

THE UTILITY OF THE WINDBREAK

By Carlos Bates, in "*Windbreaks, Their Influence and Value.*"

The term "windbreak" may be applied to any object which serves as an obstacle to surface winds. For the purposes of this study, however, it must be limited to bodies or rows of trees. Windbreaks may be divided according to their general arrangement into three classes: (1) rows and hedgerows; (2) belts or shelter belts; (3) groves, or, in the most extensive case, forests. A belt usually consists of three rows or more, but its width is less than twice the ultimate height of the trees.

In European countries the windbreak perhaps serves its greatest utility as a check upon drifting sands along the coast, especially in France. In the interior steppes of Russia, which correspond to our middle western plains, windbreaks have been planted more or less extensively to protect fields from the desiccating winds of the region. In Schleswig-Holstein earth walls are thrown up and shrubbery is planted upon them, since forest trees can not be made to grow there.

WHERE TREES COUNT MOST.

Although windbreaks are of very real benefit to the farmer and fruit grower everywhere, it is in the treeless, wind-swept plains that they find their greatest utility. In addition to the esthetic benefits and the general "improvement" value to the farm, it would in many instances be almost impossible to raise crops without protection from the hot, dry winds of summer and the cold, dry winter winds.

The early settlers realized the value of trees for protection and attained success in tree-planting under conditions which at first seemed very unfavorable. First, small groves were planted about the houses and barnyards. Gradually these were extended in the form of belts or single rows to protect the larger areas of orchards and fields. Where the soil was light it was necessary to prevent its drifting. The farmers soon found also that a windbreak was very useful in preventing the drifting of snow. Railroad companies made many desultory attempts to protect their tracks by planting belts of trees far enough away to serve as snow traps, but more frequently loose fences were used.

Orchards must be protected from the mechanical effects of the winds which strike the trees when they are laden with fruit; from their drying effect, which blights the fruit and causes it to shrink; and from the drying or "winter-killing" of the branches. This applies not only to the prairie states, but also to the lake states, the fruit region of California, and the Columbia river valley fruit region. In many sections of Michigan, Wisconsin, Illinois, Maine, and New York, where peach growing was formerly profitable, it is now impossible to raise consistent crops of this fruit, because of the increased exposure that has resulted from the removal of the original forests.

FOR WHEAT AND RYE.

It is necessary to consider also such winter crops as wheat and rye. For the protection



An irrigation lateral on C.P.R. lands in Southern Alberta.