accumulating.

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GARDENER'S  
JOURNAL

• A TEN YEAR CHRONICLE OF YOUR GARDEN •

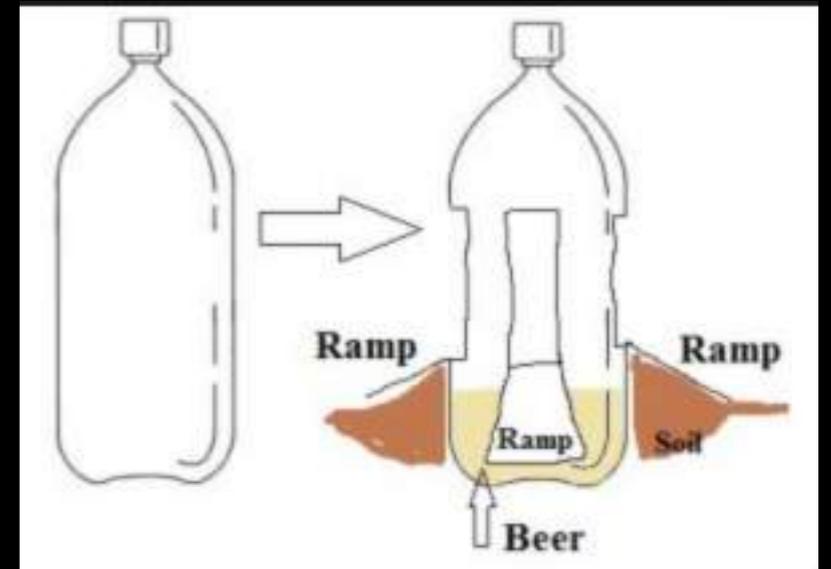
Keep records so that you know what grew where last year.

# Physical Removal

- Hand gathering pests (at night). Educational!
- Beer and other baited traps. Cover to keep rain out.
- Eggshells. Too windy, too wet, and takes too many eggs!
- Earwig traps: wood, fruit, rolled newspaper, cardboard, straws.







Slug traps  
Fruit, Yeast

Photos from internet.



Photos from internet.

Earwig traps  
Hiding places, oil

Wrapping can help reduce hare damage in winter

Cat urine or cat litter scattered around plant may deter hares.



# Companion Planting

- Nutrient sharing, disease control, and discouraging pests, shade and support.
- Four groups: Root, Fruit, Leaf, and Legume
- Marigolds, pyrethrum daisy, calendula
- Garlic, onions, etc.

- Marigolds

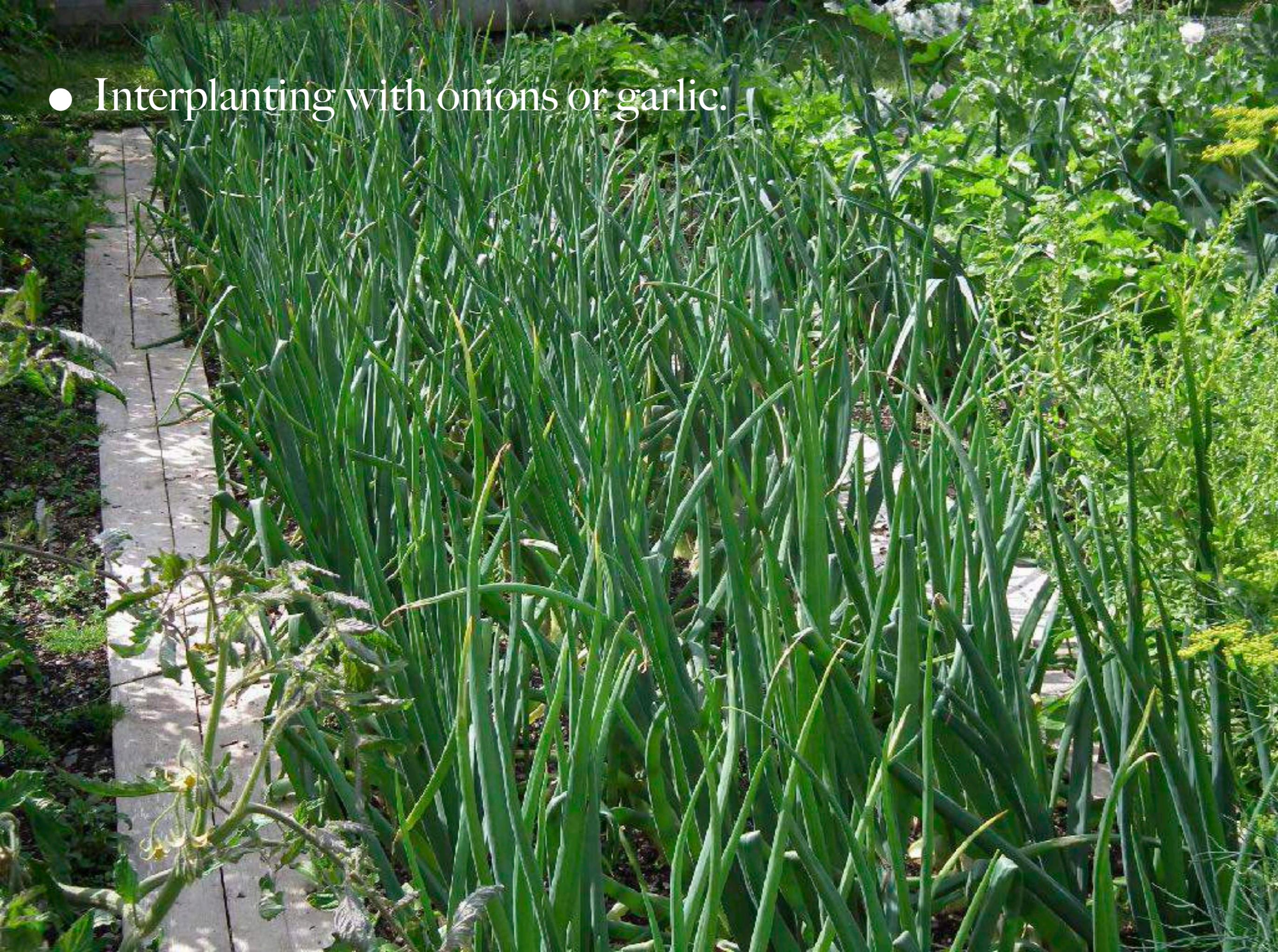


Photo from internet.

● Callendula



- Interplanting with onions or garlic.



# Plants That Can Become Pests

- Spread too rapidly—mint.
- Produce too many viable seeds—small brassica, annual poppy.
- Out-compete more valuable plants—asters.
- Produce uncontrollable rhizomes—hops, Japanese knotweed.
- Are just plug-ugly—goutweed.



Blackberry



Mint can quickly become a garden pest!  
Box it to control its spread.

*Asters can be very invasive*





Hops spread rapidly underground

When All Else Fails:

Recipes!

● Young hop tips are almost as good as asparagus.



- Annual poppies can take over a vegetable garden.





- Collect poppy seeds for breads and desserts.



- Enjoy your garden, and your pests!



Happy Spring, Everyone!







A Newfoundland solution to insect control.