



K-STATE
Research and Extension

Sedgwick County

WELCOME TO
VICTORY GARDEN 101
Common Disease Problems

Please mute your microphone and turn your camera off.
Thank you!

The slide features a header with the K-State logo and Sedgwick County name, a central title area with the text 'Welcome to VICTORY GARDEN 101 Common Disease Problems', and a footer with a request to mute the microphone and turn off the camera. The slide is decorated with images of various vegetables like tomatoes, cabbages, and leafy greens.

VICTORY GARDEN 101 PLAN

- Apr. 7: Preparing Your Garden Site & Soil
- Apr. 14 - Basic Garden Planning for Success
- Apr. 21 - Grow Your Own Salad
- Apr. 28 - Tips for Great Tomatoes
- May 5 - Using Your Vertical Space
- May 12 - Water, Weather & Weeds
- May 19 - Common Insect Problems
- **Today- Common Disease Problems**

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GENERAL DISEASE CONTROL PRACTICES

- Sanitation
- Appropriate Plant Spacings
- Crop Rotation/Cover Crops

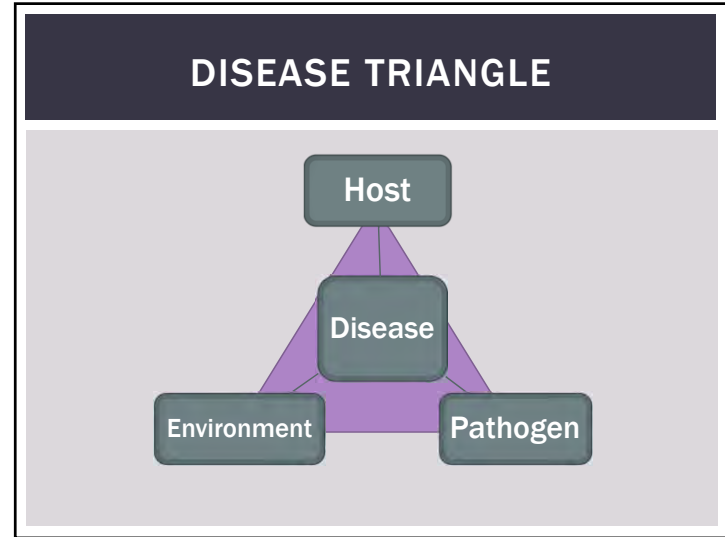
GENERAL DISEASE CONTROL PRACTICES

- Mulching & Watering Practices
- Minimize Plant Stress
- Regular Scouting!

TIPS FOR SCOUTING

- Walk & Look - regularly
- Observe carefully
- Assess the threat
- Determine action





- ### DISEASE DIAGNOSTIC QUESTIONS
- What part of the plant is affected?
 - How much of the plant is affected?
 - Where did it start (top, bottom, etc)
 - How many of the plants are affected?
 - Is there a pattern (either on the plant or in the garden)?

- ### DISEASE DIAGNOSTIC QUESTIONS
- What has the weather been the last 2 weeks? (precip, hot, cold, wind, etc)
 - Has there been any soil disruptions or concerns?
 - When did the problem first appear?

DISEASE DIAGNOSTIC QUESTIONS

- Are there known pathogens from previous outbreaks?
- What types of products have been used in the vicinity? (soil amendments, insecticides, herbicides, etc.)

DISEASE PATHOGENS

- Fungi
- Bacteria
- Viruses
- Miscellaneous others: nematodes, etc

BIOTIC VS ABIOTIC

- Biotic = caused by a disease pathogen
- Abiotic = caused by something else (non-organism)



SEPTORIA LEAF SPOT

- Tiny black spots on lower leaves
- Leaves yellow and die from the bottom up
- Favored by warm, wet weather

- Caging or staking, mulching, and rotation will help prevent the disease.

- Preventative fungicides:
 - Chlorothalonil or fixed coppers.



EARLY BLIGHT

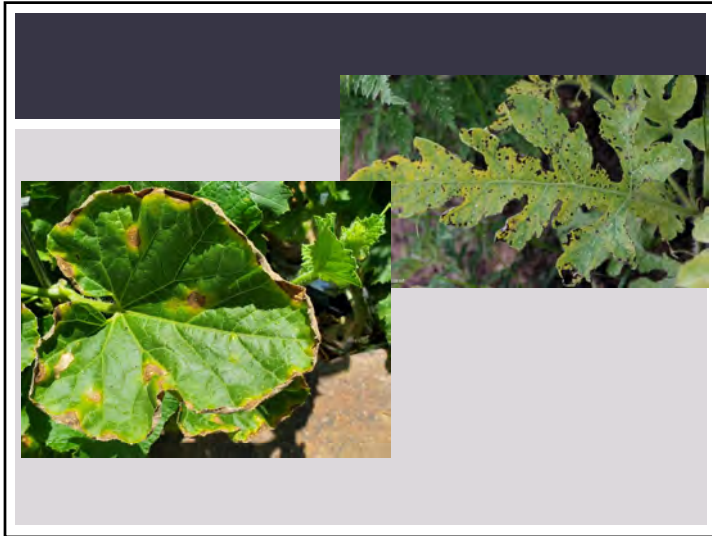
- ½" circular lesions on lower leaves
- Leaves yellow and die from the bottom upward
- Favored by wet, warm weather

- Caging or staking, mulching, and rotation will help prevent the disease.

