

APPENDIX K: DAMAGE CATEGORIES, AGENTS, SEVERITY RATINGS, & TREE PARTS

DAMAGE CATEGORIES

Detailed descriptions and examples of the content in these tables is available using the Insect & Disease Codes links on the [FSVeg Documentation web page](#).

Table 1: Damage category codes

Code	Description
10	General Insects
11	Bark Beetles
12	Defoliators
13	Chewing Insects
14	Sucking Insects
15	Boring Insects
16	Seed/Cone/Flower/Fruit Insects
17	Gallmaker Insects
18	Insect Predators
19	General Diseases
20	Biotic Damage
21	Root/Butt Diseases
22	Stem Decays/Cankers
23	Parasitic/Epiphytic Plants
24	Decline Complexes/Dieback/Wilts
25	Foliage Diseases
26	Stem Rusts
27	Broom Rusts
30	Fire
40	Animal Damage, Source Unknown

Code	Description
41	Wild Animals
42	Domestic Animals
50	Abiotic Damage
60	Competition
70	Human Activities
71	Harvest
80	Multi-Damage (Insect-Disease)
90	Unknown
99	Physical Effects

DAMAGE AGENTS

Detailed descriptions and examples of the content in these tables is available using the Insect & Disease Codes links on the [FSVeg Documentation web page](#).

Table 2: Damage agent codes

Category	Agent	Common Name	Scientific Name
10	000	General insects	n / a
10	001	Thrips	<i>n/a</i>
10	002	Tip moth	<i>n/a</i>
10	003	Wasp	<i>n/a</i>
10	004	Chinese rose beetle	<i>Adoretus sinicus</i>
10	005	Rose beetle	<i>Adoretus versutus</i>
10	006	Coconut hispid beetle	<i>Brontispa longissima</i>
10	007	Clerid beetle	<i>Cleridae</i>
10	008	Weevil	<i>Curculionidae</i>
10	009	Green rose chafer	<i>Dichelonyx backi</i>
10	010	Allegheny mound ant	<i>Formica exsectoides</i>

Category	Agent	Common Name	Scientific Name
10	011	Ant	<i>Formicidae</i>
10	012	Stick insect	<i>Graeffea crovanii</i>
10	013	Hulodes cranea	<i>Hulodes cranea</i>
10	014	Conifer swift moth	<i>Korsheltellus gracilis</i>
10	015	Caroline shortnosed weevil	<i>Lophothetes spp.</i>
10	016	Coconut rhinoceros beetle	<i>Oryctes rhinoceros</i>
10	017	Bagworm moth	<i>Psychidae</i>
10	018	Coconut palm weevil	<i>Thobdoscelus asperipennis</i>
10	019	Scarab	<i>Scarabaeidae</i>
10	020	Ash white fly	<i>Simphoninus phillyreae</i>
10	021	Unknown	<i>Steremnius carinatu</i>
10	022	Pyralid moth	<i>Thliptoceras octoquittale</i>
10	023	Wood wasps	<i>Siricidae spp.</i>
11	000	Bark beetles	n / a
11	001	Roundheaded pine beetle	<i>Dendroctonus adjunctus</i>
11	002	Western pine beetle	<i>Dendroctonus brevicomis</i>
11	003	Southern pine beetle	<i>Dendroctonus frontalis</i>
11	004	Jeffrey pine beetle	<i>Dendroctonus jeffreyi</i>
11	005	Lodgepole pine beetle	<i>Dendroctonus murrayanae</i>
11	006	Mountain pine beetle	<i>Dendroctonus ponderosae</i>
11	007	Douglas-fir beetle	<i>Dendroctonus pseudotsugae</i>
11	008	Allegheny spruce beetle	<i>Dendroctonus punctatus</i>
11	009	Spruce beetle	<i>Dendroctonus rufipennis</i>
11	010	Eastern larch beetle	<i>Dendroctonus simplex</i>
11	011	Black turpentine beetle	<i>Dendroctonus terebrans</i>

Category	Agent	Common Name	Scientific Name
11	012	Red turpentine beetle	<i>Dendroctonus valens</i>
11	013	Unknown	<i>Dryocoetes affaber</i>
11	014	Unknown	<i>Dryocoetes autographus</i>
11	015	Western balsam bark beetle	<i>Dryocoetes confuses</i>
11	016	Unknown	<i>Dryocoetes sechelti</i>
11	017	Ash bark beetle	<i>Hylesinus spp.</i>
11	018	Native elm bark beetle	<i>Hylurgopinus rufipes</i>
11	019	Pinon ips	<i>Ips confuses</i>
11	020	Small southern pine engraver	<i>Ips avulses</i>
11	021	Sixspined ips	<i>Ips calligraphus</i>
11	022	Emarginated ips	<i>Ips emarginatus</i>
11	023	Southern pine engraver beetle	<i>Ips grandicollis</i>
11	024	Unknown	<i>Ips latidens</i>
11	025	Arizona five-spined ips	<i>Ips lecontei</i>
11	026	Monterey pine ips	<i>Ips mexicanus</i>
11	027	California five-spined ips	<i>Ips paraconfusus</i>
11	028	Northern spruce engraver beetle	<i>Ips perturbatus</i>
11	029	Pine engraver	<i>Ips pini</i>
11	030	Ips engraver beetles	<i>Ips spp/</i>
11	031	Unknown	<i>Ips tridens</i>
11	032	Western ash bark beetle	<i>Leperisinus californicus</i>
11	033	Oregon ash bark beetle	<i>Leperisinus oregonus</i>
11	034	Unknown	<i>Orthotomicus caelatus</i>
11	035	Cedar bark beetle	<i>Phloeosinus spp.</i>
11	036	Western cedar bark beetle	<i>Phloeosinus punctatus</i>

Category	Agent	Common Name	Scientific Name
11	037	Tip beetles	<i>Pityogenes spp.</i>
11	038	Douglas-fir twig beetle	<i>Pityophthorus pseudotsugae</i>
11	039	Twig beetles	<i>Pityophthorus spp.</i>
11	040	Four-eyed spruce beetle	<i>Polygraphus rufipennis</i>
11	041	Fir root bark beetle	<i>Pseudohylesinus granulates</i>
11	042	Unknown	<i>Pseudohylesinus dispar</i>
11	043	Douglas-fir pole beetle	<i>Pseudohylesinus nebulosus</i>
11	044	Silver fir beetle	<i>Pseudohylesinus sericeus</i>
11	045	Small European elm bark beetle	<i>Scolytus multistriatus</i>
11	046	Spruce engraver	<i>Scolytus piceae</i>
11	047	Hickory bark beetle	<i>Scolytus quadrispinosus</i>
11	048	True fir bark beetle	<i>Scolytus spp.</i>
11	049	Douglas-fir engraver	<i>Scolytus unispinosus</i>
11	050	Fir engraver	<i>Scolytus ventralis</i>
11	051	Striped ambrosia beetle	<i>Tryachykele lineatum</i>
11	052	Sitka spruce engraver beetle	<i>Ips conncinnus</i>
11	053	Four-eyed bark beetle	<i>Polygraphus spp.</i>
11	054	Hemlock beetle	<i>Pseudohylesinus tsugae</i>
11	055	Spruce ips	<i>Ips pilifrons</i>
11	056	Mexican pine beetle	<i>Dendroctonus mexicanus</i>
12	000	Defoliators	n / a
12	001	Casebearer	<i>n/a</i>
12	002	Leaftier	<i>n/a</i>
12	003	Looper	<i>n/a</i>
12	004	Needleminer	<i>n/a</i>

Category	Agent	Common Name	Scientific Name
12	005	Sawfly	<i>n/a</i>
12	006	Skeletonizer	<i>n/a</i>
12	007	Larger elm leaf beetle	<i>Monocesta coryli</i>
12	008	Spanworm	<i>n/a</i>
12	009	Webworm	<i>n/a</i>
12	010	Pine false webworm	<i>Acantholyda erythrocephala</i>
12	011	Western blackheaded budworm	<i>Acleris gloverana</i>
12	012	Eastern blackheaded budworm	<i>Acleris variana</i>
12	013	Whitefly	<i>Aleyrodoidae</i>
12	014	Fall cankerworm	<i>Alsophila pometaria</i>
12	015	Alder flea beetle	<i>Altica ambiens</i>
12	016	Mountain mahogany looper	<i>Anacamptodes clivinaria profanata</i>
12	017	Birch leaffolder	<i>Ancylis disigerana</i>
12	018	Oak worms	<i>Anisota spp.</i>
12	019	Orange-striped oakworm	<i>Anisota senatoria</i>
12	020	Western larch sawfly	<i>Anoplonyx occidens</i>
12	021	Fruit tree leafroller	<i>Archips argyrospila</i>
12	022	Uglynest caterpillar	<i>Archips cerasivorana</i>
12	023	Boxelder defoliator	<i>Archips negundanus</i>
12	024	Oak leafroller	<i>Archips semiferana</i>
12	025	Birch sawfly	<i>Arge pectoralis</i>
12	026	Arborvitae leafminer	<i>Argyresthia thuiella</i>
12	027	Coconut scale	<i>Aspidiotus destructor</i>
12	028	Texas leafcutting ant	<i>Atta texana</i>
12	029	Oak skeletonizer	<i>Bucculatrix ainliella</i>

