PERFORMANCE RECORDS OF WOODY PLANTS
IN THE SECREST ARBORETUM

III. Pine Family: Pinaceae

JOHN E. FORD

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KEY MAP TO COMPARTMENTS IN SECREST ARBORETUM
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III. Pine Family: Pinaceae

JOHN E. FORD
Curator, Secrest Arboretum

The first plantings of trees in the area which became the Secrest Arboretum were made in 1901 and 1903. Plantings were largely forest-type plantations as early interest was in testing potential timber and windbreak trees which would grow in Ohio. A few ornamental plantings were set out as early as 1909. More recent plantings have been largely ornamental types of trees or collections of related trees or shrubs.

Since many conifers are pioneer type trees in the ecology of the developing forest, it was natural to try many of the Pinaceae in forest plantations on open or bare land. The first pines outplanted were Eastern White Pine (Pinus strobus), Red Pine (Pinus resinosa), and Ponderosa Pine (Pinus ponderosa) in 1907. The first plantings of European Larch (Larix decidua) were made in 1903. Some species such as European Larch and Norway Spruce (Picea abies) were set in a nursery in 1906 but were not outplanted until 1909, when they were set out in mixed plantings. Starting in 1909, plantings of trees and shrubs have been made each year up to the present time.

Recent plantings have been largely set out on a 12-foot by 12-foot spacing. Many of the early forest plantations were set at various distances, from a 3-foot by 3-foot spacing to an 8-foot by 8-foot spacing, with the majority of the plantations set at 6-foot by 6-foot spacing. As plants have increased in size and required additional growing space, adjacent plants have often been removed, although in some cases no thinning has been attempted. Ornamental plants are occasionally pruned when outplanted, with little future pruning except to remove dead, broken, or disease-infected branches. Ornamental types of plants have been allowed to develop into their natural shapes except when growing around buildings where they would soon outgrow their place. Some forest plantations have had their lower limbs pruned off to develop knot-free clear boles or stems.

Compartments J and K were pastured until 1911. Many plantings in these compartments were actually underplantings under large residual hardwoods. Few underplantings of coniferous trees were successful. Compartments A through H were bare land when planted and plantings in these areas had no overhead competition from established hardwoods. Compartment M is largely native woodlands with only sporadic underplantings.

Surface fires in 1916 destroyed some of the plantations in Compartments J and K shortly after they were established. Early attempts to control underbrush included discing between planted trees. Recent attempts included periodic mowing with a rotary blade brush mower. This resulted in numerous dense sprouting which contrasts quite markedly with Compartments J and K where no mowing was ever attempted. These compartments have more scattered underbrush. Mechanical means of brush control have resulted in many trees being damaged with resulting wood decays in the injured roots and butts. Some recent control of underbrush has been accomplished with the use of silvicides.

There are presently more than 2,000 different species, varieties, hybrids, or cultivars of woody plants growing in the Secrest Arboretum. These represent more than 200 genera in some 70 families. More than 45,000 individual coniferous plants have been outplanted. There are 177 different types of Pinacea representing eight genera currently growing in the Arboretum. These are Abies Mill., the firs; Cedrus Trew, the cedars; Larix Mill., the larches; Picea Dietr., the spruces; Pinus L., the pines; Pseudolarix Gord., Golden Larch; Pseudotsuga Carr., Douglasfir; and Tsuga (Endl.) Carr, the hemlocks.

Proper interpretation of the records is essential. Plants which succeed or fail in the Arboretum might do differently in other situations or locations. Growth hinges largely on the basic factors of habitat and microclimate. Thus, local environmental conditions are most significant. The loss of a plant may be due to a number of factors such as exposure, drainage, size of plant, season planted, disease, insects, animals, mechanical injury, use of weed killers, and damage from visitors. Trees have been severely damaged or lost through the action of animals. Woodchucks have on occasion girdled or severely damaged the bark at the bases of trees. Mice have girdled plants, especially extensive solid plantings of pines growing in tall grass. Rabbits have severely cut small ever-
greens such as pines during the winter. Chipmunks and moles have tunneled under small plants, cut roots, and exposed roots to drying out. Established plants will often survive climatic extremes, while recently planted trees may be killed.

Many plants require two or three growing seasons to reestablish themselves after transplanting. Some recently planted trees presently rated as only being in fair condition would undoubtedly receive a rating of good condition in another year or two.

**ENVIRONMENT**

The Secrest Arboretum contains more than 85 acres (34 ha) of diversified terrain ranging from areas fairly level to areas with considerable slope. Aspect, moisture, and related site conditions are considerably varied. Elevations are from 1,000 to 1,100 feet (300 to 330 m) above sea level. The predominant soil type is Wooster silt loam which was derived from glacial till. The soil is moderately acid. The mean annual precipitation is 37 inches (94 cm).

Extremes of temperature have varied from \(-24^\circ F.\) (\(-31^\circ C.\)) in 1912 to \(105^\circ F.\) (\(41^\circ C.\)) in 1918. The Arboretum is located in Plant Hardiness Zone 5, where annual minimum temperatures average between \(-20^\circ F.\) (\(-29^\circ C.\)) and \(-10^\circ F.\) (\(-23^\circ C.\)). The coldest most recent temperature was \(-20^\circ F.\) (\(-29^\circ C.\)) in 1963. Extremely fluctuating temperatures in January and February 1972 caused a considerable amount of damage to plants in the Ar-

*Forest-type plantings in Secrest Arboretum.*

2
boretum. There were several periods when January thaws with temperatures between 40°F (4°C) and 50°F (10°C) were followed within a week's time by temperatures falling to zero or below. The most extreme fluctuation came in January 1972, when a maximum temperature of 60°F (16°C) was followed 3 days later by a minimum temperature of —12°F (—24°C).

Periodically extreme winds have caused considerable damage to trees. This is especially true when the soil is saturated with water. Exposed shallow rooted trees, particularly conifers, are liable to windfall. Destruction of 212 trees of 26 different species resulted from a 70-mile-an-hour gale on March 22, 1955. In April 1956, severe winds brought additional losses. On April 19, 1963, 426 trees representing 39 species were shattered, root sprung, or overthrown by a violent storm. A severe localized Spring wind and rainstorm in 1970 destroyed 60-year-old plantings of spruce, hemlock, and pine. A windstorm with winds above 80 miles per hour on July 9, 1972, cut a swath 200 feet wide across the OARDC campus and into the Arboretum, uprooting and twisting off 56 trees which were destroyed or so badly damaged they had to be removed. An additional 33 trees were severely damaged.

Snow and ice have also destroyed many trees. Infrequent glaze storms, as in 1938, have wrought havoc. Three times within the past 50 years, heavy, wet snows have caused damage. The most recent of these was a 22-inch wet snow on Dec. 1 and 2, 1974. Many White Pine, Ponderosa Pine, and Scots Pine (Pinus sylvestris) in 50 and 60-year-old plantations were broken off and destroyed. One 20-year-old planting of Canada Hemlock (Tsuga canadensis) had half of the plantation destroyed through breakage.

As the Arboretum is on high ground, lightning strikes are common and half a dozen trees are struck each year. These are usually the tallest trees in the plantings.

Wind damage in White Pine plantation. Trees broken off and uprooted during severe windstorm.
**PLANT DESCRIPTIONS**

Plants are listed alphabetically by genera and species. Common and botanical nomenclature follows the Manual of Cultivated Conifers (1), Textbook of Dendrology (2), and Check List of Native and Naturalized Trees of the United States (3). See page 59 for listing of references.

A number of symbols and abbreviations have been used to describe the history and present status of each plant.

**Source:** The letter S and numeral following the name of a listed plant is the source where plants were obtained. See Source List on page 60.

**Location:** The second letter and numeral following the name of a listed plant is the plot location or compartment where the plant was set out.

Large White Pine struck by lightning. Splinters were found up to 200 feet from tree. Three to five trees (usually the largest in the stand) are struck by lightning every year in the Arboretum.
Ts—Transplanted
V—Volunteers (usually indigenous) growing in Arboretum
W—Width or spread of plant

Example of meaning of lettering and symbols following a plant name:
Status: (+ +) 4” DBH; 17' h. (16) 1970.

**ABIES: FIR**

Twenty-nine different types of fir have been outplanted, including 22 species and 7 varieties or cultivars. Twenty different types are currently growing in the Arboretum. Except for ornamental type plantings on the OARDC campus, the majority of fir plantings have been on sites which are wet at least part of the time and especially during periods of rainy weather. Firs on wet sites exposed to winds have been subject to frequent breakage or windthrow during severe windstorms. In general, firs have grown very poorly when underplanted beneath existing stands of timber as they have not been able to compete with natural hardwood underbrush.

*Abies alba* Mill.

**Silver Fir**

In general the best growing Silver Fir in the Arboretum is on better drained sites, protected from wind, and with ample room for development. Poor growth was made on excessively wet sites, when exposed to severe winds, when underplanted, when not thinned or left without sufficient growing room. The largest, best-formed Silver Fir in the Arboretum is 59 years old and was grown in the open as an ornamental specimen. It is the only remaining Silver Fir in the Arboretum which is in excellent or above average growing condition.

Status: (+) 10”-14” DBH; 36’-60’ h. (4) 1975.
Status: Fc, Fs 1958.
Status: Re 1966.
S49. F5. (49) 1915, 10”, 2-4 planting stock, set 6’ x 6’. Wet site.


To convert measurements to metric system, see conversion tables on page 59.
ground by 22" snowfall Dec. 1974. Ground cover is mowed grass.
Status: (+) 6"-12" long. (8) 1975.

*Abies alba* 'Pyramidalis'

**Sentinel Silver Fir**

Status: (+) 3", 7" DBH; 11', 28' h. (2) 1975.

S68. F3. (2) 1953, 3'. Site wet. Ground cover is mowed grass.
Status: (+) 5" DBH; 24' h. (2) 1975.

*Abies amabilis* (Doug. ex Loud.) Forb.

**Pacific Silver Fir**

Suk. H. 1925.
Status: Fc, Fs 1926.

*Abies balsamea* (L.) Mill.

**Balsam Fir**

Balsam Fir has not grown well in the Arboretum as an ornamental or in forest plantings.

S53. F6. (56) 1915, 2-4 planting stock set 6' x 6', 18" h.

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**Plantation**

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<td>27</td>
<td>4&quot;</td>
<td>21'</td>
<td>27</td>
<td>1944</td>
</tr>
</tbody>
</table>

Status: Fw 1955.

Status: (+) 5"-7" DBH; 30'-40' h. (3) 1975.

S64. O. (1) 1925.
Status: Re 1948.

Status: Ts to Southeastern Test Farm, 1958.

S99. C1. (2) 1957. Site wet, poorly drained. Ground cover is mowed grass.
Status: (+) 3', 8' h. (2) 1975.

Status: (+) 4" av. DBH; 20' av. h. (17) 1975.

Status: (+) 4", 5" DBH; 14', 24' h. (2) 1975.

*Abies bornmuelleriana* Mattf.

**Bornmueller Fir** (NA 30158)

S130. C1. (1) 1973, 4 yr. container-grown seedling, 12" h. Ground cover is mowed grass.
Status: (+) 14". (1) 1974.

*Abies cephalonica* Loud.

**Greek Fir**

A number of Greek Fir seedlings are continually seeding in under forest-type plantations when ground is free of competing vegetation.

S9. F8. (35) 1917, 3-1 planting stock set 6' x 6', 14' h. Site wet except during summer.

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**Plantation**

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<th>No. of Trees</th>
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<td>27</td>
<td>4&quot;</td>
<td>21'</td>
<td>27</td>
<td>1944</td>
</tr>
</tbody>
</table>

Blowdown from severe winds 1955.
Status: Fw 1955.

S9. F13. (30) 1918, 3-2 planting stock set 6' x 6', 12" h. Site wet except during dry summers, poorly drained.
<table>
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<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
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</tr>
<tr>
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<td>1936</td>
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<tr>
<td>26</td>
<td>5&quot;</td>
<td>24'</td>
<td>24</td>
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<td>52</td>
<td></td>
<td>12</td>
<td></td>
<td>1970</td>
</tr>
<tr>
<td>56</td>
<td>10&quot;</td>
<td>50'</td>
<td>12</td>
<td>1975</td>
</tr>
</tbody>
</table>

Blowdown from severe winds 1955. In 1975 largest tree is 18" DBH, 70' tall. Natural seeding under and adjacent to stand.

Status: (+) 5"-18" DBH; 16'-70' h. (12) 1975.

S68. F3. (2) 1953, 30" h. Site wet except during dry summers. One tree is overtopped by adjacent hemlock.

Status: (+) 3", 7" DBH; 18', 30' h. (2) 1975.

*Abies cilicia* (Ant. & Kotschya) Carr.  

Cilician Fir  

A few natural seedlings are occasionally found under forest-type plantations.


Status: (+) 7"-14" DBH; 55'-65' h. (9) 1975.

S9. B1. (2) 1918, 3-2 planting stock, 12" h. Ground cover is mowed grass.

Status: (+ +) 17" DBH; 51', 34' h. (2) 1975.

S9. F10. (49) 1918, 3-2 planting stock set 6' x 6', 12" h. Site wet except during summer.

Removed 6 trees in thinning 1938. Windthrow severe windstorm 1948. In 1975 largest tree is 14" DBH, 63' tall.

Status: (+) 11"-14" DBH; 50'-63' h. (8) 1975.

*Abies concolor* (Gord.) Ldl. ex Hildebr.  

White Fir  

Seventeen separate plantings of White Fir have been made since 1913. Trees planted as ornamentals have grown well when allowed sufficient room in which to develop. When planted on exposed sites, many trees have been broken off or windthrown during severe windstorms.

S1. C3. (1) 1913.  

Status: Re 1965.

S1. O. (1) 1913. Lawn planting.

Status: (+ +) 19" DBH; 55' h. (1) 1975.

S1. O. (3) 1913. Site open and well drained. (2) 1968. Lawn planting.

Status: (+ +) 14", 15" DBH; 58', 64' h. (2) 1975.

S1. O. (1) 1913. Lawn planting.

Status: (+) 16" DBH; 55' h. (1) 1975.

S1. O. (1) 1913. Lawn planting.

Status: (+) 14" DBH; 51' h. (1) 1975.

S1. O. (2) 1913.  

Status: Re 1963.


Status: (+ +) 17", 26" DBH; 55' h. (2) 1975.

S1. F4. (56) 1915, 2-2 planting stock set 6' x 6', 10" h. Site very wet in Spring and during heavy rains.
S85. J40. (2) 1970, 6' h. moved with tree spade from nursery. Set in nursery 1967. Ts to mixed evergreen windbreak.
Status: (+ +) 3" DBH; 14' h. (2) 1975.

**Abies concolor** ‘Violacea’
Purplecone White Fir
Status: NP 1968.

**Abies firma** Sieb. & Zucc.
Momi Fir, Japanese Fir
S10. Cl. (1) 1917. (1) 1954.
Status: Fe 1960.

S99. 0. (4) 1918. (2) Re 1948. Has survived temperatures to --10° F.
Status: Fe 1968.

S70. Fl 1. (37) 1918, 2-2 planting stock set 6' x 6', 20'' h.
Site dry and exposed to severe winds.
Status: Fe 1955.

S65. 0. (27) 1917, 2-3 planting stock set 6' x 6', 12'' h.
Underplanted in open, natural stand of Red and White Oaks. Set with blueberry bushes. (45) 1930, (4) 1954. Suppressed. (Blueberries also died out.)
Status: Fs 1960.

**Abies fraseri** (Pursh) Poir.
Fraser Fir, Fraser Balsam Fir
Has grown quite poorly in Arboretum, both as ornamental and in forest plantings. Underplantings eventually suppressed by hardwoods.
Status: Fs 1955.

Status: Fs. NP 1968.

Status: Fs 1956.

Status: Fs 1960.

**Abies fraseri** and **Pseudotsuga menziesii**
Fraser Fir and Douglasfir
S92. A28. (90) 1920, 2-4 planting stock set in alternate rows 6' x 6', set 45 of each species. Present ground cover is mowed grass.

| Plantation Age DBH Height No. of Trees | Year |
|-----------------|-----|-----------|------|-----|----------|
| FF FF FF FF FF FF DF DF DF DF DF DF | 1930 |
| FF DF DF DF DF DF DF DF DF DF DF DF | 1931 |
| FF DF DF DF DF DF DF DF DF DF DF DF | 1936 |
| FF DF DF DF DF DF DF DF DF DF DF DF | 1938 |
| FF DF DF DF DF DF DF DF DF DF DF DF | 1975 |

All Fraser Fir suppressed and dead by 1947. Douglasfir removed in 1956 except 1 tree. In 1975, tree leaning, roots exposed and damaged by mowing.
Status: Fraser Fir: Fs 1947.
Douglasfir: (-) 12" DBH; 46' h. (1) 1975.

**Abies fraseri**
Fraser Fir
S113. H. (100) 1925, set 5' x 5', 9'' h. Christmas tree planting.
Status: Re 1933.

Status: Ts 1958.

S85. C1. (2) 1957. Ground cover is mowed grass.
Status: (+) 3", 4" DBH; 15', 17' h. (2) 1974.


| Plantation Age DBH Height No. of Trees | Year |
|-----------------|-----|-----------|------|-----|----------|
| FF DF DF DF DF DF DF DF DF DF DF DF | 1957 |
| FF DF DF DF DF DF DF DF DF DF DF DF | 1975 |

Three trees had tops cut out. Six trees have been replacements.
Status: (+) largest tree 5" DBH; 18' h. (16) 1975.
**Abies grandis** (Dougl. ex D. Don) Ldl.

**Grand Fir**


Status: Fe 1936.


Status: Fc 1936.


Status: Fe 1936.

**Abies holophylla** Maxim.

**Manchurian Fir**

S70. H. (8) 1932, 2-4 planting stock. (8) 1940, 6’ h.

Status: NP 1958.


Wet, poorly drained site.

**Abies homolepis** Sieb. & Zucc.

**Nikko Fir**


Has survived temperatures to —20° F. Ground cover is mowed grass.

Status: (+) largest tree 12” DBH; 50’ h. (1) 1975.


Status: Fs 1948.

S130. C1. (1) 1973, 5 yr. container grown, 23” h.

Ground cover is mowed grass.

Status: (+) 30” h. (1) 1975.

**Abies homolepis umbellata** (Mayr.) Wils.

**Dimplecone Nikko Fir**


Status: Re 1955.

**Abies koreana** Wils.

**Korean Fir**

S70. F19. (3) 1939, 2-8 planting stock. (2) 1950.

Blown over by severe winds in 1963.

Status: Fw 1963.

S70. F11. (3) 1939, 2-8 planting stock. (1) 1964.

Site wet during rainy periods.

Status: NP 1968.

S70. H. (1) 1942, 15-year-old plant.

Status: NP 1958.

S130. C1. (1) 1973, 5-yr. container grown, 22” h.

Ground cover is mowed grass.

Status: (+) 30” h. (1) 1975.

**Abies lasiocarpa** (Hook) Nutt.

**Subalpine Fir, Rocky Mountain Fir**

S9. O. (2) 1909.

Status: Fw 1916.


Status: Fw 1963.

**Abies lasiocarpa var. arizonica** (Merr.) Lemm.

**Corkbark Fir**


Status: Fw 1963.

**Abies magnifica** Murr.

**California Red Fir**

Suk. F19. (3) 1924. Site wet, poorly drained, exposed to winds.

Status: Fs 1934.

**Abies mariesii** Mast.

**Maries Fir**


Status: (+) 8”-12” DBH; 45’-48’ h. (3) 1975.
Nordmann Fir growing in forest plantation. Site very wet. There has been considerable natural seeding underneath this stand.


*Abies nephrolepis* (Trautv.) Maxim.

**Khingan Fir**
S131. C1. (1) 1973, 3-yr. container grown, 8” h. Ground cover is mowed grass. Status: (+) 12” h. (1) 1974.

*Abies nordmanniana* (Stev.) Spach

**Nordmann Fir, Caucasian Fir**

Nordmann Fir is one of the few firs in the Arboretum seeding in under forest-type plantings. Once established, this fir is growing as well as or better than any other fir in the Arboretum, both as an ornamental and in forest-type plantings.


<table>
<thead>
<tr>
<th>Plantation</th>
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<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
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<td>57</td>
<td>50’</td>
<td>18</td>
<td>1975</td>
<td></td>
</tr>
</tbody>
</table>

Windthrown from severe winds 1955. Numerous self-seeded reproduction under this plot and adjacent plots. Status: (+ +) largest tree 12” DBH and 56’ h. 1975.

**Abies numidica** De Lannoy ex Carr.

**Algerian Fir**

*Abies pinsapo* Boiss.

**Spanish Fir**
S9. O. (2) 1909, 8” h. Protected site. Survived temperatures to −24° F. Understory trees. Status: (+) 8”, 18” DBH; 13’, 20’ h. (2) 1975.

*Abies procera* Rehd.

**Noble Fir**
**Abies procera 'Glauca'**

Blueleaf Noble Fir


Status: (+ +) 20” DBH; 51’ h. (1) 1975.


Status: Re 1947.


Status: (+) 4” DBH; 16’ h. (1) 1975.

**Abies sachalinensis** (Schmidt) Mast.

Sakhalin Fir


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<td>5’</td>
<td>33’</td>
<td>26</td>
<td>1944</td>
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Status: Fw 1948.


**CEDRUS: CEDAR**

The specimen of Cedar of Lebanon growing in the Arboretum must be an especially hardy strain as it has survived temperatures to -20° F. The climate around Wooster is usually too severe for true cedars.

**Cedrus atlantica** Manetti

Atlas Cedar, Atlantic Cedar


Status: Fc 1934.


Status: Fc 1939.

S130. G3. (1) 1969, 18” h. (1) 1972, 3’ h. Has survived -14° F. Ground cover is mowed grass.

Status: (+) 4’ h. 1975.

Severe competition from Poison Ivy vines.

Status: (--) 4’, 7’ h. (2) 1975.


Status: (--) 4’, 7’ h. (2) 1975.

**Abies veitchii** Ldl.

Veitch Fir


Status: Fw 1967.

S50. F15. (13) 1925, 9-0 planting stock.

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<td></td>
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<tr>
<td>45</td>
<td>6’</td>
<td>45’</td>
<td>2</td>
<td>1975</td>
</tr>
</tbody>
</table>

Blowdown from severe winds 1948. Thinning winter 1939-40.

Status: (--) largest tree is 8” DBH, 56’ h. 1975.

S68. F3. (2) 1953, 3’ B&B. Site wet except during dry summers. Ground cover is mowed grass.

Status: (+) 4”, 7” DBH; 20’, 32’ h. (2) 1975.

**Cedrus atlantica 'Glauca'**

Blue Atlas Cedar

S11. A29. (1) 1924.

Status: Fc 1925.

**Cedrus deodara** (Roxb.) Loud.

Deodar Cedar, Himalayan Cedar


Status: Fc 1935.

S119. E55. (3) 1957, 2-2 planting stock.

Status: Fc 1960.

**Cedrus libani** A. Rich.

Cedar of Lebanon


Status: (+ +) 4” DBH; 21’ h. (1) 1975.
**LARIX: LARCH**

Larch has been planted in the Arboretum since 1903. Ten different species or types have been tried, mostly as forest plantations. Some forest plantations were pruned and some left unpruned and separate growth records were kept until 1943 when it was no longer possible to separate plots adjacent to each other. There are currently seven different types of larch remaining in the Arboretum. Severe winds in 1963 caused considerable windthrow of various larch, especially European Larch. Many remaining European Larch have made good growth and are in good condition, especially when they have sufficient growing space.

*Larix decidua* Mill.

**European Larch**

S53. A6. 1903, 2-3 planting stock. Moist but well drained site. 1975 understory of Mock Orange, Tatarian Honeysuckle, Mulberry and Black Walnut to 8' h. Large larch are 15' to 25' apart. Small larch are spaced 6'-10' apart.

