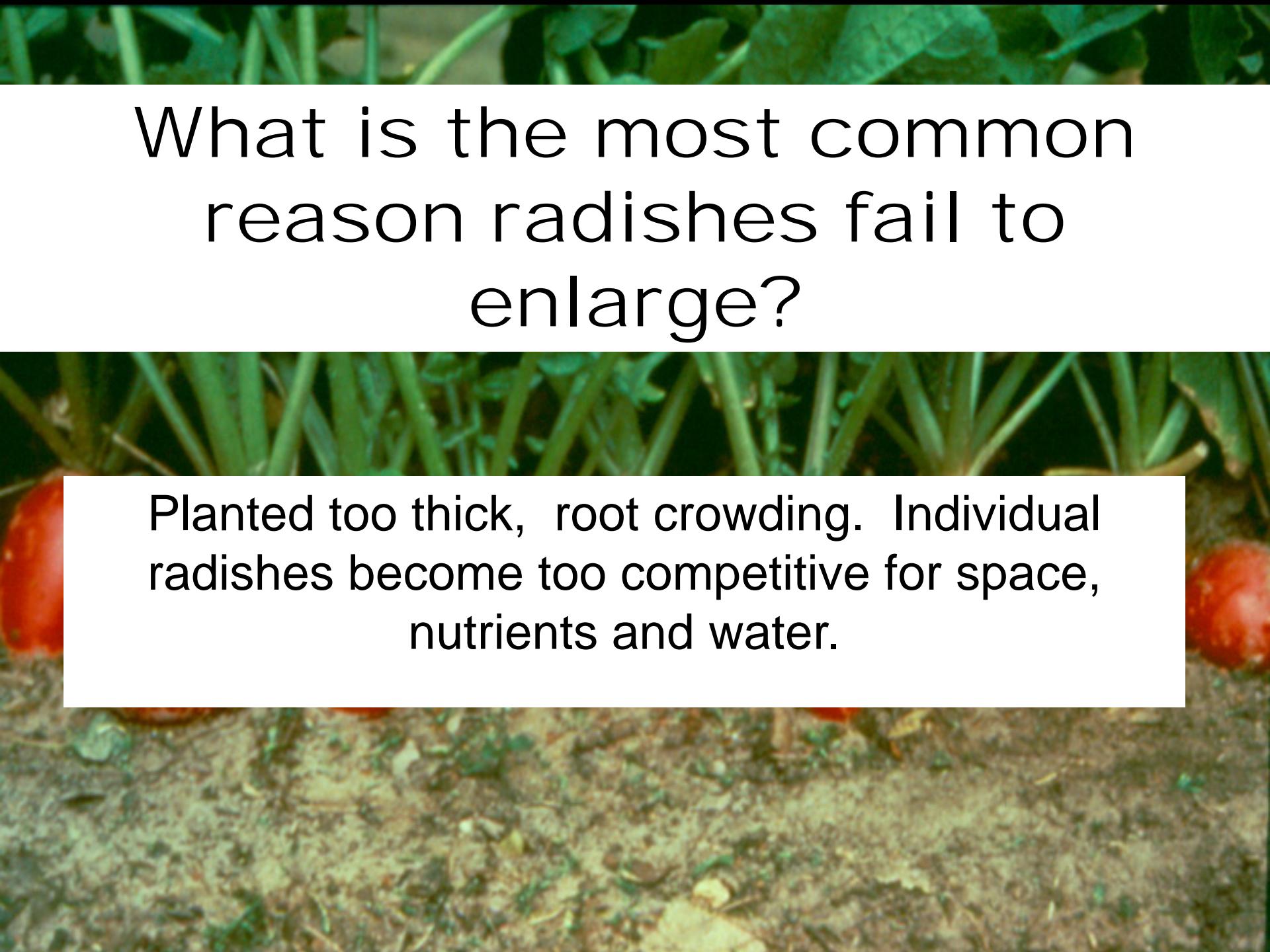


Things You Should Know to Enhance Success in Gardening

Joe Masabni, TAMU

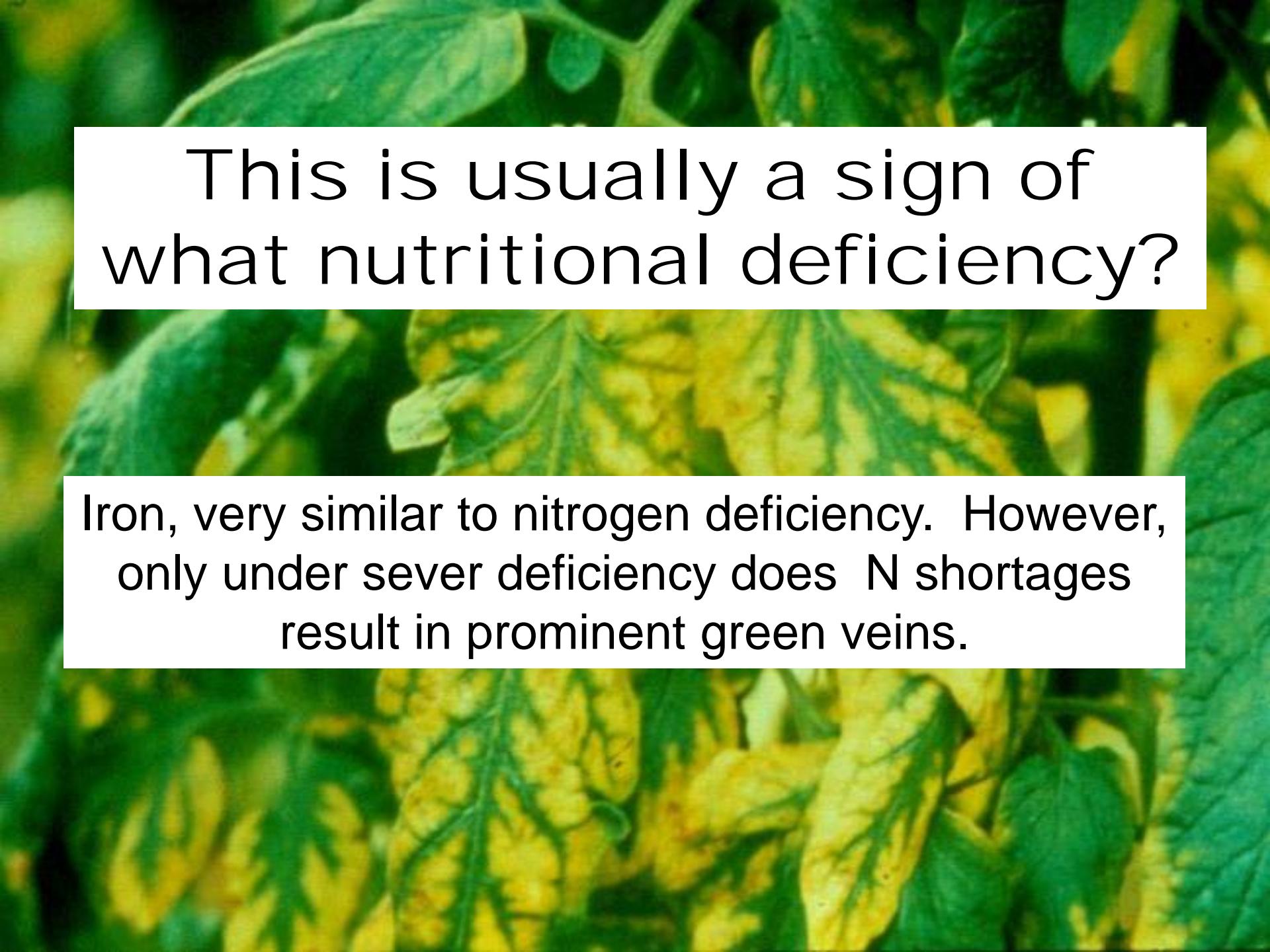


Improving Lives. Improving Texas.



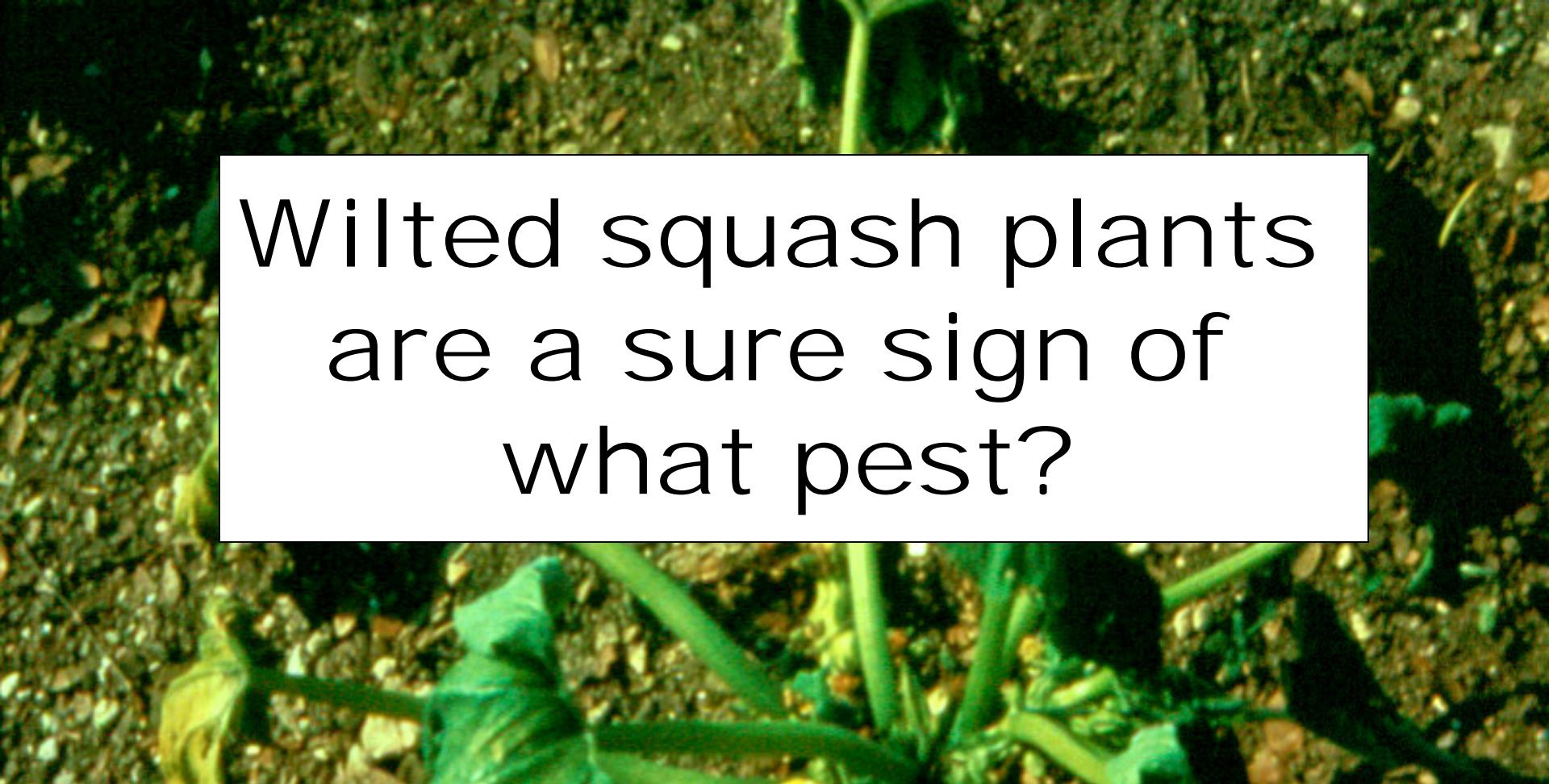
What is the most common reason radishes fail to enlarge?

Planted too thick, root crowding. Individual radishes become too competitive for space, nutrients and water.