Category	Agent	Common Name	Scientific Name
12	030	Pear sawfly	<i>Caliroa cerasi</i>
12	031	Scarlet oak sawfly	<i>Caliroa quercuscoccineae</i>
12	032	Elm calligrapha	<i>Calligrapha scalaris</i>
12	033	Boxelder leafroller	<i>Caloptilia negundella</i>
12	034	Maple petiole borer	<i>Caulocampus acericaulis</i>
12	035	Spruce webspinning sawfly	<i>Cephalcia dascipennis</i>
12	036	Two-year budworm	<i>Choristoneura biennis</i>
12	037	Large aspen tortrix	<i>Choristoneura conflictana</i>
12	038	Spruce budworm	<i>Choristoneura fumiferana</i>
12	039	Sugar pine tortrix	<i>Choristoneura lambertiana</i>
12	040	Western spruce budworm	<i>Choristoneura occidentalis</i>
12	041	Jack pine budworm	<i>Choristoneura pinus</i>
12	042	Modoc budworm	<i>Choristoneura retiniana</i>
12	043	Aspen leaf beetle	<i>Chrysomela crotchii</i>
12	044	Cottonwood leaf beetle	<i>Chrysomela scripta</i>
12	045	Leafhopper	<i>Cicadellidae</i>
12	046	Poplar tentmaker	<i>Clostera inclusa</i>
12	047	Larch casebearer	<i>Coleophora laricella</i>
12	048	Birch casebearer	<i>Coleophora serratella</i>
12	049	Lodgepole needleminer	<i>Coleotechnites milleri</i>
12	050	Ponderosa needleminer	<i>Coleotechnites spp.</i>
12	051	Black Hills pandora moth	<i>Coloradia doris</i>
12	052	Pandora moth	<i>Coloradia Pandora</i>
12	053	Sycamore lace bug	<i>Corythuca ciliate</i>
12	054	Lace bugs	<i>Corythuca spp.</i>

Category	Agent	Common Name	Scientific Name
12	055	Oak leaftier	<i>Croesia semipurpurana</i>
12	056	Dusky birch sawfly	<i>Croesus latitarus</i>
12	057	Walnut caterpillar	<i>Datana integerrima</i>
12	058	Yellow-necked caterpillar	<i>Datana ministra</i>
12	059	Walkingstick	<i>Diapheromera femorata</i>
12	060	Spruce coneworm	<i>Dioryctria reniculelloides</i>
12	061	Introduced pine sawfly	<i>Diprion similis</i>
12	062	Green-striped mapleworm	<i>Dryocampa rubicunda</i>
12	063	Spruce needleminer (east)	<i>Endothenia albolineana</i>
12	064	Elm spanworm	<i>Ennomus subsignaris</i>
12	065	Maple trumpet skeletonizer	<i>Epinotia aceriella</i>
12	066	White fir needleminer	<i>Epinotia meritana</i>
12	067	Linden looper	<i>Erannis tiliaria</i>
12	068	Browntail moth	<i>Euproctis chrysorrhoea</i>
12	069	Pine needleminer	<i>Exoteleia pinifoliella</i>
12	070	Birch leafminer	<i>Fenusa pusilla</i>
12	071	Elm leafminer	<i>Fenusa ulmi</i>
12	072	Geometrid moth	<i>Geometridae</i>
12	073	Leafblotch miner	<i>Gracillariidae</i>
12	074	Spotted tussock moth	<i>Halisidota maculate</i>
12	075	Pale tussock moth	<i>Halisidota tessellaris</i>
12	076	Hesperiid moth	<i>Hasora choromus</i>
12	077	Brown day moth	<i>Hemileuca eglanderina</i>
12	078	Buck moth	<i>Hemileuca maia</i>
12	079	Saddled prominent	<i>Hererocampa guttivita</i>

Category	Agent	Common Name	Scientific Name
12	080	Variable oakleaf caterpillar	<i>Heterocampa manteo</i>
12	081	Cherry scallop shell moth	<i>Hydria prunivorata</i>
12	082	Fall webworm	<i>Hyphantria cunea</i>
12	083	Hemlock looper	<i>Lambdina fiscellaria</i>
12	084	Unknown	<i>Lambdina punctate</i>
12	085	Tent caterpillar moth	<i>Lasiocampidae</i>
12	086	Satin moth	<i>Leucoma salicis</i>
12	087	Willow leafblotch miner	<i>Lithocolletis spp.</i>
12	088	Aspen blotchminer	<i>Lithocolletis tremuloidiella</i>
12	089	Gypsy moth	<i>Lymantria dispar</i>
12	090	Cottonwood leafminers	<i>Lyonetia spp.</i>
12	091	Dogwood sawfly	<i>Macremphytus tarsatus</i>
12	092	Rose chafer	<i>Macroductylus subspinosus</i>
12	093	Eastern tent caterpillar	<i>Malasosoma americanum</i>
12	094	Western tent caterpillar	<i>Malacosoma californicum</i>
12	095	Pacific tent caterpillar	<i>Malacosoma constrictum</i>
12	096	Forest tent caterpillar	<i>Malacosoma disstria</i>
12	097	Southwestern tent caterpillar	<i>Malacosoma incurvum</i>
12	098	Leafcutting bee	<i>Megachilidae</i>
12	099	Blister beetle	<i>Meloidae</i>
12	100	Early birch leaf edgeminer	<i>Messa nana</i>
12	101	Juniper sawfly	<i>Monoctenus fulvus</i>
12	102	Willow sawfly	<i>Nematus spp.</i>
12	103	Balsam fir sawfly	<i>Neodiprion abietis</i>
12	104	Lodgepole sawfly	<i>Neodiprion burkei</i>

Category	Agent	Common Name	Scientific Name
12	105	Blackheaded pine sawfly	<i>Neodiprion</i>
12	106	Pine infesting sawfly	<i>Neodiprion fulviceps</i>
12	107	Redheaded pine sawfly	<i>Neodiprion lecontei</i>
12	109	Ponderosa pine sawfly	<i>Neodiprion mundus</i>
12	110	White pine sawfly	<i>Neodiprion pinetum</i>
12	111	Jack pine sawfly	<i>Neodiprion pratti banksianae</i>
12	112	Virginia pine sawfly	<i>Neodiprion pratti pratti</i>
12	113	European pine sawfly	<i>Neodiprion sertifer</i>
12	114	Loblolly pine sawfly	<i>Neodiprion taedae linearis</i>
12	115	Hemlock sawfly	<i>Neodiprion tsugae</i>
12	116	Pine butterfly	<i>Neophasia menapia</i>
12	117	False hemlock looper	<i>Nepytia canosaria</i>
12	118	California tortoiseshell	<i>Nymphalis California</i>
12	119	Locust leafminer	<i>Odontota dorsalis</i>
12	120	Bruce spanworm	<i>Operophtera bruceata</i>
12	121	Rusty tussock moth	<i>Orgyia antiqua</i>
12	122	Whitemarked tussock moth	<i>Orgyia leucostigma</i>
12	123	Douglas-fir tussock moth	<i>Orgyia pseudotsugata</i>
12	124	Western tussock moth	<i>Orgyia vetusta</i>
12	125	Spring cankerworm	<i>Paleacrita vernata</i>
12	126	Black citrus swallowtail butterfly	<i>Papilio polytes</i>
12	127	Maple leafcutter	<i>Paraclemensia acerifoliella</i>
12	128	Pine tussock moth	<i>Parorygia grisefacta</i>
12	129	Poinciana looper	<i>Pericyma cruegeri</i>
12	130	Half-wing geometer	<i>Phigalia titea</i>

Category	Agent	Common Name	Scientific Name
12	131	Phoberia moth	<i>Phoberia atomaris</i>
12	132	California oakworm	<i>Phryganidia californica</i>
12	133	European snout beetle	<i>Phyllobius oblongus</i>
12	134	Citrus leafminer	<i>Phyllocnistis citrella</i>
12	135	Aspen leafminer	<i>Phyllocnistis populiella</i>
12	136	Yellowheaded spruce sawfly	<i>Pikonema alaskensis</i>
12	137	Tenlined June beetle	<i>Polyphylla decemlineata</i>
12	138	Japanese beetle	<i>Popillia japonica</i>
12	139	Larch sawfly	<i>Pristiphora erichsonii</i>
12	140	Mountain-ash sawfly	<i>Pristiphora geniculate</i>
12	141	Elm leaf beetle	<i>Prrhalta luetola</i>
12	142	Spearmarked black moth	<i>Rheumaptera hastate</i>
12	143	Giant silkworm moth	<i>Saturniidae</i>
12	144	Redhumped caterpillar	<i>Schizura concinna</i>
12	145	Redbanded thrips	<i>Selenothrips rubocinctus</i>
12	146	Larch looper	<i>Semiothisa sexmaculata</i>
12	147	Maple leafroller	<i>Sparganothis acerivorana</i>
12	148	Redhumped oakworm	<i>Symmersita canicosta</i>
12	149	Orangehumped mapleworm	<i>Symmerista leucitys</i>
12	150	Spruce needleminer (west)	<i>Taniva albolineana</i>
12	151	Maple webworm	<i>Tetralopha asperatella</i>
12	152	Pine webworm	<i>Tetralopha robustella</i>
12	153	Imported basswood thrips	<i>Thrips calcaratus</i>
12	154	Bagworm	<i>Thyridoteryx ephemeraeformis</i>
12	155	Leafroller/seed moth	<i>Tortricidae</i>

