Environment Canada | Environnement Canada
Forestry Service | Service des Forêts

GREAT LAKES FOREST RESEARCH CENTRE
P.O. BOX 490
SAULT STE. MARIE, ONTARIO
P6A 5M7

Planting and Tending Recommendations for Basswood

Where to plant: For optimum growth plant in deep, fertile, moist but well drained sandy loams, loams, clay loams, silt loams or molded tills with a silt plus clay content of at least 35 percent. This species is very demanding and requires fertile soils for satisfactory growth.

Where not to plant: In infertile, eroded or poorly drained soils, on dry, sandy, gravelly or exposed ridges and in any soils with a yellow sand subsoil 15 in. (38 cm) or less below the soil surface.

Site preparation: In August before spring planting spray 1/2 U.S. gal/ac (4.7 L/ha) of Roundup over the total plantation area or spray in strips at least 6 ft (1.8 m) wide. One week after spraying plow and disk or rototill the sprayed area. On sites where mechanical site preparation is not possible or desirable, spray 1/2 U.S. gal/ac (4.7 L/ha) of Roundup in August in strips at least 6 ft (1.8 m) wide or in circular spots with a diameter of at least 5 ft (1.5 m).

Species mixtures: On intensively managed, highly productive sites, it is generally most economical to plant only the most valuable species. Such plantations may best be compared to fruit orchards. On less productive sites and for purposes other than that of high-quality timber production, it might be most desirable to plant a mixture of several hardwood species. However, all of these must have compatible growth rates and must be suitable for growing on the site. For amenity or erosion-control plantings a landowner may select any species as long as their growing requirements match those of the afforestation site.

Basswood should not be grown in mixture with conifers because the conifers provide an ideal habitat for rabbits which will browse the tops and gnaw the bark of the hardwood seedlings. In plantations with even relatively low rabbit populations the browsing and bark gnawing will prevent most hardwood seedlings from producing stems of acceptable size and quality.

Spacing: There is no ideal spacing for planting all species on all sites. Spacing is therefore determined mostly by a compromise involving the growth requirements of the species, the purpose of the planting, the wishes of the plantation owner and the economics of plantation establishment and tending. It is known that trees grown at wide spacings generally grow faster in diameter while trees grown at narrow spacings generally produce stems of better form, but spacing has little effect on height growth.

At present a spacing of 10 ft (3 m) between rows and 5 ft (1.5 m) within rows is recommended. This spacing requires planting 870 trees/ac (2200 trees/ha). It allows the passage of a medium-sized tractor between rows of trees for

chemical or mechanical weed control, promotes reasonably early canopy closure to shade out the competing vegetation, and allows for possible mortality and trees of poor form. The disadvantage of this spacing is that it necessitates at least one pre-commercial thinning.

Planting stock: 2 + 0 seedlings.

Time of planting: In spring as early as site conditions permit but never later than the middle of May.

Method of planting: Machine planting or spade planting using the wedge method.

Weed control after planting: Shortly after planting spray 5.0 lb/ac (5.6 kg/ha) of Princep 80W on loam and clay loam soils. Spray entire area, strips or spots. In October of the first and second year or April of the second and third year after planting spray 6.0 lb/ac (6.7 kg/ha) of Princep 80W over the same areas. Where necessary continue spraying after the third year until the tree seedlings have outgrown the weed competition.

Rodent control: On sites with dense rabbit populations it may be necessary to protect the young seedlings from browsing by intensive hunting, by fencing the total plantation area, by spraying the seedlings each autumn with a repellent, or by placing wire screens around individual seedlings. Where stem girdling by mice is a problem, eliminate weeds or place tree guards around the stems.

Pruning: Sprouting from the root collar and the lower stem is a characteristic of basswood. To obtain maximum growth on the main stem remove all sprouts from the lower stem each winter and prune individual branches to improve stem form. However, always leave a crown of two-thirds of the total height of the tree.

F.W. von Althen

Copies of this leaflet can be obtained from the Centre's Information Office.

December, 1979.

Additional information on this subject is contained in "A guide to hardwood planting on abandoned farmland in southern Ontario" by F.W. von Althen.