- Preventative fungicides:
 - Chlorothalonil or fixed coppers.

ROOT KNOT NEMATODES





ANTHRACNOSE, ALTERNARIA, AND TARGET LEAF SPOTS

- Start small and can expand to up to ½" diameter
- Dead centers of the spots can fall out, leaving a shredded appearance
- Promote dry foliage
- Fungicides: chlorothalonil, coppers

DAMPING OFF/ROOT ROTS



Cutworm Damage

Damping-off

LATE BLIGHT



SCAB (POTATO)

- Soil-borne bacteria
- Creates corky tissue
- Cut around injury to use
- Crop rotation, manage soil pH, resistant varieties, scab-free seed potatoes



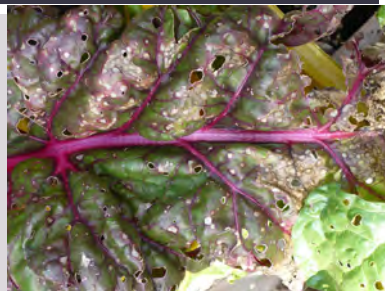
POWDERY MILDEW

- White fungus on leaves
- Leaves yellow and die
- Resistant varieties
- Fungicides: chlorothalonil or sulfurs



CERCOSPORA LEAF SPOT

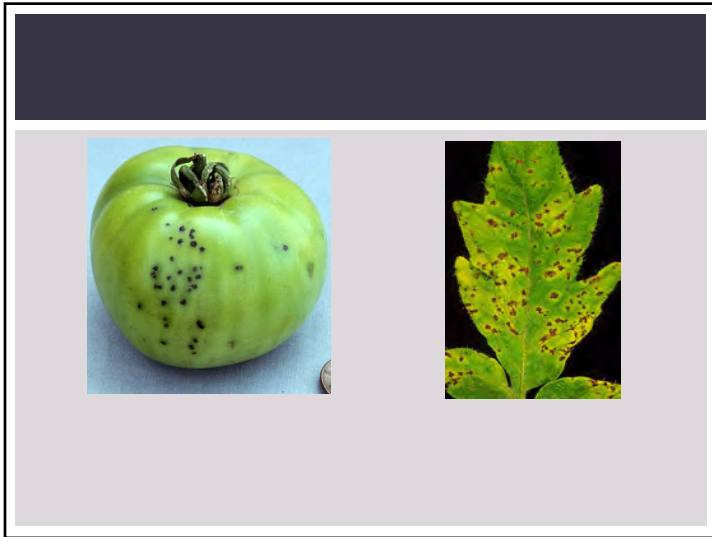
- Common on beets, chard, and spinach
- High humidity, high temps
- Copper-based products



BACTERIAL WILT

- Sudden wilting & collapse
- Affects cucumbers, melons
- Sap ooze test
- Spread by cucumber beetles





**BACTERIAL SPECK (*Pseudomonas*)
& SPOT (*Xanthomonas*)**

- Prevalent during cool, wet weather
- Promote dry foliage, fruit
- Remove affected fruit, leaves to prevent spread
- Fruit can be eaten, but probably should be cooked
- Copper sprays can help suppress it

VIRUSES

- Distorted leaves
- Mottled leaves
- Distorted or discolored fruit
- Stunting or strange growth
- REMOVE infected plants
- PREVENTION is the cure

COMMON VIRUSES

- Tomato / Tobacco mosaic viruses
- Tomato Spotted Wilt Virus
- Cucumber Mosaic Virus

SOIL-BORNE WILT DISEASES

- Fusarium or Verticillium
- Fungal diseases
- Live for years in the soil
- Population increases when susceptible varieties are planted.
- ROTATE!
- Choose resistant varieties
- Cover crops?

SCURF (SW. POTATO)



ENVIRONMENTAL & PHYSIOLOGICAL

- Wind
- Hail
- Heat
- Watering

MALE & FEMALE FLOWERS



There are mostly male flowers when flowering begins....

...So there won't be much fruit until female flowers show up!

