

The 7 S's of Plant Diagnostics

SYMPTOMS: physical changes to plant, i.e. dead tissue (necrosis), yellowing (chlorosis), wilting, distortions or deformities, vascular discoloration, other discolorations (bronzing), lack of flowering or fruiting.

SIGNS: physical clues of causal agent (arthropod pest or pathogen), i.e. holes in leaves, frass (poop), mining (light colored trails through leaves), missing material, fungal spores, egg masses, galls, exit holes, animal tracks, teeth marks, webbing.

SPECIES: what plant or plants are affected? – species-specific diseases, family-specific diseases, insect-host plants; damage across many species could be abiotic, or large vertebrate herbivore munching.

SITE: consider light conditions, soil conditions, microclimate, drainage, compaction, construction in the past few years, near street or sidewalk.

SPREAD: distribution of signs and symptoms on plant(s), i.e. top to bottom, bottom to top, inside to outside, outside to inside, older leaves only, new growth only, other parts affected, more than one species.

SEASON: time of year symptoms or signs first appeared. Do life cycles of pathogens or insects match symptom timing?

STORY: what has happened on the site? Construction, soil compaction, (it may take years for symptoms to occur). What has the homeowner done? Watering, fertilizing, mulching, staking, etc. Long term weather conditions: droughts, floods, freezes, heat waves, etc.