Category	Agent	Common Name	Scientific Name
12	156	Willow defoliation	<i>Tortricidae</i>
12	157	Euonymus caterpillar	<i>Yponomeuta spp.</i>
12	158	Spruce bud moth	<i>Zeiraphera canadensis</i>
12	159	Larch bud moth	<i>Zieraphera improbana</i>
12	160	Pine needle sheathminer	<i>Zelleria haimbachi</i>
12	161	Cypress looper	<i>Anacamptodes pergrasilis</i>
12	162	Cottonwood leaf beetle	<i>Chrysomela spp.</i>
12	163	Pine colaspis	<i>Colaspis pini</i>
12	164	Saddle-backed looper	<i>Ectropis crepusularia</i>
12	165	Leafroller	<i>Epinotia solandriana</i>
12	166	New Mexico fir looper	<i>Gelenara cansimillis</i>
12	167	Striped alder sawfly	<i>Hemichroa crocea</i>
12	168	Green-striped looper	<i>Melanoplophia imitate</i>
12	169	Willow leaf blotchminer	<i>Micrurapteryx salicifoliella</i>
12	170	Unknown	<i>Neodiprion autmnalis</i>
12	171	Pinon sawfly	<i>Neodiprion edulicolus</i>
12	172	Unknown	<i>Neodiprion gilletti</i>
12	173	Unknown	<i>Neodiprion ventralis</i>
12	174	Pine looper	<i>Phaeoura mexicanaria</i>
12	175	Unknown	<i>Zadiprion ventralis</i>
12	176	Unknown	<i>Zadiprion rohweri</i>
12	177	Douglas-fir budmoth	<i>Zeiraphera hesperiana</i>
12	178	Western oak looper	<i>Lambdina discellaria somniaria</i>
12	179	Phantom hemlock looper	<i>Nepytia phantasmaria</i>
12	180	Tent caterpillar	<i>Malasocoma spp.</i>

Category	Agent	Common Name	Scientific Name
12	188	Elm sawfly	<i>Cimbex Americana</i>
12	189	June beetle	<i>Phyllophaga spp.</i>
12	190	Hickory tussock moth	<i>Halisidota caryae</i>
12	191	Pin oak sawfly	<i>Caliroa lineata</i>
12	192	Palmerworm	<i>Dichomeris ligulella</i>
12	193	Pitch pine looper	<i>Lambdina athasaria pellucidaria</i>
12	194	Red pine sawfly	<i>Neodiprion annulus annulus</i>
12	195	Pine tip moth	<i>Argyrotaenia pinatubana</i>
12	196	Baldcypress leafroller	<i>Archips goyerana</i>
12	197	Winter moth	<i>Operophtera</i>
12	198	Basswood thrip	<i>Neohydatothrips</i>
12	199	Noctuid moth	<i>Xylomyges simplex (walker)</i>
12	200	Pyralid moth	<i>Palpita magniferalis</i>
12	201	Pacific silver fir budmoth	<i>Zeiraphera sp. Destitutana</i>
13	000	Chewing insects	n / a
13	001	Grasshopper	<i>n/a</i>
13	002	Shorthorn grasshoppers	<i>Acrididae</i>
13	003	Black cutworm	<i>Agrotis ipsilon</i>
13	004	Palau coconut beetle	<i>Brontispa palauensis</i>
13	005	Clearwinged grasshopper	<i>Camnula pellucid</i>
13	006	Cicadas	<i>Cicadidae</i>
13	007	Eurytomids	<i>Eurytoma spp.</i>
13	008	Cutworms	<i>Euxoa excellens</i>
13	009	Whitefringed beetles	<i>Graphognathus spp.</i>
13	010	Pales weevil	<i>Hylobius pales</i>

Category	Agent	Common Name	Scientific Name
13	011	Vegetable weevil	<i>Listroderes difficilis</i>
13	012	Periodical cicada	<i>Magicicada septendecim</i>
13	013	Migratory grasshopper	<i>Melanoplus sanguinipes</i>
13	014	Valley grasshopper	<i>Oedaleonotus enigma</i>
13	015	Strawberry root weevil	<i>Otiorhynchus ovatus</i>
13	016	Black vine weevil	<i>Otiorhynchus sulcatus</i>
13	017	Pandanus beetle	<i>Oxycephala pandani</i>
13	018	Spaeth pandanus	<i>Oxycephala spaethi</i>
13	019	Agamemnon butterfly	<i>Papilio agememnon</i>
13	020	Northern pitch twig moth	<i>Petrova albicapitana</i>
13	021	Ponderosa pine tip moth	<i>Rhyacionia zozana</i>
13	022	Pine needle weevil	<i>Scythropus spp.</i>
13	023	Coconut longhorned grasshopper	<i>Segestes unicolor</i>
13	024	Clover root curculio	<i>Sitona hispidulus</i>
13	025	Unknown	<i>Thrips madronii</i>
13	026	Ash plant bug	<i>Tropidosteptes amoenus</i>
13	027	Shorthorned grasshopper	<i>Valanga nigricornis</i>
13	028	Pitch-eating weevil	<i>Pachylobius picivorus</i>
13	029	Deodar weevil	<i>Pissodes nemorensis</i>
13	030	Adana tip moth	<i>Rhyacionia adana</i>
14	000	Sucking insects	n / a
14	001	Scale insect	<i>n/a</i>
14	002	Western larch wooly aphid	<i>Adelges oregonensis</i>
14	003	Balsam woolly adelgid	<i>Adelges piceae</i>
14	004	Hemlock wooly adelgid	<i>Adelges tsugae</i>

Category	Agent	Common Name	Scientific Name
14	005	Spiraling whitefly	<i>Aleurodicus disperses</i>
14	006	Aphid	<i>Aphididae</i>
14	007	Pine spittlebug	<i>Aphrophora parallela</i>
14	008	Western pine spittlebug	<i>Aphrophora permutata</i>
14	009	Saratoga spittlebug	<i>Aphrophora saratogensis</i>
14	010	Spittlebug	<i>Cercopidae</i>
14	011	Wax scale	<i>Ceroplastes spp.</i>
14	012	Pine needle scale	<i>Chionaspis pinifoliae</i>
14	014	Giant conifer aphid	<i>Cinara spp.</i>
14	015	White pine aphid	<i>Cinara strobe</i>
14	016	Beech scale	<i>Cryptococcus fagisuga</i>
14	017	Spruce aphid	<i>Elatobium anatinum</i>
14	018	Woolly apple aphid	<i>Eriosoma lanigerum</i>
14	019	Striped mealybug	<i>Ferrisia vergata</i>
14	020	Elongate hemlock scale	<i>Fiorinia externa</i>
14	021	Coconut red scale	<i>Furcaspis oceanica</i>
14	022	Pine thrips	<i>Gnophothrips spp.</i>
14	023	Leucaena psyllid	<i>Heteropsylla cubana</i>
14	024	Honeysuckle aphid	<i>Hyadaphis tataricae</i>
14	025	Egyptian fluted scale	<i>Icerya aegyptiaca</i>
14	026	Lecanium scale	<i>Lecanium spp.</i>
14	027	Common falsepit scale	<i>Lecanodiaspis prosopidis</i>
14	028	Oystershell scale	<i>Lepidosaphes ulmi</i>
14	029	Pinyon needle scale	<i>Matsucoccus acalyptus</i>
14	030	Ponderosa pine twig scale	<i>Matsucoccus bisetosus</i>

Category	Agent	Common Name	Scientific Name
14	031	Pine twig scale	<i>Matsucoccus californicus</i>
14	032	Ponderosa pine scale	<i>Matsucoccus degeratus</i>
14	033	Red pine scale	<i>Matsucoccus resinosae</i>
14	034	Prescott scale	<i>Matsucoccus vexillorum</i>
14	035	Treehoppers	<i>Membracidae</i>
14	036	Hibiscus psyllid	<i>Mesohomotoma hibisci</i>
14	037	Balsam twig aphid	<i>Mindarus abietinus</i>
14	038	Hibiscus mealybug	<i>Nipaecoccus vastator</i>
14	039	Black pineleaf scale	<i>Nuculaspis California</i>
14	040	Spruce spider mite	<i>Oligonychus ununquis</i>
14	041	Twig girdler	<i>Oncideres cingulate</i>
14	042	Woolly alder aphid	<i>Paraprociophilus tessellatus</i>
14	043	Maple aphid	<i>Periphyllus spp.</i>
14	044	Spruce bud scale	<i>Physokermes piceae</i>
14	045	Red pine adelgid	<i>Pineus borneri</i>
14	046	Pine leaf adelgid	<i>Pineus pinifoliae</i>
14	047	White pine adelgid	<i>Pineus spp.</i>
14	048	Pine bark adelgid	<i>Pineus strobe</i>
14	049	Root aphid	<i>Prociphilus americanus</i>
14	050	Mealybug	<i>Pseudococcidae</i>
14	051	Cottony maple scale	<i>Pulvinaria innumerabilis</i>
14	052	Fir mealybug	<i>Puto cupressi</i>
14	053	Douglas-fir mealybug	<i>Puto profusus</i>
14	054	Spruce mealybug	<i>Puto sandini</i>
14	055	Hemispherical scale	<i>Saissetia coffeae</i>

