

Plant Disease Problem Solving Key

<p>1. What was the timing of your plant problem?</p> <ul style="list-style-type: none">a. When did symptoms first appear?b. How quickly did symptoms develop?c. Are symptoms progressing, static, or declining?d. What has happened recently, or in the past, in this area?
<p>2. Is more than one plant species affected?</p> <ul style="list-style-type: none">i. Yes, multiple species<ul style="list-style-type: none">- more likely abiotic or viral (viruses can be less host-specific than other pathogens)ii. No, only one species is showing symptoms<ul style="list-style-type: none">- more likely biotic
<p>3. How is the <u>field</u> affected at a macro level?</p> <ul style="list-style-type: none">a. What is the field distribution of symptoms?<ul style="list-style-type: none">i. Linear and repetitive<ul style="list-style-type: none">- More likely abioticii. Individual and random<ul style="list-style-type: none">- More likely biotic- Consider possibility of virus (spread by mobile insect vectors) or infected transplants/seedsiii. Edge of field, diffuse<ul style="list-style-type: none">- Edge effects of fields make differentiation between biotic vs. abiotic causes difficultiv. Hot spots, diffuse or sharp borders<ul style="list-style-type: none">- Somewhat more likely biotic- Consider overall field conditions for abiotic possibilities (ex. hot spots associated with low areas in field)b. How might a potential pathogen or vector move throughout the field?c. Are there any field-related abiotic factors to note? (ex. slope, hedgerows, water sources)
<p>4. How is the <u>plant</u> affected at a micro level?</p> <ul style="list-style-type: none">a. What symptoms and/or signs can you observe? (see lists on page 2)<ul style="list-style-type: none">i. Symptoms = abnormal appearance of affected plants<ul style="list-style-type: none">- Both biotic and abiotic causesii. Signs = direct observations of the living organism causing the problem<ul style="list-style-type: none">- Biotic causes onlyb. Could some of the signs/symptoms observed be secondary infections?

Adapted from Plant Disease 101 by WSU Extension

Common Fungal/Bacterial Symptoms	Common Fungal/Bacterial Signs
<ul style="list-style-type: none"> • Leaf spots • Blight • Canker • Dieback • Root rot • Damping off • Soft rot and dry rot 	<ul style="list-style-type: none"> • Scab • Decline • Clubbed roots • Galls • Warts • Leaf curls • Wilt

Common Viral Symptoms	Common Viral Signs
<ul style="list-style-type: none"> • Mosaics • Ring spots • Stunting or dwarfing • Yellows • Leaf roll • Streaking • Flattening and distortion 	<ul style="list-style-type: none"> • None • Insect vector signs: frass, skins, webbing

Common Abiotic Symptoms	Common Abiotic Signs
<ul style="list-style-type: none"> • Extremes in temperature: <ul style="list-style-type: none"> - Late frost tip necrosis - Bark split - Leaf margin damage - Frost injury • Extremes in light: <ul style="list-style-type: none"> - “leggy”, etiolation (low light) - Sunscald (intense light) • Extremes in moisture <ul style="list-style-type: none"> - Leaf scorch and wilting - Edema, flood damage - Root rot - Blossom end rot • Nutritional deficiencies <ul style="list-style-type: none"> - Immobile in the plants: symptoms show on new growth (Fe, Mn, Cu, Mo, Zn) - Mobile in the plants: symptoms show on older growth (N, P, K, Mg) • Spray damage 	<ul style="list-style-type: none"> • Not applicable

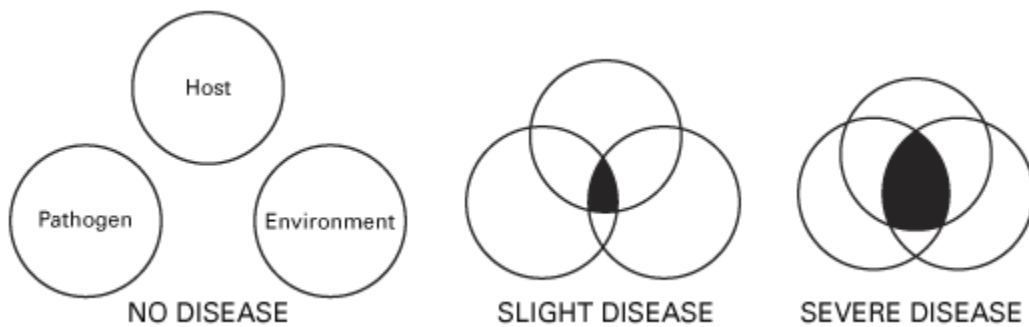
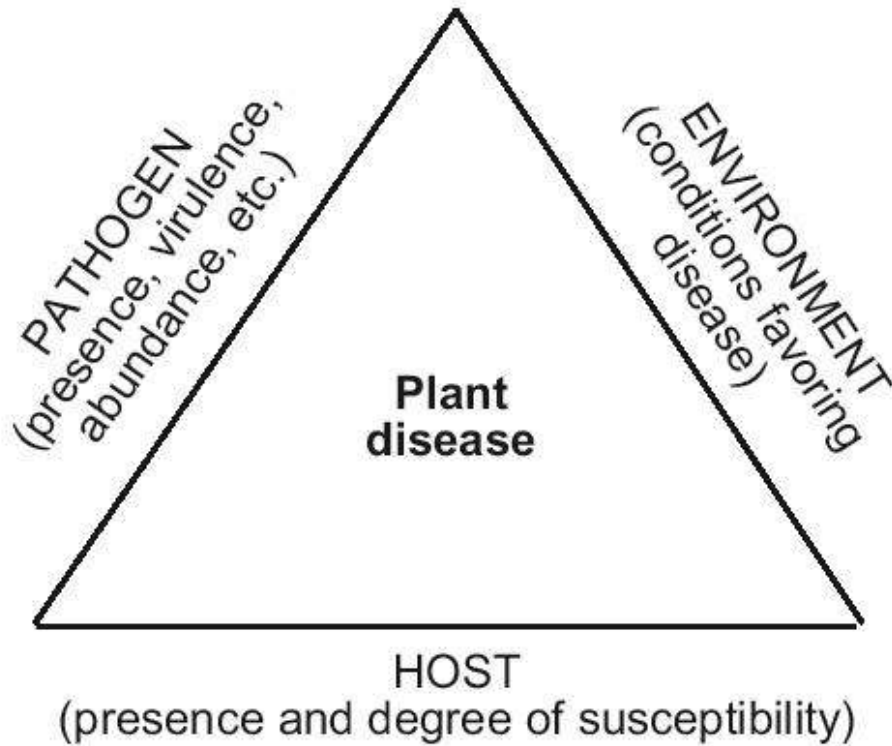


Image from Iowa State University Extension

Plant Health Laboratory

BC Ministry of Agriculture

1767 Angus Campbell Road

Abbotsford, B.C. V3G 2M3

<https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/plant-health/plant-health-laboratory>

Phone: 604-556-3003

Toll free: 1-800-661-9903

E-mail: PAHB@gov.bc.ca

