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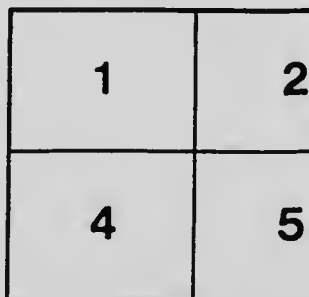
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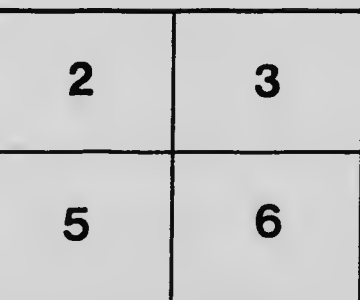
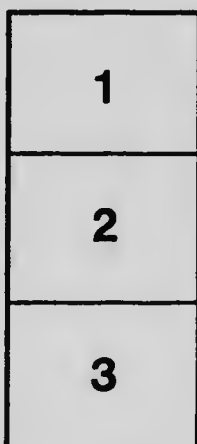
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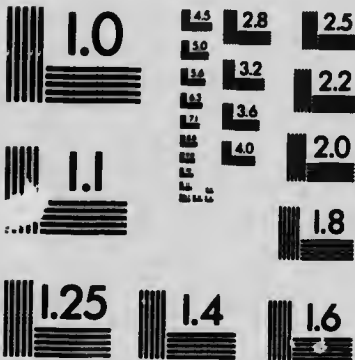
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# Notes on the Growing of TREES, SHRUBS and HERBACEOUS PERENNIALS together with a selected list of these plants suitable for planting in Manitoba

Department of Horticulture and Forestry

Manitoba Agricultural College

**TREES**, shrubs and herbaceous perennials do best when planted in well prepared soil. Sod or unbroken land should be deeply broken and thoroughly cultivated before being planted to trees or shrubs. Thorough cultivation for two successive seasons is none too much to put such land in good condition for tree planting. The soil should be thoroughly enriched by heavy manuring with well-rotted manure before trees are planted.

Trees or shrubs may be planted in the fall or spring. Generally speaking, however, spring is the better season to plant. To get good results, stock should be vigorous and well grown and carefully lifted. Care should be taken to see that the stock is not allowed to become dried or damaged while it is being transferred from the nursery to the permanent plantation.

In preparing trees or shrubs for planting, broken or injured roots should be removed and the tops of deciduous trees cut back to balance with the reduced root system. Evergreen trees should receive great care during the process of transplanting. The roots should never be allowed to become dried while they are out of the soil, as severe drying is likely to result in the death of the tree.

In planting trees, dig a hole sufficiently large to take the roots without crowding. Spread out the roots with the hand, place fresh surface soil below and immediately on top of the roots and thoroughly compact it about the roots. Plant trees or shrubs a little deeper than they originally were in the nursery row.

A very great deal of emphasis is placed upon the advantage of procuring home-grown trees, where at all possible. Some of the varieties given in the list, while perfectly hardy when grown from seed procured in the Canadian West, are not to be depended upon when grown from seed produced in the South or East.

## TREES SUITABLE FOR FOREST PLANTATION AND WINDBREAKS

Manitoba maple, box elder or ash-leaved (*Acer negundo*).

Soft maple (*Acer saccharinum*), for Southeastern Manitoba only, and only northern-grown stock recommended.

Birch, native variety, paper or canoe birch (*Betula papyrifera*).

Green ash, native variety (*Fraxinus lanceolata*).

Balsam poplar or Balm of Gilead (*Populus balsamifera*).

Russian poplar, several varieties.

Cottonwood (*Populus deltoides*)—Hardy, especially adapted to deep moist soils, but subject to rust in some localities.

Willows—White willow (*Salix alba*). Sharp-leaved willow (*Salix daphnoides* or *salix acutifolia*). Veronesh or golden willow (*Salix veronesh*). Russian laurel leaf willow (*Salix pentandra*). Britzensis willow (*Salix alba var-britzensis*). The French laurel leaf willow is also recommended.

Basswood (native grown stock only, *Tilia Americana*)—Recommended for Red River Valley with Brandon for the Western limit; adapted to deep moist soils.