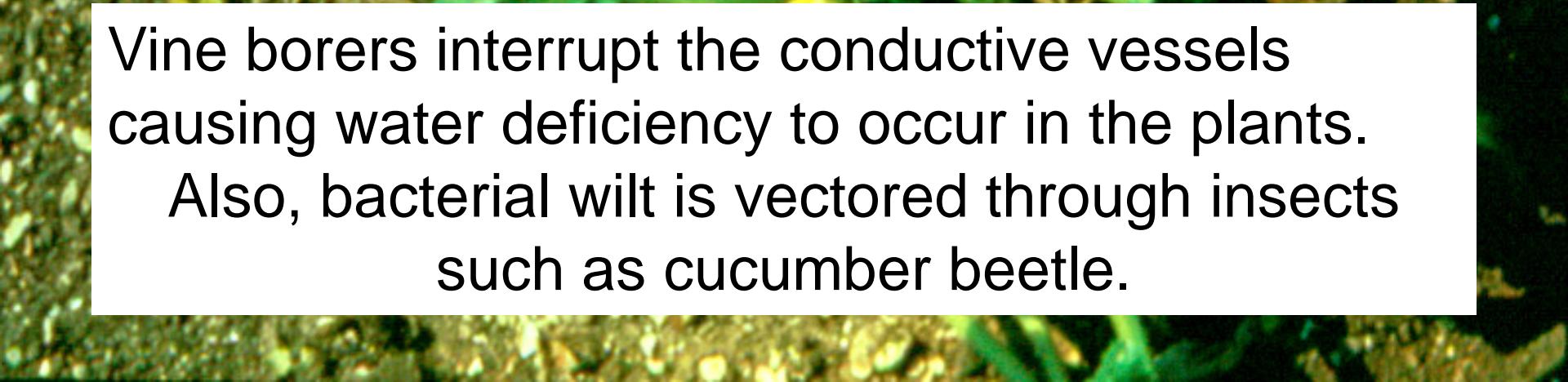


This is usually a sign of what nutritional deficiency?

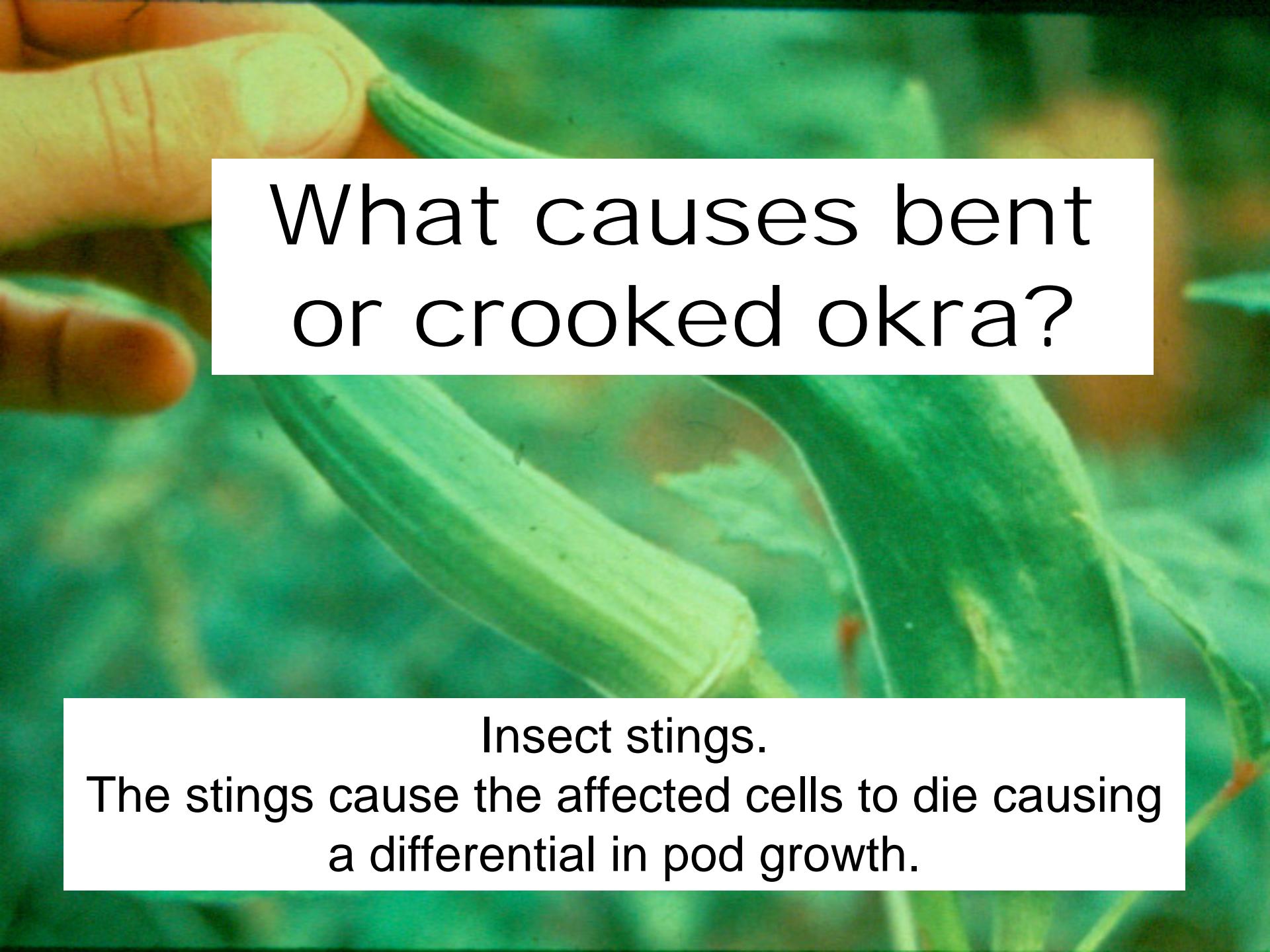
Iron, very similar to nitrogen deficiency. However, only under sever deficiency does N shortages result in prominent green veins.



Wilted squash plants
are a sure sign of
what pest?



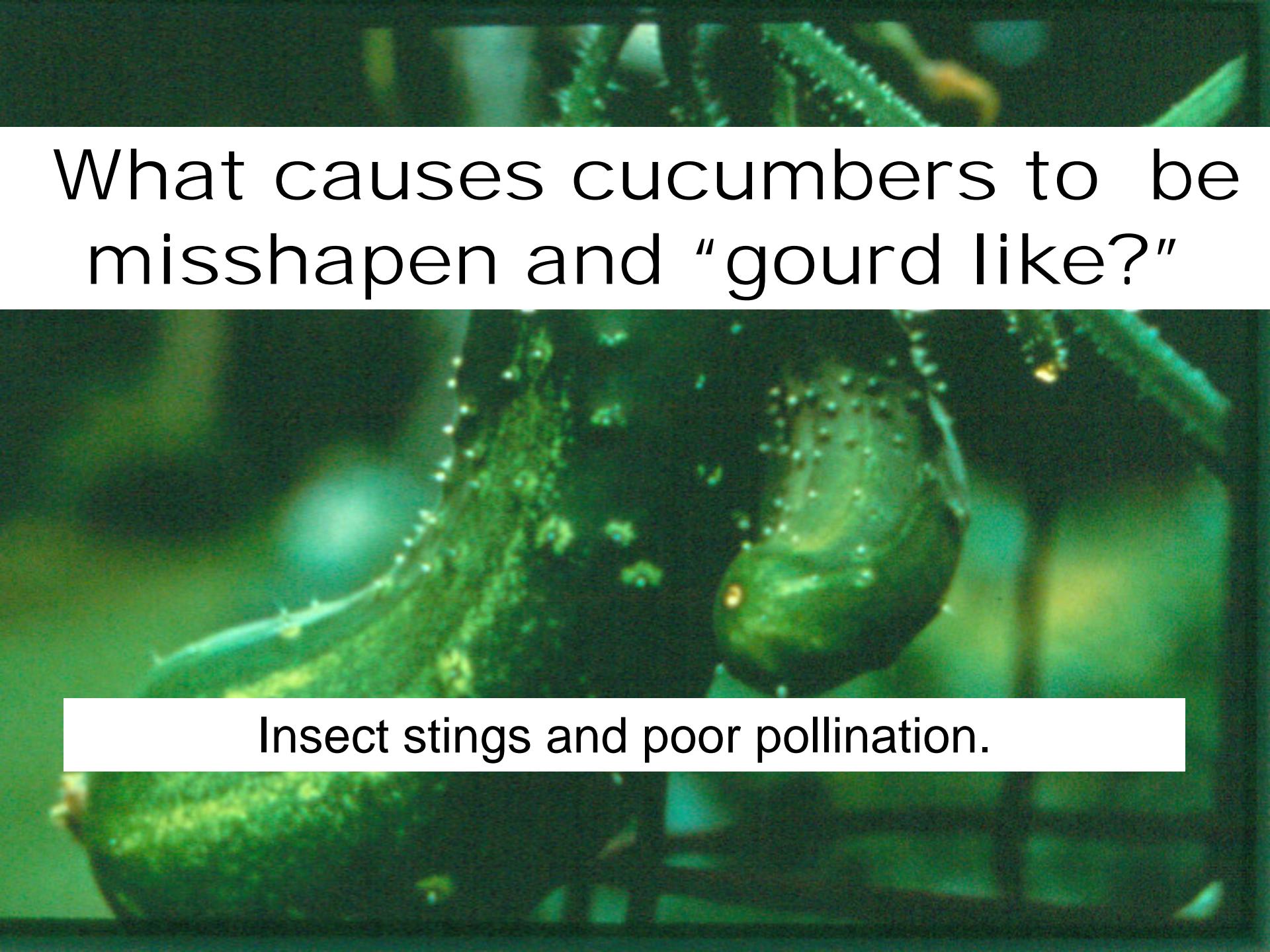
Vine borers interrupt the conductive vessels causing water deficiency to occur in the plants. Also, bacterial wilt is vectored through insects such as cucumber beetle.

A close-up photograph of several green okra pods. Some pods are straight, while others are noticeably bent or crooked, illustrating the deformities caused by insect stings.

What causes bent or crooked okra?

Insect stings.

The stings cause the affected cells to die causing
a differential in pod growth.



What causes cucumbers to be misshapen and “gourd like?”

Insect stings and poor pollination.

Buckeye rot and soil rots of tomatoes can be controlled by what cultural practice?



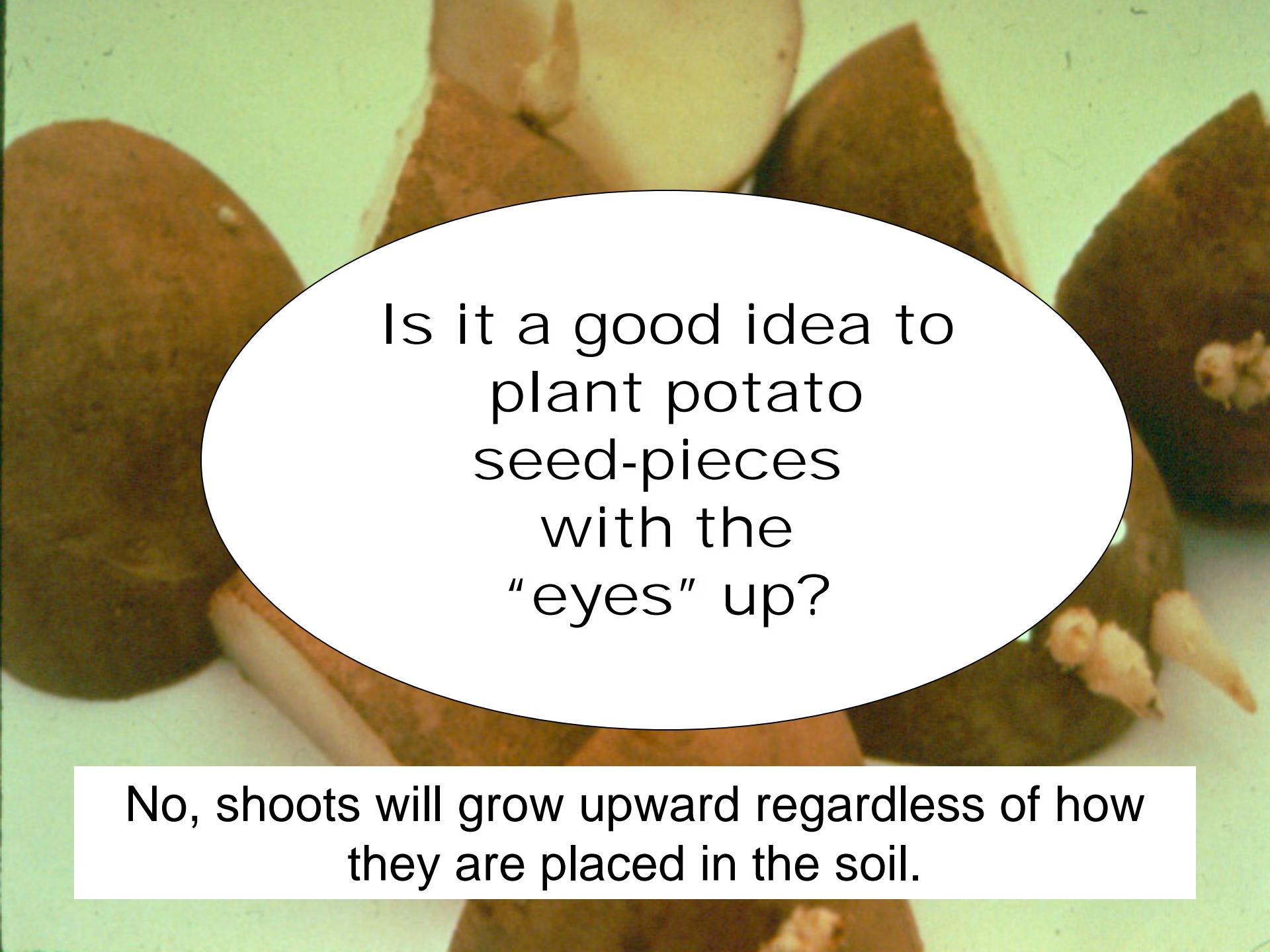
Mulching in combination with trellising or caging. These practices result in a barrier between the soil and the fruit.