---

**Larix decidua—Picea abies**

European Larch—Norway Spruce


---

**Northern Red Oak**


Status: (+) 7"-11" DBH; 36'-46' h. (6) 1975.

---

**Lightning**


Status: Larch: (+) 7"-17" DBH; 75'-81' h. (41) 1975.

Status: Spruce: (+) 16"-18" DBH; 72'-81' h. (22) 1975.

---

**European Larch**

### Larix decidua and Pinus strobus

**European Larch and White Pine**


<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL WP</td>
<td>14</td>
<td>5&quot;</td>
<td>3'</td>
<td>124</td>
<td>63</td>
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<tr>
<td>EL WP</td>
<td>16</td>
<td>5&quot;</td>
<td>3'</td>
<td>124</td>
<td>52</td>
</tr>
<tr>
<td>EL WP</td>
<td>21</td>
<td>6&quot;</td>
<td>5'</td>
<td>118</td>
<td>37</td>
</tr>
<tr>
<td>EL WP</td>
<td>25</td>
<td>6&quot;</td>
<td>5'</td>
<td>118</td>
<td>30</td>
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<tr>
<td>EL WP</td>
<td>41</td>
<td>7&quot;</td>
<td>4'</td>
<td>110</td>
<td>22</td>
</tr>
<tr>
<td>EL WP</td>
<td>63</td>
<td>11&quot;</td>
<td>8'</td>
<td>52</td>
<td>11</td>
</tr>
</tbody>
</table>

### Larix decidua

**European Larch**

S74. J36. (256) 1913, 2-2 planting stock, set 6' x 6', 3'x4' h. Site flat alongside creek. 1975 undergrowth consists of Honeysuckle, Privet. Ground cover of Baltic Ivy. A few tops had been broken out by snows.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15</td>
<td>5&quot;</td>
<td>3'</td>
<td>96</td>
<td>1928</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>4'</td>
<td>3'</td>
<td>94</td>
<td>1930</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>5&quot;</td>
<td>4'</td>
<td>76</td>
<td>1938</td>
</tr>
<tr>
<td></td>
<td>62</td>
<td>10&quot;</td>
<td>8'</td>
<td>23</td>
<td>1975</td>
</tr>
</tbody>
</table>

Twenty-seven removed in 1938 from snow damage. Status: (+) 5"-18" DBH; 81’-87’ h. (23) 1975.

**Larix x eurcepis Henry**

**Dunkeld Larch, Dunkfeld Larch**

S7. A20 (165) 1934, 2-1 planting stock, set 6' x 6', 1975 undergrowth Blackberry, Tatarian Honeysuckle, Elder to 6' h.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>3&quot;</td>
<td>18'</td>
<td>49</td>
<td>1925</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>3&quot;</td>
<td>30'</td>
<td>48</td>
<td>1929</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>3&quot;</td>
<td>37'</td>
<td>39</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>6&quot;</td>
<td>37'</td>
<td>37</td>
<td>1938</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>6&quot;</td>
<td>41'</td>
<td>37</td>
<td>1943</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>8&quot;</td>
<td>54'</td>
<td>17</td>
<td>1975</td>
</tr>
</tbody>
</table>

Removed 2 trees in thinning 1938, damage by snow.

**Larix gmelinii (Loud.) Turcz. ex Trautv.**

**Dahurian Larch**

Suk. E34. (2) 1933. (1) 1939.

Status: NP 1968.

**Larix gmelinii ‘Japonica’ (Maxim. ex Regel) Pilg.**

**Kurile Dahurian Larch**

Suk. B. 1933.

Status: Fs 1934.

**Larix gmelinii var. olgensis**

(Henry) Ostenf. & Syrach-Larsen


Status: (+) 4’ h. (1) 1975.
Larix gmelinii var. principis-rupprechtii
(Mayr.) Pilg.
Prince Rupprecht Dahurian Larch
Suk. G2. (140) 1929, 1-2 planting stock set 10' x 14'.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>1&quot;</td>
<td>8'</td>
<td>94</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>6&quot;</td>
<td>43'</td>
<td>1957</td>
<td></td>
</tr>
<tr>
<td></td>
<td>47</td>
<td>7&quot;</td>
<td>60'</td>
<td>36</td>
<td>1975</td>
</tr>
</tbody>
</table>

Largest tree is 11" DBH, 63' h.
Status: (+) 1975.
Status: Re 1962.

Larix laricina (Duroi) K. Koch
Tamarack, Eastern Larch
Status: Fp 1949.
S105. E16. (170) 1954, 2-0 planting stock set 6' x 7'.
Ground cover is mowed grass. Wet, poorly drained depression. Trees on elevated perimeter growing better. (4) bent, snow 1974. South end of plot under branch spread of oaks from adjacent plot.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>22</td>
<td>4&quot;</td>
<td>36'</td>
<td>45</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+) 3"-6" DBH; 28'-43' h. (45) 1975.

Larix leptolepis (S. & Z.) Gord.
Japanese Larch
Status: (+) 11", 16" DBH; 48', 68' h. (2) 1975.
S73. J43. (269) 1912, 2-2 planting stock set 6' x 6', 18" h. (125) 1930. 1968 underplanted with rhododendrons.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>63</td>
<td>11&quot;</td>
<td>78'</td>
<td>11</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+) 8"-14" DBH; 75'-82' h. (11) 1975.
S94. E33. (56) 1916, 1-1 planting stock set 6' x 6', 12"-15" h. Site dry in summer. Undergrowth (1975) of Tatarian Honeysuckle, Sassafras, Black Cherry, and Blackberry to 5' h.

Larix occidentalis Nutt.—Larix laricina
Western Larch—Tamarack
S99. E34. (60) 1918, 2-0 planting stock set 6' x 6'. Planted as Larix laricina but all remaining trees in 1968 are occidentalis. Larix occidentalis 2-2 stock underplanted 1930.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14</td>
<td>1&quot;</td>
<td>8'</td>
<td>20</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>6&quot;</td>
<td>12'</td>
<td>19</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>13</td>
<td>18'</td>
<td>15</td>
<td>1943</td>
</tr>
<tr>
<td></td>
<td>38</td>
<td></td>
<td>8</td>
<td>68</td>
<td>1968</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td></td>
<td>5</td>
<td>70</td>
<td>1970</td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>9&quot;</td>
<td>51'</td>
<td>5</td>
<td>1975</td>
</tr>
</tbody>
</table>

1970 (3) Re thinning, suppressed trees cut.
Status: (+ +) 7"-12" DBH; 48'-57' h. (5) 1975.

Larix sibirica (Munchh.) Ledeb.
Siberian Larch
Status: Re 1956.
S2. E35. (54) 1916, 2-0 planting stock set 6' x 6', 8" h. Site dry in summer. Mowed grass underneath trees.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>1&quot;</td>
<td>9'</td>
<td>49</td>
<td>1925</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>2&quot;</td>
<td>13'</td>
<td>49</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>2&quot;</td>
<td>16'</td>
<td>48</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>3&quot;</td>
<td>22'</td>
<td>44</td>
<td>1943</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>5&quot;</td>
<td>25'</td>
<td>14</td>
<td>1970</td>
</tr>
<tr>
<td></td>
<td>54</td>
<td>7&quot;</td>
<td>37'</td>
<td>14</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+) 5"-10" DBH; 33'-48' h. (14) 1975.
**PICEA: SPRUCE**

The first plantings of spruce were made in the Arboretum in 1909. Since the initial planting, 41 different species, cultivars, or varieties of spruce have been outplanted in forest plantations, as ornamentals, and in Christmas tree plantings. There have been 42 different plantings of Norway Spruce. Norway Spruce has been planted alone and in mixture with European Larch, Scots Pine, Red Pine, White Pine, Ponderosa Pine, Yellowpoplar, and Douglas fir. There has been some windthrow of spruce during periods of especially high winds, especially in the spring when the ground has been saturated with water. Many spruce plantations were suppressed by hardwood invasion.

**Picea abies** (L.) Karst.—*Larix decidua*

Norway Spruce—European Larch

S53. D1. (132) 1909. See *Larix decidua-Picea abies* plot D1 for records.

**Picea abies**

Norway Spruce


Status: Re 1963.

S53. A27a. (152) 1910, 2-2 planting stock set 8’ x 8’.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>2”</td>
<td>16’</td>
<td>139</td>
<td>1927</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>4”</td>
<td>30’</td>
<td>45</td>
<td>1932</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>5”</td>
<td>35’</td>
<td>35</td>
<td>1939</td>
<td></td>
</tr>
</tbody>
</table>


S53. A27b. (152) 1910, 2-2 planting stock set 8’ x 8’.

Also planted in plot are European Larch, Yellowpoplar, Russian Mulberry, and Black Locust. Trees naturally seeded into plot include Catalpa, White Ash, and Black Walnut. All in competition with Norway Spruce. 1975 dense undergrowth of Blackberry, Poison Ivy, Elderberry, Chokecherry, and White Ash.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>2”</td>
<td>16’</td>
<td>139</td>
<td>1922</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>5”</td>
<td>30’</td>
<td>59</td>
<td>1927</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>5”</td>
<td>30’</td>
<td>59</td>
<td>1931</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>6”</td>
<td>56’</td>
<td>59</td>
<td>1936</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>7”</td>
<td>5’</td>
<td>46</td>
<td>1938</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>8”</td>
<td>58’</td>
<td>40</td>
<td>1944</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>9”</td>
<td>72’</td>
<td>12</td>
<td>1957</td>
<td></td>
</tr>
</tbody>
</table>

(1) Fw 1974, spruce blowdown. Heavy 22” snowfall Dec. 1974 broke crowns out of 1 spruce 12” DBH and 1 pine 12” DBH. Colony of woodchucks in center of plot with dry summer 1975 weakened trees so Ips Engraver Beetles attacked, all trees in center of plot lost. Heavy undergrowth of Tatarian Honeysuckle, Althetis, Staghorn Sumac, Blackberries, and Sassafras.

Status: Red Pine: (—) 5”-15” DBH; 66’-82’ h. (20) 1975.

Norway Spruce: (—) 6”-17” DBH; 65’-77’ h. (12) 1975.

**Picea abies**

Norway Spruce

S49. O. (20) 1912. Re prior 1968 due to construction.

Status: NP 1968.
**Picea abies—Pinus strobus**
Norway Spruce—White Pine

**Picea abies—Pinus sylvestris**
Norway Spruce—Scotch Pine

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>2&quot;</td>
<td>19'</td>
<td>95</td>
<td>1926</td>
</tr>
<tr>
<td>20</td>
<td>3&quot;</td>
<td>22'</td>
<td>40</td>
<td>1933</td>
</tr>
<tr>
<td>24</td>
<td>3&quot;</td>
<td>33'</td>
<td>74</td>
<td>1936</td>
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<tr>
<td>56</td>
<td>72</td>
<td>1968</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>14&quot;</td>
<td>72'</td>
<td>23</td>
<td>1975</td>
</tr>
</tbody>
</table>

1952 all spruce have failed. 1968 low thinning and underplant azaleas. Two or three trees have died each year since 1968 due in large measure to excessive public use. December 1974 five trees broken off by 22" snowfall.

Status: Scotch Pine: (+) 9"-21" DBH; 65'-75' h. (33) 1975.
White Pine: (+ +) 19" DBH; 66' h. (1) 1975.
Spruce: Fs 1952.

**Picea abies—Pinus strobus**
Norway Spruce—White Pine

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>2&quot;</td>
<td>18'</td>
<td>23</td>
<td>1925</td>
</tr>
<tr>
<td>19</td>
<td>3&quot;</td>
<td>25'</td>
<td>14</td>
<td>1932</td>
</tr>
<tr>
<td>24</td>
<td>4&quot;</td>
<td>30'</td>
<td>7</td>
<td>1936</td>
</tr>
</tbody>
</table>

Clearcut 1956 as planted conifers were overtopped by hardwoods, also damaged by drought.

Status: Fs 1956.

S74. J4b. (50) 1912, 25 spruce, 25 pine, 2-5 planting stock set 4' x 8'.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>3&quot;</td>
<td>19'</td>
<td>24</td>
<td>1925</td>
</tr>
<tr>
<td>19</td>
<td>3&quot;</td>
<td>25'</td>
<td>20</td>
<td>1932</td>
</tr>
<tr>
<td>24</td>
<td>4&quot;</td>
<td>31'</td>
<td>13</td>
<td>1936</td>
</tr>
</tbody>
</table>

Clearcut 1956 as planted conifers were overtopped by hardwoods, also damaged by drought.

Status: Fs 1956.

**Picea abies—Liriodendron tulipifera L.—Fraxinus pennsylvanica* Marsh.
Norway Spruce—Yellowpoplar—Green Ash
S74. E12. (105) 1913, Spruce, 2-5 planting stock, underplanted. (64) 1909, Yellowpoplar, 2-1 planting stock. (64) Ash, 2-1 planting stock. Yellowpoplar and Ash set in alternating rows 6' x 12'. 1975 very little undergrowth, scattered Japanese Honeysuckle, Black Cherry, and Tatarian Honeysuckle.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>2&quot;</td>
<td>19'</td>
<td>97</td>
<td>1932</td>
</tr>
<tr>
<td>26</td>
<td>3&quot;</td>
<td>21'</td>
<td>92</td>
<td>1938</td>
</tr>
<tr>
<td>32</td>
<td>3&quot;</td>
<td>22'</td>
<td>78</td>
<td>1944</td>
</tr>
<tr>
<td>63</td>
<td>5&quot;</td>
<td>40'</td>
<td>10</td>
<td>1975</td>
</tr>
</tbody>
</table>

Spruce bady suppressed and removed 1949. Ash died out by 1932. Tulippoplar 2 to 3 log trees with multiple tops above this.

Status: Spruce: (—) 3"-7" DBH; 15'-45' h. (10) 1975.

**Picea abies**
Norway Spruce
S74. O. (1) 1913, 2-6 planting stock. Lawn planting.

Status: (+) 14" DBH; 65' h. (1) 1976.

S74. E10. (450) 1913, 2-5 planting stock set 2' x 2'.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>3&quot;</td>
<td>26'</td>
<td>58</td>
<td>1927</td>
</tr>
<tr>
<td>24</td>
<td>4&quot;</td>
<td>34'</td>
<td>50</td>
<td>1932</td>
</tr>
<tr>
<td>30</td>
<td>6&quot;</td>
<td>42'</td>
<td>48</td>
<td>1938</td>
</tr>
<tr>
<td>36</td>
<td>7&quot;</td>
<td>54'</td>
<td>45</td>
<td>1944</td>
</tr>
<tr>
<td>67</td>
<td>14&quot;</td>
<td>87'</td>
<td>45</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: Yellowpoplar: (+) 8"-22" DBH; 50'-91' h. (45) 1975.
Ash: Fs 1932.

S74. E10b. (125) 1913, 2-5 planting stock set 4' x 4'.

**Picea abies—Picea abies**
Norway Spruce
Plantation Age DBH Height No. of Trees Year
19 4" 29' 89 1931
19 5" 33' 64 1931
19 6" 47' 44 1941
31 6" 47' 42 1944

Thinned 1931, 1935, and 1941. In 1954 plots E10a, E10b, and E-10c were combined into one plot E10.

S49. E10c. (416) 1913, 2-2 planting stock set 4' x 4'.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>2&quot;</td>
<td>16'</td>
<td>400</td>
<td>1925</td>
</tr>
<tr>
<td>19</td>
<td>3&quot;</td>
<td>25'</td>
<td>340</td>
<td>1931</td>
</tr>
<tr>
<td>19</td>
<td>3&quot;</td>
<td>25'</td>
<td>200</td>
<td>1931</td>
</tr>
<tr>
<td>23</td>
<td>4&quot;</td>
<td>30'</td>
<td>240</td>
<td>1935</td>
</tr>
<tr>
<td>23</td>
<td>4&quot;</td>
<td>30'</td>
<td>175</td>
<td>1935</td>
</tr>
<tr>
<td>29</td>
<td>5&quot;</td>
<td>47'</td>
<td>158</td>
<td>1941</td>
</tr>
<tr>
<td>31</td>
<td>5&quot;</td>
<td>47'</td>
<td>127</td>
<td>1944</td>
</tr>
</tbody>
</table>

Largest tree is 16" DBH, 87' h.
Status: (−) 5"-16" DBH; 75'-87' h. (75) 1975.

S74. J1. (199) 1914, 2-2 planting stock, 18" h.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>3&quot;</td>
<td>22'</td>
<td>96</td>
<td>1939</td>
</tr>
<tr>
<td>25</td>
<td>3&quot;</td>
<td>22'</td>
<td>96</td>
<td>1939</td>
</tr>
</tbody>
</table>

Removed in 1956 due to suppression and drought of 1954-56.
Status: Fs 1956.

S74. J13. (63) 1915, 2-3 planting stock set 4' x 4'.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>3&quot;</td>
<td>21'</td>
<td>42</td>
<td>1927</td>
</tr>
<tr>
<td>21</td>
<td>4&quot;</td>
<td>30'</td>
<td>28</td>
<td>1936</td>
</tr>
<tr>
<td>24</td>
<td>5&quot;</td>
<td>38'</td>
<td>18</td>
<td>1939</td>
</tr>
</tbody>
</table>


Many Douglasfir had been suppressed by Spruce. Many trees have been destroyed by snow. Four Douglasfir 9" DBH were destroyed by 22" snowfall Dec. 1974.

Status: Norway Spruce: (+) 7"-17" DBH; 75'-85' h. (16) 1975. Douglasfir: (−) 3" DBH; 22' h. suppressed tree. (1) 1975.
Norway Spruce

*Picea abies*

Status: (+) 25", 28" DBH; 70', 76' h. (2) 1975.
Status: NP 1959.
Status: (—) 14"-18" DBH; 54'-69' h. (4) 1975.
Status: (—) 13" DBH; 46' h. (1) 1975.
S36. O. (2) 1932.
Status: (+) 21", 24" DBH; 70', 82' h. (2) 1975.
Status: (+) 15" DBH; 43' h. (1) 1975.
S36. O. (2) 1932.
Status: (+) 18" DBH; 60' h. (2) 1975.
Status: (+) 15" DBH; 43' h. (1) 1975.
Suk. O. (2) 1932. Set close to house.
Status: (+) 13", 15" DBH; 45' h. (2) 1975.
S36. O. (24) 1932. Windbreak planting. 1975 all in poor condition due to site changes, removal of lower branches up to 10 feet, excessive use of herbicides, dry weather, and red spider mites. Effectiveness as a windbreak has been partially destroyed by removal of lower branches.
Status: (—) 5"-18" DBH; 23'-48' h. (24) 1975.
S36. O. (1) 1932. Lawn planting. 1975 excessive use of herbicides and dry weather have caused deterioration.
Status: (—) 18" DBH; 55' h. (1) 1975.
S36. O. (4) 1934.
Status: (—) 12" DBH; 52' h. (1) 1975.
Status: Re 1958.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>8&quot;</td>
<td>32'</td>
<td>16</td>
<td>1975</td>
</tr>
<tr>
<td>Status: (+ +)</td>
<td>4&quot;-10&quot; DBH; 27'-34' h. (16) 1975.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
S100. O. (1) 1960. Construction changes.
Status: NP 1968.
Status: NP 1968.

Status: (+) 1"-3" DBH; 9'-16' h. (3) 1975.
Status: (+ +) 11' h. (6) 1975.
S99. J40. (2) 1970, 6' to 10' h. Ts from nursery with tree spade. Fill gaps in established windbreak planting.
Status: (+) 3" DBH; 14', 16' h. (2) 1975.

*Picea abies 'Aurea'*

Golden Norway Spruce

Suk. B. 1932. Exposed site.
Status: Fs 1933.

*Picea abies 'Clanbrassiliana'*

S78. B5. (2) 1969, 6" h. (2) Ts, B4, 1974.
Status: (+) 9" h. (2) 1975.

*Picea abies 'Inversa'*

Drooping Norway Spruce

S9. Cl. (1) 1916, graft 10" h.
Status: (+ +) 14' spread, 9' h. (1) 1975.
Status: (+ +) 11' spread, 56" h. (1) 1975.

*Picea abies 'Iowa'*

Iowa Norway Spruce

Suk. D16. (72) 1960, set 10' x 10'. 1975 closed stand. Sheet erosion from water off road has many roots exposed. Ground cover is duff from fallen needles.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>6&quot;</td>
<td>35'</td>
<td>71</td>
<td>1975</td>
</tr>
<tr>
<td>Status: (+ +)</td>
<td>4&quot;-7&quot; DBH; 32'-37' h. (71) 1975.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Picea abies 'Maxwellii'*

Maxwell Norway Spruce

S133. B4. (3) 1974, 10-year grafts. Ts from Arboretum nursery where they had been growing since 1966.
Status: (+ +) 2' h. (3) 1975.

*Picea abies 'Nidiformis'*

Nest Norway Spruce

Status: (+ +) 9' spread, 63" h. (1) 1975.
S102. O. (1) 1939. Graft. Badly crowded on all sides. The only way it could grow was up.
Status: (+ +) 13' h. (1) 1974. Broke down by 22" snow Dec. 1974; now (+) 5' h. (1) 1975.
S78. B5. (1) 1969, 6" h. (1) Ts, 1974, B4.
Status: (+) 8" h. (1) 1975.
**Picea abies 'Otranudakus'**
S58. B1. (1) 1936, 6-yr. graft.
Status: Re 1947.

**Picea abies 'Pyramidata'**
Pyramidal Norway Spruce
S9. Cl. (5) 1910, 12” h. (2) 1956, (3) Re.
Status: Re 1960.
Status: (++) 9” DBH; 33’ h. (1) 1975.
S102. O. (1) 1932 graft.
Status: Re 1952.

**Picea abies 'Remontii'**
Remont Norway Spruce
Status: NP 1968.
Status: (++) 6” DBH; 23’ h. (1) 1975.

**Picea asperata Mast.**
Dragon Spruce
Status: (++) 8” DBH; 28’ h. (2) 1975.

**Picea asperata var. ponderosa Rehd. & Wils.**
Bigcone Dragon Spruce
(—) 6” DBH; 27’ h. (1) 1974.

**Picea bicolor (Maxim.) Mayer.**
Alcock Spruce
Status: Re 1947.
Status: (++) 9”-17” DBH; 59’-79’ h. (4) 1975.

**Picea engelmannii Parry**
Engelmann Spruce
S9. Cl. (2) 1909, 18” h. (1) 1954.
Status: Re 1958.
S2. B1. (3) 1915, 2-2 planting stock, 10” h. (1) 1953, (2) Fw snow damage.
Status: (++) 12” DBH; 40’ h. (1) 1975.

1939 thinning removed one tree. 1956 (39) Fw wind damage.
Status: Fw 1956.
Status: NP 1968.
S128. H. (2) 1934.
Status: Re 1950.
Status: (++) 3” DBH; 14’ h. (1) 1975.
(5) Fm prior to 1968. Stand not closed due to missing plants, ground cover is grass and blackberries.

---

Alcock Spruce planted in 1927. Largest spruce is now 17 inches in diameter and 79 feet tall. This spruce from Japan is seldom grown in U. S.
Status: (+ +) 2”-5” DBH; 8’-15’ h. (11) 1975.