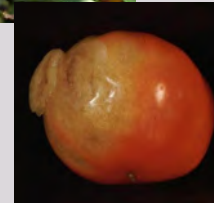


BLOSSOM END ROT

- Brown-black, leathery spots on fruit bottom.
- Prevent by proper watering practices
- Some varieties are very susceptible



YELLOW / GREEN SHOULDER



GREY WALL



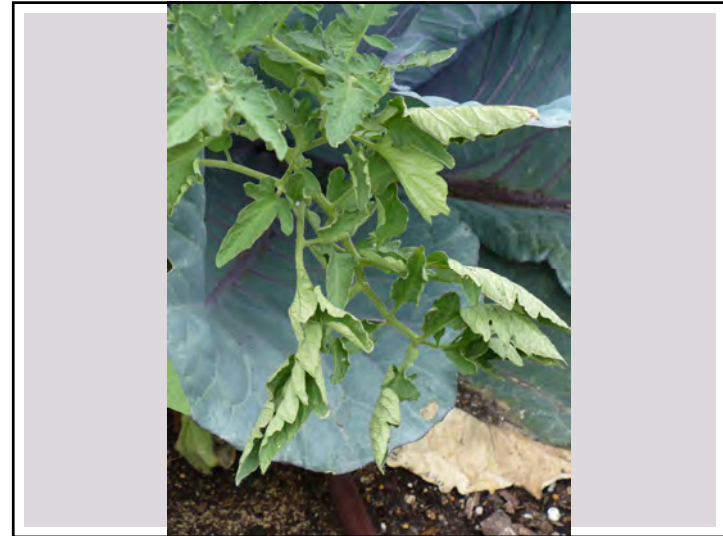
BLOTCHY RIPENING



WHITE CORE

YELLOW SHOULDER DISORDER – RIPENING DISORDERS

- “Altered ripening”
- Range of symptoms for one problem
 - Failure of green chloroplasts to turn red
- Changes occur early in fruit development and cannot be reversed once seen in the garden
- What is the cause?



PHYSIOLOGICAL LEAF CURL

- Leaves curl when the weather changes from cool and moist to hot and dry
- The plants will be fine in a few days.



CRACKING

- Tomatoes in Kansas crack due to weather
- Harvest tomatoes as soon as they start to color, then ripen indoors
- Some varieties are more crack resistant



2,4-D HERBICIDE INJURY

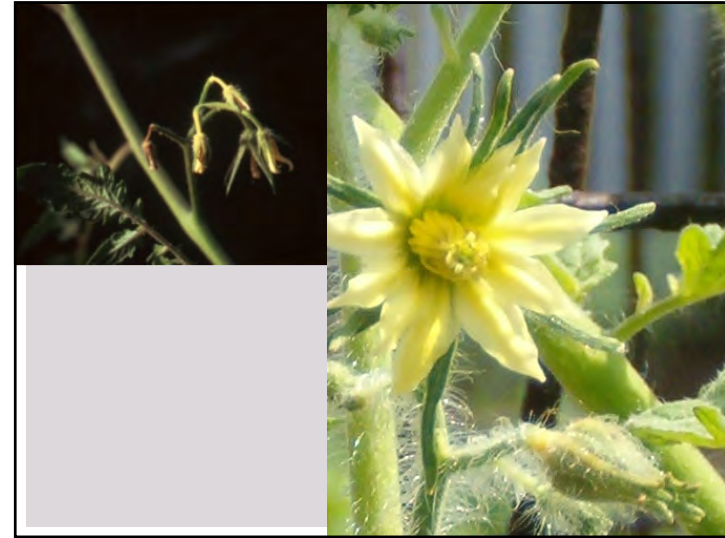
- Leaves are cupped, thickened or leathery, and develop an uncharacteristic fan shape.
- Plants will overcome moderate damage.
- Poor production is likely
- 2,4-D can spread on the wind for a few miles

OVERWATERING



HOT WEATHER

- Daytime temperatures are above 85-90 degrees
- Overnight temperatures above 75 degrees
- Prevents good pollination
- Gap in fruit production



QUESTIONS?

- For More Information:
 - Master Gardener Hotline
 - sgemghotline@gmail.com - preferred
 - 316-660-0190
 - M-F, 9-12 and 1-4
 - Walk-In Clinic (not right now, but eventually)
 - Extension E-Newsletter
 - Text: EXTENSION to 42828
 - Horticulture Information Center:
 - <http://hnr.k-state.edu/extension/info-center/>



SOCIAL MEDIA

- Facebook Page:
<http://facebook.com/sedgwickextension>
- Facebook Group:
<https://www.facebook.com/groups/victorygarden101/>
- Instagram: @ksresedgwickco
- The Demo Garden blog:
<http://thedemogarden.org>