American Elm—Native Form (*Ulmus Americana*).

Oak—Mossy Cup or Burr Oak (*Quercus macrocarpa*). Southern Manitoba.

Carolina Poplar (a form of cottonwood) has not generally proved hardy.

## EVERGREENS AND CONIFERS

Balsam fir (*Abies balsamea*), adapted for Manitoba and Eastern Saskatchewan.

Pines—Lahrador, Grey or Jack Pine (*Pinus divaricata*), native, and (*Pinus Murrayana*) Scotch Pine (*Pinus Sylvestris*). Riga pine (*Pinus Sylvestris rigensis*), a variety introduced from forests near Riga, Russia, and found to be a somewhat hardier form of the Scotch pine.

Swiss pine (*Pinus cembra*), a hardy form introduced from the mountain regions of Central Europe, above being a Swiss variety. Dwarf mugho pine (*Pinus mugho*).

Spruce—White spruce (*Picea Canadensis*). Black spruce (*Picea mariana*, Colorado or Rocky Mountain blue spruce (*Picea pungens*).

White cedar or arbor vitae (*Thuja occidentalis*).

Larch or tamarack (*Larix laricina*). European Larch (*Larix decidua*). Siberian Larch.

Several of the trees in the above list are suitable also for ornamental purposes, especially the laurel and golden willows, and all the conifers. The tamarack, though a conifer, is a deciduous tree. Grown where it is not crowded, it makes a handsome tree, its soft, silky foliage giving it a very handsome appearance. The American elm, the Manitoba maple, and (where it will thrive) the basswood are also useful for street trees. The poplars are useful mainly on account of their hardiness and rapid growth. In other respects they are not, as a class, desirable trees to plant very extensively.

In planting trees, regard should be had to the nature of the soil. Ash, elm, cottonwood, willows and tamarack will grow on moist land. Tamarack is particularly valuable for this class of land. The Russian poplars, white spruce, and pine will thrive on sandy or gravelly soil.

### ORNAMENTAL TREES AND SHRUBS

Asiatic maple (*Acer tartaricum* Ginnala). Also known as the Ginnalian maple, a beautiful shrub, valued for the beautiful tints of its foliage and seeds.

Alder—Common or European alder (*Alnus glutinosa*).

Northwestern June Berry—Commonly known as Saskatoon (*Amelanchier alnifolia*).

Artemisia—Old man or southerwood (*Artemisia abrotanum*). Russian artemisia (*Artemisia abrotanum tobolskianum*).

Barberries—Thunberg's barberry (*Berberis thunbergii*). Purple-leaved barberry (*Berberis vulgaris purpurea*). Common barberry (*Berberis vulgaris*). Amur barberry (*Berberis Amurensis*).

Birches—Cut-leaved birch (*Betula alba laciniata pendula*). Low or dwarf black birch (*Betula pumila*).

Buffalo berry (*Shepherdia Argentea*), native.

Caraganas—also called the Siberian pea-tree. Practically all varieties of caraganas that have been introduced into the Canadian Northwest have proved perfectly hardy.

Cornus or Dogwood, Red Osier Dogwood, native (*Cornus stolonifera*), Siberian Dogwood (*Cornus alba Siberica*), Variegated Siberian Dogwood, for favored locations only (*Cornus alba Siberica variegata*).

Cotoneaster—The sharp-leaved variety (*Cotoneaster acutifolia*), common variety (*Cotoneaster tomentosus*), are all hardy.

Hawthorns—Scarlet thorn or H.W. (*Crataegus coccinea*). Siberian thorn (*Crataegus oxyacantha Siberica*).

Russian Olive—Oilberry (*Elaeagnus angustifolia*). For Eastern Manitoba.

Native Silver Berry or Wolf Willow (*Elaeagnus argentea*).

Honeysuckles—Albert Regel's (*Lonicera Spiuosa*, var. *Albertii*). Also all varieties of the Tartarian honeysuckle, *Lonicera tartarica*, (bushforms).

Black or Canada plum—(*Prunus nigra*), native.

Sand or dwarf cherry—(*Prunus pumila*), native.