**Picea glauca** (Moench) Voss
**White Spruce**
S2. C1. (20) 1915, 2-2 planting stock.
Status: Fw 1962.
Status: Fw 1958.
S2. J14. (49) 1915, 2-2 planting stock set 6’ x 6’.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11</td>
<td>3”</td>
<td>13’</td>
<td>49</td>
<td>1926</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>4”</td>
<td>23’</td>
<td>48</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>4”</td>
<td>26’</td>
<td>47</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td></td>
<td>4</td>
<td></td>
<td>1956</td>
</tr>
</tbody>
</table>

1956 (43) Fw wind damage.
Status: Fw 1956.
Status: Fw 1956.
Status: Re 1954.
Status: (+ +) 11” DBH; 41’ h. (1) 1975.
S36. H. (8) 1933. (5) 1941, Ts (3).
Status: Re 1954.
S99. H. 1940.
Status: Re 1954.
Status: Re 1954.
S88. O. (2) 1955. Change in landscaping.
Status: NP 1968.
S88. O. (2) 1956.
Status: (+) 10” DBH; 40’ h. (2) 1975.
Status: Re 1958.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19</td>
<td>5”</td>
<td>27</td>
<td>15</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+ +) 3”-6” DBH; 24’-28’ h. (15) 1975.
Status: 8’, 13’ h. (2) 1975.
(12) 1972, (3) Fw, Fs, dry weather and underneath mature *Pseudotsuga.*
(12) Ts 1975 with tree spade to campus.
Status: (+ +) 8”-10” h. (12) 1975.
Status: (+ +) 2” DBH; 12’ h. (3) 1975.
S99. A47. (22) 1971, 4”-5” h. Ts from Arboretum nursery; half B&B, half moved with tree spade. Windbreak planting.
Status: (+ +) 6”-12” h. (22) 1975.
Status: (+ +) 6”-12” h. (16) 1975.

**Picea glauca var. albertiana** (S. Brown) Sarg.
**Alberta White Spruce, Western White Spruce**
S53. J23. (49) 1919, 2-4 planting stock set 6’ x 6’, 18” h.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>2”</td>
<td>10’</td>
<td>49</td>
<td>1927</td>
</tr>
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<td>13</td>
<td>3”</td>
<td>16’</td>
<td>49</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>4”</td>
<td>20’</td>
<td>49</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td></td>
<td></td>
<td>46</td>
<td>1939</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td></td>
<td></td>
<td>2</td>
<td>1955</td>
</tr>
<tr>
<td></td>
<td>38</td>
<td></td>
<td></td>
<td>1</td>
<td>1956</td>
</tr>
</tbody>
</table>

1939 removed three in thinning. 1955 (44) Fw wind damage. 1956 (1) Fw wind damage.
Status: Fw 1956.
Status: 9” DBH; 36’ h. (1) 1975.
Status: Fs 1933.
Status: NP 1968.

**Picea glauca** (var. albertiana) ‘Conica’
**Dwarf Alberta White Spruce**
Status: (+ +) 29”, 35” h. (2) 1975.
S78. B5. (1) 1969, 12” h.
Status: (+) 24” h. (1) 1974.
Status: (+) 50”, 67” h. (2) 1975.
S56. B1. (2) 1974, 59”, 77” h. Ts from Arboretum nursery where they had been growing since 1967.
Status: (+ +) 63”, 80” h. (2) 1975.

**Picea glauca** ‘Coerulea’
**Blueleaf White Spruce**
Status: (+ +) 11” DBH; 41’ h. (1) 1975.
**Picea glauca 'Densata'**

Black Hills White Spruce

S88. Bl. (2) 1957. Competition from adjacent trees on smaller spruce.

Status: (+ +) 2", 4" DBH; 11', 16' h. (2) 1975.

S88. F6. (16) 1957, set 10' x 10'. 1975 closed stand, ground cover duff from fallen needles, Velvet Moss, and a few blackberries being shaded out.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>5&quot;</td>
<td>23'</td>
<td>16</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+ +) 4"-6"; 17'-27' h. (16) 1975.

**Picea glehni** (Schmidt) Mast.

Sakhalin Spruce

S131. G30. (1) 1938. (1) Ts 1942 H.

Status: Re 1950.

**Picea jezoensis** (S. & Z.) Carr.

Yeddo Spruce

Suk. B. 1932. Too exposed a site.

Status: Fs 1933.

**Picea koyamai** Shiras

Koyamai Spruce

S65. J24. (9) 1927, 2-3 planting stock, 1' h. (4) 1933.

Status: Fw 1948. Severe snow damage.

S65. J32. (9) 1927, 2-3 planting stock, 1' h. (8) 1968. 1975, 10” av. DBH; 46' av. h., 3 smaller trees with butt rot. Ground cover is mowed grass.

Status: (+) 7"-13" DBH; 40'-50' h. (8) 1975.

S70. Bl. (19) 1930, 2-0 planting stock. (1) 1939, (18) Ts. Ground cover is mowed grass.

Status: (+ +) 9" DBH; 30' h. (1) 1975.


Status: Re 1950.

**Picea likiangensis** (Franch.) Pritz.

Likiang Spruce


Status: Fc 1936.

**Picea mariana** (Mill.) B.S.P.

Black Spruce


Status: Fs 1954.

S93. A3. (120) 1939, 2-2 planting stock, 18’’. Cut for Christmas trees.

Status: Re 1948.

S93. O. 1939.

Status: Re 1952.

S93. H. (3) 1939.

Status: Re 1950.

Koyamai Spruce, planted in 1927, is now 13 inches in diameter and 50 feet high. Fewer than 100 of these trees are reported to be growing wild.

S93. Bl. (2) 1957. (1) 1964. (1) F.

Status: (+) 19’ h. (1) 1975.


<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>3&quot;</td>
<td>19'</td>
<td>7</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+) 2"-5” DBH; 18'-20' h. (7) 1975.

**Picea montigena** Mast.

Candelabra Spruce

S17. H. 1931.

Status: NP 1964.


Status: NP 1947.


Status: Re 1950.

**Picea obovata** Ledeb.

Siberian Spruce

S9. J18. (49) 1918, set 6' x 6', 8” h.
Serbian Spruce, a spruce which should be used more often for ornamental plantings.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>2&quot;</td>
<td>10'</td>
<td>49</td>
<td>1927</td>
</tr>
<tr>
<td>14</td>
<td>3&quot;</td>
<td>16'</td>
<td>49</td>
<td>1931</td>
</tr>
<tr>
<td>18</td>
<td>4&quot;</td>
<td>20'</td>
<td>49</td>
<td>1936</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td>46</td>
<td>1939</td>
</tr>
<tr>
<td>38</td>
<td></td>
<td>6</td>
<td>1956</td>
<td></td>
</tr>
</tbody>
</table>

1939 (3) removed in thinning. 1956 (40) Fw wind damage.
Status: Fw 1956.
Status: (+) 8" DBH; 39' h. (2) 1975.

Picea omorika (Pancic) Bolle

Serbian Spruce
S11. Cl. (1) 1917.
Status: Re 1958.
S9. J22. (27) 1918, 2-2 planting stock, set 6' x 6'.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>2&quot;</td>
<td>8'</td>
<td>23</td>
<td>1927</td>
</tr>
<tr>
<td>14</td>
<td>3&quot;</td>
<td>19'</td>
<td>23</td>
<td>1931</td>
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<tr>
<td>18</td>
<td>4&quot;</td>
<td>24'</td>
<td>23</td>
<td>1936</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>22</td>
<td>1939</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td></td>
<td>1</td>
<td>1956</td>
<td></td>
</tr>
</tbody>
</table>

1931 (1) removed thinning. 1956 (21) Fw severe winds.
Status: Fw 1956.
S79. B1. (2) 1933, 7-yr. grafts.
Status: Re 1947.
Status: Re 1947.
Status: Re 1947.
S8. H. (1) 1939, 8-yr. grafts.
Status: Re 1950.
S63. H. (3) 1942, 2-12 planting stock.
Status: Re 1950.
Status: NP 1968.
S132. B1. (3) 1957. (1) 1968, (2) NP.
Status: Fm 1971.
Status: Re 1961.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>5&quot;</td>
<td>20'</td>
<td>19</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+ +) 3"-7" DBH; 18'-25' h. (19) 1975.
Status: (+ +) 20' h. (2) 1974.
S85. O. (3) 1966. (+ +) 10' h. (3) 1970.
Status: (+ +) 3" DBH; 15' h. (3) 1975.

Picea orientalis (L.) Link

Oriental Spruce
S92. J20. (49) 1918, 2-2 planting stock set 6' x 6', 7' h. (17) 1968. 1975 ground cover is mowed grass.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>6'</td>
<td>48</td>
<td>1927</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>11'</td>
<td>48</td>
<td>1931</td>
<td></td>
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<td>18</td>
<td>17'</td>
<td>48</td>
<td>1936</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>45</td>
<td>1936</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>10&quot;</td>
<td>17</td>
<td>1975</td>
<td></td>
</tr>
</tbody>
</table>

1936 Re (3) thinning.
Status: (+) 8"-15" DBH; 49'-58' h. (17) 1975.
S9. O. (23) 1918. 1975 average DBH is 10' h.
Status: (+) 7"-13" DBH; 48'-58' h. (8) 1975.
S92. O. (2) 1918, 2-2 planting stock, 7" h.
Status: Re 1955.
S92. Cl. (5) 1921, 2-5 planting stock.
Status: Re 1959.
S92. B1. (2) 1921, 2-5 planting stock.  
Status: (+ +) 12", 14" DBH; 49' h. (2) 1975.
Status: Re 1959.
S18. H. (4) 1933, 3-yr. grafts. (1) Ts 1941. (1) Ts 1942.
Status: Re 1950.
S18. H. (4) 1939, 9-yr. grafts.
Status: Re 1950.
Status: (++) 2' h. (1) 1975.

Tigertail Spruce

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>5'</td>
<td>12</td>
<td>1927</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>7'</td>
<td>11</td>
<td>1931</td>
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<td>18</td>
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<td>10'</td>
<td>11</td>
<td>1936</td>
</tr>
<tr>
<td>58</td>
<td>24'</td>
<td>3</td>
<td></td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (--) 4"-5" DBH; 24' h. (3) 1975.

S102. Cl. (1) 1921.
Status: Re 1947.

Picea pungens Engelm.  
Colorado Spruce, Blue Spruce
S53. J42. (56) 1913, 20" h. (27) 1933.
Status: Re 1966.
Status: NP 1968.
Status: (--) 9" DBH; 43' h. (1) 1975.
Status: Re 1962.
S99. J17. (49) 1922, 2-4 planting stock set 6' x 6', 15" h.; set 21 with green color and 28 with blue color.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
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</thead>
<tbody>
<tr>
<td>19</td>
<td>7&quot;</td>
<td>25'</td>
<td>15</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+ +) 6"-8" DBH; 18'-26' h. (15) 1975.
S99. A47. (4) 1971, Ts from Arboretum nursery, B&B, 4' h.
Status: (+ +) 8' h. (4) 1975.

Picea pungens Donahey selection  
Donahey Selection Blue Spruce
Status: (+ +) 8' h. (1) 1975.
Picea pungens 'Hoopsii'
Hoops Colorado Spruce
S95. B1. (2) 1974, 4' B&B. Ts from Arboretum nursery where they had been growing since 1963. Status: (+) 5' h. (2) 1975.

Picea pungens 'Koster'
Koster Colorado Spruce
Status: Re 1957.
Status: Fw 1949. Snow damage.
S102. H. (3) 1933. (1) 1936.
Status: Re 1950.
Status: (+) 7", 8" DBH; 27', 31' h. (2) 1975.

Picea pungens 'Moerheimi'
Moerheim Colorado Spruce
Status: (+) 7", 8" DBH; 27', 31' h. (2) 1975.
Status: (+) 4", 5" DBH; 12' h. (1) 1975.
Status: (+) 3' DBH; 18' h. (3) 1975.

Picea pungens 'Montgomery'
Montgomery Colorado Spruce
S133. B4. (2) 1974, 10-yr. grafts 2' h. Ts from Arboretum nursery where they had been growing since 1966.
Status: (+) 2' h. (2) 1975.

Picea rubens Sarg.
Red Spruce
S92. J19. (49) 1918, 2-2 planting stock set 6' x 6'.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>S82. J19.</td>
<td>10</td>
<td>2'</td>
<td>6'</td>
<td>30</td>
<td>1927</td>
</tr>
<tr>
<td>S82. J19.</td>
<td>14</td>
<td>2'</td>
<td>10'</td>
<td>30</td>
<td>1931</td>
</tr>
<tr>
<td>S82. J19.</td>
<td>18</td>
<td>3'</td>
<td>15'</td>
<td>30</td>
<td>1936</td>
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<td>S82. J19.</td>
<td>22</td>
<td>8</td>
<td>6'</td>
<td>14</td>
<td>1956</td>
</tr>
</tbody>
</table>

1939 Re (1) thinning. 1956 (21) Fw severe wind damage.
Status: Fw 1956.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>S82. J19.</td>
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<td>1956</td>
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1939 Re (1) thinning. 1956 (21) Fw severe wind damage.
Status: Fw 1956.

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<tr>
<td>S82. J19.</td>
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<td>1927</td>
</tr>
<tr>
<td>S82. J19.</td>
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<td>1931</td>
</tr>
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<td>S82. J19.</td>
<td>18</td>
<td>3'</td>
<td>15'</td>
<td>30</td>
<td>1936</td>
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<tr>
<td>S82. J19.</td>
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<td>8</td>
<td>6'</td>
<td>14</td>
<td>1956</td>
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</tbody>
</table>

1939 Re (1) thinning. 1956 (21) Fw severe wind damage.
Status: Fw 1956.

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<th>Plantation</th>
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<td>S82. J19.</td>
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<td>1931</td>
</tr>
<tr>
<td>S82. J19.</td>
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<td>S82. J19.</td>
<td>22</td>
<td>8</td>
<td>6'</td>
<td>14</td>
<td>1956</td>
</tr>
</tbody>
</table>

1939 Re (1) thinning. 1956 (21) Fw severe wind damage.
Status: Fw 1956.

Picea schrenkiana Fisch. and Mey.
Schrenk Spruce
Status: Fs 1933.

Picea sitchensis (Bong.) Carr.
Sitka Spruce
S11. C1. (3) 1917. (2) 1933.
Status: Re 1947.
S72. K13. (49) 1930, 2-4 planting stock.
Status: Fp 1930.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>S72. K13.</td>
<td>46</td>
<td>6&quot;</td>
<td>30'</td>
<td>10</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (-) 5"-8" DBH; 22'-35' h. (10) 1975.
Ground cover is mowed grass.

Picea smithiana (Wall.) Boiss.
Himalayan Spruce, Indian Spruce
Status: Fc 1930.
S8. O. (2) 1931.
Status: F 1941.
Picea sp., Jones selection
Jones Selection Spruce
  Status: (+ +) 12” DBH; 41’ h. (1) 1975.

Picea wilsoni Mast.
Wilson Spruce
  Status: ( +) 9”, 11” DBH; 35’, 43’ h. (2) 1975.

PINUS: PINE

Eighty-three different species, varieties, or cultivars of pines have been planted in the Arboretum since the initial planting of Red and Rocky Mountain Ponderosa Pine in 1907. There are many pine plantings still standing which are from 60 to 70 years old. Pines have been set out in various mixtures with other pines, conifers, and many different hardwood mixtures. Years ago hardwood weed control was attempted by discing underneath pine plantations. As a result, many areas of pine have had their root systems and butts of trees damaged and are now infected with various root and butt rots. In most instances pines now blown over by high winds have decay in their roots. Considerable breakage was caused in many older plantations of Scotch, White, and Ponderosa Pines by a 22-inch snowfall in December 1974. Some trees up to 12 inches DBH were broken off.

Pinus albicaulis Engelm.
Whitebark Pine
Suk. B. 1931.
  Status: Fw 1934.

Pinus aristata Engelm.
Bristlecone Pine
  Status: (+) 15’ h. (1) 1975.
  Status: Re 1947.
  Status: Re 1947.
  Status: NP 1968.

Pinus attenuata Lemm.
Knobcone Pine
  Status: Fe 1936.

Pinus balfouriana Grev. & Balf.
Foxtail Pine
Suk. B. 1930. Exposed site.
  Status: Fs 1931.

Pinus banksiana Lamb.
Jack Pine
S53. E5a. (124) 1911, 2-1 planting stock set 6’ x 6’, 20” h. Plot pruned.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>3”</td>
<td>16’</td>
<td>103</td>
<td>1922</td>
</tr>
<tr>
<td>17</td>
<td>4”</td>
<td>26’</td>
<td>113</td>
<td>1927</td>
</tr>
<tr>
<td>22</td>
<td>5”</td>
<td>34’</td>
<td>96</td>
<td>1932</td>
</tr>
<tr>
<td>26</td>
<td>5”</td>
<td>37’</td>
<td>94</td>
<td>1936</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td></td>
<td>83</td>
<td>1938</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>75</td>
<td>1939</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>5”</td>
<td>42’</td>
<td>62</td>
<td>1944</td>
</tr>
<tr>
<td>46</td>
<td>7”</td>
<td>50’</td>
<td>1957</td>
<td></td>
</tr>
</tbody>
</table>

1938 (11) Re thinning. 1939 (8) Re thinning. 1961 severe heavy wet snow and high winds.
  Status: Re 1962.
S53. E5b. (110) 1911, 2-1 planting stock set 6’ x 6’, 20” h. Plot unpruned.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>3”</td>
<td>16’</td>
<td>103</td>
<td>1922</td>
</tr>
<tr>
<td>17</td>
<td>5”</td>
<td>33’</td>
<td>93</td>
<td>1932</td>
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<td>22</td>
<td>5”</td>
<td>36’</td>
<td>87</td>
<td>1936</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>77</td>
<td>1939</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>6’</td>
<td>43’</td>
<td>62</td>
<td>1944</td>
</tr>
</tbody>
</table>

1939 (10) Re thinning. 1961 severe heavy wet snow and high winds.
  Status: Re 1962.
S53. C3. (105) 1914, 2-3 planting stock, 15” h. (52) 1930.
  Status: Re 1959.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>4”</td>
<td>22’</td>
<td>29</td>
<td>1925</td>
</tr>
<tr>
<td>17</td>
<td>5”</td>
<td>31’</td>
<td>29</td>
<td>1931</td>
</tr>
<tr>
<td>22</td>
<td>5”</td>
<td>39’</td>
<td>28</td>
<td>1936</td>
</tr>
<tr>
<td>47</td>
<td></td>
<td>70’</td>
<td>1</td>
<td>1961</td>
</tr>
<tr>
<td>62</td>
<td>14”</td>
<td>70’</td>
<td>1</td>
<td>1975</td>
</tr>
</tbody>
</table>

March 1961 high winds and heavy snow destroyed plot.
  Status: ( +) (1) 1975.
S53. J40. (105) 1914, 2-2 planting stock set 4’ x 4’.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>3”</td>
<td>24’</td>
<td>103</td>
<td>1926</td>
</tr>
<tr>
<td>25</td>
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<td>38</td>
<td>1938</td>
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<td>26</td>
<td>5”</td>
<td>45’</td>
<td>38</td>
<td>1939</td>
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<td></td>
<td>37</td>
<td>1940</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td></td>
<td>4</td>
<td>1951</td>
<td></td>
</tr>
</tbody>
</table>
1938 (25) Re thinning. 1939 (1) Re thinning. 1951 (33) Fw severe wind damage.
Status: Fw 1951.
S53. G11. (24) 1915, 2-5 planting stock set 6' x 6', 40'' h.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>2''</td>
<td>12'</td>
<td>22</td>
</tr>
<tr>
<td>17</td>
<td>3''</td>
<td>17'</td>
<td>17</td>
</tr>
<tr>
<td>21</td>
<td>3''</td>
<td>22'</td>
<td>13</td>
</tr>
</tbody>
</table>

March 1961 heavy snow and severe winds destroyed plot.

**Pinus banksiana—Pinus sylvestris**
Jack Pine—Scotch Pine
S9. G10. (25) 1917, 2-1 planting stock set 6' x 6'.
17 Jack Pine, 8 Scotch Pine.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
</tr>
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<tbody>
<tr>
<td>9</td>
<td>3''</td>
<td>19'</td>
<td>17</td>
</tr>
<tr>
<td>15</td>
<td>4''</td>
<td>28'</td>
<td>14</td>
</tr>
<tr>
<td>20</td>
<td>4''</td>
<td>33'</td>
<td>13</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>4</td>
<td>1931</td>
</tr>
<tr>
<td>52</td>
<td></td>
<td>4</td>
<td>1968</td>
</tr>
<tr>
<td>59</td>
<td>14''</td>
<td>66'</td>
<td>4</td>
</tr>
</tbody>
</table>

Status: (+) 11''-15'' DBH; 61'-69' h. (4) 1975.

**Pinus banksiana**
Jack Pine
S100. H5. (50) 1956, set 4' x 4'. Heavy snows and severe winds destroyed plot 1961.
Status: (+ +) 7'' DBH; 33' h. (1) 1975.

**Pinus bungeana** Zucc. ex Endl.
Lacebark Pine
S130. C1. (1) 1928, 2-8 planting stock.
Status: (+) multistem; 44' h. (1) 1975.
Status: Re 1947.
Status: Fp Fs 1939.
Status: (+) multistemmed; 27' h. (1) 1975.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
</tr>
</thead>
<tbody>
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<td>2''</td>
<td>9'</td>
<td>24</td>
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<tr>
<td>14</td>
<td>3''</td>
<td>16'</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>4''</td>
<td>23'</td>
<td>8</td>
</tr>
<tr>
<td>33</td>
<td></td>
<td>1</td>
<td>1950</td>
</tr>
<tr>
<td>42</td>
<td></td>
<td>0</td>
<td>1959</td>
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</table>

Status: Fc 1936.
Status: Fc 1936.
Suk. E47. (28) 1931. Needle blight.
Status: Fd 1945.
Suk. H. 1954.
Status: Fc 1956.

**Pinus contorta** var. **parryana** Voss
Parry Pinyon Pine
Suk. O. 1931. Winter 1935-36 very severe.
Status: Fc 1936.

**Pinus contorta** Dougl. ex Loud.
Lodgepole Pine
Suk. E55. 1919. Two severe winters in a row.
Status: Fc 1959.

**Pinus contorta** var. **latifolia** Engel. ex S. Wats.
Rocky Mountain Lodgepole Pine
S9. G26. (30) 1918, set 6' x 6', 1' h.
1959 Re, two severe winters in a row killed tree.
1950 heavy wet snow caused breakage, temperature —16° F.
Status: Fe 1959.
S99. E55. (65) 1919, 2-1 planting stock set 6’ x 6’.

<table>
<thead>
<tr>
<th>Plantation</th>
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<th>Year</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>2”</td>
<td>9’</td>
<td>63</td>
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<td>3”</td>
<td>19’</td>
<td>59</td>
<td>1931</td>
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<td></td>
<td>18</td>
<td>4”</td>
<td>21’</td>
<td>42</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>1</td>
<td>1950</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>0</td>
<td>1959</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1950 heavy wet snow caused breakage, temperature to —16° F. 1959 two severe winters in a row killed tree.
Status: Fe 1959.

**Pinus coulteri** D. Don
Coulter Pine
Status: Fe 1956.

**Pinus densiflora** S. & Z.
Japanese Red Pine
S2. G16. (30) 1914, 2-2 planting stock set 6’ x 6’.
Ground cover mowed grass. Many killed by disease.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>3”</td>
<td>18’</td>
<td>28</td>
<td>1928</td>
</tr>
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<td>13</td>
<td>4”</td>
<td>21’</td>
<td>21</td>
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</tr>
<tr>
<td></td>
<td>55</td>
<td>1</td>
<td>1969</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>1”</td>
<td>1975</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Status: (+) 1975.
Status: Re 1950.
Status: Fd 1959.
Status: Fd 1959.
Status: Fd 1959.
Status: (+) 7’ h. (7) 1975.

**Pinus densiflora ‘Umbraculifera’** Mayr.
Umbrella Japanese Red Pine
Status: (—) 20’ h. (1) 1975.

**Pinus echinata** Mill.
Shortleaf Pine
S100. C4. (2) 1958. Ground cover is mowed grass.
Status: (+ +) 3”-8” DBH; 18’-34’ h. (2) 1975.

