

DISEASE MANAGEMENT OF VEGETABLE CROPS

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At the end of the lesson, the students would be able to:

- **Define the meaning of Disease**
- **Identify the common diseases of vegetable crops, including the causative agents and its prevention management and control.**

TERMINOLOGIES

- Pathogens
- Causative agents
- Host plant
- Environment
- Parasitic

What is a Disease???

- A plant disorder caused by an infectious pathogen or agent.



*Plant
Diseases*

Conditions Needed for a Disease

- ❑ Three conditions are necessary for a disease in a plant.
 - Host plant
 - Disease causing organism or pathogen must be present.
 - Favorable environment for disease organism to develop.

The Disease Triangle



What Causes a Disease??

❑ The groups of pathogens are....

- Bacteria
- Fungi
- Viruses
- Parasitic plants
 - Mistletoe
 - Dodder
 - Lichens



Parasitic Plants



MISTLETOE



DODDER



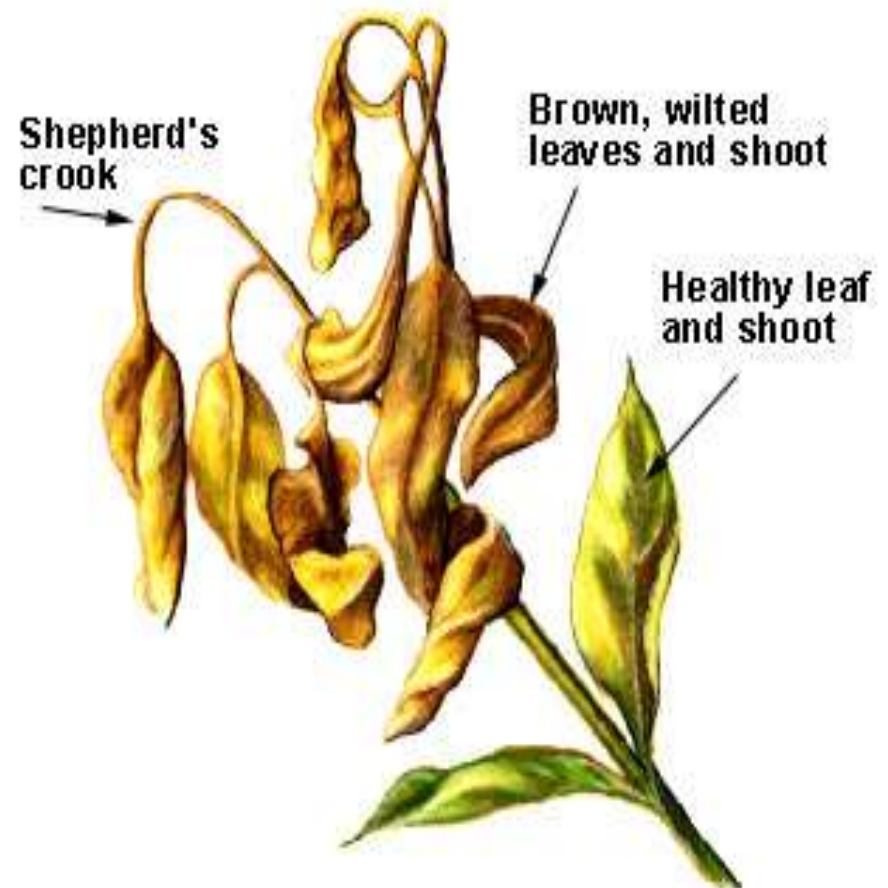
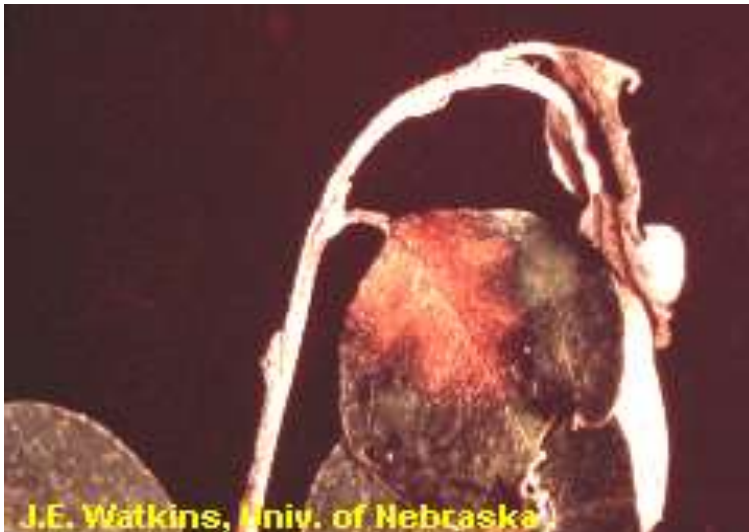
LICHENS

Controlling Diseases

- Warm temperatures and moist conditions in greenhouse plant production make most horticulture plant diseases worse because....
 - Environmental conditions that support disease-causing pathogens.
- Preventing plant diseases is better than treating the diseases.
- Plant diseases must be identified before they can be treated.

LEAF BLIGHT

- Cause plants to quickly turn brown as if they had been burned.



Damping Off

- A fungal disease that causes young plants and seedlings to rot off at the soil level.



Leaf Spots

- Rings of different shades of brown, green, or yellow that make spots on leaves.



POWDERY MILDEW

- Grows on leaf surfaces (both upper & lower) as white, gray or purple spots.



TOMATO MOSAIC VIRUS

- Caused by viruses that make the leaves have irregular mottled areas with patterns ranging from dark green to light green to yellow to white.



ROOT ROT

- Causes plants to decay & die.



LEAF RUST

- Causes small spots on leaves that resemble yellow, orange, brown or red rust mainly on the underneath side of leaves.



BACTERIAL WILT

- Disease that blocks the uptake of water in plants stems causing it to wilt.



Disease	Active Ingredient	Brand Name	Dosage (grams or mL per 16 L)	Application interval
TYLC (control white fly)	Metamedophos	Tamaron	20-30	7-14 days
	Methomyl	Lannate	20-35	7-14 days
	Fifronil	Ascend	20-30	7-14 days
	Imidacloprid	Confidor	10-20	7-14 days
Bacterial Spot (Xanthomonas oxonopodis)	Copper hydroxide	Kocide	20-60	7-14 days
	Copper oxychloride	Vitigran Blue	60-80	7-14 days
	Copper oxychloride	Cupravit	40-60	7-14 days
EarlyBlight (Alternaria spp)	Chlorothalonil	Daconil	20-60	7-14 days
	Mancozeb	Dithane	30-60	7-14 days
	Copper based	Funguran	20-60	7-14 days
	Copper based	Kocide	20-60	7-14 days
Bacterial wilt	<ul style="list-style-type: none"> • Sanitation • crop rotation • early uprooting of infected plants • proper site selection 			
Blossom EndRot		Calcium Hydroxide	30-50	15 days

- **The most common physiological problem affecting VEGETABLE CROPS is blossom end rot.**
- **This problem could be minimized by spraying calcium chloride or calcium hydroxide at 6 tbsp. per 16 li water at 14 days interval before flowering.**