What is this common disease causing fall-over of seedlings?



Damping off is the result of soil borne pathogens killing or clogging the conductive tissue of the seedlings.

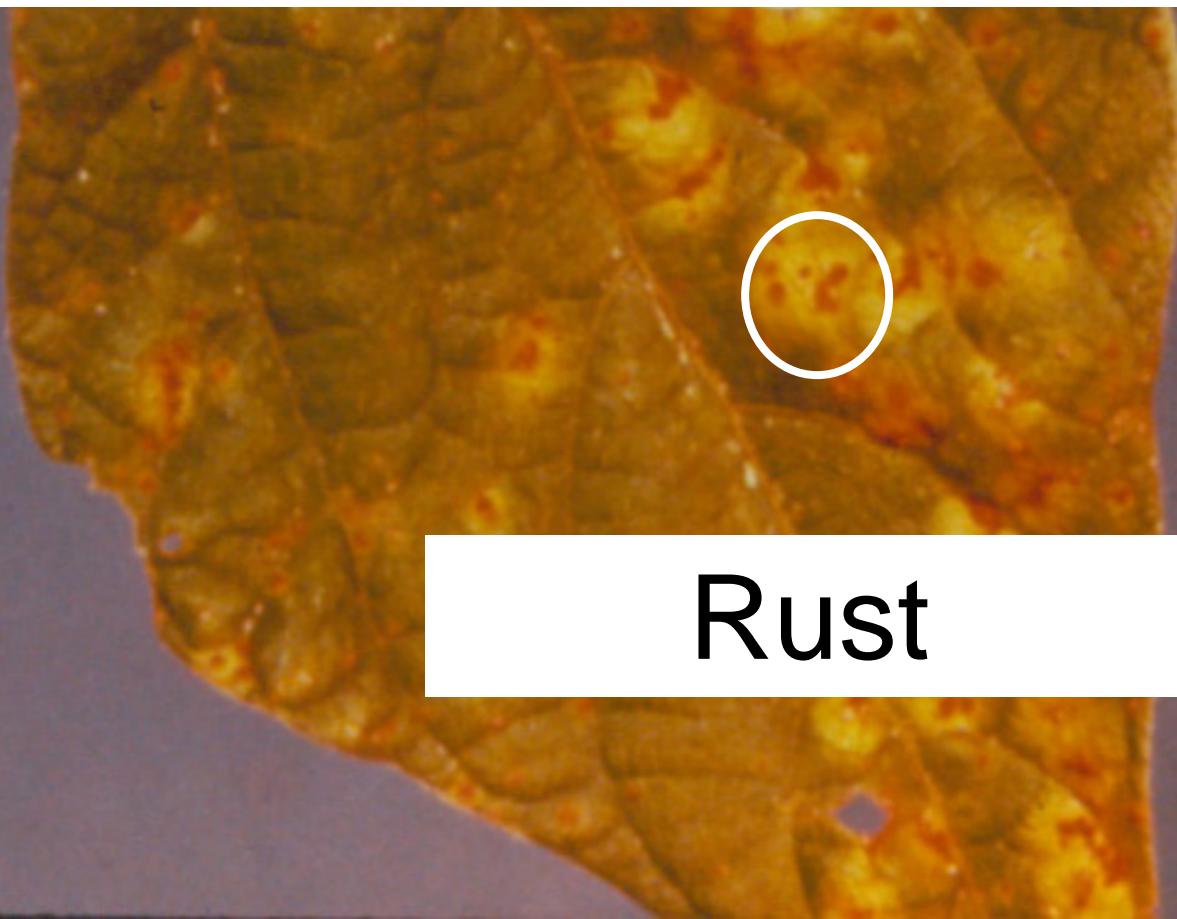
Photo by Tom Isakert,
Extension Plant Pathologist
Texas Cooperative Extension



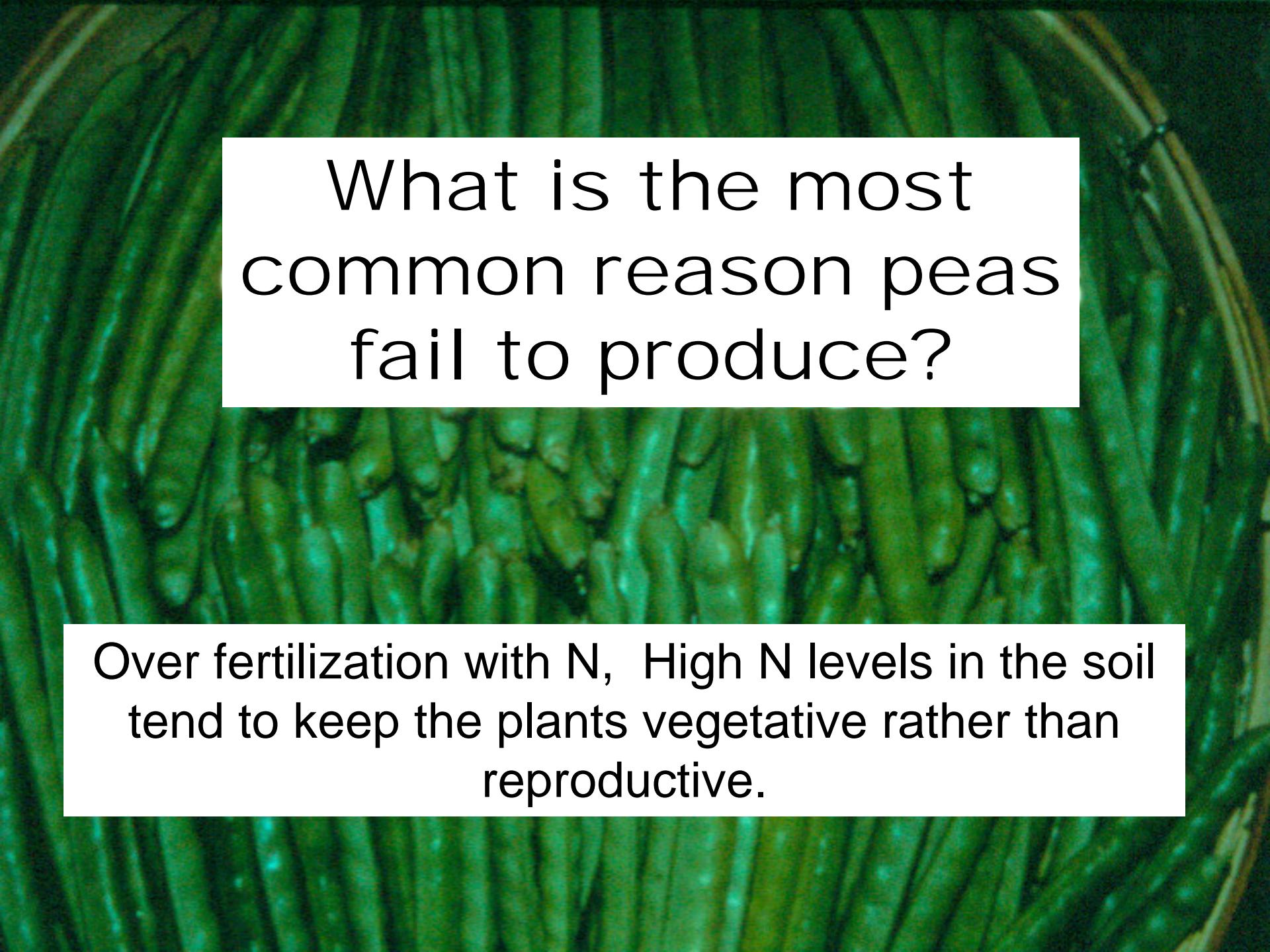
Is it a good idea to
plant potato
seed-pieces
with the
“eyes” up?

No, shoots will grow upward regardless of how
they are placed in the soil.

What fungal disease is common on green beans?



Rust



What is the most common reason peas fail to produce?

Over fertilization with N, High N levels in the soil tend to keep the plants vegetative rather than reproductive.



Fall. Temperature during this time of the year is cooling down which is more favorable to heading than the increasing temperature during heading as experienced during spring planting.



Tomatoes, peppers and eggplant. Most of the major varieties of these species are hybrids and very expensive. In addition germination and seedling problems can occur with seed planted directly into the soil.

What causes these “trails” in leaves?



Leaf miners. The larvae of this pest tunnel through the leaves as they eat their way through the leaf.



What causes
eggplant

Plant stress resulting from drought and
or excessively hot or cold
temperatures.

_____ is the most common cause of poor fruit set of cucurbit species



Failed fruit set

Inadequate or lack of pollination mainly due to bee activity.

How does gypsum affect garden soils?



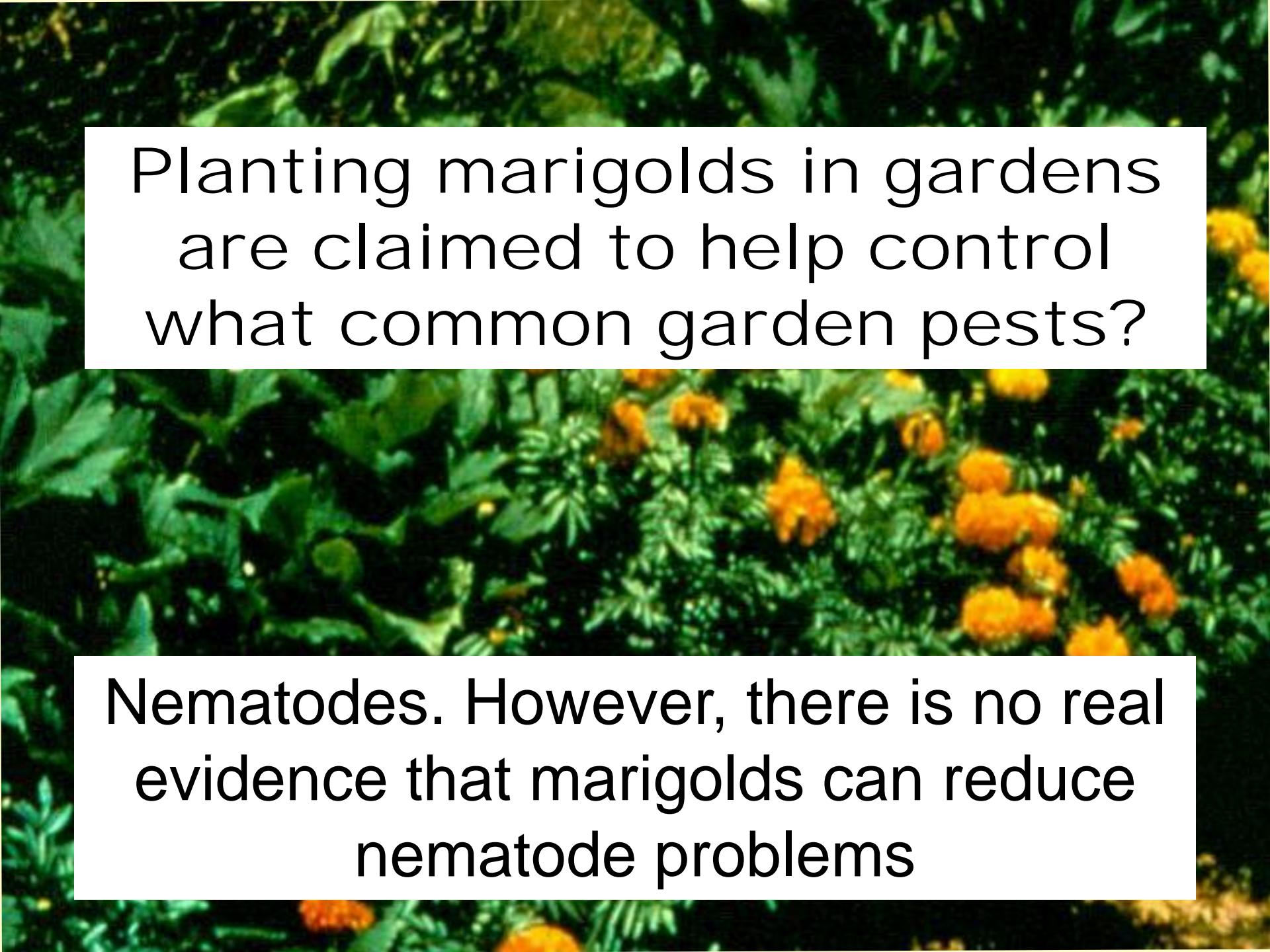
- Raises pH
- Loosens compact soils
- Improves mineral availability

What pest control product best controls worms on cabbage and other vegetables?