<table>
<thead>
<tr>
<th>Plantation</th>
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<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15</td>
<td>3”</td>
<td>17’</td>
<td>8</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+) 1975.
Status: Fw 1953.

**Pinus echinata x rigida**

**Pinus flexilis** James
Limber Pine
S53. F2. (12) 1915, 2-0 planting stock. (7) 1933, (2) 1957.
Status: (—) 10”-12” DBH; 45’-52’ h. (2) 1975.
S53. F1. (4) 1915, 2-0 planting stock. (3) 1957.
(3) 1975 12” av. DBH; 48’ av. h. Exposed wet site. Largest tree badly bent, trunk full of decay.
Status: (+) 8”-15” DBH; 45’-52’ h. (3) 1975.
S53. O. (1) 1916, 2-1 planting stock. In 1963 destroyed by high winds, temperature —20° F.
Status: Fw 1963.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>1”</td>
<td>8’</td>
<td>45</td>
<td>1925</td>
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<tr>
<td></td>
<td>15</td>
<td>3”</td>
<td>17’</td>
<td>41</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>4”</td>
<td>21’</td>
<td>39</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>51</td>
<td>6</td>
<td>1968</td>
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</tr>
<tr>
<td></td>
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<td>1970</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>4</td>
<td>1972</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>59</td>
<td>12”</td>
<td>60’</td>
<td>4</td>
<td>1975</td>
</tr>
</tbody>
</table>
1950 heavy snow damage. 1968 (3) winthrown.  
1970 (1) windthrown. 1972 (1) windthrown. 
Windthrown trees had decay in roots.  
Status: (++) 9”-12” DBH; 56’-67’ h. (4) 1975.  
Status: (++) 4”, 5’ h. (2) 1975.  
tree is 11’ h.  
Status: (+) 6’av. h. (24) 1975.  
*Pinus griffithii* McClelland  
Himalayan Pine  
S92. G27. (36) 1918, 2-2 planting stock set 6’ x 6’,  
10” h.  

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1”</td>
<td>9’</td>
<td>23</td>
<td>1925</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>5’</td>
<td>15</td>
<td>1926</td>
</tr>
<tr>
<td>14</td>
<td>4”</td>
<td>17’</td>
<td>9</td>
<td>1931</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>2’</td>
<td>2</td>
<td>1945</td>
</tr>
</tbody>
</table>

1926 (8) Fd, pruning disease (*Cenangium abietis*). 1945 severe heavy wet snow. 1961 three severe winters followed by heavy wet snow and severe winds in March 1961 destroyed remainder of plot.  
Status: (++) 13” DBH; 16’ h. (1) 1975.  

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>1”</td>
<td>11’</td>
<td>7</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (++) 1”-3” DBH; 6’-17’ h. (7) 1975.  
*Pinus griffithii* x *Pinus strobus*  

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>6”</td>
<td>33’</td>
<td>17</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (++) 2”-9” DBH; 10’-38’ h. (17) 1975.  
*Pinus halepensis* Mill.  
Aleppo Pine  
Suk. O. 1925. Temperatures to —12° F, in 1929 severely damaged pine.  
Status: Fe 1931.  
*Pinus halepensis* var. *bruita* (Ten.) Henry  
Erectcone Aleppo Pine  
Status: (++) 3”, 4” DBH; 20’ h. (2) 1975.  

*Pinus heldreichi* var. *leucodermis*  
(Ant.) Markgraf ex Fitsch.  
Bosnian Redcone Pine  
S107. B5. (8) 1969, 6” h. (8) Ts 1974 H.  
Status: (++) 6”-12” h. (8) 1974.  
*Pinus jeffreyi* Grev. & Balf.  
Jeffrey Pine  
S9. C3. (1) 1908, 18” h.  
Status: Re 1947.  
Status: Re 1951.  
Status: Re 1951.  

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>2”</td>
<td>8’</td>
<td>31</td>
<td>1925</td>
</tr>
<tr>
<td>14</td>
<td>3”</td>
<td>13’</td>
<td>28</td>
<td>1931</td>
</tr>
<tr>
<td>18</td>
<td>5”</td>
<td>20’</td>
<td>15</td>
<td>1936</td>
</tr>
<tr>
<td>57</td>
<td>17”</td>
<td>66’</td>
<td>2</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (++) largest tree is 22” DBH; 82’ h. 1975.  
Status: Fs 1947.  
*Pinus koraiensis* S. & Z.  
Korean Pine  

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1”</td>
<td>7’</td>
<td>21</td>
<td>1925</td>
</tr>
<tr>
<td>14</td>
<td>3”</td>
<td>17’</td>
<td>21</td>
<td>1931</td>
</tr>
<tr>
<td>18</td>
<td>4”</td>
<td>26’</td>
<td>19</td>
<td>1936</td>
</tr>
<tr>
<td>50</td>
<td>10”</td>
<td>60’</td>
<td>2</td>
<td>1968</td>
</tr>
<tr>
<td>54</td>
<td>12”</td>
<td>69’</td>
<td>1</td>
<td>1971</td>
</tr>
</tbody>
</table>

Last two trees killed by Ips Bark Beetles.  
Status: Fi 1972.  
*Pinus lambertiana* Dougl.  
Sugar Pine  
Suk. B. 1928.  
Status: Fe 1929.  
Status: Fe 1963.
**Pinus massoniana** Lamb.
Masson Pine
Suk. O. 1916. Re change in landscaping.
Status: Re 1942.

**Pinus monticola** Dougl.
Western White Pine
Status: Fs 1945.
S108. J15. (18) 1956 set 8' x 8'.
Status: Fc 1956.
S29. G18. (2) 1971, 2-4 planting stock, 3' h. Very little root system when received.

**Pinus monticola x strobus**
Status: F 1956.

**Pinus mugo** Turra
Swiss Mountain Pine
Status: Re 1947.
S92. O. (10) 1913. (10) 1933. Change in landscaping.
Status: Re 1942.
Status: Fs 1945.
Status: Re 1950.
Status: Fs 1945.
S85. O. (1) 1955.
Status: (++) 14' h. (1) 1975.

**Pinus mugo var. mugo** (Scop.) Zenari
Mugho Swiss Mountain Pine
Fs, became too shady.
Status: Fs 1940.
Status: Re 1959.
Status: (—) 6” DBH; 21’ h. (1) 1975.
S85. O. (2) 1956. Soil swept out of shed piled on top of roots. Foliage injured from heavy use of herbicide.
Status: (—) 5' h., 8’ spread. (2) 1975.

**S85. O. (2) 1957.**

**Pinus mugo var. pumilio** (Haenke) Zenari
Shrubby Swiss Mountain Pine
S11. C3. (1) 1924.
Status: Fs 1945.
S102. C3. (3) 1933, grafts. (2) 1936.
Status: Fs 1940.

**Pinus mugo var. rostrata** (Ant.) Gord.
Tree Swiss Mountain Pine
Suk. O. 1922.
Status: Fs 1931.

**Pinus mugo var. rotundata** (Link) Gord.
Hoopes Swiss Mountain Pine
Suk. B. 1933.
Status: Fs 1936.

**Pinus nigra** Arn.
Austrian Pine
S53. D10. (289) 1912, 2-3 planting stock set 6’ x 6’. Originally two plots, one pruned and one unpruned. By 1947 could not distinguish between plots. All trees have died out in wet northwest area of plot.

<table>
<thead>
<tr>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>4’’</td>
<td>21’</td>
<td>267</td>
<td>1925</td>
</tr>
<tr>
<td>19</td>
<td>5’’</td>
<td>30’</td>
<td>251</td>
<td>1932</td>
</tr>
<tr>
<td>24</td>
<td>6’’</td>
<td>32’</td>
<td>206</td>
<td>1936</td>
</tr>
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<td>26</td>
<td></td>
<td>159</td>
<td></td>
<td>1938</td>
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<tr>
<td>31</td>
<td>7’’</td>
<td>47’</td>
<td>154</td>
<td>1944</td>
</tr>
<tr>
<td>37</td>
<td>9’’</td>
<td>56’</td>
<td>38</td>
<td>1949</td>
</tr>
<tr>
<td>40</td>
<td>9’’</td>
<td>58’</td>
<td>38</td>
<td>1952</td>
</tr>
<tr>
<td>45</td>
<td>10’</td>
<td>58’</td>
<td>38</td>
<td>1957</td>
</tr>
<tr>
<td>64</td>
<td>12’</td>
<td>72’</td>
<td>34</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (—) 7”-17” DBH; 65’-74’ h. (34) 1975.

S53. J8. (1) 1912, mixed with Ponderosa Pine, 2-2 planting stock set 8’ x 8’. Badly infected with tip blight, quite pitchy from extensive sapucker work.
Status: (—) 20” DBH; 68’ h. (1) 1975.

S53. O. 1912. 2-2 planting stock.
Status: (++) 14”-18” DBH; 60’-65’ h. (3) 1975.

S53. O. 1912. 2-2 planting stock.
Status: (++) 21” DBH; 64’ h. (1) 1975.

S53. O. (7) 1912, 2-2 planting stock.
Status: (++) 13”-23” DBH; 61’ h. (7) 1975.
S74. J12. (100) 1913, 2-3 planting stock set 6' x 6', 1' h. Removed half of plot 1950. Removed remainder of plot 1955 to make room for Crabapple plantings.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>4&quot;</td>
<td>19'</td>
<td>100</td>
<td>1925</td>
</tr>
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<td></td>
<td>1932</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>6'</td>
<td>32'</td>
<td>77</td>
<td>1932</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>6'</td>
<td>36'</td>
<td>76</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>69</td>
<td></td>
<td>69</td>
<td>1939</td>
</tr>
</tbody>
</table>

1932 thinning. 1939 thinning.

**Pinus nigra—Pinus strobus**
Austrian Pine—White Pine


<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP</td>
<td>11</td>
<td>9</td>
<td>3&quot;</td>
<td>13'</td>
<td>25</td>
</tr>
<tr>
<td>WP</td>
<td>17</td>
<td>15</td>
<td>5&quot;</td>
<td>26'</td>
<td>24</td>
</tr>
<tr>
<td>AP</td>
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<td>6&quot;</td>
<td>33'</td>
<td>23</td>
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<td>WP</td>
<td>27</td>
<td>25</td>
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<td>22</td>
<td>1941</td>
</tr>
<tr>
<td></td>
<td>61</td>
<td>59</td>
<td>14&quot;</td>
<td>73'</td>
<td>12</td>
</tr>
</tbody>
</table>

1941 thinning.
Status: (+) 10"-16" DBH; 70'-74' h. (12) 1975.

**Pinus nigra**
Austrian Pine

S9. O. (2) 1914. Lawn planting.
Status: (+) 14", 20" DBH; 51', 58' h. (2) 1975.

**Pinus nigra—Picea abies—Pinus sylvestris**
Austrian Pine—Norway Spruce—Scotch Pine


**Pinus nigra**
Austrian Pine

S9. O. 1917.
Status: (++) 21"-27" DBH; 49'-56' h. (3) 1975.

---

**Pinus nigra—Pinus ponderosa var. scopulorum**
Austrian Pine—Rocky Mountain Ponderosa Pine


<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
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<tbody>
<tr>
<td></td>
<td>10</td>
<td>3&quot;</td>
<td>13'</td>
<td>13</td>
<td>12</td>
</tr>
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<td></td>
<td>25</td>
<td></td>
<td></td>
<td>12</td>
<td>1941</td>
</tr>
<tr>
<td></td>
<td>58</td>
<td>13&quot;</td>
<td>63'</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>59</td>
<td>13&quot;</td>
<td>64'</td>
<td>7</td>
<td>1975</td>
</tr>
</tbody>
</table>

Dec. 1974 2 Fw, P. ponderosa var. scopulorum 8"-12" DBH. Snapped stems under 22" snowfall.
Status: (+) 10"-16" DBH; 61'-68' h. (7) 1975.

**Pinus nigra**
Austrian Pine

S92. C3. (1) 1918.
Status: Re 1962.

S92. D30. (66) 1918, 2-2 planting stock set 6' x 6'. (Mixed with var. maritima.)

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>4&quot;</td>
<td>17'</td>
<td>60</td>
<td>1927</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>5&quot;</td>
<td>31'</td>
<td>54</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td></td>
<td></td>
<td>45</td>
<td>1938</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>6&quot;</td>
<td>37'</td>
<td>42</td>
<td>1943</td>
</tr>
<tr>
<td></td>
<td>58</td>
<td>12&quot;</td>
<td>50'</td>
<td>12</td>
<td>1975</td>
</tr>
</tbody>
</table>

1938 thinning. All trees in wet eastern area of plot have died out. 1975 dense undergrowth of blackberry bushes.
Status: (+) 9"-16" DBH; 75'-83' h. (12) 1975.

**Pinus nigra**
Austrian Pine

Status: NP 1968.

S90. M2. (10) 1934, 2-1-2 planting stock underplanted in hardwoods.
Status: Fs 1947.


S97. A28. (25) 1963. 1975 stand closed, ground cover is duff from fallen needles, 5" av. DBH; 20' av. h.
Status: (++) 2"-6" DBH; 18'-22' h. (21) 1975.

**Pinus nigra var. caramanica** (Loud.) Rehd.
Crimean Pine

Status: (++) 22" DBH; 58' h. (1) 1975.
**Pinus nigra var. maritima** (Ait.) Melville  
(var. poiretiana)

**Corsican Pine, Calabrian Pine**


Status: NP 1968.

S99. C1. (2) 1914. (1) 1956, (1) Re.

Status: Re 1962.

S99. C4. (1) 1914, seeded in place. Was nursery bed at time. Ground cover is mowed grass.

Status: 18" DBH; 67' h. (1) 1975.


<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
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<tbody>
<tr>
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<td></td>
<td>13&quot;</td>
<td>87'</td>
<td>20</td>
<td>1975</td>
</tr>
</tbody>
</table>

Two largest trees are dying from change in grade due to road building.

Status: (+) 6"-20" DBH; 80'-90' h. (20) 1975.

S99. D30. (640) 1917, 2-1 planting stock set 3' x 3'.

Set out as two plots, one pruned and one unpruned. By 1947 no difference and plots could not be separated.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
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<td>12&quot;</td>
<td>114</td>
<td>1924</td>
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<tr>
<td>7</td>
<td></td>
<td>4&quot;</td>
<td>23'</td>
<td>81</td>
<td>1928</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>5&quot;</td>
<td>30'</td>
<td>76</td>
<td>1931</td>
</tr>
<tr>
<td>20</td>
<td></td>
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<td>39'</td>
<td>73</td>
<td>1936</td>
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<td>21</td>
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<td>60</td>
<td>1938</td>
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<td>26</td>
<td></td>
<td>5&quot;</td>
<td>53'</td>
<td>53</td>
<td>1942</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>6&quot;</td>
<td>50'</td>
<td>51</td>
<td>1944</td>
</tr>
<tr>
<td>59</td>
<td></td>
<td>17&quot;</td>
<td>87'</td>
<td>1</td>
<td>1975</td>
</tr>
</tbody>
</table>

Two largest trees are dying from change in grade due to road building.

Status: (+) 6"-20" DBH; 80'-90' h. (20) 1975.

S99. D30c. (22) 1918, 1-3 planting stock set 6' x 6'.

Site wet where trees have failed.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
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<td>4&quot;</td>
<td>20'</td>
<td>22</td>
<td>1927</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>6&quot;</td>
<td>36'</td>
<td>21</td>
<td>1936</td>
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<tr>
<td>20</td>
<td></td>
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<td>16</td>
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<td>1943</td>
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<tr>
<td>58</td>
<td></td>
<td>17&quot;</td>
<td>87'</td>
<td>1</td>
<td>1975</td>
</tr>
</tbody>
</table>

Thinned 1926, 1938, 1941, 1942.

Status: (-) 6"-14" DBH; 78'-87' h. (36) 1975.

S99. O. (11) 1917. Ground cover is lawn area.

Status: (+ +) 9"-19" DBH; 66'-70' h. (11) 1975.

**Pinus nigra var. maritima—Pinus sylvestris—Pinus strobus**

**Corsican Pine—Scotch Pine—White Pine**

S99. A17. (154) 1919, 27 Corsican 2-3 planting stock. Scotch Pine (77) 1917, 2-2 planting stock set 6' x 6'. White Pine (50) 1917. Originally set as two plots, one pruned, one unpruned. No significant difference by 1936 and plots could not be separated. 1975 heavy undergrowth of Blackberry, Poison Ivy, Black Locust, and Black Cherry.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td></td>
<td>1&quot;</td>
<td>19'</td>
<td>25</td>
<td>1928</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>3&quot;</td>
<td>27'</td>
<td>25</td>
<td>1932</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>4&quot;</td>
<td>32'</td>
<td>23</td>
<td>1936</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>8&quot;</td>
<td>62'</td>
<td>4</td>
<td>1949</td>
</tr>
<tr>
<td>57</td>
<td></td>
<td>13&quot;</td>
<td>78'</td>
<td>4</td>
<td>1975</td>
</tr>
</tbody>
</table>

Thinned 1926, 1938, 1941, 1942.

Status: (- -) 6"-14" DBH; 78'-87' h. (36) 1975.

S99. O. (11) 1917. Ground cover is lawn area.

Status: (+ +) 9"-19" DBH; 66'-70' h. (11) 1975.

**Pinus nigra var. maritima**

**Calabrian Pine, Corsican Pine**


Status: Fs 1947.

S114. A26. (81) 1939, 2-5 planting stock. 1975 dense undergrowth White Ash, Blackberry, Black...
Raspberry, and Black Locust. Heavy duff from fallen needles. Periodically mowed.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>2”</td>
<td>14'</td>
<td>18</td>
<td>1949</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>4”</td>
<td>26'</td>
<td>17</td>
<td>1957</td>
</tr>
<tr>
<td></td>
<td>47</td>
<td>8”</td>
<td>71'</td>
<td>29</td>
<td>1975</td>
</tr>
</tbody>
</table>

All side branches pruned off 1949, 1953. Winter 1962-63, 3 winter killed and 40 injured.

Status: (+ +) 4”-13” DBH; 65'-73' h. (29) 1975.

**Pinus nigra** var. *maritima—Pinus sylvestris* var. *rigensis—Pinus sylvestris* French’s sel.

Corsican Pine—Riga Scotch Pine—French’s Selection Scotch Pine

S99. A34. (14) 1960. Corsican Pine. Set quater-
nate diagonal rows.

S116. A34. (14) 1960. Riga Scotch Pine. Set quater-
nate diagonal rows.

S42. A34 (28) 1960. French's Scotch Pine. Set alter-
enate diagonal rows.

To 1973 1 Riga, 10 French’s Scotch Pine removed in thinning, trees were suppressed. 1974, 4 Corsi-
can and 7 French’s Scotch Pine destroyed by 22”

snowfall, Riga Scotch Pine was not damaged.

Status: Riga Scotch Pine (+ +) 4”-8” DBH; 30'-42' h. (13) 1975.

Corsican Pine (+ +) 3”-7” DBH; 20'-48' h. (10) 1975.

French’s Scotch Pine (+ +) 3”-7” DBH; 18'-45' h. (12) 1975.

**Pinus parviflora** S. & Z.

Japanese White Pine

S9. C3. (2) 1909, 2’ h. (1) 1933. Very exposed

windy site. Ground cover is mowed grass.

Status: (—) 9” DBH; 20’ h. (1) 1975.

**Pinus peuce** Griseb.

Balkan Pine, Macedonian Pine

S9. O. (2) 1909, 15” h.

Status: Fw 1947.


snow 1948.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>1”</td>
<td>9'</td>
<td>18</td>
<td>1927</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>2”</td>
<td>14'</td>
<td>17</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>3”</td>
<td>19'</td>
<td>15</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td></td>
<td></td>
<td>2</td>
<td>1947</td>
</tr>
</tbody>
</table>

Status: Fw 1948.

**Pinus pinaster** Sol.

Cluster Pine

Suk. B. 1932.

Status: Fc 1934.

**Pinus ponderosa** Laws.

Ponderosa Pine

S53. E55. (35) 1919, 1-2 planting stock set 6’ x 6’.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>4”</td>
<td>13'</td>
<td>31</td>
<td>1927</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>5”</td>
<td>20’</td>
<td>31</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>6”</td>
<td>27’</td>
<td>25</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td></td>
<td></td>
<td>1</td>
<td>1939</td>
</tr>
</tbody>
</table>

Status: Fc 1960.


Status: Fc 1960.


Status: (+ +) 4” DBH; 15’, 18’ h. (2) 1975.

**Pinus ponderosa** var. *scopulorum* Engelm.

Rocky Mountain Ponderosa Pine


Exposed site. Ground cover is mowed grass.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21</td>
<td>4”</td>
<td>21’</td>
<td>52</td>
<td>1927</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td></td>
<td></td>
<td>47</td>
<td>1941</td>
</tr>
<tr>
<td></td>
<td>62</td>
<td></td>
<td></td>
<td>3</td>
<td>1968</td>
</tr>
<tr>
<td></td>
<td>69</td>
<td>14”</td>
<td>61’</td>
<td>3</td>
<td>1975</td>
</tr>
</tbody>
</table>


Status: (+) 13”-15” DBH; 55’-71’ h. (3) 1975.

S74. O. (1) 1909. (1) 1970, 14” DBH. Growing on lawn.

Status: (+ +) 15” DBH; 71’ h. (1) 1975.

**Pinus ponderosa** var. *scopulorum—Acer platanoides* L.

Rocky Mountain Ponderosa Pine—Norway Maple


Interplanted 25 Norway Maple 1915.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17</td>
<td>10</td>
<td>3’</td>
<td>1’</td>
<td>16’</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>16</td>
<td>5”</td>
<td>3’</td>
<td>25’</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>21</td>
<td>6”</td>
<td>4’</td>
<td>30’</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td></td>
<td></td>
<td>6’</td>
<td>46’</td>
</tr>
<tr>
<td></td>
<td>61</td>
<td>10”</td>
<td>74’</td>
<td>20</td>
<td>1975</td>
</tr>
</tbody>
</table>

Pines overtopped and completely suppressed by 1944. 1975 no undergrowth.

Status: Norway Maple: (+ +) 4”-17” DBH; 40’-78’ h. (20) 1975.

Ponderosa Pine: Fs 1944.
*Pinus ponderosa* var. *scopulorum—Picea abies*
Rocky Mountain Ponderosa Pine—Norway Spruce

S53. E6b. (25) 1909, 2-2 planting stock set 6' x 10'.
Interplanted 25 Norway Spruce 1916.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP NS PP NS PP</td>
<td>17 10 4'' 1'' 18' 8'</td>
<td>18 18</td>
<td>1925</td>
<td></td>
</tr>
<tr>
<td>23 16 5'' 2'' 24' 13'</td>
<td>16 18</td>
<td>1931</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 21 6'' 2'' 30' 15'</td>
<td>14 18</td>
<td>1936</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 28 7'' 4'' 37' 15'</td>
<td>10 14</td>
<td>1944</td>
<td></td>
<td></td>
</tr>
<tr>
<td>67 60 13'' 4'' 60' 24'</td>
<td>1 2</td>
<td>1975</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Site wet in Spring and poorly drained except where Black Walnut is growing. Undergrowth slight of Elderberry and Tatarian Honeysuckle.

Status: Black Walnut: (+ +) 21" DBH; 65' h. (1) 1975.
Ponderosa Pine: ( — ) 13" DBH; 60' h. (1) 1975.
Norway Spruce: ( — ) 4" DBH; 24' h. (2) 1975.

