The Value of Windbreaks

Trees planted on the Farm are a sign of Industry, Prosperity and Contentment

A SASKATCHEWAN PLANTATION

First Prize Article

Time passes and brings, at intervals, periods of prosperity and development, which are marked by the improvement of farm buildings, the building of rural telephone lines, planting around the farm home and school, installing of windbreaks and the improvement of live stock on the farm. Such changes indicate a new era of social and rural progress. While the planting of windbreaks has not been practiced to the extent we should like, yet the delay may mean a more practical and thorough insight into the conditions upon which depends their future success, such as the preparation of the soil, the best position of windbreaks for protective purposes, the varieties of trees best suited to western locations, and the method of planting.

It is needless to state that a well-prepared soil is as essential to tree planting as to any other crop, and a knowledge of Nature's course as found in the open forest reveals the secret of success in tree planting. What conditions do we find in the wooded area or virgin forest? A deep, mellow, penetrable subsoil covered with a floor of several inches of decayed vegetable matter or plant food. The deeply penetrable subsoil increases the water-holding capacity of the soil, while the mulch or surface covering absorbs and conserves moisture for the manufacture of plant food.

How may such conditions be attained on proposed planting areas? If old soils which have been cropped are to be used, a well worked summer-fallow is the best preparation, but as most planting is done on land taken from the open prairie, we will consider the preparation of such land more fully. In the early spring as soon as frost is out of the ground break two inches deep, then in July or August backset four inches, or a couple of inches deeper than before, and thoroughly work down. Then late in fall plow as deeply as possible and again pulverize. In the dry belt I would backset in June if the sod was rotted sufficiently. Avoid planting on stubble or spring plowing, as it would only lead to disappointment, especially where moisture is of such vital concern.

The Best Position

The location of windbreaks has largely to be determined by the part demanding protection, the influences of climate and the main purpose of the planting. From data collected both in the United States and Canada it was found that eastern and western requirements were so vastly different as to the purpose of planting and climatic conditions that no hard and fast rule could be laid down. However, in the West the main object of a plantation is to serve as a protection to buildings, crops and stock from wind, to conserve moisture by breaking the force of the hot winds in summer, to avoid the banking of snow around the buildings in winter, and to gather considerable snow in winter, thus supplying moisture to the soil. A plantation on the south and west, it is thought, would be of the greatest value in lessening the effects of hot winds, while a plantation on the north and west would be of greater protection against cold waves and snow banking. It is also a good idea to plant alternate rows of trees and small fruit. An important point in connection with windbreaks is to have sufficient space between buildings and plantations, say two hundred feet.

Selection of Suitable Varieties

The selection of varieties is a most important consideration in connection with tree planting, as it would be folly to plant trees which would not adapt themselves to local conditions. Trees are more or less sensitive to their environment, and a prospective planter should acquaint himself with the natural habits of the different species with regard to their preference for different kinds of soil and exposure, and as to whether they are long or short lived and hardy in the district. Trees also are slow or rapid growers and some thrive best in a shaded position, while others prefer an open exposure. After a detailed study of varieties it is important to arrange such varieties in the plantation in such a way that shifting would not be necessary, as it would be a drawback to the trees and also an expense. Long and short-lived trees should be set out in alternate rows if mixed planting is followed. Such arrangement would facilitate the thinning of the grove without changing its general appearance. Such varieties of trees as willow, cottonwood, Russian poplar and box elder are fast growers and fairly short lived. By planting them in rows alternately with ash, elm or scrub oak the short lived trees could be thinned out as opportunity afforded for fuel or other purposes, leaving the ash, elm and oak, which are long lived and more valuable, for the permanent plantation. Avoid the mixing of different sorts in the row if mixed planting is desired. Plant one row of Manitoba maple, then one of ash, then cottonwood, then elm, Russian poplar, scrub oak and the last row of willow.

Method of Planting

In planting trees for the purpose of making a windbreak they should be fairly close together, as in this manner they would require less time to shade the soil, thus retaining more moisture. Four feet either way seems the most practical for all purposes. The planting should be done as early as possible in the spring in order to get all the moisture left from the snow of the winter. One of the quickest methods of planting is to plow an open furrow as deep as possible, then with one hand hold the seedling in position and with the other draw and firm the soil around the roots. Trees may also be set quite satisfactorily with a clay pick. If for any reason planting is not possible when the stock arrives, the seedlings should be "heeled in" and protected from the sun. Material for planting may be secured from three sources, namely, the open wood lot, the nursery or by home growing from seeds or cuttings. By spacing the trees three or four feet apart cultivation is more easily done with a horse cultivator, and this should be continued for at least three or four years. Good tillage will aid in the development of the plantation, it will check and destroy weeds and other vegetation and also conserve moisture.

Does Tree Planting Pay?

Windbreaks protect crops, stock and buildings from wind and heat; they gather snow in winter, furnishing considerable moisture to the soil, also preventing snow banking around the buildings; they conserve moisture to the soil by breaking the force of the hot winds; they supply fuel and other conveniences to the farm; they are of great value in beautifying the prairie farms, and make rural living more pleasant and less monotonous; they enhance the money value of the farm home, and they protect fruit plantations from extremes of temperature.

If due consideration is paid to the preparation of the soil, selection of varieties and continued cultivation, we see no reason why successful tree planting cannot become common in the West.

From my own observations the planting should be done on the north, west and south sides of the farm lot. During the summer of 1914 the drought proved more injurious to plants on the south side than those on the north of windbreaks. Plants on the south wilted, while those on the north showed no apparent effect. Planting on the north and west gathers more snow and checks the cold north-west winds to a considerable degree. Windbreaks on the south would answer just the same as the results shown on the north side of plantation. Our plantation is of solid Russian poplar, the oldest trees were planted about five years ago and are now about twelve feet high and five inches in diameter.