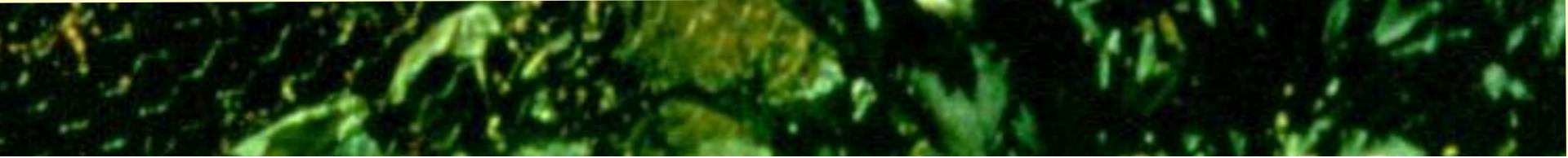
BT (*Bacillus thuringiensis*)





Planting marigolds in gardens
are claimed to help control
what common garden pests?

Nematodes. However, there is no real evidence that marigolds can reduce nematode problems



Is inter-planting an effective method of controlling insects?



No. Even though there is preference by insect for various species of plants, once their populations build up they tend to move to a less desirable species.



Is there any value to interplanting?



Yes, with the right combination of crops. Planting short season crops with long season crops can extend the season of productivity. In addition, maximum space utilization can be achieved if implemented correctly.

THE LETTERS "V F N" INDICATE _____
WHEN USED TO DESCRIBE TOMATO VARIETIES?

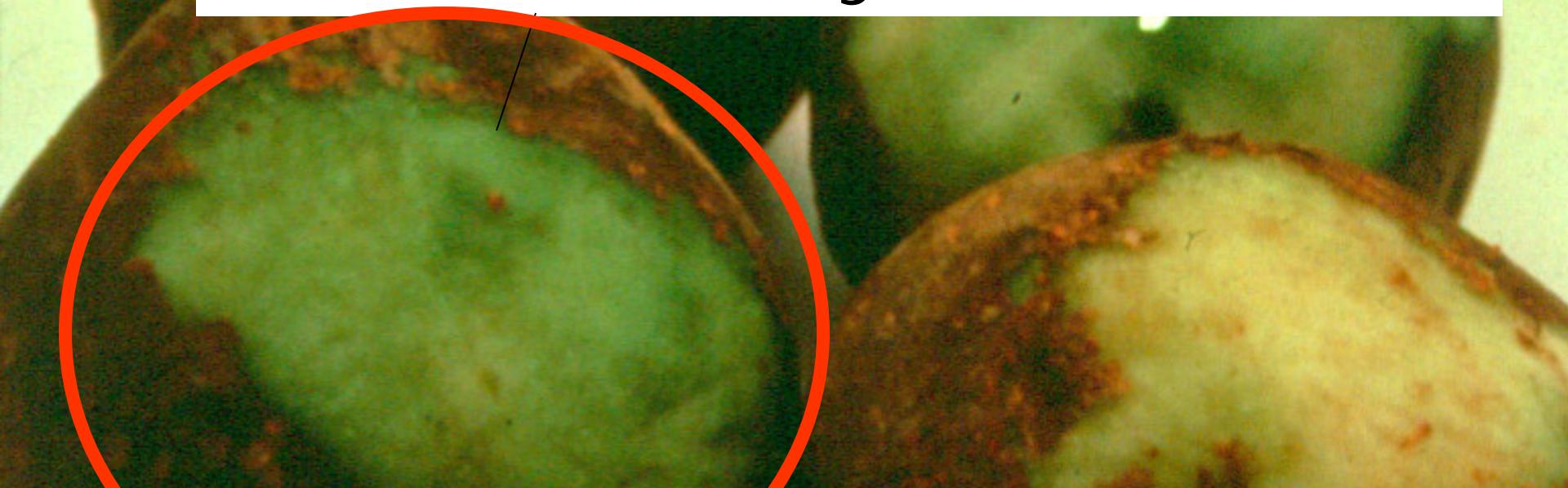


Type of disease resistance contained within the variety:

- V = Verticillium wilt
- F = Fusarium wilt
- N = Nematodes

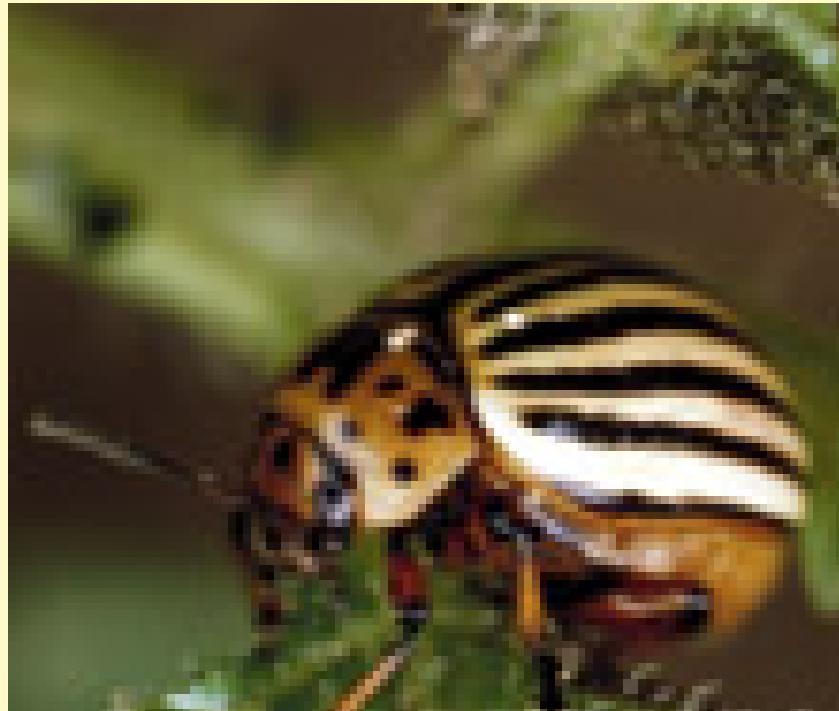
Greening of Potatoes

is caused by _____.



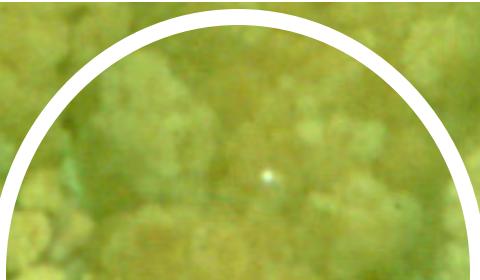
Exposure to light causes chlorophyll to develop. Excessive consumption of potatoes with greened tissue can cause health problems.

What is this common garden insect?



Striped Cucumber beetle

Discoloration of
cauliflower is
caused by_____.



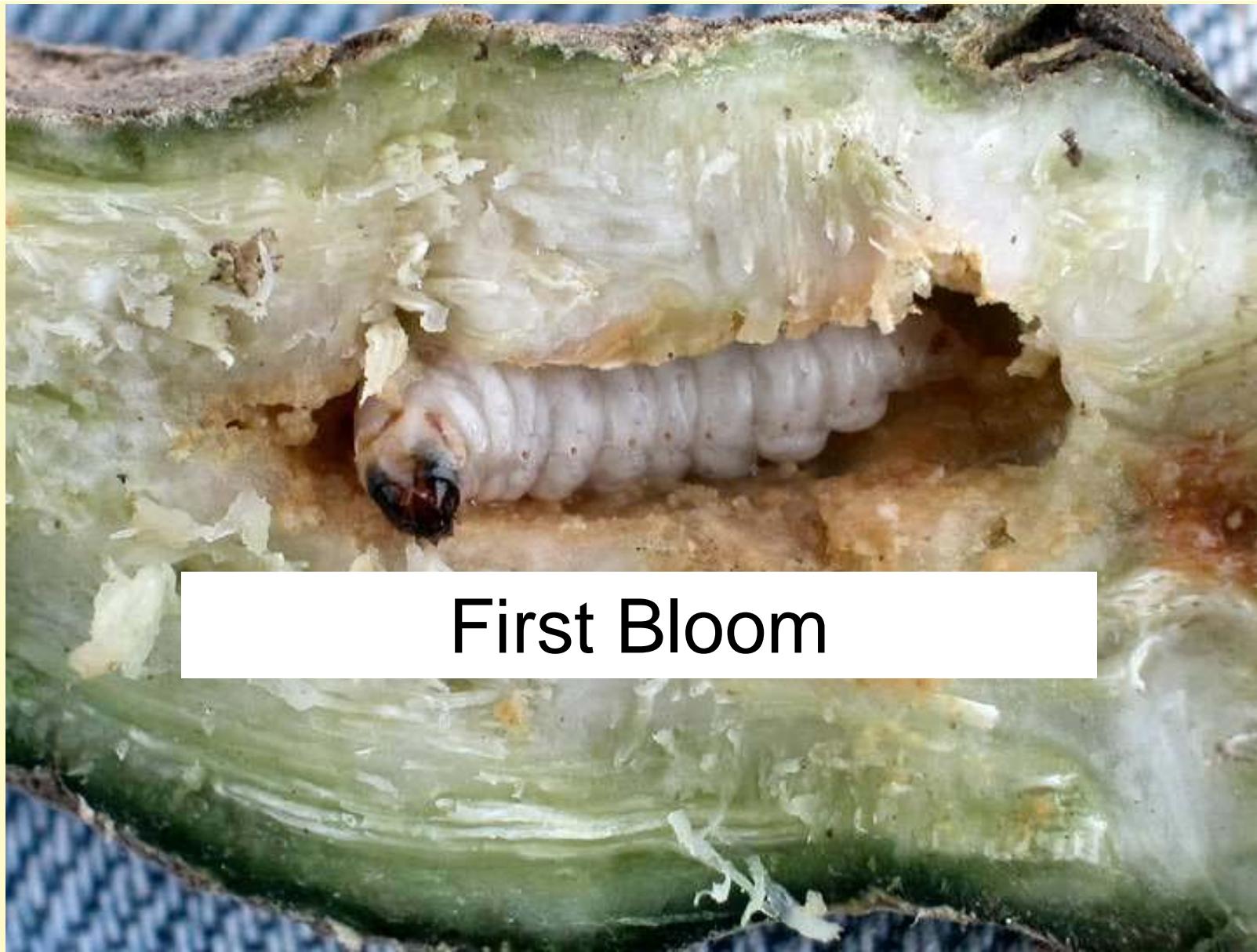
Sunlight, this condition can be prevented by
tying the large wrappers together above the
head.

Bloom drop is caused by:

- 1. Weather
- 2. High Fertility
- 3. Insect
- 4. Variety
- 5. Poor pollination
- 6. All of the above



When should insecticides be applied to control squash vine borers?



Applications of _____
to the soil will control
this pest.

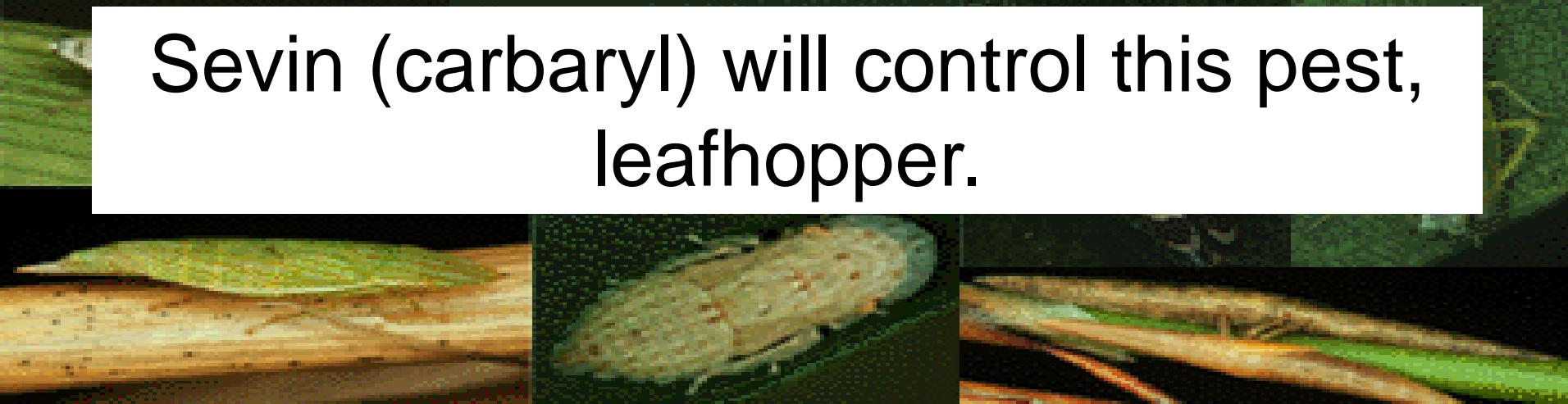


White grubs can be controlled with soil applications of several biological control agents such as: Milky Spore (a bacterium), Biosafe and Biovector (entomopathogenic nematodes). The adult is called June Beetle.

