

Key to Infectious vs. Noninfectious Plant Diseases

Infectious Disease (biotic)	Noninfectious Disease (abiotic)
1. Symptoms appear progressively, in definite stages; may be fast or slow (leaf tip death followed by branch dieback due to root rot)	1. Symptoms appear suddenly, almost at once, to their full intensity; not progressive (leaf tip death from lack of water)
2. Plants in an area vary in the level of disease, especially early in the disease (plants infected first show advanced symptoms the soonest)	2. All plants in an area may be affected to a similar extent or in a similar way (all plants wilt, leaves turn greenish-yellow from overwatering)
3. Symptoms are complex and may not point directly to their cause (wilt can be due to root rot, vascular plugging, under-watering, etc.)	3. Symptoms are simple, may be limited to one, often pointing at the cause (sunburn of plants that have suddenly lost their shade)
4. Lesion edges expand, with complex, graded or zonate centers or margins (leaf spots, blights)	4. Lesion edges sharp, do not expand; rapid change from healthy to diseased tissue (sunburn, pesticides)
5. Symptoms variable in type, pattern, and occurrence, but have a unique character (mosaic discoloration in virus diseases)	5. Symptoms very regular, uniform in nature or pattern (all veins green, with interveinal yellowing in iron chlorosis)
6. Symptoms may not be limited to tips, margins (interveinal or zonate leaf spots; blights)	6. Leaf tips and margins necrotic, or with typical stress-related patterns
7. Signs of the causal agent may be present	7. Signs not often present (except chemical residue)
8. Occurs over time, may be related to environmental conditions (fruit infection following rainfall)	8. Periodic occurrence can be related to a date and certain event (damage following herbicide drift)
9. Selective distortion (only leaves distorted, each leaf differing in symptom development)	9. Gross distortion (entire plant distorted from exposure to plant growth regulator)
10. Only certain species affected; host-specificity may be obvious	10. Fairly wide range of plant species affected
11. Distribution of affected plants fairly irregular or, if clustered, usually shows spotty spread to surrounding plants (infection centers with necrotic plants surrounded by plants in various stages of disease as in taro leaf blight)	11. Distribution of affected plants fairly regular in a field or tightly clustered in an area, with no apparent pattern of spread (plants on the edge of a field damaged by herbicide use on a nearby field)

Based on Stoner, MF and McCain, JW. 1988. "Laboratory Exercises in Plant Pathology: An Instructional Kit," ABAM Baudoin, ed., APS Press