Difficulties are met with but can be avoided by thorough preparation of the soil, by selection of such varieties as have proven hardy in the district and which are suited to that particular location and by continuous cultivation after planting, because good tillage stimulates vigorous growth and conserves moisture.

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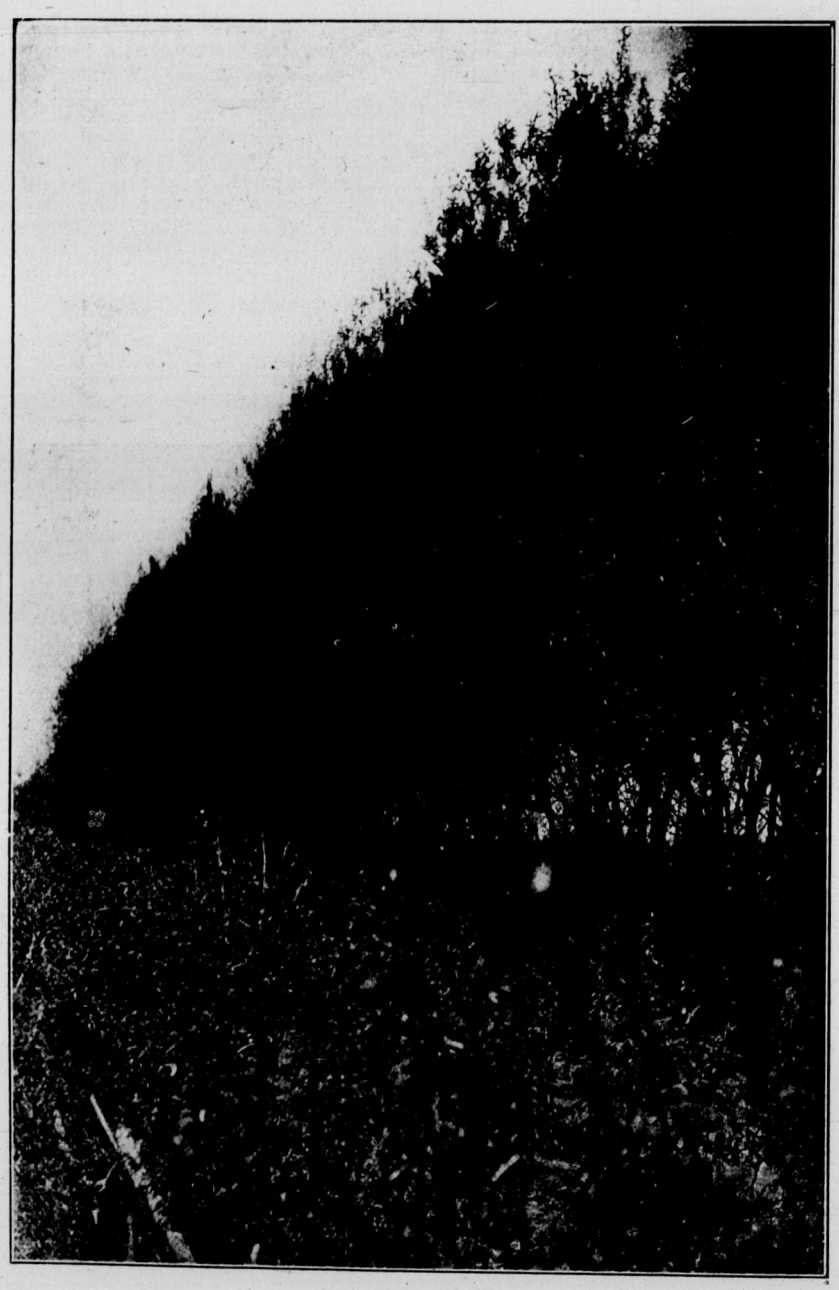

SPLENDID PROTECTION

A windbreak of golden willow, on W. Cason's farm, Gilbert Plains, Manitoba.

TREE PLANTING IN ALBERTA

Second Prize Article

During the scorching hot days of last summer when for weeks the thermometer was hovering between 80 and 100 in the shade, when the burning hot sun made life miserable on the prairie, it was a relief and satisfaction to have one sheltered, shady spot on the farm where one might enjoy a few minutes rest now and then. I have often wondered why so few farmers make any attempt to grow trees when trees are comparatively easy to grow in Southern Alberta, and when a little extra labor and common sense will establish a fine grove in a few years.

Four years ago last spring I planted my first 1,000 trees, seedlings and cuttings. They were obtained from the Government Forestry Station at Indian Head, Saskatchewan, and consisted of Manitoba maples, green ash, willow and cottonwood. Those trees have made an excellent growth and now completely cover the ground. The maples, ash and willows are from six to eight fet high, while some of the cottonwood are twelve feet high. A year ago last spring I set out 1,300 more trees of the same kinds, together with some caraganas, Russian poplars and also 100 evergreens. This second lot has made a surprising growth this summer in spite of the dry season, and it looks as tho they were racing to catch up with the first lot. Again last spring I set out 1,500 more trees, obtained from the same place, same kind of trees with some tamaracks added. Altho it did not rain for two months after these trees were planted and very little since that time, they are nearly all growing and doing well.

Small Fruit Successful

But shade trees are not the only trees or bushes that will grow on the prairie. From my own personal experience I claim that every farmer in Southern Alberta can raise all the small fruit his family needs, and that means a great deal in a country where fruit is scarce and high priced, and often hard to obtain at any price. Five years ago I bought, from an eastern nursery, a number of red raspberry, gooseberry and currant bushes. These made very poor showing the first year or two as they were planted on open prairie, but since I removed them inside the shelter belt they are doing fine. The red raspberry bushes have fruited for the past two

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