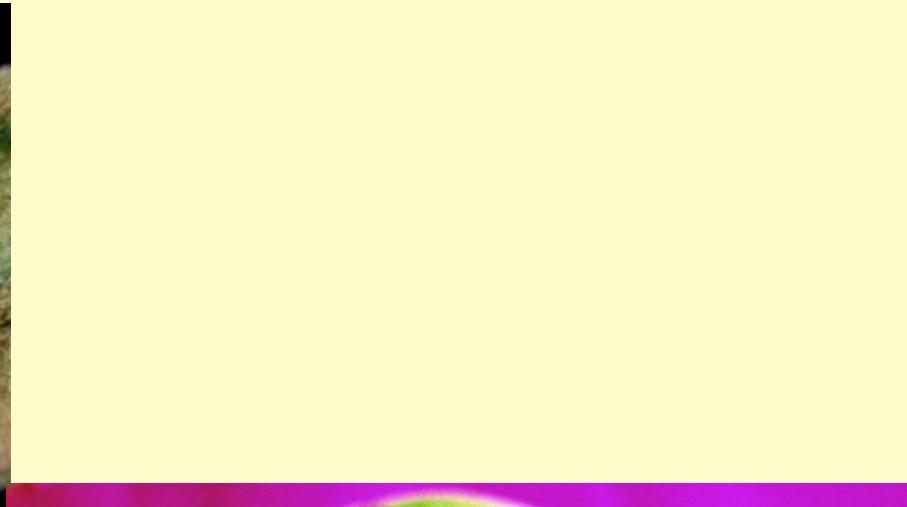
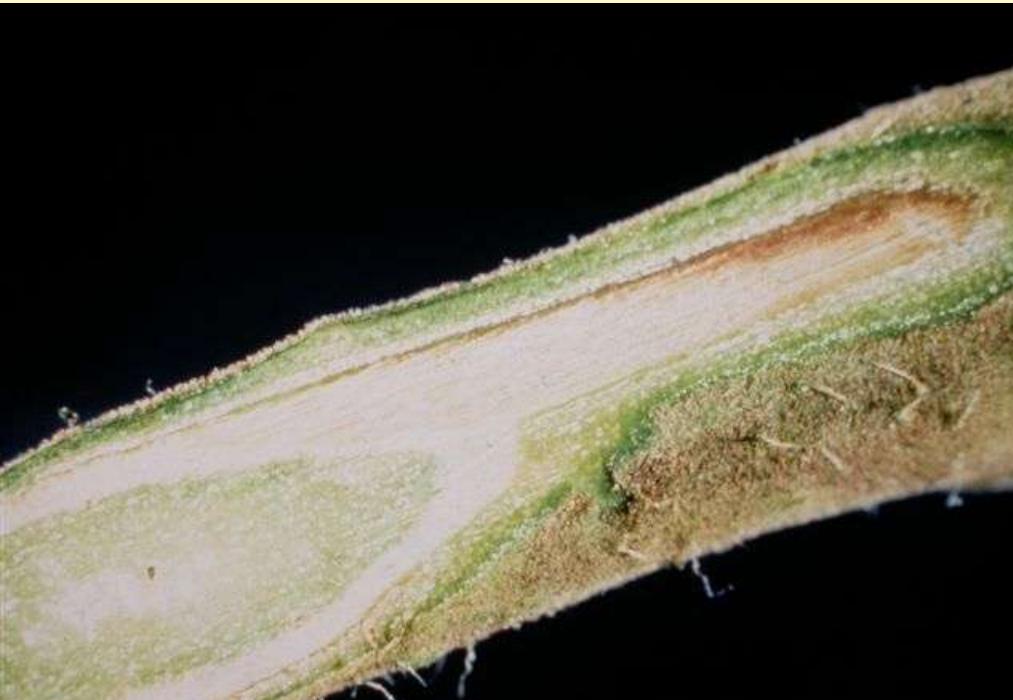
Application of _____ should control this pest.



Sevin (carbaryl) will control this pest,
leafhopper.

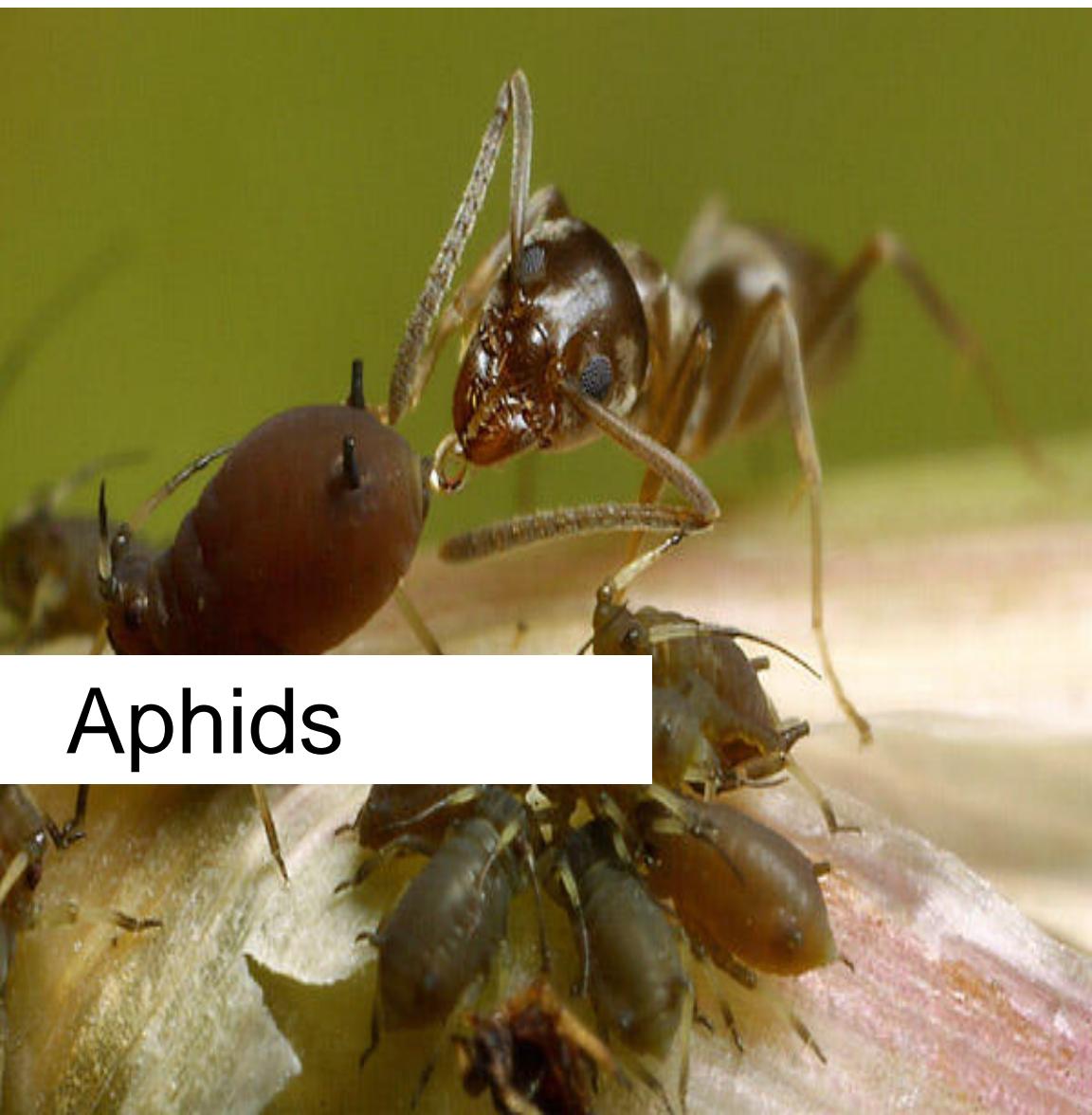


A brown vascular ring is a common symptom of _____.



Fusarium wilt. This fungus causes a collapse of the vascular tissue of a plant cause a disruption of the plants transport system.

These sucking insects are commonly called _____.



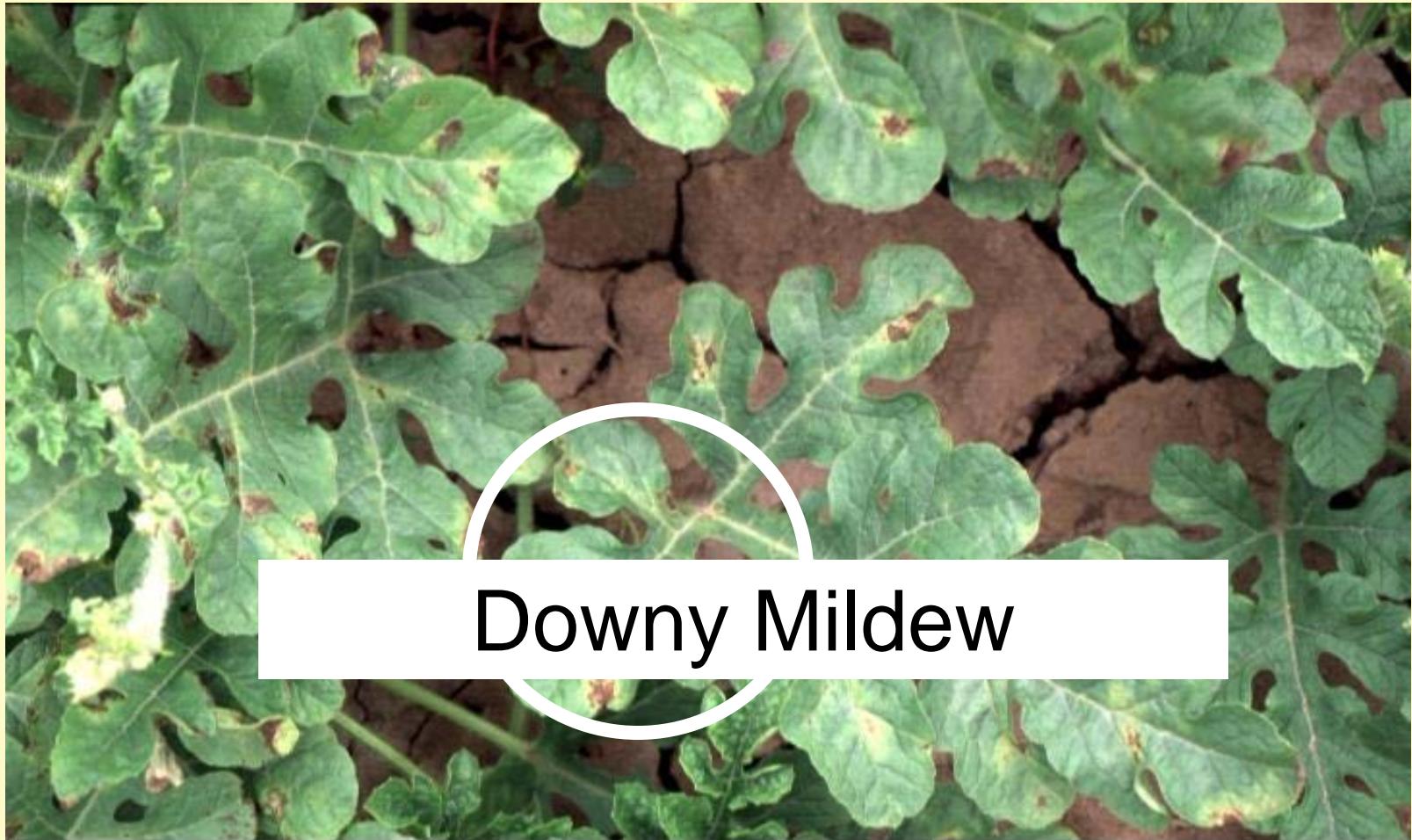
Aphids

What is the cause of yellow, hard spots on tomato?