S53. E6c. (158) 1909, 2-2 planting stock set 6' x 6'.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 10 4'' 1''</td>
<td>18' 8'</td>
<td>108</td>
<td>1925</td>
<td></td>
</tr>
<tr>
<td>23 16 5'' 2''</td>
<td>24' 13'</td>
<td>107</td>
<td>1931</td>
<td></td>
</tr>
<tr>
<td>28 21 6'' 2''</td>
<td>30' 15'</td>
<td>95</td>
<td>1936</td>
<td></td>
</tr>
<tr>
<td>35 28 7'' 4''</td>
<td>37' 15'</td>
<td>64</td>
<td>1944</td>
<td></td>
</tr>
<tr>
<td>67 60 13'' 4''</td>
<td>60' 24'</td>
<td>13</td>
<td>1975</td>
<td></td>
</tr>
</tbody>
</table>


Status: ( — ) 5"-16" DBH; 50'-74' h. (13) 1975.

S53. J8. (39) 1912, 2-2 planting stock set 8' x 8'.

On well-drained hillside. Exposed to winds.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 6'' 28'</td>
<td>34</td>
<td>36</td>
<td>1925</td>
<td></td>
</tr>
<tr>
<td>20 7'' 32'</td>
<td>34</td>
<td>36</td>
<td>1932</td>
<td></td>
</tr>
<tr>
<td>24 7'' 32'</td>
<td>34</td>
<td>36</td>
<td>1936</td>
<td></td>
</tr>
<tr>
<td>64 13'' 65'</td>
<td>8</td>
<td>1975</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Winter 1962-63 some trees windthrown. Plot includes one Austrian Pine 20" DBH, 65' h. heavily infested with tip blight; one Canada Hemlock 7" DBH, 40' h.; one Shingle Oak (*Quercus imbricaria*) 7" DBH, 25' h. Underplanted with azaleas 1970-1974.

Status: ( + ) 8''-18" DBH; 63'-69' h. (8) 1975.

*Pinus ponderosa* var. *scopulorum—Pinus resinosa*
Rocky Mountain Ponderosa Pine—Red Pine

S53. G9. (41) 1914, 2-4 planting stock set 6' x 6'.

Various conifers have been used as windbreaks. This mixed conifer windbreak was outplanted in 1970.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 3'' 1''</td>
<td>16' 13'</td>
<td>25 16</td>
<td>1925</td>
<td></td>
</tr>
<tr>
<td>18 4'' 2''</td>
<td>24' 20'</td>
<td>25 13</td>
<td>1931</td>
<td></td>
</tr>
<tr>
<td>23 5'' 3''</td>
<td>31' 25'</td>
<td>23 6</td>
<td>1936</td>
<td></td>
</tr>
<tr>
<td>28 6'' 3''</td>
<td>37' 15'</td>
<td>10 14</td>
<td>1944</td>
<td></td>
</tr>
<tr>
<td>61 11'' 71'</td>
<td>3</td>
<td>1975</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thinning in 1941. Removed Red Pine 1947 as they were suppressed by the Ponderosa Pine.

Status: ( + ) 9''-15" DBH; 69'-73' h. (3) 1975.


Status: Re 1950.

S53. F21a. (210) 1915, 2-2 planting stock set 6' x 6'.
100 thinned, 110 not thinned, all trees pruned.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 1'' 1''</td>
<td>6' 6'</td>
<td>57 106</td>
<td>1922</td>
<td></td>
</tr>
<tr>
<td>11 3'' 2''</td>
<td>11' 11'</td>
<td>97 106</td>
<td>1925</td>
<td></td>
</tr>
<tr>
<td>16 4'' 4''</td>
<td>19' 19'</td>
<td>94 102</td>
<td>1930</td>
<td></td>
</tr>
<tr>
<td>21 5'' 5''</td>
<td>25' 27'</td>
<td>82 89</td>
<td>1936</td>
<td></td>
</tr>
<tr>
<td>24 7'' 35'</td>
<td>55 57</td>
<td>1939</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thinned 1939.

Status: Combined into Plot F21 as natural mortality had reduced number of stems in unthinned portions to essentially the same as thinned portion. Windstorms and heavy wet snows in 1945, 1950, and 1951 caused windthrow, making it impossible to separate plots.

S53. F21b. (105) 1915, 2-2 planting stock set 6' x 6'.
50 trees thinned, 55 trees unthinned, no trees pruned.
Thinned 1939.

Status: Combined into plot F21 as windstorms and heavy wet snows in 1945, 1950, and 1951 caused windthrow, making it impossible to separate plots.

S53. F21c. (410) 1915, 2-2 planting stock set 3' x 6'. 200 trees pruned and thinned, 210 trees unpruned and unthinned.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>1&quot;</td>
<td>5'</td>
<td>200</td>
<td>1922</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>2&quot;</td>
<td>11'</td>
<td>200</td>
<td>1925</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>3&quot;</td>
<td>19'</td>
<td>80</td>
<td>1930</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>3&quot;</td>
<td>19'</td>
<td>80</td>
<td>1930</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>4&quot;</td>
<td>26'</td>
<td>50</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>5&quot;</td>
<td>35'</td>
<td>30</td>
<td>1939</td>
</tr>
</tbody>
</table>

Thinning 1931, 1939.

Status: Combined into Plot F21 as natural mortality and windthrow had reduced number of stems in unthinned portions to essentially the same as thinned portion. Windstorms and heavy snows in 1945, 1950, and 1951 caused windthrow, making it impossible to separate plots.

S53. F21d. (205) 1915, 2-2 planting stock set 3' x 6'. 100 trees thinned, 105 trees unthinned. No pruning.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>1&quot;</td>
<td>5'</td>
<td>100</td>
<td>1922</td>
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<td>11</td>
<td>2&quot;</td>
<td>11'</td>
<td>94</td>
<td>1925</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>3&quot;</td>
<td>19'</td>
<td>80</td>
<td>1930</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>3&quot;</td>
<td>19'</td>
<td>80</td>
<td>1930</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>4&quot;</td>
<td>26'</td>
<td>50</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>5&quot;</td>
<td>35'</td>
<td>30</td>
<td>1939</td>
</tr>
</tbody>
</table>

Thinned 1931, 1939.

Status: Combined into Plot F21 as natural mortality and windthrow had reduced number of stems in unthinned portions to essentially the same as thinned portion. Windstorms and heavy snows in 1945, 1950, and 1951 caused windthrow, making it impossible to separate plots.

S53. F21e. (1271) 1915, 2-2 planting stock set 3' x 3'. 620 trees thinned, 651 trees unthinned. All trees pruned.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>1&quot;</td>
<td>6'</td>
<td>2581</td>
<td>1922</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>2&quot;</td>
<td>11'</td>
<td>2539</td>
<td>1925</td>
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<tr>
<td></td>
<td>16</td>
<td>3&quot;</td>
<td>19'</td>
<td>1898</td>
<td>1930</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>3&quot;</td>
<td>19'</td>
<td>1898</td>
<td>1930</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>4&quot;</td>
<td>26'</td>
<td>1284</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>5&quot;</td>
<td>36'</td>
<td>1100</td>
<td>1939</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>5&quot;</td>
<td>36'</td>
<td>675</td>
<td>1944</td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>9&quot;</td>
<td>61'</td>
<td>675</td>
<td>1957</td>
</tr>
<tr>
<td></td>
<td>61</td>
<td>11&quot;</td>
<td>68'</td>
<td>177</td>
<td>1975</td>
</tr>
</tbody>
</table>

Thinnings 1931, 1939, 1942. Severe winds 1963 blew down swath through plot. Heavy 22" snowfall Dec. 1974 (45) Fw 7"-14" DBH, crowns broken out of trees or stems snapped. Entire center of plot destroyed. Live crowns had shortened up to less than 20% of total height from crowding. 1975 undergrowth heavy stand of Blackberries, scattered Black Raspberries, Devils-Walkingstick,
Pokeberry, Multiflora Rose, Elderberry, Smilax, Sassafras, Black Cherry.
Status: (—) 6”-17” DBH; 60’-70’ h. (177) 1975.

*Pinus ponderosa* var. *scopulorum*—*Pinus nigra*
Rocky Mountain Ponderosa Pine—Austrian Pine

*Pinus ponderosa* var. *scopulorum*
Rocky Mountain Ponderosa Pine
S9. D30. (22) 1918, 1-2 planting stock set 6’ x 6’.
Group planting with Scotch, White, Red, Austrian, and Corsican Pines. Area where Ponderosa Pine failed is wet and poorly drained.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>2&quot;</td>
<td>14’</td>
<td>22</td>
<td>1927</td>
</tr>
<tr>
<td>19</td>
<td>4”</td>
<td>27’</td>
<td>13</td>
<td>1936</td>
</tr>
<tr>
<td>20</td>
<td>4”</td>
<td>30’</td>
<td>12</td>
<td>1938</td>
</tr>
</tbody>
</table>

Thinning 1938.
Status: Fs prior 1968.

*Pinus pumila* (Pall.) Reg.
Japanese Stone Pine
Suk. B. 1930. Exposed site.

Two trees broken off by 22" snowfall Dec. 1974.
Status: (++) 9”-13” DBH; 56’-66’ h. (4) 1975.
Status: Re 1957.
Status: (++) 8” DBH; 24’ h. (1) 1975.
Status: (++) 7” DBH; 21’ h. (1) 1975.

*Pinus resinosa* Ait.
Red Pine
Status: NP 1968.

Forest plantation of Red Pine set in 1914.
<table>
<thead>
<tr>
<th>Plantation</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>3''</td>
<td>19'</td>
<td>261</td>
<td>1925</td>
</tr>
<tr>
<td>15</td>
<td>3''</td>
<td>21'</td>
<td>242</td>
<td>1927</td>
</tr>
<tr>
<td>18</td>
<td>4''</td>
<td>18'</td>
<td>151</td>
<td>1930</td>
</tr>
<tr>
<td>20</td>
<td>4''</td>
<td>28'</td>
<td>151</td>
<td>1932</td>
</tr>
<tr>
<td>24</td>
<td>4''</td>
<td>31'</td>
<td>140</td>
<td>1936</td>
</tr>
</tbody>
</table>

Removed 29 trees in thinning 1930. Destroyed by ice storm 1938.
Status: Fw 1938.
S92. J13b. (143) 1912, 2-2 planting stock set 4' x 8'.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>14</td>
<td>4''</td>
<td>22'</td>
<td>105</td>
<td>1927</td>
</tr>
<tr>
<td>19</td>
<td>5''</td>
<td>28'</td>
<td>99</td>
<td>1931</td>
</tr>
<tr>
<td>24</td>
<td>6''</td>
<td>34'</td>
<td>99</td>
<td>1936</td>
</tr>
<tr>
<td>26</td>
<td>6'</td>
<td>41'</td>
<td>77</td>
<td>1938</td>
</tr>
<tr>
<td>30</td>
<td>7''</td>
<td>53'</td>
<td>72</td>
<td>1943</td>
</tr>
<tr>
<td>41</td>
<td>7''</td>
<td>53'</td>
<td>72</td>
<td>1953</td>
</tr>
<tr>
<td>64</td>
<td>10''</td>
<td>75'</td>
<td>35</td>
<td>1975</td>
</tr>
</tbody>
</table>

Thinning 1938. Dec. 1974 (3) Fw 9''-10'' DBH; heavy wet 22'' snowfall broke crowns out of trees. Largest tree is 15'' DBH, 84' h. Heavy underbrush Ash, some Blackberry, Black Raspberry, and Ailanthus.
Status: (—) 7''-15'' DBH; 72'-84' h. (35) 1975.

*Pinus resinosa—Picea abies*
Red Pine—Norway Spruce

*Pinus resinosa*
Red Pine
Thinned 1930, 1936, 1938, 1940. Status: Combined into plot G7 after 1944 as natural mortality and trees destroyed by windthrow made it impossible to locate plots.

S92. G7c. (270) 1914, 2-3 planting stock set 3' x 6'. Half of plot thinned, half unthinned.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>3&quot;</td>
<td>3&quot;</td>
<td>14' 13'</td>
<td>121 127</td>
</tr>
<tr>
<td>17</td>
<td>3&quot;</td>
<td>3&quot;</td>
<td>20' 19'</td>
<td>118 126</td>
</tr>
<tr>
<td>17</td>
<td>2&quot;</td>
<td>2&quot;</td>
<td>14' 13'</td>
<td>121 127</td>
</tr>
<tr>
<td>22</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>30' 24'</td>
<td>66 116</td>
</tr>
<tr>
<td>22</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>30' 24'</td>
<td>66 116</td>
</tr>
<tr>
<td>24</td>
<td>6&quot;</td>
<td>4&quot;</td>
<td>33' 31'</td>
<td>21 74</td>
</tr>
</tbody>
</table>

Thinned 1930, 1936, 1938, 1940. Status: Combined into plot G7 after 1944 as natural mortality and trees destroyed by windthrow made it impossible to locate plots.

S92. G7d. (180) 1914, 2-3 planting stock set 3' x 6'. Half of plot thinned, half unthinned.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>3&quot;</td>
<td>3&quot;</td>
<td>21' 20'</td>
<td>83  80</td>
</tr>
<tr>
<td>17</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>30' 25'</td>
<td>46  71</td>
</tr>
<tr>
<td>22</td>
<td>5&quot;</td>
<td>4&quot;</td>
<td>30' 25'</td>
<td>46  71</td>
</tr>
<tr>
<td>22</td>
<td>6&quot;</td>
<td>7&quot;</td>
<td>18' 18'</td>
<td>117 123</td>
</tr>
<tr>
<td>24</td>
<td>6&quot;</td>
<td>7&quot;</td>
<td>18' 18'</td>
<td>117 123</td>
</tr>
<tr>
<td>26</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>36' 36'</td>
<td>48  58</td>
</tr>
</tbody>
</table>

Thinned 1930, 1936, 1938, 1940. Status: Combined into plot G7 after 1944 as natural mortality and trees destroyed by windthrow made it impossible to locate plots.

S92. G7f. (300) 1914, 2-3 planting stock set 3' x 3'. Half of plot thinned, half unthinned.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>3&quot;</td>
<td>21'</td>
<td>1551</td>
<td>1930</td>
</tr>
<tr>
<td>17</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>1256</td>
<td>1930</td>
</tr>
<tr>
<td>22</td>
<td>5&quot;</td>
<td>4&quot;</td>
<td>960</td>
<td>1935</td>
</tr>
<tr>
<td>22</td>
<td>6&quot;</td>
<td>7&quot;</td>
<td>669</td>
<td>1939</td>
</tr>
<tr>
<td>26</td>
<td>5&quot;</td>
<td>36'</td>
<td>588</td>
<td>1944</td>
</tr>
<tr>
<td>43</td>
<td>8&quot;</td>
<td>55'</td>
<td>555</td>
<td>1957</td>
</tr>
<tr>
<td>62</td>
<td>10&quot;</td>
<td>71'</td>
<td>120</td>
<td>1975</td>
</tr>
</tbody>
</table>

DBH, heavy 22” wet snow broke crowns out of trees or snapped stems.

Status: Red Pine: (—) 6”-14” DBH; 70'-74’ h. (120) 1975.
Northern Red Oak: (—) 2”-11” DBH; 16'-77’ h. (18) 1975.

S92. K26. (300) 1914, 2-4 planting stock set 6’ x 6’, 1’-1½’ h. Underplanted under mixed hardwoods. Additional (107) 1915. 120 destroyed by surface fire 1916. Replanted (120) 1917, 2-4 planting stock. (120) 1918 replanted to replace those killed by heavy sod. Site pastured until 1911. East end of plot is level. West end on narrow ridge where trees are 4” to 6” DBH and 18’-25’ h. Large hardwoods left in plot have damaged adjacent pines. Huge oaks in adjacent plots have also damaged pines. Present understory of scattered hardwoods to 5” DBH includes Sassafras, Black Cherry, Red Maple, and Cucumber Magnolia.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>8”</td>
<td>70’</td>
<td>407</td>
<td>1918</td>
</tr>
<tr>
<td>58-62</td>
<td>8”</td>
<td>70’</td>
<td>80</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: White Oak (Quercus alba): (+) 25” DBH; 79’ h. (2) 1975.
Northern Red Oak (Quercus rubra): (+) 26” DBH; 84’ h. (1) 1975.
Cucumber tree (Magnolia acuminata): (+) 19” DBH; 81’ h. (1) 1975.
Red Pine: (+) 4”-13” DBH; 18’-77’ h. (80) 1975.

Pinus resinosa—Pinus ponderosa var. scopulorum

Red Pine—Rocky Mountain Ponderosa Pine

Pinus resinosa

Red Pine
S92. F1. (42) 1915, 2-4-5 planting stock. (35) 1930. Removed to establish Flowering Crabapple

*Pinus resinosa—Pinus strobus*
Red Pine—White Pine

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP WP RP WP</td>
<td>RP WP</td>
<td>RP WP</td>
<td>RP WP</td>
<td>RP WP</td>
<td>RP WP</td>
</tr>
<tr>
<td>9</td>
<td>3”</td>
<td>2”</td>
<td>14’</td>
<td>13’</td>
<td>12”</td>
</tr>
<tr>
<td>15</td>
<td>5”</td>
<td>4”</td>
<td>25’</td>
<td>26’</td>
<td>121</td>
</tr>
<tr>
<td>20</td>
<td>5”</td>
<td>5’</td>
<td>32’</td>
<td>33’</td>
<td>120</td>
</tr>
<tr>
<td>22</td>
<td>6”</td>
<td>7”</td>
<td>38’</td>
<td>44’</td>
<td>81</td>
</tr>
<tr>
<td>40</td>
<td>9”</td>
<td>11’</td>
<td>57’</td>
<td>70’</td>
<td>14</td>
</tr>
<tr>
<td>59</td>
<td>11”</td>
<td>15’</td>
<td>75’</td>
<td>80’</td>
<td>14</td>
</tr>
</tbody>
</table>

Thinned 1938, 1952. Tops of many pines have been broken out in the past by snows or high winds. 1975 very heavy undergrowth of Blackberry, Elderberry, Devils-Walkingstick, Tatarian Honeysuckle, Grape, Barberry, Norway Maple. Status: White Pine: (+) 12”-20” DBH; 75’-90’ h. (22) 1975. Red Pine: (—) 8”-14” DBH; 68’-80’ h. (14) 1975.

*Pinus resinosa*
Red Pine
S92. D30. (44) 1918, 2-1 planting stock set 6’ x 6’. Plantings with White, Scotch, Austrian, Corsican, and Ponderosa Pine. Trees in wet eastern section of plot have died.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP WP RP WP</td>
<td>RP WP</td>
<td>RP WP</td>
<td>RP WP</td>
<td>RP WP</td>
<td>RP WP</td>
</tr>
<tr>
<td>10</td>
<td>3”</td>
<td>16’</td>
<td>38</td>
<td>1927</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>5”</td>
<td>30’</td>
<td>37</td>
<td>1926</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>6”</td>
<td>36’</td>
<td>29</td>
<td>1943</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>10”</td>
<td>72’</td>
<td>5</td>
<td>1975</td>
<td></td>
</tr>
</tbody>
</table>

Thinned 1938. Dense undergrowth of Blackberry bushes. Status: (—) 9”-12” DBH; 70’-74’ h. (5) 1975.

*Pinus resinosa—Pseudotsuga menziesii*
Red Pine—Douglasfir

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP DF RP DF</td>
<td>RP DF</td>
<td>RP DF</td>
<td>RP DF</td>
<td>RP DF</td>
<td>RP DF</td>
</tr>
<tr>
<td>14</td>
<td>4”</td>
<td>1”</td>
<td>21’</td>
<td>13’</td>
<td>45</td>
</tr>
<tr>
<td>18</td>
<td>6”</td>
<td>2”</td>
<td>27’</td>
<td>16’</td>
<td>44</td>
</tr>
<tr>
<td>30</td>
<td>8”</td>
<td>48’</td>
<td>0</td>
<td>1949</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>12”</td>
<td>68’</td>
<td>13</td>
<td>1975</td>
<td></td>
</tr>
</tbody>
</table>


*Pinus resinosa—Maclura pomifera* (Raf.) Schned.
Red Pine—Osageorange
S100. B7g. (128) 1922, set 6’ x 6’ in alternating rows. (64) Red Pine 2-2 planting stock, (64) Osage-orange 1-0 planting stock. Site wet and poorly drained. Ground cover is mowed grass.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP O RP O RP O</td>
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<td>RP O</td>
<td>RP O</td>
<td>RP O</td>
<td>RP O</td>
</tr>
<tr>
<td>11</td>
<td>1”</td>
<td>2”</td>
<td>8’</td>
<td>15’</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>3”</td>
<td>3”</td>
<td>15’</td>
<td>20’</td>
<td>14</td>
</tr>
<tr>
<td>20</td>
<td>5”</td>
<td>4”</td>
<td>25’</td>
<td>29’</td>
<td>11</td>
</tr>
<tr>
<td>50</td>
<td>10”</td>
<td>10’</td>
<td>54’</td>
<td>45’</td>
<td>3</td>
</tr>
</tbody>
</table>


*Pinus resinosa—Quercus rubra* L.
Red Pine—Northern Red Oak
S100. B7g. (128) 1922, set 6’ x 6’ in alternating rows. (64) Red Pine 2-2 planting stock, (64) Northern Red Oak 2-0 planting stock.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP RO RP RO RP RO</td>
<td>RP RO</td>
<td>RP RO</td>
<td>RP RO</td>
<td>RP RO</td>
<td>RP RO</td>
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<tr>
<td>11</td>
<td>2”</td>
<td>2”</td>
<td>13’</td>
<td>17’</td>
<td>37</td>
</tr>
<tr>
<td>15</td>
<td>3”</td>
<td>3”</td>
<td>21’</td>
<td>25’</td>
<td>37</td>
</tr>
<tr>
<td>20</td>
<td>5”</td>
<td>4”</td>
<td>28’</td>
<td>35’</td>
<td>18</td>
</tr>
<tr>
<td>44</td>
<td>13”</td>
<td>61’</td>
<td>75’</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

Thinned 1942. Removed trees to establish holding nursery for rhododendrons. Remaining trees are left to afford high shade, Re 1965. Status: Northern Red Oak: (+ +) 10”-17” DBH; 73’-77’ h. (9) 1975. Red Pine: (+) 9”-11” DBH; 58’-70’ h. (3) 1975.

*Pinus resinosa—Pinus sylvestris*
Red Pine—Scotch Pine
**Pinus resinosa—Castanea mollissima** Bl.
Red Pine—Chinese Chestnut
Status: Re 1956.

**Pinus resinosa—Castanea mollissima 'Kuling'
Red Pine—Kuling Chinese Chestnut
Status: Re 1953.

**Pinus resinosa—Pinus sylvestris—Castanea mollissima 'Meiling'
Red Pine—Scotch Pine—Meiling Chinese Chestnut
(4) 1953.
Status: Re 1953.

**Pinus resinosa**
Red Pine
Status: Re 1966.

S100. L13. (100) 1951, 3-0 planting stock set 10' x 10'.
Status: Re 1961.

S100. L1. 1952, 2-2 planting stock set 4' x 4'. Christmas tree planting.
Status: Re 1962.

S100. L2. 1952, 2-2 planting stock set 4' x 4'. Christmas tree planting.
Status: Re 1962.

S100. L3. 1952, 2-2 planting stock set 4' x 4'. Christmas tree planting.
Status: Re 1962.

Status: NP 1968.

Status: Re 1958.

Status: Fp 1957.


Status: (+ +) 5" DBH; 16' h. (1) 1975.

**Pinus rigida** Mill.
Pitch Pine
S9. C4. (70) 1907, set 4' x 4'. All girdled by mice 1915, resprouted. Exposed site.

**Pinus rigida** Dougl.
Digger Pine
Status: Fe 1939.

**Pinus sabiniana** Dougl.
Border White Pine
Plantation Sites have had their tops broken out by snows or winds, especially when they have attained heights of 60 to 70 feet. Many of the older plantings 60 years and older are infected with root and butt rot.  