Category	Agent	Common Name	Scientific Name
14	056	Woolly pine needle aphid	<i>Schizolachnus piniradiatae</i>
14	057	Steatococcus scale	<i>Steatococcus samaraius</i>
14	058	Pear thrip	<i>Taeniothrips inconsequens</i>
14	059	Mulberry whitefly	<i>Tetraleurodes mori</i>
14	060	Tuliptree scale	<i>Toumeyella liriodendra</i>
14	061	Pine tortoise scale	<i>Toumeyella parvicornis</i>
14	062	Citrus snow scale	<i>Unaspis citri</i>
14	063	Birch aphid	<i>Euceraphis betulae</i>
14	067	Woolly pine scale	<i>Pseudophilippia quaintancii</i>
14	068	European elm scale	<i>Gossyparia spuria</i>
14	069	Elm scurfy scale	<i>Chionaspis Americana</i>
14	070	Magnolia scale	<i>Neolecanium cornuparvum</i>
14	071	Beech blight aphid	<i>Grylloprociphilus imbricator</i>
14	072	Beech woolly aphid	<i>Phyllaphis fagi</i>
15	000	Boring insects	n / a
15	001	Shoot borer	<i>n/a</i>
15	002	Termite	<i>n/a</i>
15	003	Ponderosa pine bark borer	<i>Acanthocinus princeps</i>
15	004	Bronze birch borer	<i>Agrilus anxius</i>
15	005	Twolined chestnut borer	<i>Agrilus bilineatus</i>
15	006	Bronze poplar borer	<i>Agrilus liragus</i>
15	007	Carpenter bees	<i>Apidae</i>
15	008	Flatheaded borer	<i>Buprestidae</i>
15	009	Golden buprestid	<i>Buprestis aurulenta</i>
15	010	Carpenter ants	<i>Camponotus spp.</i>

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15	011	Gouty pitch midge	<i>Cecidomyia piniinopsis</i>
15	012	Shootboring sawflies	<i>Cephidae</i>
15	013	Roundheaded borer	<i>Cermbycidae</i>
15	014	Flatheaded apple tree borer	<i>Chrysobothris femorata</i>
15	015	Cranberry girdler	<i>Chrysoteuchia topiaria</i>
15	016	Columbian timber beetle	<i>Corthylus columbianus</i>
15	017	Pitted ambrosia beetle	<i>Corthylus punctatissimus</i>
15	018	Carpenterworm moth	<i>Cossidae</i>
15	019	Poplar and willow borer	<i>Cryptorhynchus lapathi</i>
15	020	Pine reproduction weevil	<i>Cylindrocopturus eatoni</i>
15	021	Douglas-fir twig weevil	<i>Cylindrocopturus furnissi</i>
15	022	Zimmerman pine moth	<i>Dioryctria zimmermani</i>
15	023	Oak twig pruners	<i>Elaphidionoides spp.</i>
15	024	Twig pruner	<i>Elaphidionoides villosus</i>
15	025	Lesser cornstalk borer	<i>Elasmopalpus lignosellus</i>
15	026	Red oak borer	<i>Enaphalodes rufulus</i>
15	027	Ponderous borer	<i>Ergates spiculatus</i>
15	028	Eastern pine shoot borer	<i>Eucoma gloriola</i>
15	029	Western pine shoot borer	<i>Eucosma sonomana</i>
15	030	Eucosma species	<i>Eucosma spp.</i>
15	031	Sugar maple borer	<i>Glycobius speciosus</i>
15	032	Goes borer	<i>Goes spp.</i>
15	033	Pine root collar weevil	<i>Hylobius radices</i>
15	034	Warren's collar weevil	<i>Hylobius warren</i>
15	035	Powderpost beetle	<i>Lyctidae</i>

Category	Agent	Common Name	Scientific Name
15	036	Tarnished plant bug	<i>Lygus lineolaris</i>
15	037	Unknown	<i>Magdalis spp.</i>
15	038	White pine bark miner	<i>Marmara fasciella</i>
15	039	Locust borer	<i>Megacyllene robiniae</i>
15	040	California flathead borer	<i>Melanophila californica</i>
15	041	Flatheaded fir borer	<i>Melanophila drummondi</i>
15	042	Whitespotted sawyer	<i>Monochamus scutellatus</i>
15	043	Redheaded ash borer	<i>Neoclytus acuminatus</i>
15	044	Western ash borer	<i>Neoclytus conjunctus</i>
15	045	Oberea shoot borer	<i>Oberea spp.</i>
15	046	Eucalyptus longhorned borer	<i>Phoracantha semipunctata</i>
15	047	Northern pine weevil	<i>Pissodes approximatus</i>
15	048	Unknown	<i>Pissodes dubias</i>
15	049	Monterey pine weevil	<i>Pissodes radiatae</i>
15	050	White pine weevil	<i>Pissodes radiatae</i>
15	051	Lodgepole terminal weevil	<i>Pissodes terminalis</i>
15	052	Ambrosia beetles	<i>Platypus spp.</i>
15	053	Cottonwood borer	<i>Plectrodera scalator</i>
15	054	Balsam shootboring sawfly	<i>Pleroneura brunneicornis</i>
15	055	Pine gall weevil	<i>Podapion gallicola</i>
15	056	Ash borer	<i>Podsesia syringae</i>
15	057	Lilac borer	<i>Podsesia syringae</i>
15	058	Carpenterworm	<i>Prionoxystus robiniae</i>
15	059	Maple shoot borer	<i>Proterteras spp.</i>
15	060	Western subterranean termite	<i>Reticulitermes Hesperus</i>

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15	061	Coconut trunk weevil	<i>Rhabdoscelus asperipennis</i>
15	062	New Guinea sugarcane weevil	<i>Rhabdoscelus obscurus</i>
15	063	European pine shoot moth	<i>Rhyacionia buoliana</i>
15	064	Western pine tip moth	<i>Rhyacionia bushnelli</i>
15	065	Nantucket pine tip moth	<i>Rhyacionia frustrana</i>
15	066	Lodgepole pine tip moth	<i>Rhyacionia montana</i>
15	067	Southwestern pine tip moth	<i>Rhyacionia neomexicana</i>
15	068	Poplar borer	<i>Saperda calcarata</i>
15	069	Roundheaded appletree borer	<i>Saperda candida</i>
15	070	Saperda shoot borer	<i>Saperda spp.</i>
15	071	Clearwing moths	<i>Sesiidae</i>
15	072	Dogwood borer	<i>Synanthedon scitula</i>
15	073	Roundheaded fir borer	<i>Tetropium abietis</i>
15	074	Western larch borer	<i>Tetropium velutinum</i>
15	075	Western cedar borer	<i>Trachykele blondeli</i>
15	076	Douglas-fir pitch moth	<i>Vespamima novaroensis</i>
15	077	Sequoia pitch moth	<i>Vespamima sequoia</i>
15	078	Black twig borer	<i>Xylosandrus compactus</i>
15	079	Pacific dampwood termite	<i>Zootermopsis angusticollis</i>
15	080	Subtropical pine tip moth	<i>Rhyacionia subtropica</i>
15	081	Asian ambrosia beetle	<i>Xylosandrus crassifusculus</i>
15	082	Asian longhorned beetle	<i>Anoplophora glabripennis</i>
15	083	Cottonwood twig borer	<i>Gypsonoma haimbachiana</i>
15	084	Southern pine sawyer	<i>Monochamus titillator</i>
15	085	Banded as borer	<i>Neoclytus capraea</i>

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15	086	Sitka spruce weevil	<i>Pissodes sitchensis</i>
15	087	Emerald ash borer	<i>Agrilus planipennis</i>
15	088	Hemlock borer	<i>Melanophila fullvoguttata</i>
16	000	Seed / Cone / Flower / Fruit Insects	n / a
16	001	Douglas-fir cone moth	<i>Barbara colfaxiana</i>
16	002	Lodgepole cone beetle	<i>Conophthorus contortae</i>
16	003	Limber pine cone beetle	<i>Conophthorus flexilis</i>
16	004	Mountain pine cone beetle	<i>Conophthorus monticolae</i>
16	005	Ponderosa pine cone beetle	<i>Conophthorus ponderosae</i>
16	006	Monterey pine cone beetle	<i>Conophthorus radiatae</i>
16	007	Red pine cone beetle	<i>Conophthorus resinosae</i>
16	008	White pine cone beetle	<i>Conophthorus coniperda</i>
16	009	Black walnut curculio	<i>Conotrachelus retentus</i>
16	010	Douglas-fir cone midge	<i>Contarinia oregonesis</i>
16	011	Cone scale midge	<i>Contarinia washingtonensis</i>
16	012	Pecan	<i>Curculio spp.</i>
16	013	Caroline fruitfly	<i>Dacus frauenfeldi</i>
16	014	Spruce bud midge	<i>Dasineura swainei</i>
16	015	Fir coneworm	<i>Dioryctria abietivorella</i>
16	016	Southern pine cone worm	<i>Dioryctria amatella</i>
16	017	Pine cone worm	<i>Dioryctria merkeli</i>
16	018	Loblolly pine cone worm	<i>Dioryctria ponderosae</i>
16	019	Ponderosa twig moth	<i>Dioryctria ponderosae</i>
16	020	Unknown	<i>Dioryctria pseudotsugella</i>
16	021	Dioryctria moths	<i>Dioryctria spp.</i>