Stink bug. stings kills individual cells resulting in hard spots on the surface of the fruit.

_____ is a common disease
of vine crops.



Downy Mildew

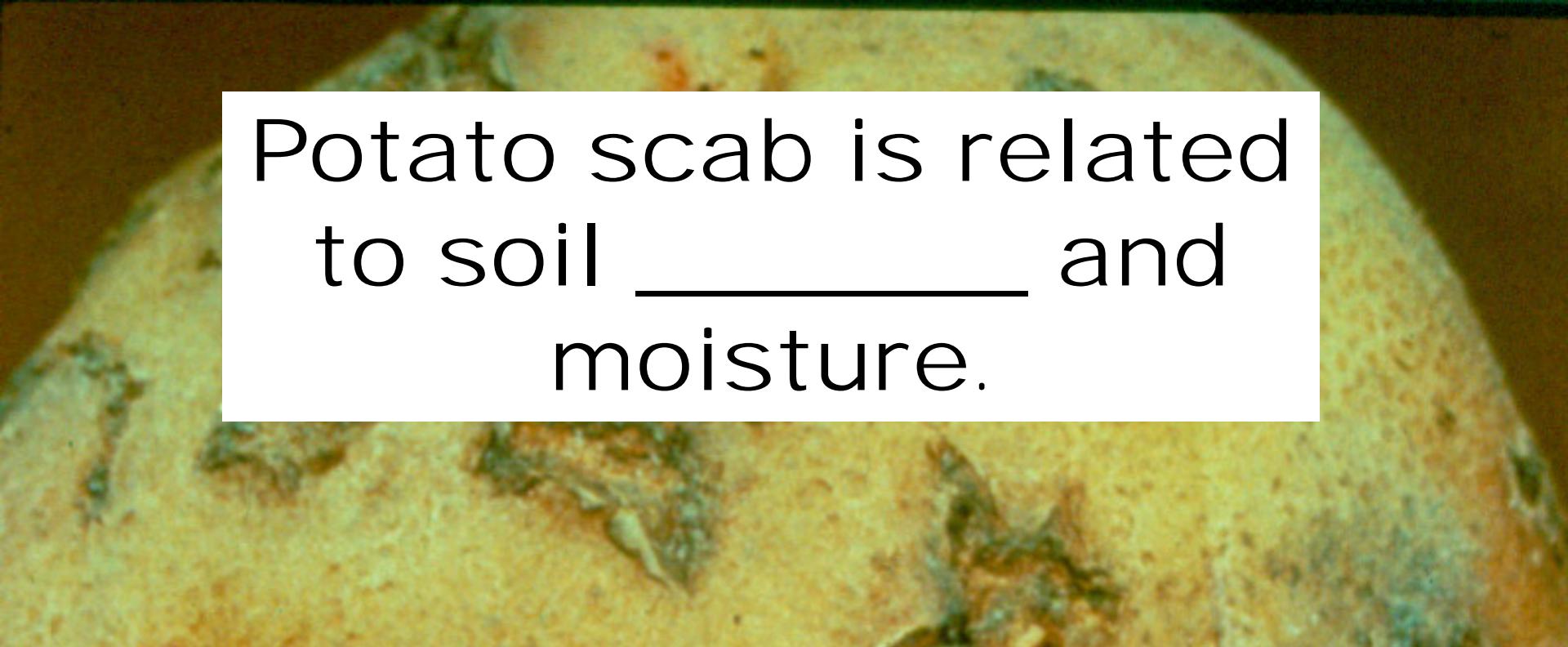
Photo by Tom Isakeit, TAEX, Weslaco, 1994

Tomato cracking can be lessened
by using what recommended
gardening practice?



Mulching and uniform moisture
management.





Potato scab is related
to soil _____ and
moisture.

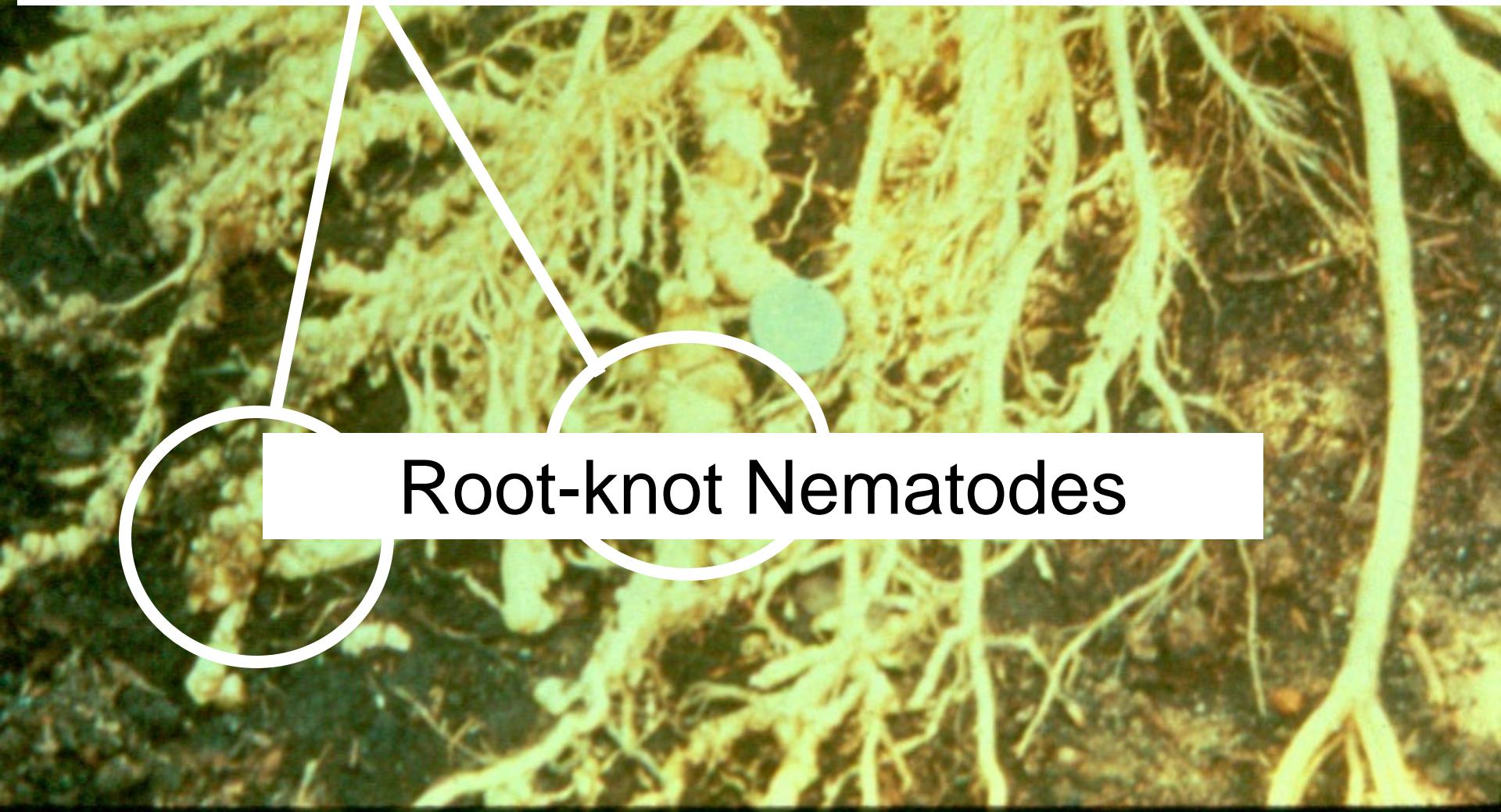
- pH. Generally the lower the pH the less the problem depending upon the strain of scab (pH 5.2)
- High soil moisture content can act as a deterrent to scab development.

Application of _____
at “silking” will
control this pest.



BT and Sevin (carbaryl) will control this
pest, corn earworm.

Knotty and swollen roots are a sure indication of what major soil pest?



Root-knot Nematodes

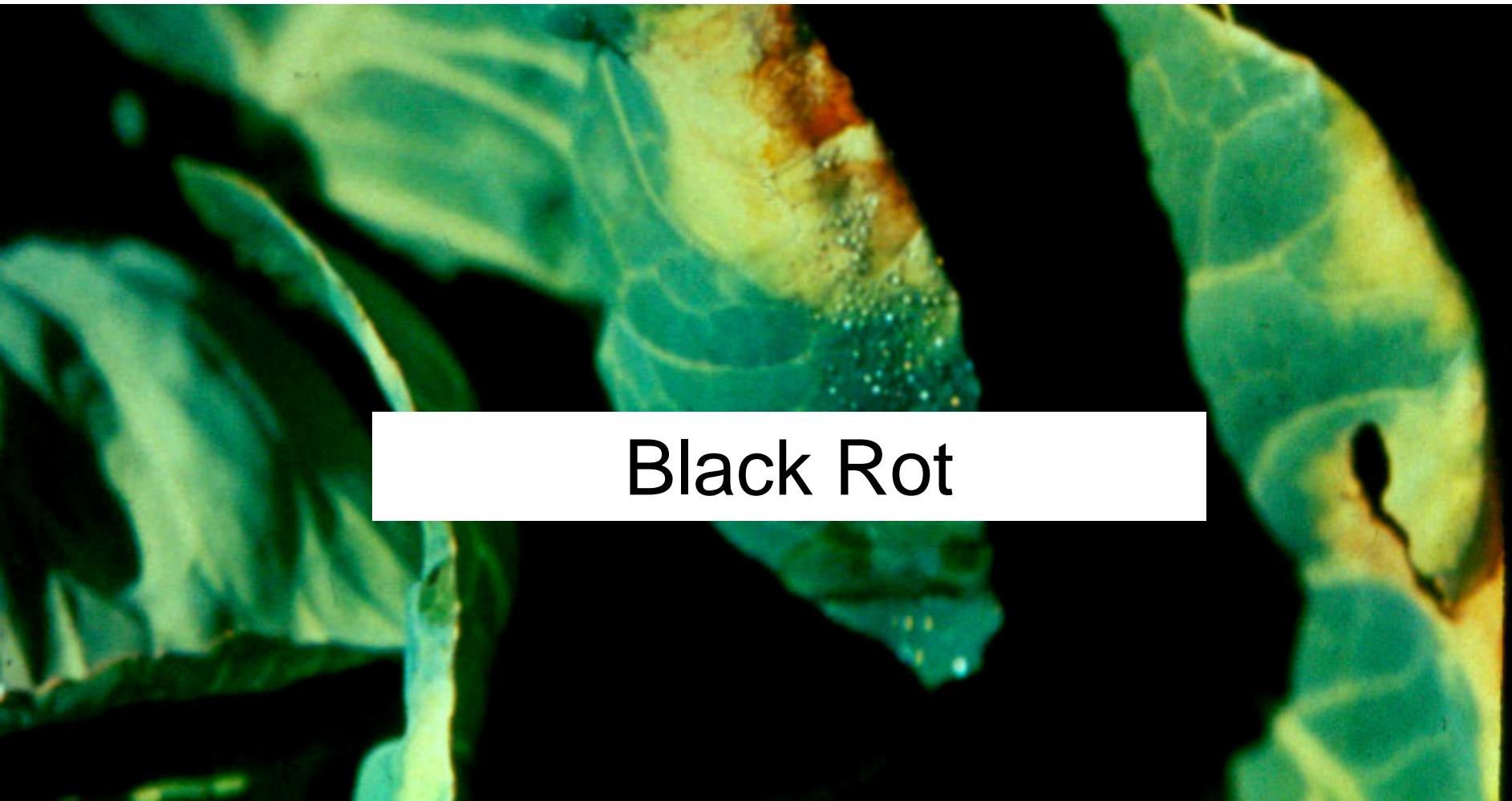
What fungicide do you use to control powdery mildew on cucurbits?

Watermelon: Powdery mildew. Photo by Tom Isakeit, TAEX, Weslaco, 1996



- Powdery mildew is host specific. It is favored by hot dry climate.
- Bravo
- For the home owner: sulfur, Neem Oil (Rose Defense, Shield-All, Triact), Potassium bicarbonate (Kaligreen, First Step)

V-Shaped lesions on
cabbage leaves are
symptoms of what?



Black Rot

Multi-colored squash is a symptom of what?



Viruses! There are at least four viruses that infect squash in Texas:

CMV = Cucumber Mosaic Virus

PRV = Papaya Ring Spot Virus

ZYMV = Zucchini Yellow Mosaic Virus

WMV2 = Watermelon Mosaic two Virus

- > These viruses are insect vectored, mainly by aphids.
- > The fruit is safe to eat but has little sale value.

