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Table of Contents.

Evergreens, by O. Gibb, Abbotsford.....	161
First steps in farming. Young man's department.....	166
Sheep shearing (with engravings).....	168
Maize as a farm crop for the North.....	170
Lard cheese.....	171
Report of Pole-Star Creamery for season 1831.....	172
Grapes.....	173
Allender on dairying.....	174
Hampshire Doves.....	176

EVERGREENS.

CONIFEROUS TREES AND SHRUBS.

By Charles Gibb, Abbotsford.

(Written for the forthcoming report of the Montreal Horticultural Society.)

Evergreens are among the most arctic of trees. Strange this, if we consider the deciduous tree a novelty upon our planet, owing to the cooling of the earth's surface since the deposit of the eocene earths, many hundreds of thousands of years ago.

An evergreen, to be ornamental at all, must be perfectly hardy. If a catalpa kills back a few inches, its large leafage hides all defects, but if an evergreen is "scorched" by our dry winter winds or by the heat of our winter sun, it ceases to be ornamental.

Young evergreens under cultivation are often exposed to conditions of life far more trying than those in the woods, where they are mulched by leaves and covered with snow. An evergreen after its first season of growth *must* be mulched, that is, it *must* have leaves or straw, or some non-conductors scattered around it to prevent the frost from penetrating deeper than the roots.

Some of the western conifers first introduced into the Eastern States were from seed from the mild moist climate of the Pacific coast, and proved quite tender in the middle States. Seed of these same varieties from elevated regions in Colorado proved quite hardy. To insure still greater hardiness, seed should be procured from the dry interior districts of British Columbia, where some of our eastern trees are found among them.

From Europe we have many species of value. From Eastern Asia we may expect much. The trees of Japan, though so successful farther south, seem to lack hardiness until we get seed from their higher altitudes. We have hopes too of finding new species on the shores of those high temperate and arctic islands which, by elevation, are scattered even through the Torrid Zone.

Some of the Pacific conifers I have not seen: most of the others I have, but only as small trees or shrubs in the nurseries or parks, or private grounds of the Eastern States.

To Dr. George M. Dawson I am indebted for kindly placing in my hands his as yet unpublished notes and map, show-

ing the distribution of the different trees of British Columbia, noting the severe climates in which some of these beautiful species are found. To Dr. Robert Bell, M. D., for his valuable map, not yet published, showing the distribution of our forest trees northward even to the mouth of the Mackenzie River. To Prof. C. S. Sargent, for his pamphlet on the "Forests of Nevada," and one on "Ornamental trees for Massachusetts's plantations," by Mr. J. Robinson of the Arnold Arboretum.

To Mr. Wm. Brown, our largest experimenter, who, many years ago, had the Marchmount nurseries at Côte des Neiges, I am indebted for the results of his long and expensive experience. The "Book of Evergreens" by Mr. Josiah Hooper of West Chester, Pa., I shall often quote from. It is a very valuable work and the only complete one upon the conifers published on this continent.

ABIES.—Spruce.

The spruce is one of the most arctic of trees. In high northern latitudes where the ground is perpetually frozen to a depth of several hundred feet, and only thaws out a few feet upon the surface during summer, there, even, the spruce is found.

Our own white and red spruce grow, even, near the mouth of the Mackenzie River, on the Arctic Ocean, as may be seen by that most interesting map by Dr. Robert Bell, about to be published by the Geological Survey of Canada.

A. Alba var: aurea.—In grouping evergreens, one must study their tones of color, as well as their form. The little plants of this, at Flushing, have a lively golden tint which is quite striking. Whether of dwarf habit, or not, I cannot say. Being a variety of our common white spruce there should be no doubt as to its hardiness.

Var: Cœrulea.—The young trees I have seen are of light bluish tint, and decidedly ornamental.

A. Alcockiana. Alcock's Spruce.—Found, says M. Hooper, by Vietoh, growing at elevations of 6000 and 7000 feet; on Fusi Yami, the mountain we see upon the Japanese tea-chests. It is in latitude 36, yet trees from these high elevations might be worth trying.

A. Canadensis. Hemlock, and A. Douglasii: See Tsuga.—*A. Englemanni, see Picea Englemanni. A. Excelsa. Norway spruce.*—I know of no foreign tree that I should so like to see largely planted throughout our country. Lowdon speaks of it as "the loftiest of European trees, attaining a height of 125 to 150 feet, and even, in some cases 180 feet, with a very straight trunk of from 2 to 6 feet in diameter." It is the common spruce of northern and central Europe, and of north-western Asia, and in Lapland it reaches latitude 69½. Its beauty, its perfect hardiness, its rapid growth, the ease with which it can be transplanted, all show its value for extensive planting. About 7 years ago, I planted 70, received from Ontario. They all grew, and are now from 10 to 12 feet in height, with very massive lower branches. Three years ago, I planted about 110, received from Illinois, and only two of