Category	Agent	Common Name	Scientific Name
16	022	Lodgepole cone moth	<i>Eucosma rescissoriana</i>
16	023	Seed chalcid	<i>Eurytomidae</i>
16	024	Slash pine flower thrip	<i>Gnophothrips fuscus</i>
16	025	Cone maggot	<i>Hylemya anthracina</i>
16	026	Longleaf pine seed worm/moth	<i>Laspeyrsia ingens</i>
16	027	Ponderosa pine seed worm/moth	<i>Laspeyresia piperana</i>
16	028	Spruce seed moth	<i>Laspeyresia youngana</i>
16	029	Boxelder bug	<i>Leptocoris trivittatus</i>
16	030	Leaffooted pine seed bug	<i>Leptoglossus corculus</i>
16	031	Western conifer seed bug	<i>Leptoglossus occidentalis</i>
16	032	Hollyhock thrip	<i>Liothrips varicornis</i>
16	033	Unknown	<i>Magastigmus lasiocarpae</i>
16	034	Spruce seed chalcid	<i>Magastigmus piceae</i>
16	035	Ponderosa pine seed chalcid	<i>Megastigmus albifrons</i>
16	036	Fir seed chalcid	<i>Megastigmus pinus</i>
16	037	Douglas-fir seed chalcid	<i>Megastigmus spermotrophs</i>
16	038	Yellow poplar weevil	<i>Odontopus calceatus</i>
16	039	Fruitpiercing moth	<i>Othreis fullonia</i>
16	040	Roundheaded cone borer	<i>Paratimia conicola</i>
16	041	Mango shoot caterpillar	<i>Penicillaria jocosatrix</i>
16	042	Coneworm	<i>Phycitidae</i>
16	043	Harvester ants	<i>Pogonomyrmex spp.</i>
16	044	Citrus flower moth	<i>Prays citri</i>
16	045	Fir cone maggot	<i>Strobilomyia abietis</i>
16	046	Spruce cone maggot	<i>Strobilomyia anthracina</i>

Category	Agent	Common Name	Scientific Name
16	047	Shieldbacked pine seed bug	<i>Tetyra bipunctata</i>
16	048	Coneworm	<i>Hylemia spp.</i>
16	049	Prairie tent caterpillar	<i>Malacosoma lutescens</i>
16	050	Jack pine tip beetle	<i>Conophthorus banksianae</i>
17	000	Gallmarker insects	n / a
17	001	Birch budgall mite	<i>Aceria rudis</i>
17	002	Eastern spruce gall adelgid	<i>Adelges abietis</i>
17	003	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>
17	004	Horned oak gall	<i>Callirhytis cornigera</i>
17	005	Gouty oak gall	<i>Callirhytis quercuspunctata</i>
17	006	Gall midge	<i>Cecidomyiidae</i>
17	007	Douglas-fir needle gall midge	<i>Contarinia pseudotsugae</i>
17	008	Gall mite	<i>Eriophyidae</i>
17	009	Spruce gall mite	<i>Mayetiola piceae</i>
17	010	Hackberry nipplegall maker	<i>Pachypsylla celtidismamma</i>
17	011	Balsam gall midge	<i>Paradiplosis tumifex</i>
17	012	Leaf stem gall adelgid	<i>Phylloxera caryaecaulis</i>
17	013	Gall aphid	<i>Phylloxeridae</i>
17	014	Alder gall mite	<i>Phytoptus laevis</i>
17	015	Psyllid	<i>Psyllidae</i>
17	016	Sugarberry psyllid	<i>Tetragonocephela flava</i>
17	017	Mountain apple psyllid	<i>Trioza vitiensis</i>
17	018	Gouty pitch midge	<i>Cecidomyia piniinopsis</i>
17	019	Spider mites	<i>Oligonychus spp.</i>
17	021	Jumping oak gall wasp	<i>Neuroterus saltatorius</i>

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18	000	Insect predators	n / a
18	001	Lacewing	<i>n/a</i>
18	002	Blackbellied clerid	<i>Enoclerus lecontei</i>
18	003	Redbellied clerid	<i>Enoclerus sphegeus</i>
18	004	Unknown	<i>Formica rufa</i>
18	005	Western yellowjacket	<i>Vespula pennsylvanica</i>
19	000	General diseases	n / a
20	000	Biotic damage	n / a
20	001	Damping off	<i>n/a</i>
20	002	Gray mold	<i>Botrytis cinerea</i>
20	003	Cassytha	<i>Cassytha filiformis</i>
20	004	Hemlock fluting	<i>n/a</i>
21	000	Root / butt diseases	n / a
21	001	Armillaria root disease	<i>Amillaria spp.</i>
21	002	Yellow stringy rot	<i>Corticium galactimum</i>
21	003	Cylindrocladium root disease	<i>Cylindrocladium spp.</i>
21	004	Brown crumbly rot	<i>Fomitopsis pinicola</i>
21	005	Black root rot of pine	<i>Fusarium oxysporum</i>
21	006	Fusarium root rot	<i>Fusarium spp.</i>
21	007	White mottled rot	<i>Ganoderma applanatum</i>
21	008	Ganoderma rot of hardwoods	<i>Ganoderma lucidum</i>
21	009	Ganoderma rot of conifers	<i>Ganoderma tsugae</i>
21	010	Annosus root disease	<i>Heterobasidian annosum</i>
21	011	Circinatus root rot	<i>Inonotus circinatus</i>
21	012	Tomentosus root disease	<i>Inonotus tomentosus</i>

Category	Agent	Common Name	Scientific Name
21	013	Charcoal root rot	<i>Macrophomina phaseolina</i>
21	014	Black stain root disease	<i>Ophiostoma wagneri</i>
21	015	Schweinitzii butt rot	<i>Phaeolus schweinitzii</i>
21	016	Flame tree root disease	<i>Phellinus noxious</i>
21	017	Laminated root rot	<i>Phellinus weirii</i>
21	018	Phytophthora root rot	<i>Phytophthora cinnamomi</i>
21	019	Littleleaf disease	<i>Phytophthora cinnamomi</i> /Pythium
21	020	Port-Orchard-Cedar root disease	<i>Phytophthora lateralis</i>
21	022	Pythium root rot	<i>Pythium spp.</i>
21	023	Procera root disease of conifers	<i>Verticicladiella procera</i>
21	024	Crown gall	<i>Agrobacterium timefaciens</i>
21	025	Borealis conk	<i>Climacocystis borealis</i>
21	026	Yellow pitted rot	<i>Hericius abietis</i>
21	027	Brown cubical rot	<i>Laetiporus sulphureus</i>
21	028	Sudden oak death	<i>Phytophthora ramorum</i>
22	000	Stem decays/cankers	n / a
22	001	Heart rot	<i>n/a</i>
22	002	Stem rot	<i>n/a</i>
22	003	Sap rot	<i>n/a</i>
22	004	Slime flux	<i>n/a</i>
22	005	Virus	<i>n/a</i>
22	006	Black knot of cherry	<i>Apiosporina morbosa</i>
22	007	Atropellis canker	<i>Atropellis piniphila</i>
22	008	Siberian elm canker	<i>Botryodiplodia hypodermia</i>
22	009	Botryosphaeria canker	<i>Botryosphaeria ribis</i>

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22	010	Black rot fungus	<i>Botryosphaeria stevensii</i>
22	011	Caliciopsis canker	<i>Caliciopsis pinea</i>
22	012	Black canker of aspen	<i>Ceratocystis fimbriata</i>
22	013	Sycamore canker stain	<i>Ceratocystis fimbriata f.sp. platani</i>
22	023	Chestnut blight	<i>Cryphonectria parasitica</i>
22	024	Gray-brown saprot	<i>Cryptoporus volvatus</i>
22	025	Cryptosphaeria canker of aspen	<i>Cryptosphaeria populina</i>
22	026	Cytospora canker of fir	<i>Cytospora abietis</i>
22	027	Western red rot	<i>Dichomitus squalens</i>
22	028	Rust-red stringy rot	<i>Echinodontium tinctorium</i>
22	029	Sooty-bark canker	<i>Encoelia pruinosa</i>
22	030	Eutypella canker	<i>Eutypella parasitica</i>
22	031	Fusarium cortical stem rot	<i>Fusarium avenaceum</i>
22	032	Pitch canker	<i>Fusarium subglutinans</i>
22	033	Fusicoccum canker	<i>Fusicoccum spp.</i>
22	034	Scleroderris canker	<i>Gremmeniella abietina</i>
22	035	Amelanchier rust	<i>Gymnosporangium harknessianum</i>
22	036	Cedar apple rust	<i>Gymnosporangium juniper-virginianae</i>
22	037	Hypoxylon canker of oak	<i>Hypoxylon atropunctatum</i>
22	038	Hypoxylon canker of aspen	<i>Hypoxylon mammatum</i>
22	039	Canker rot of oak	<i>Inonotus hispidus</i>
22	040	Sterile conk trunk rot of birch	<i>Inonotus obliquus</i>
22	041	European larch canker	<i>Lachnellula willkommii</i>
22	042	Beech bark disease	<i>Nectia coccinea</i>