What causes onion to bulb?



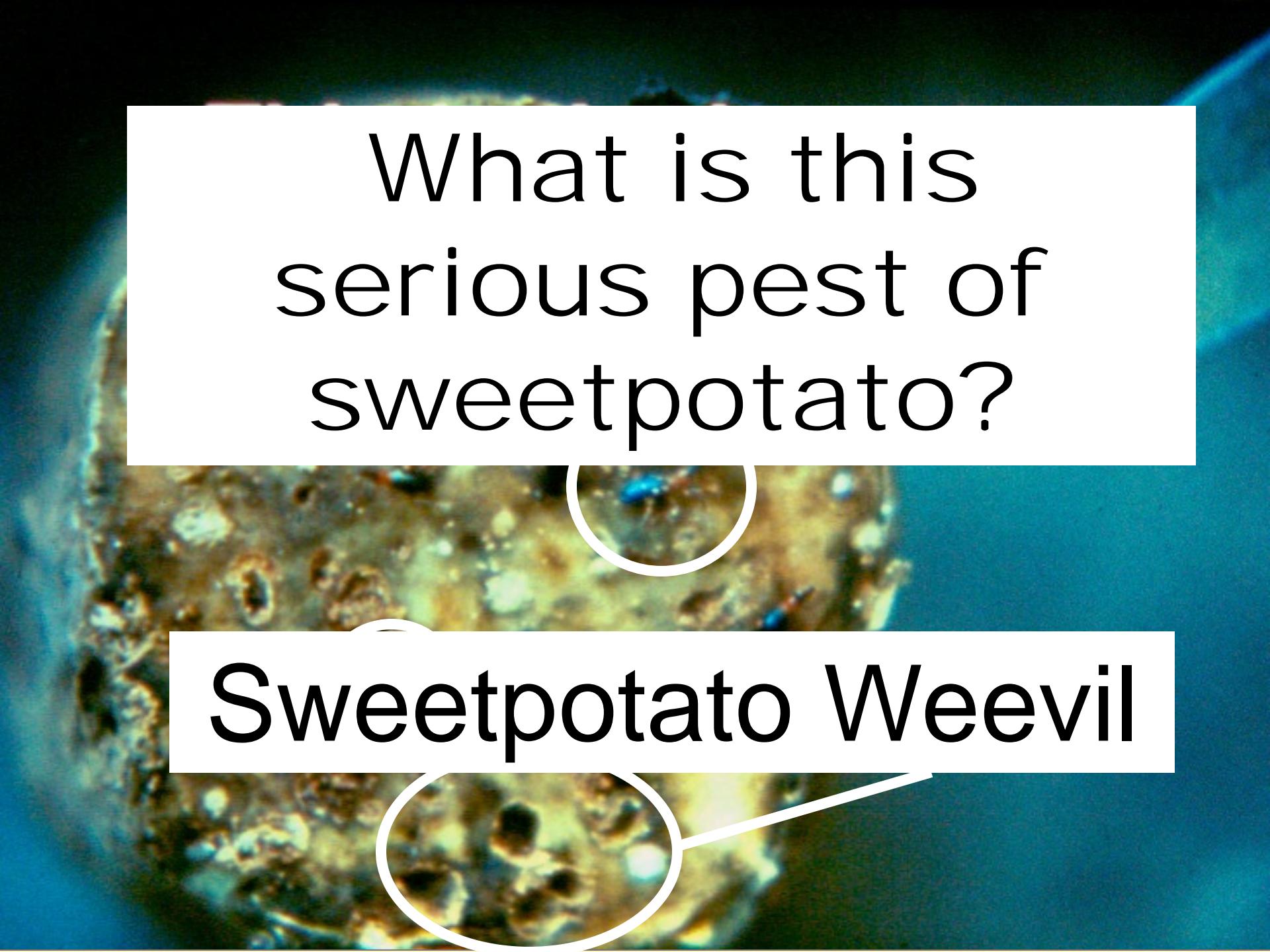
➤ Bulbing is influenced by day-length. This is why it is important to purchase varieties having the correct day-length requirement for your area. Short day varieties do well in most areas south of I-20 but are best suited to South and Central Texas. They require 11 hours of day-length to bulb. Intermediate (12-13 hours) varieties are best suited North of I-20.



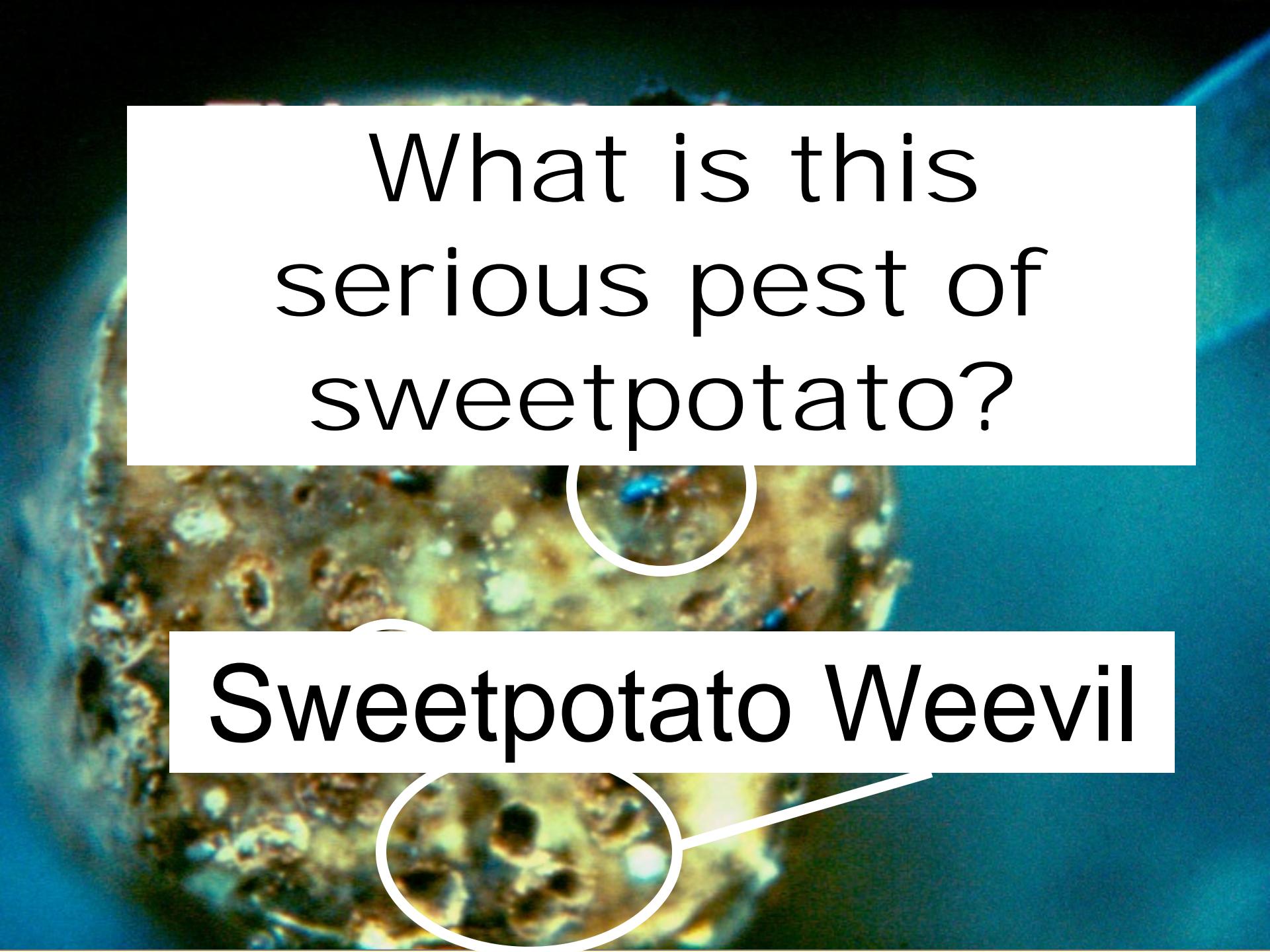
What causes onions to flower (bolt)?



Temperature ranging from 40 – 45 °F while plant diameter is approximately pencil size, influences flowering (bolting).



What is this
serious pest of
sweetpotato?

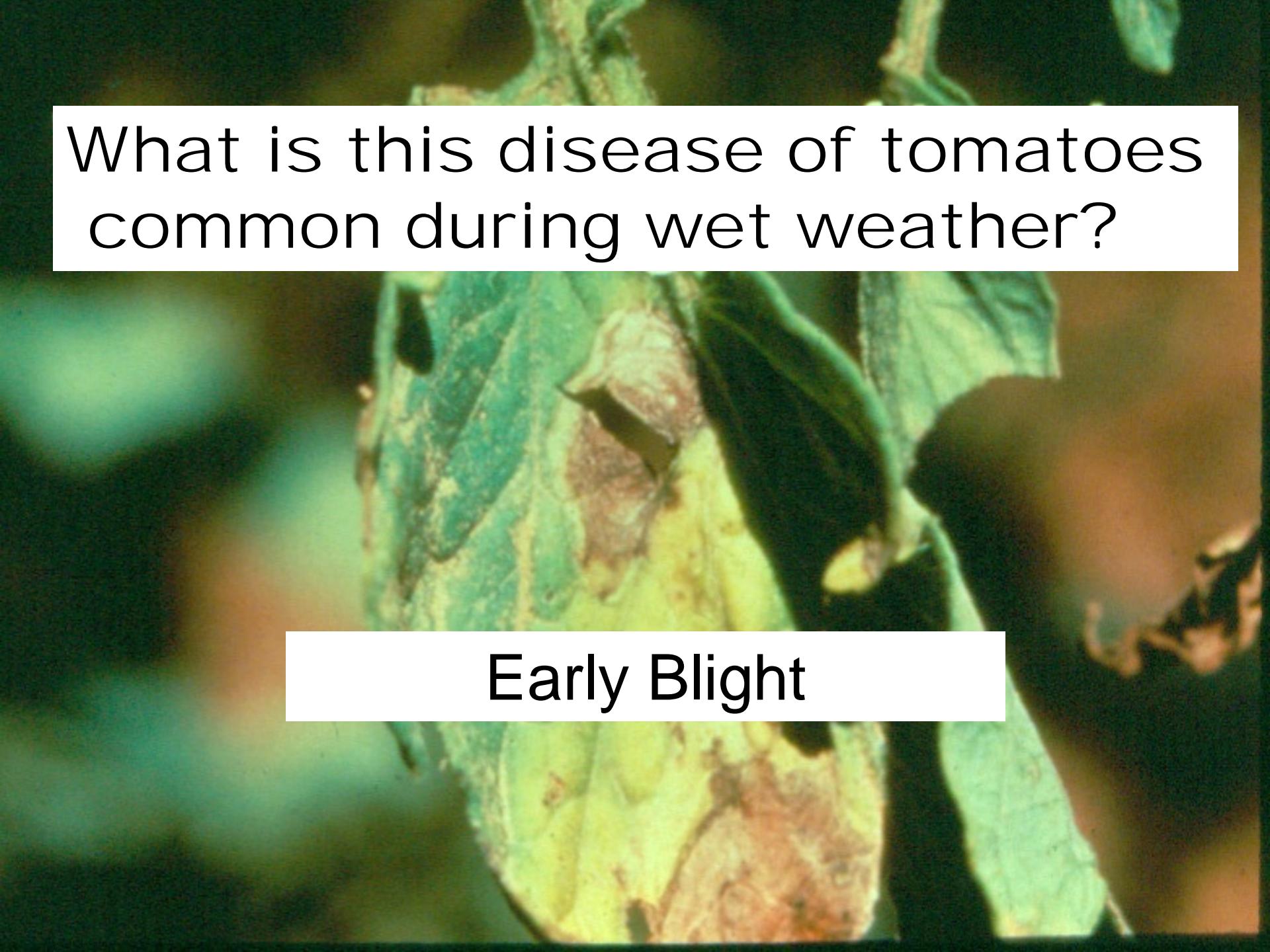


Sweetpotato Weevil

Sweetpotato Weevil: <1/3 inch



What is this disease of tomatoes
common during wet weather?



Early Blight



Friend or Foe?

