

List of Key Terms

Douglas fir

Menzisii variety

Glauca variety

Swiss needle cast

Needle cast

Phaeocryptoptus gaumii

perithecia

Douglas-Fir Dwarf Mistletoe

Witches' brooms

Dwarf mistletoe damage rating system

Arceuthobium douglasii

Parasitic plant

berry-like fruit or capsule

Red radical

Endophytic system

basal cup

Endophytic system

Dioecious

Ethylene

Loblolly Pine

Fusiform rust

alternate hosts

Fusiform galls

Leaf spot

Cronartium quercuum form species

fusiforme

Aecia

Uredia

Basidiospores

Spermatia

Genetic breeding

Southern Pine Beetle

Dendroctonus frontalis

Pitch tubes

Frass

Egg galleries

Larvae

pupae

Blue stain fungi

Primary Attacks

Secondary attack

Pheromones

Switching

Fungal pathogens

Parasitoids

Buffer

Eastern Hemlock (*Tsuga canadensis*)

Ecological importance

Shallow rooting system

Hemlock Woolly Adelgid (*Adelges tsugae*)

Drought Disease Complex

Parenchyma cells

White ovisacs (woolly masses)

Crown transparency

Sistens

Progrediens

Sexuparae

Dispersal vectors

Imiacloprid

Thinning

Salvage harvest

Quarantines

Laricobius nigrinus (Lari beetle)

Sasajiscymnus tsugae (lady beetle)

Lodge Pole Pine

Pinus contorta

Dwarf Mistletoe

Arceuthobium americanum

Dioecious

Holdfast

Aerial shoots

Dwarf Mistletoe Rating

Pruning

Harvesting

Shelterwood

Dendroctonus ponderosae

Ophiostoma spp.

Blue stain

Blue stain fungus

Pheromone

Verbenone

Red Pine

Scleroderris Canker

Gremmeniella abietina

Black pycnidia

Conidia

Apothecium

Frost pockets

Latent period

Genetic bottleneck

Canker

Dieback of buds and branches

Browning of needles and subsequent falling off

Yellow-green stain

Saratoga Spittlebug

Aphrophora saratogensis

Flagging

Dead terminals

Red flecking and scars

Top kill

Yellow eggs

Purple eggs

Spittlemasses

Sweet fern

Adult insects

Butternut

Butternut (*Juglans cinerea*)

High quality nuts

Uncommon tree

Grows in scattered clumps

Low genetic diversity

Bark phenotypes

Butternut canker fungus (*Sirococcus clavigignenti-juglandacearum*)

Widespread mortality

1967-1997

Hyphal pegs

Black exudate

Crown dieback

Coalescing cankers

Many vectors

Non-specific (wind, rain, insects)

Specific (butternut curculio and *Eubulus parochus*)

Monitor (resistant trees, alternate hosts)

Sanitation

Clonal plantings (vegetative and grafting)

Sugar Maple (*Acer saccharum*)

Acer saccharum

Shade tolerant

Goldie lox sites

Maple winter decline

Open winter

Snow pack insulation

Thaw/freeze events

Root tissue freezing

Frost related mechanical damage

Crown transparency

Crown dieback

Reduced radial growth

Silvicultural thinning

Uneven age silviculture

Sugar maple borer

Glycobius speciosus

Low vigor trees

Horizontal crack

Wet spot on bark

Frass

Horizontal and vertical galleries

2 year lifecycle

Premature salvage

Eucalyptus

Bell Miner

Psyllid

lerp

BMAD - Bell Miner Associated Dieback

Lantana camara