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22	043	Nectria canker	<i>Nectria galligena</i>
22	044	Ash heart rot	<i>Pereniporia fraxinophila</i>
22	047	Red ring rot	<i>Phellinus pini</i>
22	048	Aspen trunk rot	<i>Phellinus tremulae</i>
22	049	Stem decay of black walnut	<i>Phellinus weirianus</i>
22	050	Phomopsis canker	<i>Phomopsis occulta</i>
22	051	Phomopsis canker	<i>Phomopsis spp.</i>
22	052	Leyland cypress canker	<i>Seriridium cardinal</i>
22	053	Butternut canker	<i>Sirococcus clavigignenti-jugl.</i>
22	054	Maple canker	<i>Steganosporium spp.</i>
22	055	Thyronectria canker	<i>Thyronectria austro-americana</i>
22	056	Citrus canker	<i>Xanthomonas citri</i>
22	057	Cytospora canker of aspen	<i>Cytospora chrysosperma</i>
22	058	Dothichiza canker	<i>Dothichiza populae</i>
22	059	Red belt fungus	<i>Fomitopsis pinicola</i>
22	060	Leucocytophora canker of spruce	<i>Leucocytophora kunzei</i>
22	061	Sooty bark canker	<i>Phialis singular</i>
22	062	Brown heartrot	<i>Fomitopsis officinalis</i>
22	063	Unknown	<i>Coniophora puteana</i>
22	064	Tinder fungus	<i>Fomes formtarius</i>
22	065	Purple conk	<i>Hirschioporus abietinus</i>
22	066	Pinyon black stain	<i>Leptographium wagnerii</i>
22	067	Unknown	<i>Phellinus hartigii</i>
22	068	False tinder fungus	<i>Phellinus igniarius</i>
22	069	Robustus conk	<i>Phellinus robustus</i>

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22	070	Yellow cap fungus	<i>Pholiota spp.</i>
22	071	Oyster mushroom	<i>Pleurotus ostreatus</i>
22	072	White ring rot	<i>Poria albipellucida</i>
22	073	Hemlock canker	<i>Xenomeris abietis</i>
22	074	Cedar brown pocket rot	<i>Poria serceomollis</i>
22	075	Lachnellula canker	<i>Lachnellula flavovirens</i>
22	076	Strumella canker	<i>Strumella coryneoidea</i>
22	077	Phomopsis blight	<i>Phomopsis juniperovora</i>
22	078	Fusarium canker of yellow poplar	<i>Fusarium solani</i>
22	079	Sterile conk of maple and beech	<i>Inonotus glomeratus</i>
22	080	Canker of spruce	<i>Aleurodiscus spp.</i>
22	081	Birch conk	<i>Piptoporus betulinusai</i>
22	082	Canker	<i>Discocainia treleasei</i>
23	000	Parasitic/epiphytic plants	<i>n/a</i>
23	001	Mistletoe	<i>n/a</i>
23	002	Parasitic plants	<i>n/a</i>
23	003	Vine damage	<i>n/a</i>
23	004	White fir dwarf mistletoe	<i>Arceuthobium abietinum f. sp. Concoloris</i>
23	006	Lodgepole pine dwarf mistletoe	<i>Arceuthobium americanum</i>
23	007	Apache dwarf mistletoe	<i>Arceuthobium apacheum</i>
23	008	Western dwarf mistletoe	<i>Arceuthobium compylopodum</i>
23	009	Limber pine dwarf mistletoe	<i>Arceuthobium cyanocarpum</i>
23	010	Pinyon dwarf mistletoe	<i>Arceuthobium divaricatum</i>
23	011	Douglas-fir dwarf mistletoe	<i>Arceuthobium douglasii</i>
23	012	Chihuahua pine dwarf mistletoe	<i>Arceuthobium gillii</i>

Category	Agent	Common Name	Scientific Name
23	013	Larch dwarf mistletoe	<i>Arceuthobium laricis</i>
23	014	Western spruce dwarf mistletoe	<i>Arceuthobium microcarpum</i>
23	015	Eastern dwarf mistletoe	<i>Arceuthobium pusillum</i>
23	016	Hemlock dwarf mistletoe	<i>Arceuthobium tsugense</i>
23	017	Southwestern dwarf mistletoe	<i>Arceuthobium vaginatum</i> <i>subsp. Cryptopodum</i>
23	018	Dodder	<i>Cuscuta spp.</i>
23	019	White fir mistletoe	<i>Phoradendron bolleanum</i> sbsp. <i>Pauciflorum</i>
23	020	True mistletoe (other)	<i>n/a</i>
23	021	Red fir dwarf mistletoe	<i>Arceuthobium abietinum f. sp.</i> <i>Pauciflorum</i>
23	022	Juniper true mistletoe	<i>Phoradendron junipeum</i>
24	000	Decline complexes / dieback / wilts	n / a
24	001	Alaska-yellow cedar decline	<i>n/a</i>
24	002	Norfolk Island pine decline	<i>n/a</i>
24	003	Stillwell's syndrome	<i>n/a</i>
24	004	Ash decline/yellows	<i>n/a</i>
24	005	Birch dieback	<i>n/a</i>
24	006	Cadang-cadang yellow mottle virus	<i>n/a</i>
24	007	Complex	<i>n/a</i>
24	008	Decline	<i>n/a</i>
24	009	Fall hardwood defoliator complex	<i>n/a</i>
24	010	Joga decline	<i>n/a</i>
24	011	Larch decline	<i>n/a</i>
24	012	Looper; abiotic complex	<i>n/a</i>

Category	Agent	Common Name	Scientific Name
24	013	Maple decline	<i>n/a</i>
24	014	Oak decline	<i>n/a</i>
24	015	Pingelap disease	<i>n/a</i>
24	016	Sprout dieback	<i>n/a</i>
24	017	True fir pest complex	<i>n/a</i>
24	018	Western X disease	<i>n/a</i>
24	019	Pinewood nematode	<i>Bursaphelenchus xylophilus</i>
24	020	Sapstreak disease of sugar maple	<i>Ceratocystis coerulescens</i>
24	021	Oak wilt	<i>Ceratocystis fagacearum</i>
24	022	Dutch elm disease	<i>Ceratocystis ulmi</i>
24	023	Bacterial wetwood	<i>Erwinia nimipressuralis</i>
24	024	Mimosa wilt	<i>Fusarium oxysporum f. sp. Perniciosum</i>
24	025	Verticillium wilt	<i>Verticillium albo-atrum</i>
24	026	Unknown	<i>Xyella fastidiosa</i>
24	027	Wetwood	<i>n/a</i>
24	028	Hemlock decline	<i>n/a</i>
24	029	Pacific madrone decline	<i>n/a</i>
24	030	Elm phloem necrosis	<i>Mycoplasma</i>
25	000	Foliage diseases	n / a
25	001	Blight	<i>n/a</i>
25	002	Broom rust	<i>n/a</i>
25	003	Juniper blights	<i>n/a</i>
25	004	Leaf spots	<i>n/a</i>
25	005	Needlecast	<i>n/a</i>
25	006	Powdery mildew	<i>n/a</i>

Category	Agent	Common Name	Scientific Name
25	007	Tobacco mosaic virus	<i>n/a</i>
25	008	Tobacco ringspot virus of ash	<i>n/a</i>
25	009	True fir needlecast	<i>n/a</i>
25	010	Sycamore anthracnose	<i>Apignomonina veneta</i>
25	011	Cercospora blight of juniper	<i>Cercospora sequoia</i>
25	013	Large-spored spruce-laborador tea rust	<i>Chrysomyxa ledicola</i>
25	014	Ink spot of aspen	<i>Ciborinia whetzellii</i>
25	015	Pine needle rust	<i>Coleosporium spp.</i>
25	016	Anthrachnose on Russian olive	<i>Colletotrichum spp.</i>
25	017	Coronado limb rust	<i>Coleosporium spp.</i>
25	018	Leaf shothole	<i>Cylindrosporium spp.</i>
25	019	Cedar leaf blight	<i>Didymascella thujina</i>
25	020	Dogwood anthracnose	<i>Discula spp.</i>
25	021	Mango scab	<i>Elsinoe magiferae</i>
25	022	Elytroderma disease	<i>Elytroderma deformans</i>
25	023	Fire blight	<i>Erwinia amylovora</i>
25	024	Walnut anthracno	<i>Gnomonia leptostyla</i>
25	025	Anthrachnose	<i>Gnomonia spp.</i>
25	027	Brown felt blight	<i>Herpotrichia juniper</i>
25	028	Larch needle blight	<i>Hypodermella laricis</i>
25	029	Hardwood anthracnose	<i>Kabatiella apocrypta</i>
25	030	Cone damage	<i>Lasiodiplodia spp.</i>
25	031	Spruce needle cast	<i>Lirula macrospora</i>
25	032	Fir needle cast	<i>Lirula spp.</i>
25	033	White pine needle cast	<i>Lophodermella arcuata</i>