**Eastern White Pine**

White Pine has been extensively planted on many different sites and in combinations with many other species. One windbreak planting was set out along a roadside about 1890, apparently before the Ohio Agricultural Experiment Station was moved to Wooster. Many White Pines growing on exposed sites have had their tops broken out by snows or winds, especially when they have attained heights of 60 to 70 feet. Many of the older plantings 60 years and older are infected with root and butt rot.

**Pinus strobus L.**

**Eastern White Pine**

Suk. O. Planted approximately 1890 (from ring count). Windbreak planting along west side of road. At least 140 trees had been set on 6-foot centers. Many trees have been lost over the years through lightning strikes, windthrow, snow breakage, and root rot. Many trees are now infected with root and butt rot (*Polyporus schweinitzii*). Weeds and grass have been killed underneath trees with herbicides. Sheet erosion is developing and roots are becoming exposed. In 1975 average DBH is 17” and average height is 68’. Trees have all lost their tops from wind or snow breakage.

Status: (—) 10”-25” DBH; 35’-70’ h. (65) 1975.


### Plantation Sites

<table>
<thead>
<tr>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>6</td>
<td>24’</td>
<td>65</td>
<td>1911</td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>1912</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>6”</td>
<td>24’</td>
<td>30</td>
<td>1927</td>
</tr>
<tr>
<td>30</td>
<td>7”</td>
<td>33’</td>
<td>28</td>
<td>1936</td>
</tr>
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<td>37</td>
<td>8”</td>
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<td>1944</td>
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<td>57</td>
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<td></td>
</tr>
<tr>
<td>69</td>
<td>21”</td>
<td>67’</td>
<td>1</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (++) 1975.

S74. O. 1909. Windbreak planting with other pines. 2-2 planting stock.

Status: (++) 11”-21” DBH; 36’-79’ h. (14) 1975.

S74. O. (4) 1909. Lawn planting. 2-2 planting stock. Tops gone, exposed to severe winds. 1974 crowns badly broken from 22” snowfall.

Status: (—) 18”-24” DBH; 48’-69’ h. (4) 1975.

S74. O. (752) 1909, 2-2 planting stock. Undergrowth consists of Hedge Maple, Tatarian Honeysuckle, Jetbead, Black Cherry, Blackgum, White Ash, Poison Ivy. Carpenter ants caused one tree to break off in wind. Some trees infected with root and butt rot (*Polyporus schweinitzii*). Many recent axe cuts through bark.

### Plantation Sites

<table>
<thead>
<tr>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>67</td>
<td>13”</td>
<td>85’</td>
<td>144</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (++) 6”-21” DBH; 76’-92’ h. (144) 1975.

S74. O. (8) 1909, 2-2 planting stock. Lawn planting. Tops gone, exposed to strong winds. 1974 crowns badly broken from 22” snowfall.

Status: (—) 11”-22” DBH; 45’-48’ h. (8) 1975.

**Pinus strobus—Castanea dentata** (Marsh.) Berkh. **Eastern White Pine—American Chestnut**


### Plantation Sites

<table>
<thead>
<tr>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>4”</td>
<td>17’</td>
<td>76</td>
<td>1922</td>
</tr>
<tr>
<td>19</td>
<td>5”</td>
<td>25’</td>
<td>63</td>
<td>1928</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>60</td>
<td>1930</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>7”</td>
<td>33’</td>
<td>54</td>
<td>1932</td>
</tr>
<tr>
<td>28</td>
<td>8”</td>
<td>37’</td>
<td>54</td>
<td>1936</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>42</td>
<td>1938</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>10’</td>
<td>47’</td>
<td>38</td>
<td>1944</td>
</tr>
<tr>
<td>67</td>
<td>15’</td>
<td>55’</td>
<td>17</td>
<td>1975</td>
</tr>
</tbody>
</table>

Pines infected with root and butt rot (*Polyporus schweinitzii*). Trees windthrown in severe winds 1962-63. One tree windthrown 1970, Carpenter Ants (*Camponotus herculeanus pennsylvanicus*) had destroyed butt. 50 Hemlock (*Tsuga canadensis*) underplanted 1931. Tops of trees have been broken out by snows and high winds.

Status: Chestnut: Fd 1929.

Pine: (—) 10”-23” DBH; 50’-60’ h. (17) 1975.

Hemlock: (++) 8” DBH; 30’ h. (1) 1975.
Tallest White Pine in Arboretum. Largest tree is 26 inches in diameter and 114 feet high. Trees were planted in 1914.

**Pinus strobus**

**Eastern White Pine**

S81. J28a. (210) 1911, 2-0 planting stock set 4' x 4'.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>3''</td>
<td>23'</td>
<td>144</td>
<td>1926</td>
</tr>
<tr>
<td>21</td>
<td>4''</td>
<td>34'</td>
<td>91</td>
<td>1932</td>
</tr>
<tr>
<td>26</td>
<td>5''</td>
<td>40'</td>
<td>78</td>
<td>1936</td>
</tr>
<tr>
<td>31</td>
<td>23</td>
<td></td>
<td>23</td>
<td>1947</td>
</tr>
<tr>
<td>32</td>
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<td>1948</td>
</tr>
<tr>
<td>33</td>
<td>6</td>
<td></td>
<td>6</td>
<td>1949</td>
</tr>
</tbody>
</table>


Status: Fw 1950.

S81. J28b. (910) 1911, 2-0 planting stock.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>4''</td>
<td>25'</td>
<td>104</td>
<td>1926</td>
</tr>
<tr>
<td>21</td>
<td>5''</td>
<td>34'</td>
<td>73</td>
<td>1932</td>
</tr>
<tr>
<td>26</td>
<td>6''</td>
<td>41'</td>
<td>63</td>
<td>1936</td>
</tr>
</tbody>
</table>


Status: Re 1950.


**Pinus strobus—Picea abies**

**White Pine—Norway Spruce**


<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>12”</td>
<td>10”</td>
<td>72</td>
<td>60’</td>
</tr>
<tr>
<td>62</td>
<td>10”</td>
<td></td>
<td>239</td>
<td></td>
</tr>
</tbody>
</table>

Tops of majority of Eastern White Pines have been broken out by winds or snows. Present undergrowth consists mainly of Sassafras to 5” DBH and Black Cherry to 10” DBH.

Status: White Pine: (+) 6”-21” DBH; 60’-87’ h. (62) 1975.

Norway Spruce: (+) 7”-13” DBH; 55’-63’ h. (8) 1975.

**Pinus strobus**

**White Pine**


**Pinus strobus—Larix decidua**

**Eastern White Pine—European Larch**

S92. E11. (256) 1912. See *Larix decidua—Pinus strobus* for data.

**Pinus strobus—Thuja occidentalis L.**

**Eastern White Pine—Northern Whitecedar**


<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>4”</td>
<td>2”</td>
<td>25’</td>
<td>17’</td>
</tr>
</tbody>
</table>

Status: Re 1960.

**Pinus strobus—Picea abies**

**Eastern White Pine—Norway Spruce**

S74. J4a. (50) 1912. See *Picea abies—Pinus strobus* for data.

**Pinus strobus**

**Eastern White Pine**


<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>62</td>
<td>10”</td>
<td>74’</td>
<td>239</td>
<td></td>
</tr>
</tbody>
</table>
Many tops have been broken out by wind and snow. Ground cover east and west ends is Baltic Ivy. Undergrowth scattered Roundleaf Dogwood, Red Maple, Chokecherry, Black Cherry, White Ash, and Shadbush. Large Oak and Beech growing over tops of White Pine. White Pine under hardwood short and in poor growing condition. Pines on hill average 11 feet shorter than Pines near creek. Many Oaks with decay in butt.

Status: White Pine: (++) 5"-26" DBH; 55'-114' h. (239) 1975. White Oak: (++) 12"-25" DBH; 70'-75' h. (2) 1975. White Ash: (++) 8"-12" DBH; 70' h. (3) 1975. Northern Red Oak: (++) 25"-34" DBH; 83'-101' h. (4) 1975. Black Oak: (++) 20"-36" DBH; 85'-90' h. (3) 1975. Beech: (++) 12"-18" DBH; 70', 85' h. (2) 1975. Black Cherry: (++) 13" DBH; 70' h. (1) 1975.

S81. G6b. (1200) 1914, 2-4 planting stock set 3' x 3'.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6b.</td>
<td>10</td>
<td>2&quot;</td>
<td>14'</td>
<td>700</td>
<td>1923</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>3&quot;</td>
<td>21'</td>
<td>345</td>
<td>1926</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>4&quot;</td>
<td>27'</td>
<td>294</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td></td>
<td></td>
<td>254</td>
<td>1932</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>5&quot;</td>
<td>32'</td>
<td>237</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td></td>
<td></td>
<td>198</td>
<td>1939</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>6&quot;</td>
<td>41'</td>
<td>163</td>
<td>1944</td>
</tr>
</tbody>
</table>

Thinned 1926, removed 76; thinned 1932, 1939. Status: Combined in Plot G6 after 1944 as due to natural mortality and windthrow it was no longer possible to separate subplots.

S81. G6c. (1600) 1914, 2-4 planting stock set 3' x 3'.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6c.</td>
<td>10</td>
<td>2&quot;</td>
<td>14'</td>
<td>969</td>
<td>1923</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
<td></td>
<td>769</td>
<td>1923</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>3&quot;</td>
<td>22'</td>
<td>348</td>
<td>1926</td>
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<tr>
<td></td>
<td>18</td>
<td>4&quot;</td>
<td>29'</td>
<td>318</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>5&quot;</td>
<td>35'</td>
<td>307</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>7&quot;</td>
<td>44'</td>
<td>180</td>
<td>1944</td>
</tr>
</tbody>
</table>

Thinned 1923; removed 126 thinning 1926; removed 72 thinning 1932; removed 68 thinning 1939; removed 1 thinning 1940; removed 1 thinning 1941; removed 20 thinning 1942. Status: Combined into Plot G6 after 1944 as due to natural mortality and windthrow it was no longer possible to separate subplots.

S81. G6a. (4000) 1914, 2-4 planting stock set 3' x 3'. Plots a, b, c combined.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6a.</td>
<td>10</td>
<td>2&quot;</td>
<td>14'</td>
<td>2393</td>
<td>1923</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>3&quot;</td>
<td>21'</td>
<td>1132</td>
<td>1926</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>4&quot;</td>
<td>28'</td>
<td>922</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>5&quot;</td>
<td>33'</td>
<td>789</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>6&quot;</td>
<td>42'</td>
<td>584</td>
<td>1944</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>11&quot;</td>
<td>72'</td>
<td>1976</td>
<td></td>
</tr>
<tr>
<td></td>
<td>62</td>
<td>13&quot;</td>
<td>80'</td>
<td>146</td>
<td>1975</td>
</tr>
</tbody>
</table>

S81. G4a. (600) 1914, 2-4 planting stock set 3’ x 6’.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>3”</td>
<td>17’</td>
<td>360</td>
<td>1925</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>5”</td>
<td>28’</td>
<td>214</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>5”</td>
<td>33’</td>
<td>160</td>
<td>1936</td>
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<td></td>
<td>30</td>
<td>7”</td>
<td>43’</td>
<td>129</td>
<td>1944</td>
</tr>
</tbody>
</table>

Severe windstorm 1963 destroyed plot.
Status: Fw 1963.

S81. G4b. (600) 1914, 2-4 planting stock set 3’ x 6’.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>2”</td>
<td>11’</td>
<td>505</td>
<td>1922</td>
</tr>
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<td>14</td>
<td>4”</td>
<td>23’</td>
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<td>23</td>
<td>6”</td>
<td>34’</td>
<td>147</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>7”</td>
<td>43’</td>
<td>111</td>
<td>1944</td>
</tr>
</tbody>
</table>

Severe windstorm in 1963 destroyed plot.
Status: Fw 1963.

S81. G4c. (600) 1914, 2-4 planting stock set 3’ x 6’. 1975 undergrowth largely Blackberry and scattered Elderberry, Black Cherry, Grape, Poison Ivy, and patches of Partridge Berry.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>2”</td>
<td>11’</td>
<td>486</td>
<td>1922</td>
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<td>13’</td>
<td>404</td>
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<td>32’</td>
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<td>23</td>
<td>6”</td>
<td>34’</td>
<td>142</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>7”</td>
<td>45’</td>
<td>105</td>
<td>1944</td>
</tr>
<tr>
<td></td>
<td>62</td>
<td>14”</td>
<td>87’</td>
<td>85</td>
<td>1975</td>
</tr>
</tbody>
</table>


Status: (+) 10”-19” DBH; 70'-85' h. (39) 1975.

S81. F22a. (300) 1914, 2-4 planting stock set 6’ x 6’.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>3”</td>
<td>17’</td>
<td>217</td>
<td>1925</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>3”</td>
<td>29’</td>
<td>172</td>
<td>1928</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>6”</td>
<td>32’</td>
<td>148</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>6”</td>
<td>37’</td>
<td>107</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>8”</td>
<td>43’</td>
<td>81</td>
<td>1944</td>
</tr>
</tbody>
</table>

Status: Fw 1963.

S81. F22b. (300) 1914, 2-4 planting stock set 6’ x 6’.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>3”</td>
<td>18’</td>
<td>222</td>
<td>1925</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>5”</td>
<td>29’</td>
<td>163</td>
<td>1930</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>5”</td>
<td>35’</td>
<td>161</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>6”</td>
<td>35’</td>
<td>113</td>
<td>1936</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>8”</td>
<td>46’</td>
<td>80</td>
<td>1944</td>
</tr>
</tbody>
</table>

Status: Fw 1963.

S81. F22c. (300) 1914, 2-4 planting stock set 6’ x 6’. Now listed as plot F22.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>3”</td>
<td>17’</td>
<td>217</td>
<td>1925</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>4”</td>
<td>22’</td>
<td>208</td>
<td>1927</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>6”</td>
<td>30’</td>
<td>151</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>6”</td>
<td>34’</td>
<td>128</td>
<td>1936</td>
</tr>
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<td></td>
<td>30</td>
<td>8”</td>
<td>44’</td>
<td>91</td>
<td>1944</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>11”</td>
<td>70’</td>
<td>91</td>
<td>1957</td>
</tr>
<tr>
<td></td>
<td>62</td>
<td>15”</td>
<td>81’</td>
<td>39</td>
<td>1975</td>
</tr>
</tbody>
</table>

Tops of many trees broken out by snow or windstorms. Dec. 1974 (1) Fw. Heavy, wet 22” snowfall broke crown out of tree 9” DBH. 1975 many trees infected with Red Brown Butt Rot (*Polyporus schweinitzii*). Hardwood brush was controlled in early days by discing. Undergrowth heavy stand of Blackberries scattered, Multiflora Rose, Black Raspberry, Chokecherry, Elderberry, Staghorn Sumac.

Status: (+) 10”-19” DBH; 70'-85' h. (39) 1975.

S81. F2. (100) 1915. (80) 1929. Removed all except six trees 1957. Heavy 22” snowfall tipped tree over, roots full of decay (*Polyporus schweinitzii*). Tree was 16” DBH; 73’ h. Wet site. (5) 1975, 11” av. DBH; 72’ av. h. Present ground cover is grass.

Status: (+) 10”-13” DBH; 65’-78’ h. (5) 1975.

S92. E3a. (100) 1916, 2-3 planting stock set 4’ x 6’.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
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<td>46’</td>
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<td>1943</td>
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<td>28</td>
<td>8”</td>
<td>46’</td>
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</tbody>
</table>


S92. E3b. (100) 1916, 2-1 set 4’ x 4’.
Thinned 1932, 1938, 1941, 1943.
Status: Combined into Plot E3 after 1944.
S92. E3c. (100) 1916, 1-1 planting stock set 4' x 6'.

Thinned 1932, 1938, 1943.
Status: Combined into Plot E3 after 1944.
S92. E3d. (125) 1916, 2-0 planting stock set 4' x 6'.

Thinned 1932, 1938, 1943.
Status: Combined into Plot E3 after 1944.
S92. E3. (425) 1916 set 4' x 6'.

Status: (+) 8"-19" DBH; 75'-93' h. (67) 1975.
All pines in wet, eastern end of plot have died out. Tops of trees have been broken out by heavy snows. 1975 dense undergrowth of Blackberry bushes.

Status: (—) 9"-13" DBH; 40'-78' h. (3) 1975.

**Pinus strobus—Pseudotsuga menziesii**

Eastern White Pine—Douglasfir


Snow and wind breakage destroyed many trees, especially Douglasfir. Remaining Douglasfir in very poor condition.

Status: White Pine: (+) 13"-19" DBH; 88'-94' h. (13) 1975.

Douglasfir: (—) 6" DBH; 30' h. (1) 1975.

**Pinus strobus**

Eastern White Pine

V. A7. 1920. Natural seeding from windbreak on west side, became established in open areas in Northern Red Oak planting. 1975 undergrowth of Blackberry, Black Locust, Black Cherry, Multiflora Rose, and Privet. White Pine 12" av. DBH; 72' av. h. Periodically mowed.

Status: (—) 8"-18" DBH; 65'-80' h. (33) 1975.

**Pinus strobus—Liriodendron tulipifera**

Eastern White Pine—Yellowpoplar

S100. B7a. (128) 1922, 64 of each species set 6' x 6'; pine 2-2 and Yellowpoplar 1-0 planting stock.

Thinned 1942, 1971. White Pine in much better condition than Yellowpoplar. Many Yellowpoplars have defective butts from "lawn mower disease." All Yellowpoplar removed in 1971 had decay in base of trees. Ground cover is mowed grass.

Status: White Pine: (+) 1975.

Yellowpoplar: (—) 1975.

**Pinus strobus—Maclura pomifera**

Eastern White Pine—Osageorange

S99. B7f. (128) 1922, 64 of each species set 6' x 6'; White Pine 2-2, Osageorange 1-0 planting stock.

Thinned 1942. 1965 removed all except six trees to make room for holding nursery.

Status: White Pine: (+) 1975.

Osageorange: Re 1965.

**Pinus strobus—Quercus rubra L.**

Eastern White Pine—Northern Red Oak

S100. B7h. (122) 1922, 64 of each species set 6' x 6'; White Pine 2-2, Northern Red Oak 2-0 planting stock.

Thinned 1942. 1966 removed all except two trees to make room for holding nursery.

Status: Red Oak: (+) 1975.


**Pinus strobus**

Eastern White Pine


Status: (+) 13"-20" DBH; 65'-78' h. (14) 1975.

Status: (—) 6” DBH; 25’ h. (2) 1975.

**Pinus strobus—Castanea mollissima,**

Hawk Selection

Eastern White Pine—Hawk Sel. Chinese Chestnut

S100. D11. (144) 1954, 72 of each species set 8’ x 8’ spacing, Pine 18” h., Chestnut 36” h.

| Plantation Age DBH Height No. of Trees Year |
|-------------------------------------------|-----------------|---------------------|----------------|-----------|
| 18 WP 2” CC WP 15’ 42’ 15 64 1971 |
| 22 WP 3” CC WP 19’ 49’ 25 41 1975 |

Improvement cutting 1972. All Pines have been suppressed by Chestnuts. 33% of Chestnuts had stem cankers of Chestnut Blight (*Endothia parasitica*). Most of these trees were removed in 1972 improvement cutting. Pines badly damaged by woodchucks.

Chestnut: (++) 1975.

**Pinus strobus**

Eastern White Pine

S100. O. (2) 1956. 9”, 14” DBH when destroyed by tornado 1972.
Status: Fw 1972.
S100. O. (1) 1956.
Status: NP 1968.
Status: NP 1968.
Status: (++) 10” DBH; 38’ h. (1) 1975.

| Plantation Age DBH Height No. of Trees Year |
|-------------------------------------------|-----------------|---------------------|----------------|-----------|
| 15 5” WP 27’ CC 103 1975 |

Scots Pine infested with Pitch Mass Borer (*Parhamonia pini*).
Status: White Pine: (++) 2”-9” DBH; 14’-31’ h. (103) 1975.
Austrian Pine: (—) 3” DBH; 18’ h. (2) 1975.
Scots Pine: (—) 7” DBH; 25’ h. (3) 1975.
Status: (++) 14’-16’ h. (3) 1975.
Status: (++) 10’-12’ h. (3) 1975.

Status: (++) 1”-3” DBH; 6’-14’ h. (13) 1975.

**Pinus strobus—Pinus strobiformis**

Eastern White Pine—Border White Pine


**Pinus strobus**

Eastern White Pine

S100. A47. (4) 1971, 4’ h. Ts with tree spade from nursery into windbreak with mixed conifers. Staggered single row.
Status: (++) 9’-11’ h. (4) 1975.
S100. T. (5) 1971, 4’ h. Ts with tree spade from nursery into windbreak with mixed conifers.
Status: (++) 8’-11’ h. (5) 1975.
Status: (++) 4” av. h. (12) 1975.
Status: (++) 4” av. h. (11) 1975.

**Pinus strobus**, G1461

Eastern White Pine

Status: (—) 1” DBH; 7’ h. (1) 1975.

**Pinus strobus**, G1462

Eastern White Pine

S97. J39. (2) 1967, 12” h. Set 12’ apart in single line windbreak on lawn.

**Pinus strobus**, G1590

Eastern White Pine

Status: (—) 2” DBH; 8’-10’ h. (4) 1975.

**Pinus strobus** ‘Fastigiata’

Pyramidal Eastern White Pine

Status: (++) 4’-5’ h. (5) 1975.

**Pinus strobus** ‘Pendula’

Weeping Eastern White Pine

Status: (++) 18”-50” (6) 1975.
**Pinus strobus 'Pumila'**

Status: Fw 1963.

**Pinus strobus 'Umbraculifera'**

Umbrella Eastern White Pine

Status: Fw 1963.

**Pinus sylvestris L.**

Scots Pine

S53. O. 1912. Windbreak planting with other pines.
Status: (+) 10"-23" DBH; 39'-51' h. (5) 1975.
S53. J10. (171) 1912, 2-2 planting stock set 4' x 4'.
Originally mixed with Norway Spruce. See *Picea abies-Pinus sylvestris* for data on Spruce.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
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<tbody>
<tr>
<td></td>
<td>13</td>
<td>3&quot;</td>
<td>24'</td>
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<td>37'</td>
<td>74</td>
<td>1933</td>
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<td></td>
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<td>74</td>
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<td>48</td>
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<td></td>
<td>64</td>
<td>14&quot;</td>
<td>72'</td>
<td>33</td>
<td>1975</td>
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</tbody>
</table>

Thinned 1930. 1968 removed 24 trees to develop azalea garden. Two to three pines died each year from 1968 to 1975 due to change in site from forest plantation to azalea garden and from heavy trampling from public when azaleas are in bloom. Grass and azalea beds established in 1970.
Status: (+) 9"-21" DBH; 65'-75' h. (33) 1975.

White Pine: (+ +) 19" DBH; 65' h. (1) 1975.

Ground cover is mowed grass.
Status: (+) 13", 15" DBH; 38', 55' h. (2) 1975.

S53. O. (1) 1912, 2-2 planting stock. Flat-topped crown.
Status: (+) 14" DBH; 34' h. (1) 1975.

V. A7. 1914. Natural seeded. Became established in open areas of Northern Red Oak planting. 1975 dense undergrowth of Blackberry, Black Locust, Black Cherry, Multiflora Rose, Privet, Scots Pine. 14' av. DBH; 75' av. h.
Status: (+) 9"-19" DBH; 70'-84' h. (28) 1975.

S53. J11. (60) 1914, 2-2 planting stock set 4' x 4'.

<table>
<thead>
<tr>
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<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
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<tbody>
<tr>
<td></td>
<td>12</td>
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<td>22'</td>
<td>46</td>
<td>1926</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>5&quot;</td>
<td>44'</td>
<td>45</td>
<td>1939</td>
</tr>
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<td></td>
<td>26</td>
<td></td>
<td></td>
<td>33</td>
<td>1940</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td></td>
<td></td>
<td>4</td>
<td>1951</td>
</tr>
</tbody>
</table>

Thinned 1940. Severe winds in 1951 destroyed planting.
Status: Fw 1951.