Wild Red, Pin or Pigeon cherry—(*Prunus Pennsylvanica*)

Choke Cherry—(*Prunus Virginiana*), native.

Siberian or berried crab—(*Pyrus baccata*).

Japanese Quince—Half hardy.

American mountain ash or dogberry (*Sorbus Americana*), native in Eastern and Northern Missouri, Flowering, Golden or Buffalo currant—(*Ribes aureum*).

Buckthorns Common buckthorn (*Rhamnus cathartica*). Alder leaved buckthorn (*Rhamnus alnifolia*). Siberian buckthorn (*Rhamnus dahurica*).

Sumac—Smooth sumac (*Rhus glabra*), native.

Rose—Japanese Rose (*Rosa Rugosa*). Several forms of the June or early flowering roses, including the yellow rose.

Spiraea—(*Spiraea Billardi*), (*Spiraea Arguta*), Van Houette's spiraea (*Spiraea Van Houettei*), white-flowered, meadow sweet, native (*Spiraea salicifolia*); Sorbus-leaved spiraea (*Spiraea sorbifolia*), Golden spiraea (*Spiraea opifolia aurea*).

Snowberry or wolfberry—Native varieties. (*Symphoricarpus occidentalis* and *Symphoricarpus biculatus*).

(*Syringa*)—All varieties on their own roots, or on stock of the common lilac (*Syringa*). As many as thirty varieties of both double and single lilacs have been tested at the

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Brandon and Indian Head experimental farms, nearly all of which have been found hardy. By judicious selection, one may have a succession of blooms for four or five weeks.

Viburnum (*Viburnum lantana*). (*Viburnum opulus*), or high bush cranberry.

#### EVERGREEN SHRUBS

Junipers—Common savin (*Juniperus Sabina*). (*Juniperus sabina variegata*).

Pine—Dwarf mountain pine (*Pinus Montana mughus*).

#### VINES AND CREEPERS

Virginia creeper (*Ampelopsis quinquefolia*), native variety.

Climbing Bitter Sweet—(*Celastrus scandens*), native.

Grape—(*Vitis vulpina*)—Frost grape, native.

Russian Honeysuckles—Climbing varieties, introduced from Siberia.

#### THE PLANTING AND CARE OF HARDY HERBACEOUS PERENNIALS.

No flower garden is complete without perennials. Even though the plot of ground be small, some of the space should be devoted to this useful and varied class of plants. Few flowers require as little care as hardy herbaceous perennials if given the proper conditions to start with. The soil should be a good loam which will not bake, and well drained, for thorough drainage is very essential. When planted, most perennials should be left undisturbed for a long time, hence the soil should be well prepared in the beginning by trenching and digging under a liberal supply of well-rotted stable manure. Most perennials thrive best in full sunlight, and, where possible, they should be planted where they will get the most favored conditions. A southern aspect is the most suitable, and where there is protection from the cold winds the plants do best. Planting may be done either in spring or autumn, but spring planting is best for most kinds of perennials. In making and planting a border it is most important to plant those kinds which will give a continuity of bloom from early in the spring until late in the autumn, and to arrange them so that they will be most effective. The dates of blooming, heights of the plants and colors of the flowers are matters which should be given very careful consideration by those who desire to make the most of the material they have or may get. In large borders the best effects are obtained by massing several plants of one color or several varieties of one species, and also arranging for a continuity of bloom, but in smaller borders and where the number of plants is limited it is often not thought possible to get this, and sometimes one part of the border will be without bloom. During the growing season the surface soil should be kept loose and free from weeds, and in the summer the taller growing plants will need staking, as fine specimens are liable to be broken by storms if this is neglected. When the plants have ceased blooming the old stalks should be cut off near to the ground. Just before permanent frost sets in, the border or bed should be given a dressing of about four inches of straw manure or leaves. This will form a good mulch for the protection of the plants in winter and at the same time enrich the soil. The mulch ought not to be removed too soon in the spring, as often most of the damage done to perennials is at that season of the year when so much thawing and freezing takes place. After raking off the coarse material in the spring the shorter manure may be ploughed in to the soil.

#### LIST OF HARDY PERENNIALS

*Achillea Ptarmica flore pleno*, the Pearl. Hardy, producing quantities of showy double white flowers from June to October. Grown from plant division.