Category	Agent	Common Name	Scientific Name
25	034	Lophodermella needle cast	<i>Lophodermella spp.</i>
25	035	Lophodermium needle cast	<i>Lophodermium spp.</i>
25	036	Marssonina blight	<i>Marssonina populi</i>
25	037	Melampsora rusts	<i>Melampsora medusa</i>
25	039	Larch needle cast	<i>Meria laricis</i>
25	040	Dothistroma needle blight	<i>Mycosphaerella pini</i>
25	041	Brown felt blight of pines	<i>Neopeckia coulteri</i>
25	042	Snow blight	<i>Phacidum abietis</i>
25	043	Swiss needle cast	<i>Phaeocryptopus gaumannii</i>
25	044	Phoma blight	<i>Phome spp.</i>
25	045	Phyllosticta leaf spot	<i>Phyllosticta spp.</i>
25	046	Bud rot	<i>Phytophthora palmivora</i>
25	047	Ploioderma needle cast	<i>Ploioderma spp.</i>
25	048	Ash rust	<i>Puccinia sparganioides</i>
25	049	Fir needle rust	<i>Pucciniastrum spp.</i>
25	050	Douglas-fir needle cast	<i>Rhabdocline spp.</i>
25	051	Rhizoctonia needle blight	<i>Rhizoctonia spp.</i>
25	052	Rhizophaeria needle cast	<i>Rhizophaeria spp.</i>
25	053	Rhizopus rot	<i>Rhizopus artocarp</i>
25	054	Brown spot needle blight	<i>Scirrhia acicula</i>
25	055	Septoria leaf spot	<i>Septoria alnifolia</i>
25	056	Septoria leaf spot and canker	<i>Septoria musiva</i>
25	057	Sirococcus tip blight	<i>Sirococcus conigenus</i>
25	058	Diplodia blight	<i>Sphaeropsis sapinea</i>
25	059	Leaf blister of oak	<i>Taphrina caerulescens</i>

Category	Agent	Common Name	Scientific Name
25	060	Venturia leaf blight of maple	<i>Venturia acerina</i>
25	061	Shepherd's crook	<i>Venturia tremulae</i>
25	062	Dothistroma needle blight	<i>Dothistroma septospora</i>
25	063	Yellow-cedar shoot blight	<i>Apostrasseria spp.</i>
25	064	Broom rust	<i>Chrysomyxa arctostaphyli</i>
25	065	Spruce needle rust	<i>Lophodermium picea</i>
25	066	Cedar leaf blight	<i>Gymnosporangium nootkatense</i>
25	067	Spruce needle cast	<i>Lophodermium picea</i>
25	068	Hardwood leaf rust	<i>Rhizosphaera pini</i>
25	070	Hemlock needle rust	<i>Pucciniastrum vaccinii</i>
25	071	Spruce needle cast	<i>Rhizosphaera pini</i>
25	072	Sirococcus shoot blight	<i>Sirococcus strobilinus</i>
25	073	Shepards crook	<i>Ventirua populina</i>
25	074	Delphinella shoot blight	<i>Delphinella abietis</i>
25	075	Tar spot	<i>Rhytisma acerinum</i>
26	000	Stem rusts	n / a
26	001	White pine blister rust	<i>Cronartium ribicola</i>
26	002	Western gall rust	<i>Peridermium harknessii</i>
26	003	Stalactiform blister rust	<i>Cronartium coleosporioides</i>
26	004	Comandra blister rust	<i>Cronartium comandrae</i>
26	005	Pinyon blister rust	<i>Cronartium occidentale</i>
26	006	Eastern gall rust	<i>Cronartium quercuum</i>
26	007	Gall rust of jack pine	<i>Cronartium quercuum f. sp. Banksignae</i>
26	008	Gall rust of shortleaf pine	<i>Cronartium quercuum f. sp. Echinatae</i>

Category	Agent	Common Name	Scientific Name
26	009	Fusiform rust	<i>Cronartium quercuum f. sp. Fusiforme</i>
26	010	Gall rust of Virginia pine	<i>Cronartium quercuum f. sp. Virginianae</i>
26	011	Bethuli rust	<i>Peridermium bethuli</i>
26	012	Limb rust	<i>Peridermium filamentosum</i>
26	013	Southern cone rust	<i>Cronartium strobilinum</i>
27	000	Broom rusts	n / a
27	001	Spruce broom rust	<i>Chrysomyxa arctostaphyll</i>
27	002	Incense cedar broom rust	<i>Gymnosporangium libocedri</i>
27	003	Juniper broom rust	<i>Gymnosporangium nidus-avis</i>
27	004	Fir broom rust	<i>Melampsorella caryophyllacearum</i>
30	000	Fire	n / a
30	001	Wild-fire	<i>n/a</i>
30	002	Human caused fire	<i>n/a</i>
30	003	Crown fire damage	<i>n/a</i>
30	004	Ground fire damage	<i>n/a</i>
40	000	Animal damage, source unknown	n / a
41	000	Wild animals	n / a
41	001	Bear	<i>n/a</i>
41	002	Beaver	<i>n/a</i>
41	003	Big game (deer)	<i>n/a</i>
41	004	Mice or voles	<i>n/a</i>
41	005	Pocket gophers	<i>n/a</i>
41	006	Porcupines	<i>n/a</i>

Category	Agent	Common Name	Scientific Name
41	007	Rabbits or hares	<i>n/a</i>
41	008	Sapsucker	<i>n/a</i>
41	009	Squirrels	<i>n/a</i>
41	010	Woodpeckers	<i>n/a</i>
41	011	Moose	<i>n/a</i>
41	012	Elk	<i>n/a</i>
41	013	Deer	<i>n/a</i>
41	014	Feral pigs	<i>n/a</i>
41	015	Mountain beaver	<i>n/a</i>
41	016	Deer or elk	<i>n/a</i>
41	017	Earthworm	<i>Lumbricidae</i>
42	000	Domestic animals	n / a
42	001	Cattle	<i>n/a</i>
42	002	Goats	<i>n/a</i>
42	003	Horses	<i>n/a</i>
42	004	Sheep	<i>n/a</i>
50	000	Abiotic damage	n / a
50	001	Air pollutants	<i>n/a</i>
50	002	Chemical	<i>n/a</i>
50	003	Drought	<i>n/a</i>
50	004	Flooding/high water	<i>n/a</i>
50	005	Frost	<i>n/a</i>
50	006	Hail	<i>n/a</i>
50	007	Heat	<i>n/a</i>
50	008	Lightning	<i>n/a</i>

Category	Agent	Common Name	Scientific Name
50	009	Nutrient imbalances	<i>n/a</i>
50	010	Radiation	<i>n/a</i>
50	011	Snow/ice	<i>n/a</i>
50	013	Wind-tornado	<i>n/a</i>
50	014	Winter injury	<i>n/a</i>
50	015	Avalanche	<i>n/a</i>
50	016	Mud-land slide	<i>n/a</i>
50	017	Volcano	<i>n/a</i>
50	018	Other geologic events	<i>n/a</i>
50	019	Mechanical (non-human caused)	<i>n/a</i>
60	000	Competition	n / a
70	000	Human activities	n / a
70	001	Herbicides	<i>n/a</i>
70	003	Imbedded objects	<i>n/a</i>
70	004	Improper planting technique	<i>n/a</i>
70	005	Land clearing	<i>n/a</i>
70	006	Land use conversion	<i>n/a</i>
70	007	Logging damage	<i>n/a</i>
70	008	Mechanical	<i>n/a</i>
70	009	Pesticides	<i>n/a</i>
70	010	Roads	<i>n/a</i>
70	011	Soil compaction	<i>n/a</i>
70	012	Suppression	<i>n/a</i>
70	013	Vehicle damage	<i>n/a</i>
70	014	Road salt	<i>n/a</i>

Category	Agent	Common Name	Scientific Name
71	000	Harvest	n / a
80	000	Multi-damage (insect / disease)	n / a
80	001	Aspen defoliation	<i>n/a</i>
80	002	Subalpine fir mortality	<i>n/a</i>
80	003	Five needle pine decline	<i>n/a</i>
80	004	Pinion pine decline	<i>n/a</i>
90	000	Unknown	n / a
99	000	Physical effects	n / a
99	001	Broken or top missing	<i>n/a</i>
99	002	Dead top	<i>n/a</i>
99	003	Limby (large limbs top to ground)	<i>n/a</i>
99	004	Forked top	<i>n/a</i>
99	005	Forked below merch top	<i>n/a</i>
99	006	Crook or sweep	<i>n/a</i>
99	007	Checks, bole cracks	<i>n/a</i>
99	008	Foliage discoloration	<i>n/a</i>
99	009	Mortality (for plantation surveys only)	<i>n/a</i>
99	010	Lack of seed source or dieback (for plantation surveys only)	<i>n/a</i>
99	011	Poor planting stock (for plantation surveys only)	<i>n/a</i>
99	012	Poor growth/fading/foliage is yellowing and loss of needles is occurring	<i>n/a</i>
99	013	Total board foot volume loss	<i>n/a</i>
99	014	Total cubic foot volume loss	<i>n/a</i>

Category	Agent	Common Name	Scientific Name
99	015	Bark removal	<i>n/a</i>
99	016	Foliage loss	<i>n/a</i>
99	017	Sunscald	<i>n/a</i>
99	018	Uproot	<i>n/a</i>
99	019	Scorched foliage	<i>n/a</i>
99	020	Scorched bark	<i>n/a</i>
99	021	Dieback (for plantation surveys only)	<i>n/a</i>
99	022	Poor crown form	<i>n/a</i>
99	023	Severe forking	<i>n/a</i>
99	026	Open wound	<i>n/a</i>
99	031	Broken or dead branches	<i>n/a</i>
99	033	Damaged shoots, buds, or foliage (for plantation surveys only)	<i>n/a</i>
99	034	Excessively deformed sapling	<i>n/a</i>
99	036	Fire scar	<i>n/a</i>
99	037	Leaning tree	<i>>15% and self-supporting</i>
99	038	Charred bark	<i>Not recorded unless cambium is killed from heating</i>