S53. G5a. (900) 1914, 2-3 planting stock set 3' x 3'.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
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<th>Year</th>
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<td>24'</td>
<td>625</td>
<td>1923</td>
</tr>
<tr>
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<td>4&quot;</td>
<td>33'</td>
<td>301</td>
<td>1931</td>
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<tr>
<td></td>
<td>18</td>
<td></td>
<td></td>
<td>268</td>
<td>1932</td>
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<tr>
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<td>23</td>
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<td>41'</td>
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</tbody>
</table>

Status: Combined into Plot G5 after 1952.

S53. G5b. (450) 1914, 2-3 planting stock set 3' x 6'.

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<td></td>
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<td>16'</td>
<td>394</td>
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<td>14</td>
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<td>25'</td>
<td>279</td>
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<td></td>
<td>18</td>
<td>5&quot;</td>
<td>33'</td>
<td>203</td>
<td>1931</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>6&quot;</td>
<td>41'</td>
<td>151</td>
<td>1936</td>
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</tbody>
</table>

Status: Combined into Plot G5 after 1952.

S53. G5c. (225) 1914, 2-3 planting stock set 6' x 6'.

<table>
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<th>Height</th>
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<th>Year</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>4&quot;</td>
<td>21'</td>
<td>202</td>
<td>1923</td>
</tr>
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<td>25'</td>
<td>195</td>
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<td>158</td>
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<tr>
<td></td>
<td>23</td>
<td>6&quot;</td>
<td>40'</td>
<td>120</td>
<td>1936</td>
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</table>

Status: Combined into Plot G5 after 1952.

S53. G5. (1575) 1914, 2-3 planting stock. Plots a, b, c combined. Some tops have been broken out by snow or wind.

<table>
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<th>Year</th>
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<td>14</td>
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<td>25'</td>
<td>973</td>
<td>1927</td>
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<td>5&quot;</td>
<td>33'</td>
<td>662</td>
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<td>41'</td>
<td>479</td>
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<td></td>
<td>43</td>
<td>11&quot;</td>
<td>69'</td>
<td>497</td>
<td>1956</td>
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<td></td>
<td>62</td>
<td>13&quot;</td>
<td>81'</td>
<td>86</td>
<td>1975</td>
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</table>

Status: (-) 9"-19" DBH; 66'-90' h. (86) 1975.
Pinus sylvestris—Pinus banksiana
Scots Pine—Jack Pine

Pinus sylvestris
Scots Pine

Pinus sylvestris—Pinus mugo
Scots Pine—Swiss Mountain Pine

Pinus sylvestris
Scots Pine

Pinus sylvestris—Pinus strobus
Scots Pine—White Pine
S53. A17. (50) 1917. See Pinus strobus—Pinus sylvestris for data.

Pinus sylvestris—Pinus banksiana
Scots Pine—Jack Pine

Pinus sylvestris
Scots Pine
S92. D30. (44) 1918, 2-1 planting stock set 6' x 6'. Group plantings with Austrian, White, Corsican, Ponderosa Pines. 1975 dense undergrowth of Blackberry bushes. Thinned 1930, 1938. All Pines in wet eastern section of plot have died out. Status: (+) 9”-17” DBH; 80’-90’ h. (8) 1975.
S100. C4. (1) 1931.
Status: (+) 13” DBH; 37’ h. (1) 1975.

Pinus sylvestris—Pinus resinosa
Scots Pine—Red Pine
S100. L10. (300) 1949. See Pinus resinosa—Pinus sylvestris for data.

Pinus sylvestris—Castanea mollissima 'Nanking'
Scots Pine—Nanking Chinese Chestnut
S100. B4. (16) 1950, Pine 2-2-2 planting stock set

<table>
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<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
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</thead>
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<td>20'</td>
<td>44</td>
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</tr>
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<td>19</td>
<td>6&quot;</td>
<td>36'</td>
<td>27</td>
<td>1938</td>
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<td></td>
<td>20</td>
<td>8&quot;</td>
<td>45'</td>
<td>27</td>
<td>1943</td>
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<tr>
<td></td>
<td>58</td>
<td>13&quot;</td>
<td>86'</td>
<td>8</td>
<td>1975</td>
</tr>
</tbody>
</table>

**Pinus sylvestris**
Scots Pine
S100. C4. (1) 1956, 2-5 planting stock.
Status: Fd 1972.
S99. A22. (15) 1963, set 8' x 10'. Site too shady, small plot completely shaded from all directions from adjacent larger trees. Dense undergrowth of Blackberries.
Status: Fs prior 1968.

**Pinus sylvestris**, French selection
Scots Pine, French Nursery Selection
S42. A34. (28) 1960, 2-4 planting stock. See *Pinus nigra var. poiretiana—Pinus sylvestris* for data.

**Pinus sylvestris**, German selection
Scots Pine, German Selection

<table>
<thead>
<tr>
<th>Plantation Age</th>
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<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
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<tbody>
<tr>
<td>8</td>
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<td>17'</td>
<td>78</td>
<td>1938</td>
</tr>
<tr>
<td>18</td>
<td>6&quot;</td>
<td>43'</td>
<td>1948</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>9&quot;</td>
<td>56'</td>
<td>1956</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>14&quot;</td>
<td>82'</td>
<td>13</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+ +) 9"-17" DBH; 80'-84' h. (13) 1975.

**Pinus sylvestris**, Blue Selection
Blue Selection Scots Pine
Status: NP 1968.

**Pinus sylvestris**, Booneville Selection
Booneville Selection Scots Pine
Suk. B4. (80) 1956. Ts Southeastern Test Farm.
Status: Re 1958.

**Pinus sylvestris** ‘Fastigiata’
Pyramidal Scots Pine
Status: (++) 3'-5' h. (4) 1975.

**Pinus sylvestris**, Finland
Scots Pine—Seed from Finland
Status: Fs 1947.

---

50
breakage in four additional trees. Scots Pine av. 7” DBH, 25’ h.
Status: Scots Pine: (+) 5”-9” DBH; 12'-34' h. (41) 1975.
White Pine: (+) 9”-11” DBH; 30’-34’ h. (3) 1975.
Status: Ts 1958.

*Pinus sylvestris* var. *rigensis* Loud.
Riga Scots Pine

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>2”</td>
<td>9’</td>
<td>28</td>
<td>1931</td>
</tr>
<tr>
<td>13</td>
<td>5”</td>
<td>31’</td>
<td>6</td>
<td>1939</td>
</tr>
<tr>
<td>49</td>
<td>12”</td>
<td>85’</td>
<td>6</td>
<td>1975</td>
</tr>
</tbody>
</table>

One tree windthrown 1973 had root system and base of tree decayed with brown root rot.
Status: (—) 5”-15” DBH; 70’-93’ h. (6) 1975.
S46. A23. (90) 1933, 3-3 planting stock set 6’ x 6’. 22” snowfall Dec. 1974 broke tops out of five trees. This stand badly damaged by heavy snowfall.

<table>
<thead>
<tr>
<th>Plantation Age</th>
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<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1939</td>
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<td>1957</td>
</tr>
<tr>
<td>43</td>
<td>11”</td>
<td>69’</td>
<td>16</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+) 9”-16” DBH; 65’-75’ h. (16) 1975.
Status: Ts 1958.

*Pinus sylvestris* var. *rigensis—
*Pinus nigra* var. *maritima*

*Pinus sylvestris*, Spanish A
Spanish A Selection Scots Pine

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
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<td>23’</td>
<td>12</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (—) 3”-8” DBH; 16’-25’ h. (12) 1975.

*Pinus sylvestris*, Spanish B
Spanish B Selection Scots Pine

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>6”</td>
<td>23’</td>
<td>12</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (—) 4”-8” DBH; 11’-27’ h. (14) 1975.

*Pinus sylvestris*, Swedish selection
Swedish Selection Scots Pine
S90. M2. (9) 1934, 2-1-2 planting stock. Underplanted in open hardwood stand.
Status: Fs 1947.

*Pinus sylvestris*, ‘Watereri’
Waterer Scots Pine
Status: (+) 9” h. (1) 1975.
Status: (+) 30” h. (4) 1975.
Suk: O. (1) 1970, 40” h.
Status: (+) 46” h. (1) 1975.

*Pinus tabulaeformis* Carr.
Chinese Pine
Status: (—) 16” DBH; 31’ h. (1) 1975.

*Pinus tabulaeformis* var. *densata* (Mast.) Rehd.
Compact Chinese Pine
S70. A29. (20) 1931, 2-2 planting stock. (1) 1948.
Ground cover is mowed grass.
Status: (+) 15” DBH; 50’ h. (1) 1975.

*Pinus taeda* L.
Loblolly Pine

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>4”</td>
<td>19’</td>
<td>14</td>
<td>1925</td>
</tr>
<tr>
<td>17</td>
<td>5”</td>
<td>28’</td>
<td>12</td>
<td>1931</td>
</tr>
<tr>
<td>22</td>
<td>6”</td>
<td>37’</td>
<td>7</td>
<td>1936</td>
</tr>
<tr>
<td>61</td>
<td>12”</td>
<td>72’</td>
<td>3</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+) 9”-15” DBH; 69’-73’ h. (3) 1975.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>3”</td>
<td>19’</td>
<td>28</td>
<td>1925</td>
</tr>
<tr>
<td>15</td>
<td>4”</td>
<td>28’</td>
<td>28</td>
<td>1931</td>
</tr>
<tr>
<td>20</td>
<td>5”</td>
<td>37’</td>
<td>24</td>
<td>1936</td>
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<tr>
<td>22</td>
<td>9”</td>
<td>54’</td>
<td>21</td>
<td>1956</td>
</tr>
<tr>
<td>59</td>
<td>11”</td>
<td>73’</td>
<td>6</td>
<td>1975</td>
</tr>
</tbody>
</table>

Thinned 1938. (14) Fc severe winter 1958-59. Largest tree is 13” DBH.
Status: (+) 1975.

51

Trees badly bent from 22” snowfall Dec. 1974. Largest tree is 7” DBH, 27’ h.
Status: ( — ) 1975.

**Pinus thunbergii** Parl.
**Japanese Black Pine**
S1. C4. (20) 1907, 2-0 planting stock. Thinned 1922. (2) 1957. (1) 1958, (1) Re.
Status: ( + ) 10” DBH; 40’ h. (1) 1975.
S2. G17. (30) 1914, 2-2 planting stock set 6’ x 6’.

Status: ( + ) 1975.
Status: Re 1951.

Pseudolarix kaempferi (Ldl.) Gord. (ambilis)
**Goldenlarch, Chinese Goldenlarch**
Status: ( + + ) 16”, 20” DBH; 84’, 36’ h. (2) 1975.
Status: ( + ) 1” DBH; 9’ h. (4) 1975.

Pseudotsuga menziesii (Mirb.) Franco
**Douglasfir**
S49. F24. (300) 1914, 2-2 planting stock set 6’ x 6’.
Underplanted with Tatarian Honeysuckle and Barberry.

Status: Fw 1945.
<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>2&quot;</td>
<td>13'</td>
<td>50</td>
<td>1925</td>
</tr>
<tr>
<td>17</td>
<td>4&quot;</td>
<td>21'</td>
<td>49</td>
<td>1932</td>
</tr>
<tr>
<td>22</td>
<td>5&quot;</td>
<td>27'</td>
<td>47</td>
<td>1936</td>
</tr>
<tr>
<td>27</td>
<td>6&quot;</td>
<td>34'</td>
<td>38</td>
<td>1943</td>
</tr>
<tr>
<td>28</td>
<td>7&quot;</td>
<td>47'</td>
<td>38</td>
<td>1954</td>
</tr>
</tbody>
</table>


Status: Fw 1955.

S49. C4h. (56) 1915, 2-2 planting stock set 6' x 6'. Exposed site.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>1&quot;</td>
<td>11'</td>
<td>39</td>
<td>1925</td>
</tr>
<tr>
<td>17</td>
<td>3&quot;</td>
<td>18'</td>
<td>38</td>
<td>1932</td>
</tr>
<tr>
<td>22</td>
<td>3&quot;</td>
<td>24'</td>
<td>36</td>
<td>1936</td>
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<tr>
<td>27</td>
<td>4&quot;</td>
<td>30'</td>
<td>32</td>
<td>1941</td>
</tr>
<tr>
<td>28</td>
<td>4&quot;</td>
<td>30'</td>
<td>21</td>
<td>1943</td>
</tr>
</tbody>
</table>

Removal (2) in thinning 1941. Windthrown 1955.

Status: Fw 1955.

S53. C4d. (56) 1915, 2-2 planting stock set 6' x 6'. Exposed site.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>4&quot;</td>
<td>23'</td>
<td>16</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (++) 2"-6" DBH; 18'-28' h. (16) 1975.

Pseudotsuga menziesii var. glauca (Beissn.) Franco
-Acer saccharum Marsh.

Blue Douglasfir—Sugar Maple

S53. D6. (119) 1909, 2-2 planting stock set 6' x 6'.

(121) 1913, 2-2 planting stock to replace maple which failed. 1969 underplant holly on 12' x 12' spacing. 1975 ground cover is mowed grass.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st 1st 2nd 2nd 1st 2nd 1st 2nd</td>
<td>17 13 13&quot; 17'</td>
<td>17 112 1925</td>
<td>24 20 5' 32' 26'</td>
<td>107 65 1932</td>
</tr>
<tr>
<td>28 24 6&quot; 4&quot; 38' 31'</td>
<td>95 29 1936</td>
<td>35 31 7&quot; 5&quot; 43' 36'</td>
<td>78 17 1944</td>
<td>48 44 9&quot; 58'</td>
</tr>
<tr>
<td>58 20 1967</td>
<td>67 11&quot; 56' 18'</td>
<td>1975</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Second planting failed due to suppression. Thinned 1935 removed (48), 1938 removed (9), 1969 removed (9) suppressed trees. 1970 removed (2) trees with tops broken by wind. Tops broken out by wind or snow.

Status: (--) 6"-14" DBH; 24'-66' h. (18) 1975.

S53. C4c. (56) 1917, 2-2 planting stock set 6' x 6'. Exposed site.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>2&quot;</td>
<td>15'</td>
<td>46</td>
<td>1925</td>
</tr>
<tr>
<td>15</td>
<td>4&quot;</td>
<td>24'</td>
<td>41</td>
<td>1932</td>
</tr>
<tr>
<td>20</td>
<td>5&quot;</td>
<td>30'</td>
<td>39</td>
<td>1936</td>
</tr>
<tr>
<td>25</td>
<td>6&quot;</td>
<td>36'</td>
<td>26</td>
<td>1942</td>
</tr>
</tbody>
</table>

1948 blowdown. 1950 clearcut.

Status: Fw 1950.

Pseudotsuga menziesii—Abies fraseri

Douglasfir—Fraser Fir


Pseudotsuga menziesii

Douglasfir


<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>2&quot;</td>
<td>11'</td>
<td>47</td>
<td>1925</td>
</tr>
<tr>
<td>17</td>
<td>4&quot;</td>
<td>20'</td>
<td>47</td>
<td>1931</td>
</tr>
<tr>
<td>21</td>
<td>4&quot;</td>
<td>24'</td>
<td>45</td>
<td>1936</td>
</tr>
<tr>
<td>29</td>
<td>5&quot;</td>
<td>36'</td>
<td>23</td>
<td>1944</td>
</tr>
<tr>
<td>33</td>
<td>7&quot;</td>
<td>37'</td>
<td>21</td>
<td>1948</td>
</tr>
</tbody>
</table>

Pseudotsuga menziesii var. glauca—Picea abies

Blue Douglasfir—Norway Spruce

S53. E54. (35) 1919, 2-2 planting stock set 6' x 6'.

See Picea abies—Pseudotsuga menziesii var. glauca for data.
Blue Douglasfir. Remains of forest plantation outplanted in 1909.

_Pseudotsuga menziesii_ var. _glaucapinus resinosa_  
Blue Douglasfir—Red Pine  

_Pseudotsuga menziesii_ var. _glaucapinus strobus_  
Blue Douglasfir—White Pine  
S53. E50. (45) 1919. See _Pinus strobus—Pseudotsuga menziesii_ var. _glaucad_ for data.

_Pseudotsuga menziesii_ var. _glaucad_  
Blue Douglasfir  
Status: Fw, Fs 1962.  
S102. C3. (1) 1933, grafted plant.  
Status: Re 1955.

_Tsuga canadensis_ (L.) Carr.  
Eastern Hemlock, Canada Hemlock  
S112. J3. (243) 1914, 2-4 planting stock set 5' x 6'.  
Set in sod on steep hillside. Planted under scattered hardwoods. (151) 1929.

Cull White Oak remains of hardwood stand overlapping hemlock, 25" DBH, 75' h.  
Status: (+) 5"-16" DBH; 60'-68' h. (35) 1975.  
Status: (+ +) 8"-15" DBH; 35'-55' h. (3) 1975.

S40. J34. (253) 1914, collected seedlings 12" h., set 3' x 3'. Site steep dry slope, hardwood competition. (133) 1930.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>62</td>
<td>8&quot;</td>
<td>45'</td>
<td>14</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+ +) 6"-13" DBH; 34'-54' h. (14) 1975.

S40. J45. (500) 1914, 5-7-yr. collected seedlings, 8"-18" h., set 6' x 6' in sod. (447) 1930. Severe snow damage from 22" snowfall Dec. 1974 destroyed 18 trees. Present undergrowth consists of scattered Black Cherry, Multiflora Rose, Chokecherry, Poison Ivy, Roundleaf Dogwood, Barberry, and Privet.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>62</td>
<td>10&quot;</td>
<td>69'</td>
<td>63</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: Hemlock: (+) 4"-16" DBH; 35'-72' h. (63) 1975.  
Yellowpoplar: (+ +) 4"-6" DBH; 35'-48' h. (6) 1975.  
Northern Red Oak: (+) 15" DBH; 75' h. (1) 1975.  
Shingle Oak: (+) 18" DBH; 75' h. (1) 1975.  
Black Oak: (+) 23" DBH; 80' h. (1) 1975.

_Tsuga canadensis—Tilia americana_ L.  
Canada Hemlock—American Basswood  
S53. K4. _Tilia_ (250) 1914, 2-2 planting stock set 6' x 6', 4' h. _Tsuga_ (110) 1919, 2-8 planting stock, 1½'-2' h., underplanted under _Tilia_. Area pastured until 1911. Planted under scattered hardwoods. Moist north slope, drainage good.

<table>
<thead>
<tr>
<th>Plantation Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>CH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>56</td>
<td>9' 7'</td>
<td>78' 55'</td>
<td>1975</td>
</tr>
</tbody>
</table>

1975 (2) Basswood, (2) Hemlock destroyed by windthrown tree. Hemlock and Yews seeding in.  
Status: Hemlock: (+) 3"-15" DBH; 25'-75' h. (44) 1975.
Basswood: (+) 7”-16” DBH; 71’-83’ h. (16) 1975.
Northern Red Oak: (+) 19”-32” DBH; 90’-96’ h. (3) 1975.
Sugar Maple: (+) 14” DBH; 75’ h. (1) 1975.

Tsuga canadensis
Canada Hemlock
S40. O. (2) 1914, 2-4 planting stock. 1922 Re construction changes.
Status: Re 1922.
S40. K10. (150) 1915, 6-8-yr. collected seedlings, 12”-20” h. Site on cliff breaking away to creek. (118) 1930. (3) 19”-12” DBH blown down by tornado July 9, 1972. Cull white oak overtopping stand 20” DBH; 80’ h. (1) 1975.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>8”</td>
<td>64’</td>
<td>38</td>
<td>1975</td>
<td></td>
</tr>
</tbody>
</table>

Young hemlocks seeding in.
Status: (+) 4”-14” DBH; 35’-70’ h. (38) 1975.
S40. K28. (90) 1915, 6-yr. collected seedlings. Site steep hillside, 36% slope west to creek. 1975 some trees have tipped over from erosion.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>7”</td>
<td>57’</td>
<td>84</td>
<td>1930</td>
<td></td>
</tr>
</tbody>
</table>

Status: (+) 2”-14” DBH; 10’-81’ h. (25) 1975.

Status: Re 1951.

S53. J3a. (45) 1919, 2-5 planting stock, 2’ h. Site on creek bank under scattered hardwoods. (2) Fw 1974, tipped over by 22” snowfall.

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>2”</td>
<td>15’</td>
<td>85</td>
<td>1927</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>1”</td>
<td>3’</td>
<td>13’</td>
<td>49</td>
<td>1931</td>
</tr>
<tr>
<td>19</td>
<td>2”</td>
<td>4’</td>
<td>15’</td>
<td>48</td>
<td>1938</td>
</tr>
<tr>
<td>19</td>
<td>2”</td>
<td>4’</td>
<td>15’</td>
<td>48</td>
<td>1938</td>
</tr>
<tr>
<td>24</td>
<td>2”</td>
<td>5’</td>
<td>17’</td>
<td>47</td>
<td>1943</td>
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<tr>
<td>56</td>
<td>5”</td>
<td>10’</td>
<td>30’</td>
<td>11</td>
<td>1975</td>
</tr>
</tbody>
</table>

Status: (+) 8”-15” DBH; 67’-71’ h. (11) 1975.

Tsuga canadensis—Prunus serotina Ehrh.
Canada Hemlock—Black Cherry
S53. E7. (64) 1919, 2-5 planting stock underplant. Cherry (85) 1916, 2-1 planting stock. Site wet in Spring.


<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>1”</td>
<td>10’</td>
<td>69</td>
<td>1925</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>3”</td>
<td>19’</td>
<td>65</td>
<td>1931</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>4”</td>
<td>24’</td>
<td>50</td>
<td>1936</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>5”</td>
<td>34’</td>
<td>38</td>
<td>1944</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>11”</td>
<td>69’</td>
<td>11</td>
<td>1975</td>
<td></td>
</tr>
</tbody>
</table>

Status: Hemlock: (—) 4”-8” DBH; 15’-45’ h. (11) 1975.
Black Cherry: (—) 6”-16” DBH; 45’-76’ h. (47) 1975.
Tsuga canadensis
Canada Hemlock
Status: Hemlock: (+ +) 12” av. DBH; 49’ av. h. (5) 1975.
Black Locust: (+ +) 11” DBH; 58’ h. (1) 1975.

Status: (+) 9"-15” DBH; 35’-58’ h. (7) 1975.

Status: (+ +) 8”-16” DBH; 36’ h. (3) 1975.

Status: (+) 3”-6” DBH; 21’-45’ h. (50) 1975.

Tsuga canadensis—Fraxinus americana L.
Canada Hemlock—White Ash

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>WA H</td>
<td>2</td>
<td>16</td>
<td>65</td>
<td>1925</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>2</td>
<td>20</td>
<td>65</td>
<td>1932</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>4</td>
<td>27</td>
<td>45</td>
<td>1938</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>4</td>
<td>31</td>
<td>44</td>
<td>1943</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>8</td>
<td>65</td>
<td>21</td>
<td>1957</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>13</td>
<td>84</td>
<td>35</td>
<td>1975</td>
<td></td>
</tr>
</tbody>
</table>

Tsuga canadensis—Pinus strobus
Canada Hemlock—Eastern White Pine
Status: White Pine: (—) 10”-23” DBH; 50’-60’ h. (17) 1975.
Hemlock: (+ +) 8” DBH; 30’ h. (1) 1975.