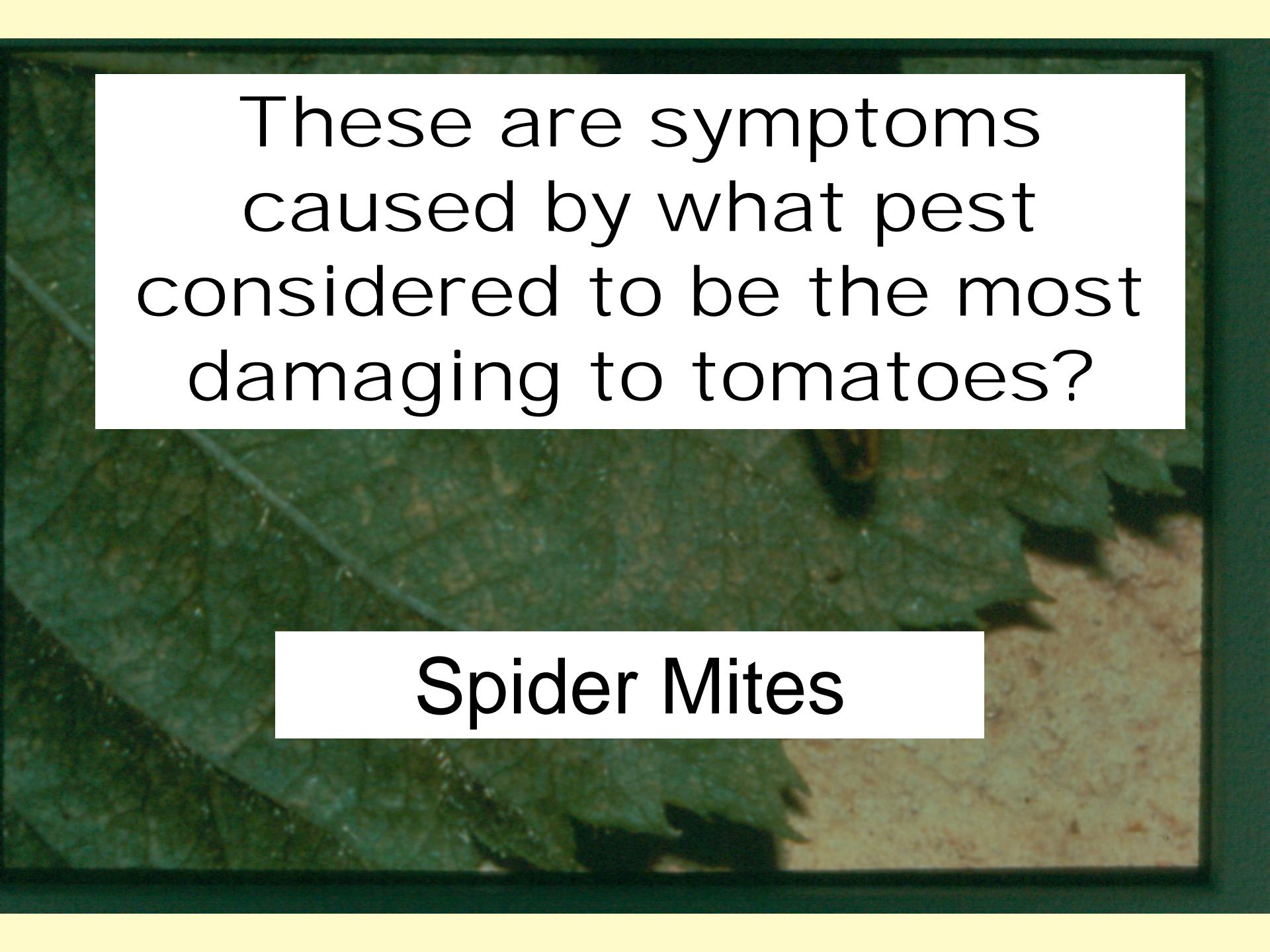
Cucumber Beetle
Foe



Ladybird Beetle
Friend

A close-up photograph of a ladybird beetle, showing its characteristic orange body with black spots and white markings on its wings, crawling on a green leaf.

These are symptoms caused by what pest considered to be the most damaging to tomatoes?

A close-up photograph of several green tomato leaves. The leaves show distinct brown, irregular spots and patches, which are characteristic of damage caused by spider mites. The veins of the leaves are prominent, and the overall texture appears slightly rough due to the pest infestation.

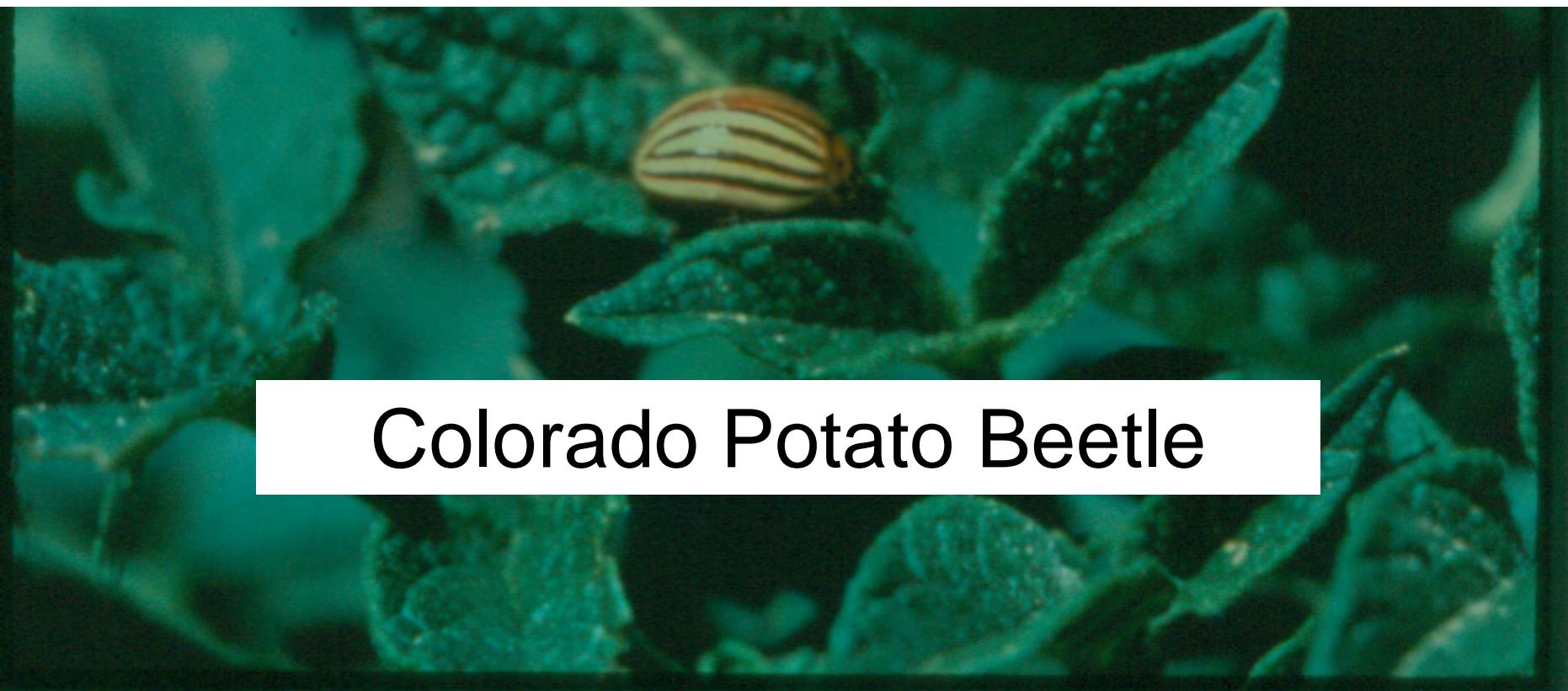
Spider Mites

Name This Insect



Squash Bug

What is this common garden insect?



Colorado Potato Beetle

Non-Pathogenic Tomato Diseases



Blossom End Rot: Lack of Ca transport to the blossom end region of the fruit.

- This condition is aggravated by hot temperatures accompanied by strong winds.
- Attention to irrigation is critical in reducing this problem. The use of mulches are also suggested to help reduce moisture stress.



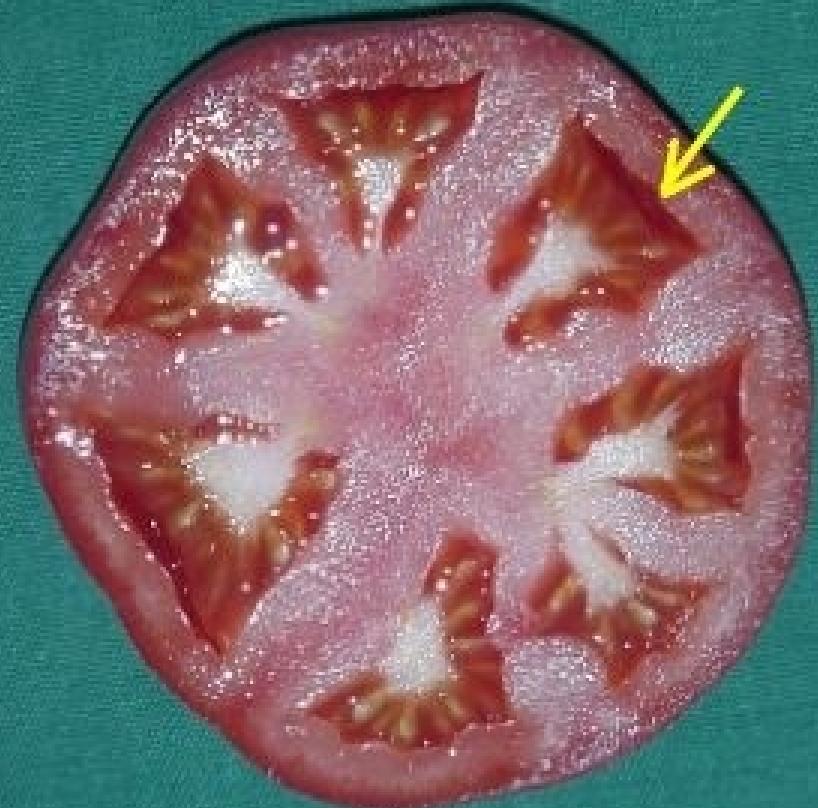
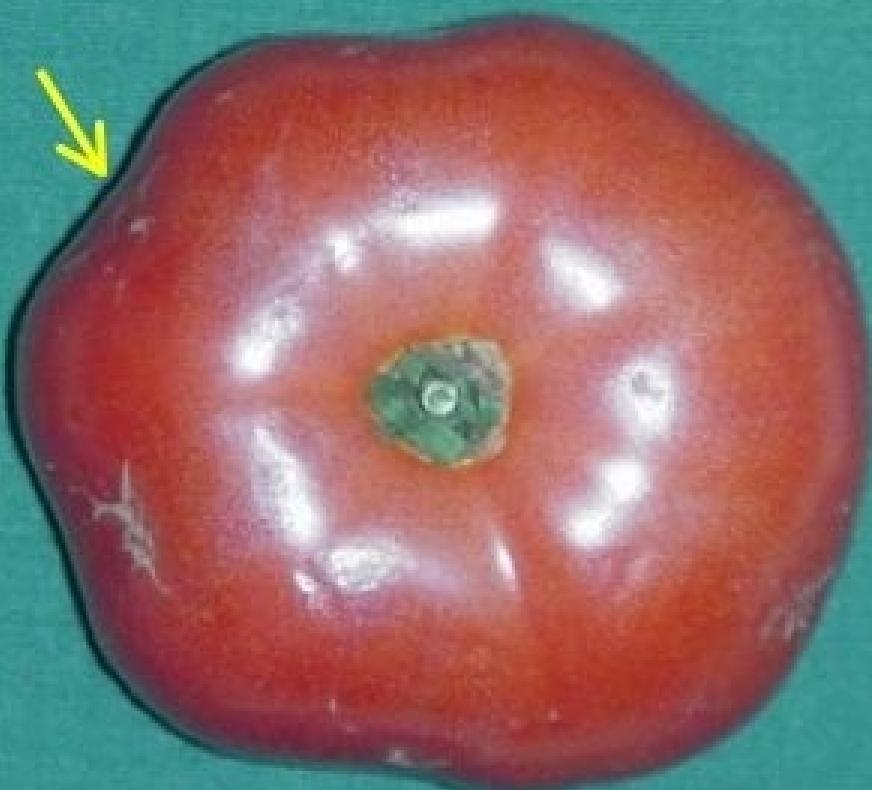
Radial

Concentric

FRUIT CRACKING: This condition is also caused by fluctuations in soil moisture content and is aggravated by excessive moisture and N in combination with low-K



CAT FACING: The distortion of fruit can also be an affect of poor or inadequate pollination, and, disruption of fruit development by an early injury occurring after fruit set.



PUFFINESS: The major cause of these problems are a combination of inadequate pollination, fertilization, or seed development.

Fruit appear flat-sided or angular in nature. When cut, open cavities are observed between the seed gel and the outer wall.