DAMAGE SEVERITY RATINGS

Table 3: Damage severity rating codes

Category	Severity	Description
10	n / a	General insects
10	1	Minor: bottlebrush or shortened leaders, 0-2 forks on stem, OR <20% of branches affected, OR <50% of bole with visible larval galleries
10	2	Severe: 3 or more forks on bole, OR 20% or more branches affected, OR terminal leader dead, OR 50% or more of bole with visible larval galleries
11	n / a	Bark beetles
11	1	Unsuccessful bole attack: pitchout and beetle brood absent
11	2	Strip attacks: galleries and brood present
11	3	Successful current bole attack
11	4	Topkill
11	5	Successful attack last year
11	6	Older dead
12	n / a	Defoliators
12	1	Light defoliation (1-25%), no topkill
12	2	Light defoliation (1-25%), topkill ≤10%
12	3	Light defoliation (1-25%), topkill >10%
12	4	Moderate defoliation (26-75%), no topkill
12	5	Moderate defoliation (26-75%), topkill ≤10%
12	6	Moderate defoliation (26-75%), topkill >10%
12	7	Heavy defoliation (76-100%), no topkill
12	8	Heavy defoliation (76-100%), topkill ≤10%
12	9	Heavy defoliation (76-100%), topkill >10%

Category	Severity	Description
13	n / a	Chewing insects
13	1	Minor: bottlebrush or shortened leaders, 0-2 forks on stem, OR <20% of branches affected
13	2	Severe: 3 or more forks on bole, OR 20% or more branches affected, OR terminal leader dead
14	n / a	Sucking insects
14	1	Minor: bottlebrush or shortened leaders, 0-2 forks on stem, OR <20% of branches affected
14	2	Severe: 3 or more forks on bole, OR 20% or more branches affected, OR terminal leader dead
15	n / a	Boring insects
15	1	Minor: bottlebrush or shortened leaders, 0-2 forks on stem, OR <20% of branches affected
15	2	Severe: 3 or more forks on bole, OR 20% or more branches affected, OR terminal leader dead
16	n / a	Seed / cone / flower / fruit insects
16	1	Minor
16	2	Severe
17	n / a	Gallmaker insects
17	1	Minor
17	2	Severe
18	n / a	Insect predators
18	1	Minor
18	2	Severe
19	n / a	General diseases
19	1	Minor
19	2	Severe

Category	Severity	Description
20	n / a	Biotic damage
20	1	Minor
20	2	Severe
21	n / a	Root / butt diseases
21	1	(for individual trees) Tree within 30 feet of tree with deteriorating crown, tree with diagnostic symptoms or signs, or tree killed by root disease
21	2	(for individual trees) Pathogen (sign) or diagnostic symptom detected – no crown deterioration
21	3	(for individual trees) Crown deterioration detected – no diagnostic symptom or signs
21	4	(for individual trees) Both crown deterioration and diagnostic signs symptoms detected
21	5	(for individual trees) Bleeding present on bole
21	6	(for individual trees) Bleeding present on bole and adjacent mortality present
21	7	(for individual trees) Laboratory confirmed Sudden Oak Death
21	G2	(for setting level) Minor evidence of RDS on plot
21	G3	(for setting level) RDS present, canopy reduction less than 20%
21	G4	(for setting level) RDS present, canopy reduction 20-30%
21	G5	(for setting level) RDS present, canopy reduction 30-50%
21	G6	(for setting level) RDS present, canopy reduction 50-75%, most ground area infested
21	G7	(for setting level) RDS present, 76+ % canopy reduction
21	G8	(for setting level) Entire area infested with RDS, one or very few susceptible overstory trees

Category	Severity	Description
21	G9	(for setting level) Entire area infested with RDA, no susceptible overstory trees present
22	n / a	Stem decay / canker
22	0	0-4% rotten
22	1	5-15% rotten
22	2	16-25% rotten
22	3	26-35% rotten
22	4	36-45% rotten
22	5	46-55% rotten
22	6	56-65% rotten
22	7	66-75% rotten
22	8	76-85% rotten
22	9	86-100% rotten
23	n / a	Parasitic / epiphytic plants
23	1	Hawksworth tree DMR rating = 1; light infection
23	2	Hawksworth tree DMR rating = 2; light infection
23	3	Hawksworth tree DMR rating = 3; medium infection
23	4	Hawksworth tree DMR rating = 4; medium infection
23	5	Hawksworth tree DMR rating = 5; heavy infection
23	6	Hawksworth tree DMR rating = 6; heavy infection
23	7	Vine damage: less than 50% of crown involved
23	8	Vine damage: 50% or more of crown involved
24	n / a	Decline complexes / diebacks / wilts
24	1	Minor: minor crown symptoms

Category	Severity	Description
24	2	Severe: severe crown symptoms
25	n / a	Foliage diseases
25	1	Minor: <20% of foliage affected or <20% of crown in brooms
25	2	Severe: >20% of foliage affected or >20% of crown in brooms
26	n / a	Rust Stems
26	1	Branch infections located greater than 2 feet from tree bole
26	2	Branch infections located between 6 inches and 2 feet from tree bole
26	3	Bole infections or branch infections located within 6 inches of bole
26	4	Topkill
27	n / a	Broom rusts
27	1	Minor: <20% of crown in brooms
27	2	Severe: >20% of crown in brooms
30	n / a	Fire
30	1	Minor: <20% of crown affected
30	2	Severe: >20% of crown affected or any damage to the bole
40	n / a	Animal damage, source unknown
40	1	Minor
40	2	Severe
41	n / a	Wild animals
41	1	Minor: <20% of crown affected, bole damage is <50% circumference

Category	Severity	Description
41	2	Severe: >20% of crown affected, bole damage is >50% circumference, upper 1/3 of crown is killed
41	5	Earthworms are present
41	6	Earthworms are absent
50	n / a	Abiotic damage
50	1	Minor: <20% of crown affected, bole damage is <50% circumference
50	2	Severe: >20% of crown affected, bole damage is >50% circumference, upper 1/3 of crown is killed
60	n / a	Competition
60	1	Minor: tree slightly deformed and has some lie, terminal growth
60	2	Severe: tree extremely deformed or has no live terminal, growth severely reduced relative to neighbors
70	n / a	Human activities
70	1	Minor
70	2	Severe
71	n / a	Harvest
71	1	Minor
71	2	Severe
80	n / a	Multi-damage (insect / disease)
80	1	Minor
80	2	Severe
90	n / a	Unknown
90	0	0 – 9% affected
90	1	10 – 19% affected

Category	Severity	Description
90	2	20 – 29% affected
90	3	30 – 39% affected
90	4	40 – 49% affected
90	5	50 – 59% affected
90	6	60 – 69% affected
90	7	70 – 79% affected
90	8	80 – 89% affected
90	9	90 – 100% affected
99	n / a	Physical effects
99	001	Broken top
99	002	Dead top

Table 4: Category 99 damage severity rating codes

Category	Severity	Description	Actual percent of tree affected
99	n / a	Physical effects	n / a
99	001	Broken top	% of original height that is missing; for example, if a tree was originally 100 feet high, but 15 feet of the top is broken or missing; enter "15" in the severity code
99	002	Dead top	% of total tree height that is dead
99	003	Limby (large limbs top to bottom)	% of total tree height with many limbs/knots
99	004	Forked top	% of total tree height above fork
99	005	Forked below merch top	% of the total length of the bole affected
99	006	Crook or sweep	% of total tree height, which contains the crook or sweep

Category	Severity	Description	Actual percent of tree affected
99	007	Checks, bole cracks	% of total tree height, which contains a crack or check
99	008	Foliage discoloration	% of foliage discolored
99	009	Mortality	1 = dead tree
99	010	Lack of seed source	If present, 100%
99	011	Poor planting stock source	If present, 100%
99	012	Poor growth	1 = minor (reduced growth); 2 = severe (affecting survival)
99	013	Total board foot volume loss	% of total board foot volume loss
99	014	Total cubic foot volume loss	% of total cubic foot volume loss
99	015	Bark removal	% of tree circumference missing bark
99	016	Foliage loss	1 = minor; 2 = severe
99	017	Sunscald	1 = minor; 2 = severe
99	018	Uproot	1 = uprooted
99	019	Scorched foliage	% of foliage scorched
99	020	Scorched bark	% of bark scorched
99	021	Dieback source	1 = minor; 2 = severe
99	022	Poor crown form	1 = minor; 2 = severe
99	023	Severe forking	% of bole with forks
99	026	Open wound	% of bole or trunk affected using the height and width of the wound; for example, if a tree is 100 feet tall and the wound covers 15 feet of the bole, enter a value of "15"
99	031	Broken or dead branches	% of branches broken or dead
99	033	Damage shoots, buds, or foliage source	1 = minor; 2 = severe

Category	Severity	Description	Actual percent of tree affected
99	034	Excessively deformed sapling	% of sapling deformed
99	036	Fire scar	% of bole covered by fire scar
99	037	Leaning tree	% lean from vertical
99	038	Charred bark	Not recorded unless cambium is killed from heating

TREE PARTS

Table 5: Tree part codes

Code	Description
UN	Unspecified
TO	Top
FO	Foliar (crown)
LI	Limb
BO	Bole, other than Top or Base
BA	Base
RO	Roots
WT	Whole tree
TT	Top third of crown
MT	Middle third of crown
BT	Bottom third of crown