Tsuga canadensis—Carya ovata (Mill.) K. Koch
Canada Hemlock—Shagbark Hickory

<table>
<thead>
<tr>
<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH SH</td>
<td>2</td>
<td>2</td>
<td>116</td>
<td>1938</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>2</td>
<td>114</td>
<td>1944</td>
<td></td>
</tr>
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<td>28</td>
<td>4</td>
<td>6</td>
<td>4</td>
<td>1957</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>1975</td>
<td></td>
</tr>
</tbody>
</table>

Tops dying in hemlocks. Some butt decay in hickory.

Tsuga canadensis—Larix gmelinii ‘Principis Rupprechtii’
Status: Fs 1959.

Tsuga canadensis—Thuja orientalis L.
Canada Hemlock—Oriental Arborvitae
S99. G3. (50) 1929, 2-0 planting stock interplanted
Status: Fs 1959.

**Tsuga canadensis—Pinus strobus**
Canada Hemlock—Eastern White Pine
Status: Fs 1959.

**Tsuga canadensis—Populus canadensis regenerata**
Canada Hemlock—Early Carolina Poplar
Status: (+ +) 7"-10" DBH; 33'-41' h. (25) 1975.

**Tsuga canadensis—Liriodendron tulipifera**
Canada Hemlock—Yellowpoplar

<table>
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<th>Plantation</th>
<th>Age</th>
<th>DBH</th>
<th>Height</th>
<th>No. of Trees</th>
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<td>7&quot; 16&quot;</td>
<td>38&quot; 73&quot;</td>
<td>41 13</td>
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</table>
Status: Hemlock: (+) 4"-11" DBH; 30'-40' h. (41) 1975.
Yellowpoplar: (+) 10"-20" DBH; 63'-85' h. (13) 1975.
Ohio Buckeye: (+) 6" DBH; 34' h. (1) 1975.
Black Cherry: (+) 4" DBH; 35' h. (1) 1975.

**Tsuga canadensis**
Canada Hemlock
Status: (+ +) 10"-17" DBH; 44'-50' h. (41) 1975.
Status: Fs Fp 1956.
Status: (+ +) 5"-9" DBH; 20'-48' h. (5) 1975.

Status: (+ +) 10" DBH; 37' h. (1) 1975.
Status: Re 1967.
Status: NP 1968.
Status: Re 1970.
S100. F2. (8) 1956, 2-3 planting stock, windbreak planting. 1975 av. DBH 12".
Status: (+ +) 9"-15" DBH; 49' h. (5) 1975.
S100. F1. (35) 1956, 2-3 planting stock, windbreak planting. Washing from road water runoff south end of plot. 1975 8" av. DBH, 31' av. h. Ground cover is duff from fallen needles.
Status: (+ +) 5"-10" DBH; 28'-33' h. (20) 1975.
S100. J11. (36) 1956, 2-3 planting stock, windbreak planting. 1975 7" av. DBH, 33' av. h. Ground cover is duff from fallen needles.
Status: Hemlock: (+ +) 5"-9" DBH; 30'-35' h. (36) 1975.
White Pine: (+ +) 7" DBH; 35' h. (2) 1975.
S100. J12. (25) 1956, 2-3 planting stock, windbreak planting. 1975 5" av. DBH; 33' av. h. Ground cover is duff from fallen needles.
Status: Hemlock: (+ +) 3"-7" DBH; 27'-35' h. (25) 1975.
White Pine: (+) 13" DBH; 35' h. (1) 1975.
S100. O. (3) 1956, 2-3 planting stock. Re landscaping changes.
Status: Re 1974.
S100. O. (3) 1957, 2-5 planting stock.
Status: (+ +) 5"-10" DBH; 52' h. (3) 1975.
S100. B5. (13) 1958. Ts (13) 1970 O.
Status: (+) 16' h. (13) 1975.
Status: (+ +) 3" av. DBH; 18' h. (12) 1975.
S88. O. (1) 1958.
Status: (+) 9" DBH; 31' h. (1) 1975.
Status: (+ +) 15' h. (2) 1975.
Status: Re 1966.
Status: (+ +) 18' h. (1) 1975.
Status: Re 1968.
Ground cover is grass.
Status: (+) 2”-5” DBH; 10’-25’ h. (5) 1975.
Status: (+) 1”-2” DBH; 7’-10’ h. (21) 1975.
herbicides, (4) damaged by herbicides.
Status: (—) 2”-5” DBH; 8’-18’ h. (6) 1975.
S100. O. (11) 1967, 2-2-3 planting stock. Screen
Trees have been damaged by excessive use of weed killers
(Paraquat and Simazine). Tips of needles dam­
aged from drift.
Status: (—) 5’-10’ h. (13) 1975.
S100. O. (3) 1967, 2-2-3 planting stock. Re land­
scaping changes.
Status: Re 1968.
Status: (+) 3” DBH; 18’, 20’ h. (2) 1975.
S100. O. (9) 1970, 8’-10’ h. Ts from Arboretum
nursery with tree spade. Windbreak planting.
Status: (+) 3” DBH; 14’ h. (9) 1975.
S100. O. (4) 1970, 8’-10’ h. Ts from Arboretum
nursery with tree spade. Underplanting in hard­
woods.
Status: (+) 2” DBH; 14’ h. (3) 1975.
S100. O. (5) 1970, 3’ h. One tree had top broken
out by heavy 22” snowfall Dec. 1974.
Status: (+) 7’-9’ h. (5) 1975.
S100. T. (13) 1971, 4’ h. Ts from Arboretum nurs­
ey with tree spade. (1) Fm 1973.
Status: (+) 5’-10’ h. (12) 1975.

*Tsuga canadensis*, dwarf sel.
*Dwarf Canada Hemlock*
Status: (+) 4’-6’ h. (3) 1975.

*Tsuga canadensis* ‘Microphylla’
*Littleleaf Canada Hemlock*
S10. G3. (1) 1974. Set in Arboretum nursery in
Status: (+) 4’ h. (1) 1975.

*Tsuga canadensis* ‘Pendula’
*Weeping Canada Hemlock*
S15. B1. (3) 1933, 7-yr. grafts. (1) Fc 1935. (1)

Fc 1936.
Status: Fc 1936.

*Tsuga canadensis* ‘Rockland’
*Rockland Canada Hemlock*
Suk. G3. (2) 1969, 3’ h. (1) Fc 1973, open winter,
alternate thawing and freezing.
Status: (+) 8’ h. (1) 1975.

*Tsuga caroliniana* Engelm.
*Carolina Hemlock*
(1) Fw 1933, windthrown. On exposed site.
Windthrown 1967, staked and cabled.
Status: (—) 30’ h. (1) 1975.
winter with extremely alternating periods of freez­
ing and thawing.
Status: (+) 7’ h. (1) 1975.
(Fr.) Cke.
Status: (+) 3’ DBH; 14’ h. (1) 1975.

*Tsuga chinensis* (Franch.) Pritz
*Chinese Hemlock*
Suk. H. 1932. Too exposed a site.
Status: Fs Fp 1932.

*Tsuga diversifolia* (Maxim.) Mast.
*Japanese Hemlock*
Status: (—) 16’ h. (1) 1975.
S141. G3. (1) 1974, B&B 6’ h. Received 1964 and
set in Arboretum Nursery.
Status: (+) 6’ h. (1) 1975.

*Tsuga heterophylla* (Raf.) Sarg.
*Western Hemlock*
Suk. H. 1930.
Status: Fc 1934.

*Tsuga mertensiana* (Bong.) Carr.
*Mountain Hemlock*
Suk. H. 1930. Too exposed a site.
Status: Fs Fp 1931.

*Tsuga sieboldi* Carr.
*Southern Japanese Hemlock*
broken by snow, 1935-36.
Status: Fw 1936.
SELECTED REFERENCES
Common and botanical nomenclature follows the references listed below. No one reference contains all plants listed. The Check List of Native and Naturalized Trees of the United States has been used for native trees.


CONVERSION TABLE—FEET TO METERS
1 foot = 0.3048 meter

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CONVERSION TABLE—INCHES TO CENTIMETERS
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59
SOURCES OF PLANTS

Many of these sources go back to 1903. Some nurseries are no longer in business and some individuals are now deceased. In some instances nurseries have changed names or ownership. A few may have changed their address. Original addresses have been listed. New names or addresses are in parentheses following original addresses.

S1. American Forest Nursery
S2. American Forestry Company
S3. Anderson Nursery, 611 Wooster St., Lodi, Ohio 44254
S7. Atholl Forest, Scotland
S11. Bobbink and Atkins, 586 Paterson Ave., East Rutherford, N. J. (P.O. Box 124, Freehold, N. J. 07728)
S12. Bohlender Nursery Co., Tipp City, Ohio (Spring Hill Nurseries Co., Tipp City, Ohio 45371)
S13. Paul Bosley Nurseries, Inc., 9579 Mentor Ave., Mentor, Ohio 44060
S15. Bunting’s Nurseries, Inc., Dukes St., P. O. Box 306, Selbyville, Del. 19975
S16. Burke Estate, W. E. Fischer
S18. Burtons Nurseries, Box 83A, Casstown, Ohio 45312
S19. Carosello Nurseries, 9665 Old Johnny Cake Road, Mentor, Ohio 44060
S20. Carr Nursery, Yellow Springs, Ohio (No longer in business)
S21. Cedar Hill
S22. Chadwick, L. C., 3634 Olentangy Blvd., Columbus, Ohio 43214
S23. Caulby Estate, Wickliffe, Ohio
S24. Cold Springs Farm Arboretum
S25. Cole Nursery Co., Inc., R.D. 1, Circleville, Ohio 43113
S27. Daisy Hill Nursery, Ohio (No longer in business)
S28. Deverman, Harry, 461 Van Houten Ave., Clifton, New Jersey
S29. Diller, O. D., 1368 E. Wayne Ave., Wooster, Ohio 44691
S30. Donahay, Robert F., Union Commerce Bldg., Cleveland, Ohio
S31. Donewell Nurseries, 2168 Mentor Ave., Painesville, Ohio 44077
S33. Eddy Tree Breeding Station (U. S. Forest Service, Institute of Forest Genetics, Placerville, Calif.)
S34. Evergreen Nursery Co., Rt. 3, Sturgeon Bay, Wis.
S35. Fairview Evergreen Nursery, Box E, 131 E. Water St., Fairview, Pa. 16415
S36. Ferndale Nursery and Greenhouses, Askov, Minn. 55704
S37. F & F Nurseries, P.O. Box 362, Holmdel, N. J. 07733
S38. Fink’s
S39. Finland Experiment Station, Finland (Obsolete)
S40. Forest Nursery Company, Inc., R.F.D. 2, McMinnville, Tenn. 37110
S41. Forest Research Institute, Mont Alto, Pa.
S42. French Nursery Co., P.O. Box 116, Clyde, Ohio 43410
S43. Girard Nurseries, P.O. Box 428, Geneva, Ohio 44041
S44. Goldsmith, B. C., Shasta National Forest, Calif.
S45. Green Ridge Nursery, P.O. Box E, Middletown, Ohio 45042
S46. Groenendaal Forest, Brussels, Belgium
S47. Gwenn-Gary Nursery, Inc., R.F.D. 2, Box 195, Columbus, Ohio 44408
S48. Harlow, W. M., New York State College of Forestry, Syracuse, N. Y.
S49. Heins Nursery, Germany
S50. Herbst Brothers Seedsmen, Inc., 1000 N. Main St., Brewer, N. Y. 10509
S51. Hess Nurseries, P.O. Box 332, Cedarville, N. J. 08311
S52. Hicks Nurseries, Jericho Turnpike, Westbury, L. I., N. Y. (No longer in business)
S53. D. Hill Nursery Co., Dundee, Ill. 60118
S54. Hilltop Nursery, Casstown, Ohio (See Burtons Nurseries)
S55. Holden Arboretum, Sperry Rd., Mentor, Ohio
S56. Hoogendoorn Nurseries, Inc., 408 Turner Rd., Newport, R. I. 02840
S58. Imlay Co., Rt. 7, 2750 Maysville Pike, Zanesville, Ohio 43701
S59. Institute of Applied Biology, Botany and New Cultures, Leningrad, U.S.S.R.
S60. Institute of Forest Genetics, U.S.D.A., Forest Service, Placerville, Calif.
S61. Jackson & Perkins Co., P.O. Box 266, Newark, N. Y. (Now growing roses in Calif.)
S63. Katzenstein
S64. Keene Forestry Association, Keene, N. H.
S65. Kelsey, Harlan P., Highlands, N. J. 07732
S67. Kibel Nursery, R.D. 1, West Lafayette, Ohio 43845
S68. Kohankie, H. A. (Nursery sold to American Garden Products Co.)
S69. Koontz Nursery, Wooster, Ohio (No longer in existence)
S70. Korean Forest Experiment Station, Korea (Institute of Forest Genetics, Suwon, South Korea)
S70a. Lake County Nursery Exchange, Inc., 5052 S. Ridge Rd., Perry, Ohio 44081
S71. Lakewood Nursery, 18105 Detroit Ave., Lakewood, Ohio 44107 (Horton Nursery Sales Co., 21605 Center Ridge Rd., Cleveland, Ohio 44116)
S72. Lane Seed
S73. Leonard Nurseries, Piqua, Ohio (No longer in business)
S74. LeVavasseur Nursery, France
S76. H. Losely & Son Nursery, 3410 Shepherd Rd., Perry, Ohio 44081
S77. Manbeck & Sons Nurseries, Inc., 233 East Spring Street, New Knoxville, Ohio 45871
S78. Mayfair Nurseries, R.D. 2, Nichols, N. Y. 13812
S79. McBeth Nurseries
S81. Michigan Forest Service
S82. Mitiska Nursery, R.D. 2, Amherst, Ohio 44001
S84. Morton Arboretum, Route 53, Lisle, Ill. 60532
S85. Musser Forests, Inc., P.O. Box 340, Indiana, Pa. 15701
S86. W. A. Natorp Co., Cincinnati, Ohio
S87. Raymond Nelson Tree Nursery, Dubois, Pa.
S88. Nepco Lake Nursery, Port Edwards, Wis. 54469
S89. Neuholdensteben, Bezisk, Magdeburg, Germany
S90. New York State Forest Nursery
S91. North Central Regional Plant Introduction Station, Ames, Iowa 50011
S93. Northern Wisconsin
S94. Nye Branch Nursery, Porter, Pa. 15766
S95. The Paul Offenberg Nursery Co., 3415 E. Livingston Ave., Columbus, Ohio 43227
S96. Ohio Agricultural Research and Development Center, Dept. of Entomology, Wooster, Ohio 44691
S97. OARDC, Dept. of Forestry, Wooster, Ohio 44691
S98. OARDC, Dept. of Horticulture, Wooster, Ohio 44691
S99. OARDC, Secret Arboretum Nursery, Wooster, Ohio 44691
S100. Ohio Department of Natural Resources, Division of Forests and Preserves, Columbus, Ohio
S101. O.N.A.
S102. The Ohio State University, Columbus, Ohio 43210
S103. Pave K Nursery, White Lake Wis.
S104. Perkins-DeWilde Nursery, Shiloh, N. J.
S105. Peterson Nurseries, Inc., 805 Upper Bellbrook Rd., Xenia, Ohio 45385
S106. A. N. Pierson, Inc., Cromwell, Conn.
S107. Pikes Peak Nurseries, Box 670, Indiana, Pa. 15701
S109. Plumfield Nurseries, Box 410, Fremont, Neb. 68025
S109a. Pride, Orlando, 523 Fifth St., Butler, Pa. 16001
S110. Princeton Nurseries, P.O. Box 191, Princeton, N. J. 08540
S111. Rare Plant Club
S114. Russia, U.S.S.R., Vesselo-Bok Dendrology Station
S115. Schaus Nursery, Mansfield, Ohio
S117. Sebian, M., Painesville, Ohio (No longer in business)
S118. Secrest, Edmund, Wooster, Ohio (Deceased)
S119. Sherwood Nursery Co., 13020 N.E. Rose Parkway, Portland, Ore. 97230
S120. Siebenthaler Co., 3001 Catalpa Drive, Dayton, Ohio 45405
S121. Spring Grove Cemetery, Cincinnati, Ohio (C. R. Runyan)
S122. Stonebraker, S. L., 2751 Columbus Road, Wooster, Ohio 44691
S123. Storrs & Harrison (No longer in business)
S125. Tamaracks Nursery, Hudson, Ohio (No longer in business)
S126. Tingle Nursery Co., Pittsville, Md. 21850
S127. U.S.D.A., Forest Service, Southeastern Forest Experiment Station, P.O. Box 3, Olustee, Fla. 32072
S129. U.S.D.A., Forest Service, North Pacific Experiment Station
S131. U. S. Plant Introduction Station, Glen Dale, Md. 20769
S134. Warner Nursery, R.D. 4, Willoughby, Ohio 44094
S136. Williams, Isaac Langley, Exeter, N. H. 03833
S137. Whitney Evergreen Nursery, Warren, Ohio (No longer in business)
S138. Wing, Charles B., Mechanicsburg, Ohio (No longer in business)
S139. Zack Nursery
S140. Zanesville Nursery, Ohio Dept. of Natural Resources, Zanesville, Ohio
S141. Kingsville Nursery, Kingsville, Md. 21087
Suk. Source unknown
GROUND COVER PLANTS
Underplanted in Plantations

**Euonymus fortunei** ‘Colorata’ Rehd.
Purpleleaf Wintercreeper Euonymus
A5, A7, A11, J45

**Euonymus obovata** Nutt.,
Running Euonymus
AS, A7, All, J45

**Hedera helix** var. **baltica** Rehd.,
Baltic English Ivy
J36, J38, K26

Ground covers heavy and dense except **Euonymus** in A plots which is heavily infested with scale. In many instances both **Euonymus** and Baltic Ivy are climbing trunks of trees.

UNDERSTORY PLANTS

The following plants have seeded in naturally underneath plantations in sufficient numbers to be noticeable and forming underbrush or ground cover.

**Acer campestre** L., Hedge Maple
D10, D35

**Acer ginnala** Maxim.,
Amur Maple
Compartment D

**Acer negundo** L., Boxelder
Compartment D, L

**Acer plantanoides** L.,
Norway Maple
Compartment D, E, F

**Acer pseudoplatanus** L.,
Sycamore Maple

**Acer rubrum** L.,
Red Maple
All over Arboretum

**Aesculus glabra** Willd.,
Ohio Buckeye

**Ailanthus altissima** (Mill.) Swingle,
Tree of Heaven
Compartment D, E

**Amelanchier arborea** (Michx. f.) Fern.,
Downy Serviceberry
Compartment D, J

**Aralia spinosa** L.,
Sugar Maple
All over Arboretum

**Aesculus hippocastanum** L.,
Horse Chestnut

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<td>Viburnum prunifolium L.</td>
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<td>A, J, K</td>
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<td>Vitis labrusca L.</td>
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</tr>
<tr>
<td>Vitis vulpina L.</td>
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INDEX OF COMMON NAMES

Plants in this publication are in alphabetical order by scientific or technical names. In this index, common names are followed by the appropriate technical name.

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  French selection
  German selection
  King selection
  Lapland
  Nye Branch selection
  Pyramidal
  Riga
  Spanish A selection
  Spanish B selection
  Swedish selection
  Waterer
  Shortleaf
  Siberian Stone
  Singleleaf
  Sugar
  Swiss Mountain
  Hoopes
  Mugho
  Shrubby
  Tree
  Swiss Stone
  Tablemountain
  Torrey
  Virginia
  Western White
  Whitebark
  Yunnan
  Spruce, Alcock
  Black
  Blue
  Candelabra
  Colorado
  Donahey selection
  Hoops
  Koster
  Moerheim
  Montgomery
  Dragon
  Bigcone
  Engelmann
  Himalayan
  Indian
  Jones selection
  Koyamai
  Likiang
  Norway
  Drooping
  Golden
  Iowa
  Maxwell
  Nest

Pinus resinosa
Pinus sylvestris
Pinus sylvestris, blue selection
Pinus sylvestris, Booneville selection
Pinus sylvestris, French selection
Pinus sylvestris, German selection
Pinus sylvestris, King selection
Pinus sylvestris var. lapponica
Pinus sylvestris, Nye Branch selection
Pinus sylvestris 'Fastigiata'
Pinus sylvestris var. rigens
Pinus sylvestris, Spanish A selection
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Pinus sylvestris, Swedish selection
Pinus sylvestris 'Watereri'
Pinus echinata
Pinus cembra var. sibirica
Pinus cembroides var. monophylla
Pinus lambertiana
Pinus mugo
Pinus mugo var. rotundata
Pinus mugo var. mugo
Pinus mugo var. pumilio
Pinus mugo var. rostrata
Pinus cembra
Pinus pungens
Pinus torreyana
Pinus virginiana
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Picea pungens
Picea pungens, Donahey selection
Picea pungens 'Hoopsii'
Picea pungens 'Koster'
Picea pungens 'Moerheim'
Picea pungens 'Montgomery'
Picea asperata
Picea asperata var. ponderosa
Picea engelmannii
Picea smithiana
Picea smithiana
Picea sp., Jones selection
Picea koyamai
Picea likiangensis
Picea abies
Picea abies 'Inversa'
Picea abies 'Aurea'
Picea abies 'Iowa'
Picea abies 'Maxwellii'
Picea abies 'Nidiformis'
<table>
<thead>
<tr>
<th>Spruce, Pyramidal Norway</th>
<th>Picea abies ‘Pyramidata’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remont</td>
<td>Picea abies ‘Remontii’</td>
</tr>
<tr>
<td>Oriental</td>
<td>Picea orientalis</td>
</tr>
<tr>
<td>Red</td>
<td>Picea rubens</td>
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<tr>
<td>Sakhalin</td>
<td>Picea glehni</td>
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<tr>
<td>Schrenk</td>
<td>Picea schrenkiana</td>
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<td>Serbian</td>
<td>Picea omorika</td>
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<tr>
<td>Siberian</td>
<td>Picea obovata</td>
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<tr>
<td>Sitka</td>
<td>Picea stichensis</td>
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<tr>
<td>Tigertail</td>
<td>Picea polita</td>
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<tr>
<td>White</td>
<td>Picea glauca</td>
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<tr>
<td>Alberta</td>
<td>Picea glauca var. albertiana</td>
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<tr>
<td>Black Hills</td>
<td>Picea glauca ‘Densata’</td>
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<tr>
<td>Blueleaf</td>
<td>Picea glauca ‘Coerulea’</td>
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<tr>
<td>Dwarf Alberta</td>
<td>Picea glauca ‘Conica’</td>
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<tr>
<td>Wilson</td>
<td>Picea wilsoni</td>
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<td>Yeddo</td>
<td>Picea jezoensis</td>
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<tr>
<td>Tamarack</td>
<td>Larix laricina</td>
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</tbody>
</table>
THE ZONES OF PLANT HARDINESS

Map courtesy of U.S. Dept. of Agriculture
Ohio's major soil types and climatic conditions are represented at the Research Center's 12 locations.
Research is conducted by 15 departments on more than 7000 acres at Center headquarters in Wooster, seven branches, Green Springs Crops Research Unit, Pomerene Forest Laboratory, North Appalachian Experimental Watershed, and The Ohio State University.
Center Headquarters, Wooster, Wayne County: 1953 acres
Eastern Ohio Resource Development Center, Caldwell, Noble County: 2053 acres
Green Springs Crops Research Unit, Green Springs, Sandusky County: 26 acres
Jackson Branch, Jackson, Jackson County: 502 acres
Mahoning County Farm, Canfield: 275 acres
Muck Crops Branch, Willard, Huron County: 15 acres
North Appalachian Experimental Watershed, Coshocton, Coshocton County: 1047 acres (Cooperative with Agricultural Research Service, U. S. Dept. of Agriculture)
Northwestern Branch, Hoytville, Wood County: 247 acres
Pomerene Forest Laboratory, Coshocton County: 227 acres
Southern Branch, Ripley, Brown County: 275 acres
Western Branch, South Charleston, Clark County: 428 acres