*Althea rosea*, or Common Hollyhock, an old-fashioned hardy perennial easily grown from seed. Grows from six to eight feet high, flowers white to almost black. Should be planted in variety.

*Aquilegia* or Columbine, an easily grown perennial which does well in a variety of situations. Easily grown from seed or plant division. In many named varieties.

*Aster*, Starwort, or Michaelmas Daisy. A hardy late-flowering perennial of a great variety of colors. Easily grown from seed. Plant in variety.

*Campanula* or Bell-flower, a showy perennial in blue, purple and white, blooming during mid-summer, very attractive for borders.

*Centaurea macrocephala*, or Knopweed, a hardy and attractive perennial suitable for border and easily grown.

*Delphinium* or Larkspur, a well-known hardy perennial, making fairly rank growth producing blue and bluish white flowers. Easily grown from seed and plant division. Should be in every collection. In many named varieties.

*Dianthus* or Perennial Pink. Showy, attractively flowered perennial which needs winter protection. May be grown from plant division.

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*Dicentra spectabilis* or **Bleeding Heart**, an old fashioned hardy perennial blooming during June and July and producing quantities of crimson and white flowers.

*Gaillardia Aristata* or **Blanket Flower**, a hardy showy perennial in shades of crimson and yellow, blooming during midsummer. Grown from seed or plant division.

*Gypsophila Paniculata* or **Chalk Plant**. A hardy, finely branched, delicately flowered perennial, flowers white, suitable for planting in mixed borders, flowers very desirable for bouquets.

*Hemerocallis* or **Day Lilies**. Hardy showy perennials which do well under a great variety of conditions, in mixed borders, flowering during June. Grown from plant division.

*Iris* or **Flag**, a short showy perennial in shades of yellow and purple, German and Siberian forms particularly desirable. Does well in a variety of situations. In many named varieties. Should be in every collection.

*Lychuis, Chalcedonica* or **Maltese Cross**. Brilliantly flowered perennial, producing masses of scarlet bloom which appears during midsummer. Does well in a variety of situations.

*Myosotis Alpestris* or **Forget-me-not**. Dwarf perennial producing masses of delicate blue flowers. Hardy and a persistent bloomer. Grown from plant division.

*Paeonia* or **Paeony**. One of the best known and most hardy herbaceous perennials, which should be in every collection. Bloom large and showy, appearing during midsummer. Should be planted in deep, well prepared soil, and in a somewhat protected situation. Many desirable sorts which should be planted extensively. Grown from roots.

*Papaver* or **Perennial Poppy**. Hardy, early blooming perennials, Iceland and Oriental poppies best known forms. Oriental particularly attractive, in shades of scarlet and crimson. May be grown from seed or plant division.

*Perennial Phlox*. Very attractive late blooming perennials. Should be grown in masses which present attractive displays of color. Many attractive named varieties which should be planted extensively.

*Rudbeckia lacinata* or **Gollen Glow**. One of the best growing, late flowering perennials. Produces masses of showy yellow flowers. Does well in a variety of situations and should be planted fairly extensively.

*Spiraea*. Some of the herbaceous spiraeas do well and make attractive perennials. The spiraea filipendula, palmata and almaria are particularly good forms.

#### HARDY FRUITS

Strawberries—Bederwood, Senator Dunlap, Clyde, Lovett, Enchance.

Raspberries, Red—Turner, London, King, Shipper's Pride, Minnetonka.

Raspberries, Black—Older.

Raspberries, Purple and golden—Caroline.

Currants, Red—Raby Castle, Stewart's, London Market, Red Dutch.

Currants, Black—Naples, Lee's Prolific.

Currants, White—White Grape, White Dutch.

Gooseberries—Houghton, Smith's Improved, Downing.

Grape—Beta, for Southeastern Manitoba.

Plums—Cheney, Aitkin.

Cherry—Compass cherry, for Southeastern Manitoba.

Crab Apples and Hybrids—Transcendent, Hyslop, Virginia.

Whitney No. 20—Virginia, Early Strawberry—second degree of hardiness.

Standard apples for Testing—Hibernal, Duchess, Patten's Greening, Blushed Colville.



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