

Ornamental and Turf Identification and Diagnosis

- a. Know the healthy form of the common plants found in the region, their appearance and rate of growth under normal and abnormal conditions.
- b. Know the factors involved in maintaining the plants health and appearance in order to anticipate and prevent damage from various causes.
- c. Understand the functions of the various parts of the plant, such as leaves, stems, roots, etc., and be able to determine if these functions are being properly performed.
- d. Be able to identify and diagnose problems on the common plants found in the region. Such plants and problems include but are not limited to:

Herbaceous Ornamentals

- Ajuga
- Begonia
- Chrysanthemum
- Dahlia
- Fern
- Flowering Bulbs (spring and summer)
- Geranium
- Impatiens
- Iris
- Marigold
- Pachysandra
- Petunia
- Salvia
- Vinca minor (myrtle, periwinkle)

- Hawthorn
- Hemlock
- Holly
- Honeysuckle
- Japanese Honeysuckle
- Juniper (shrubs, groundcover)
- Lilac
- Mt. Laurel
- Pieris
- Privet
- Rhododendron and Azalea
- Spirea
- White Pine
- Yew (Taxus)

Weeds found in turf

Woody Ornamentals

- Arborvitae
- Barberry
- Bittersweet
- Boston Ivy
- Boxwood
- Cotoneaster
- Dogwoods
- English Ivy
- Euonymus (shrubs and ground cover)
- Flowering crab, almond, cherry
- Flowering quince
- Forsythia

- Annual blue grass
- Bent grass
- Black medic
- Chickweed (smooth, hairy)
- Cinquefoil
- Clover
- Crabgrass
- Dandelion
- Goosegrass
- Ground Ivy
- Hawkweed
- Heal-all
- Henbit

- Knotweed
- Moss
- Oxalis
- Plantain (narrow broad)
- Purslane
- Pussytoes
- Red sorrel
- Sedge
- Shepard's purse
- Spurge
- Tall fescue
- Thistle
- Violet
- Wild onion
- Wild strawberry
- Wood sorrel
- Yellow rocket
- Zoysia grass
- Bindweed
- Blackberry
- Chrysanthemum weed
- Goldenrod
- Horsetail
- Japanese bamboo
- Lambsquarter
- Mallow
- Mugwort
- Mullen
- Poison ivy
- Pokeweed
- Quackgrass
- Ragweed
- Staghorn sumac
- Wild Carrot
- Yellow foxtail

Weeds found among shrubs

e. Recognize the symptoms of and agents responsible for any injuries, abnormalities, and weaknesses. These agents include insects, animal pests, fungal, bacterial and viral diseases, unsuitable soil, wind, frost, snow and ice, fumes, and include, but are not limited to the following:

Turf Insect Pests

- Bluegrass billbug
- Chinchbug
- Hyperodes weevil
- Sod webworm
- White grubs

Other Turf Pests

- Birds
- Moles
- Skunks
- Fleas
- Ants
- Ticks

Turf Diseases

- Brown patch
- Dollar spot
- Leaf spots
- Melting out
- Patch diseases
- Pythium blight
- Powdery mildew
- Red thread
- Rust
- Snow molds
- Stripe smut
- Summer patch

Insect Pests of Ornamentals

Borers

- Dogwood borer
- Iris borer
- Lilac borer
- Rhododendron borer

Beetles

- Black vine weevil
- Japanese beetle
- Rose chafer

Leafminers

- Arborvitae leafminer
- Azalea leafminer
- Boxwood leafminer
- Holly leafminer

Mites

- Clover mites
- Eriophyid mites
- Spider mites
- Two spotted mites

Sucking Insects

- Aphids
- Cooley spruce gall aphid
- Hard shell scale
- Hemlock wooly adelgid
- Lacebugs
- Leafhoppers
- Mealybugs
- Soft shell scale
- Spittlebugs
- Tarnished plant bug

- Whiteflies

Diseases of Ornamentals

- Anthracnose
- Botrytis
- Galls
- Leaf spots
- Powdery mildew
- Rust
- Scab
- Twig blight or dieback
- Verticillium wilt

Physiological Disorders

- Air pollution damage
- Root injury from mechanical or chemical causes
- Blasting of flower buds
- Spray injury
- Moisture stress
- Temperature stress (winter injury, ice damage)
- Nutrient imbalance

Miscellaneous

- Cutworms
- Dodder
- Dog damage
- Fairy rings
- Leafrollers and leaffiers
- Mole crickets
- Mushrooms
- Nematodes
- Pine sawfly
- Slime molds
- Slugs

f. Demonstrate a working knowledge of the characteristics and effects of the pesticides used including but not limited to:

Herbicides

- 2,4-D (amine and ester)
- Acclaim
- Bensulide
- Bentazone
- Dicamba (Banvel)
- Dithiopyr (Dimension)
- Ethofumesate (Prograss)
- Glufosinate-amonium (Finale)
- Glyphosate (Roundup)
- Halosulfuron-methyl (Manage Herbicide)
- Isoxaben (Gallery)
- Isoxaben + oryzalin (Snapshot)
- MCPP (mecoprop)
- Mefluidide (Embark)
- Momentum
- Oxyfluren (Goal)
- Pelargonic acid (Scythe)
- Pendimethalin (Pre-M, Pro Turf)
- Picloram (Tordon)
- Prodiamine (Barricade)
- Prometon (Pramitol)
- Pronamide (Kerb)
- Sethoxydim (Poast)
- Siduron (Tupersan)
- Triclopyr (Garlon, Turflon)
- Triclopyr + clopyralid (Confront)
- Trifluralin (Treflan, Team)

Repellents

- For birds
- For deer

Insecticides

- Acephate (Orthene)
- Bacillus popilliae (Milky spore)
- Bacillus thuringiensis (BT)
- Bifenthrin (Talstar)
- Carbaryl (Sevin)
- Cyfluthrin (Baythroid, Tempo)
- Diflubenzuron
- Dimethoate (Cygon)
- Fluvalinate (Mavrik)
- Halofenoxide (Mach II)
- Imidacloprid (Merit)
- lambda-Cyhalothrin (Demand)
- Lamda-Cyhalothrin (Scimitar)
- Malathion
- Oils (dormant, Hort., Superior)
- Oxythioquinox (Morestan)
- Permethrin (Ambush, Pounce)
- Phosmet (Imidan)
- Spinosad (Conserve)
- Triclorfon (Dylox)

Fungicides

- Azoxystrobin (Heritage)
- Bayleton
- Captan
- Chlorothalanol (Bravo, Daconil)
- Chlorothalanol + Fenarimol (Twosome)
- Fenarimol (Rubigan)
- Fosetyl-aluminum (Aliette)
- Imibenconazole (Manage)
- Iprodione (Chipco 26019)
- Mancozeb
- Mancozeb (Dithane, Fore)
- Metalaxyl (Subdue)
- Myclobutanil (Eagle)
- Propamocarb Hydrochloride (Banol)
- Propiconazole (Banner)
- Vinclozolin (Touche EG)