

The Farm Windbreak For Eastern Washington

Extension Service

State College of Washington

By John P. Nagle

Assistant Professor of Forestry and Range Management; and

James W. Stubbs

Extension Forester, both of the State College of Washington

On the wheat and livestock ranches outside of irrigated valleys, the proper use of tree windbreaks or shelterbelts may do much to make farm homes more livable, to protect farm livestock lots, to make the farm garden more productive, and add to the beauty of the general landscape.

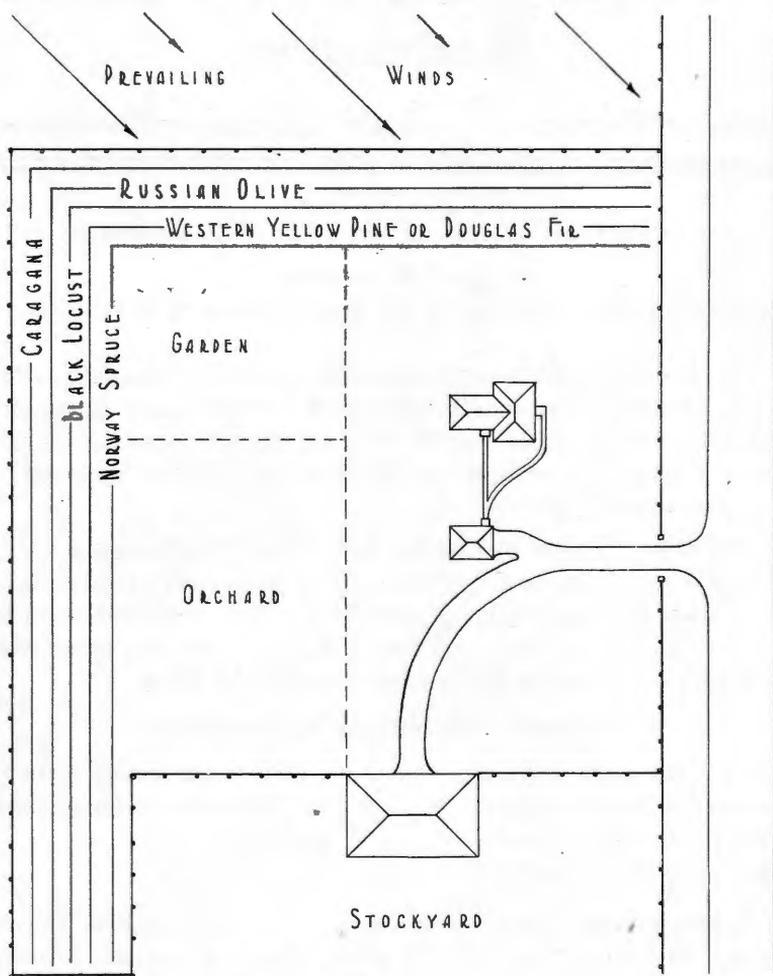
The soil of much of eastern and central Washington is light and sandy, easily moved by wind and water. A relatively narrow belt of trees may be useful in protecting cultivated fields from loss of surface soil by blowing, and loss of soil moisture by drying winds which pick up moisture as they blow across the fields.

To Grow a Windbreak Successfully:

- choose the best location
- prepare the soil properly
- choose the right species
- space the trees effectively
- cultivate the young trees and provide helpful conditions for growth

Location and size are important. Once established, the tree planting will occupy the area for a long time and the area protected will be definite. The key to proper location is to decide on the area to be protected and then to get the windbreak between this area and the prevailing wind; at right angles to the prevailing wind direction is most desirable. However, because most of our farmsteads are laid out in alignment with the four principal points of the compass, it will be satisfactory to run the planting in the directions giving most resistance to the wind. The planting should be long enough to ex-

tend well past the limits of the area in both directions. Reduction of wind velocity will cause snowdrifts to be formed in the wind-break and extend out on the leeward side. A space of 50 or 100



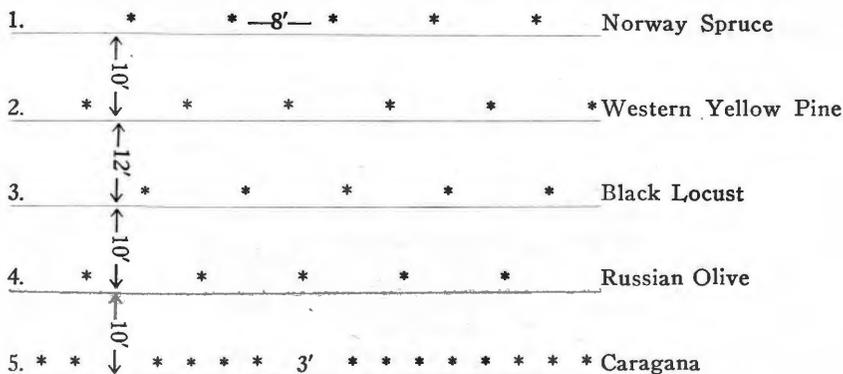
feet should be allowed between the windbreak and the nearest farm building.

Preparing the Soil. Summer fallowed soil is best—fall plowing followed by spring planting is next best. In any case plow deep,

and prepare the soil well. Rolling freshly plowed land will help. If possible, fertilize with well-rotted manure.

Choosing the Right Trees. Species that will withstand scant rainfall, hot dry summers and drying winds and, at the same time, have proper shape and growth rate are required. Only a limited number have proven satisfactory to date. Caragana (a shrub), Russian olive, black locust, western yellow pine, Austrian pine and Norway spruce have proven satisfactory for dry-land plantings. Douglas fir may be used instead of the pines on more favorable locations.

Arranging and Spacing the Trees. The effectiveness of a wind-break depends largely on the proper placement of the trees. At least three (3) rows should be used and five (5) or more are preferable. Broadleaf (deciduous) trees should be planted on the outside and evergreens on the inside. In the more exposed and drier areas it is advisable to plant the hardwoods two or three years in advance of evergreens, which will then have a better chance of surviving in the shelter of the established trees. Rows should be 10 to 12 feet apart and trees 6 to 8 feet apart in the rows with the exception of the outside row which should be planted close together (3 feet) to produce a dense hedgelike growth. See illustration of a recommended arrangement.



An effective three (3) row planting would be rows 2, 3, and 4 of the illustration, planting Russian olive closer together. A two-row planting could be Russian olive and western yellow pine or Norway spruce.

Arrangements such as those recommended above will place the faster growing species on the outside to protect the more demanding evergreens until they are established, and will provide both high and low wind shelter. The staggered (mismatched) placing of trees in the rows insures a compact front against the wind.

Field shelterbelts have a definite place in a soil erosion control program. One or two rows of trees such as Russian olive placed at strategic points to intercept the prevailing winds will probably prove sufficient. The arrangement of these rows will not be at regular intervals and cut the fields up into narrow strips which would be objectionable—instead, a study of just where the areas needing protection are located must be made and it will probably be found that a relatively small amount of planting will protect the most exposed areas.

Care and cultivation are important. Keep cleanly cultivated until the ground is entirely shaded. Cultivate shallowly but frequently. Prune off all dead and broken limbs. Replace dead trees each year until the planting is satisfactorily established.

- - - - -

The most practical person is one who builds successfully for the longest future, illuminating the task of the hour by a vision of its distant relations.

—CHARLES A. BEARD

Published and distributed in furtherance of the Act of May 8, 1914 by the State College of Washington, Extension Service, F. E. Balmer, Director, and U. S. Department of Agriculture cooperating.
