WINDBREAKS FOR BEAUTY AND UTILITY: BY MALCOLM CAMPBELL

In laying out the grounds for the rural or suburban home, or when considering the improvement and beautifying of a place already established, windbreaks should receive far more consideration than is generally given them, both on account of their artistic and comfort-giving possibilities and their practical value as an interest-returning investment.

In all sections of the United States there are prevalent at certain seasons winds which range all the way from merely uncomfortable to highly destructive, and which possess the one virtue of being consistent, a characteristic which enables the homemaker and the farmer to guard against them. That orchards and homes are not generally better protected is due very largely to erroneous impressions concerning windbreaks of forest trees, one being that the area occupied by the trees is put into the non-earning status, another that the damage to crops and orchards by shade offsets any protection afforded, and still another that the trees in the windbreaks sap the fertility from the soil for a considerable distance on each side of the grove or belt. As to the first objection, the fault lies with the landowner, not with the trees. With a judicious selection of species for planting, windbreak belts will, if conserved and availed of in a reasonably intelligent manner, give a return quite equal to that which might have been derived from field crops on the same land, the revenue being derived from the sale of timber, posts and cord-wood. Careful investigation has determined that the protective value of an adequate windbreak is several times greater than all damage done through shading, and forest trees return to the soil, with the falling of the leaves, practically all of the elements of fertility which they take from it. Aside from the mere breaking of the force of the wind—which,
however, is the most important feature so far as comfort is concerned—windbreaks exert a very powerful effect upon the evaporation, doing much to conserve the moisture of the soil during the growing season. They also prevent the drifting of light soil and sand, and serve as snow-traps.

Windbreaks may consist of single rows of trees, of belts varying in width from three rows of trees up to 250 feet, or of groves. If a cash return from the land occupied by the windbreak is not an important consideration, a comparatively narrow belt of hardwood trees, underplanted with some "tolerant" species, is probably the most satisfactory form for home and small orchard protection. In a narrow belt, the trees do not grow with the same regularity or have the straight boles to be found in a wider belt or grove, and consequently the timber is of less value. In order to make profitable the use of windbreaks which have the quality of groves, there must be selected for the main body of the shelter a species which will make rapid height growth at the outset. If necessary, it may be underplanted with a slow-growing, dense-foliaged tree, or the latter may be used along the sides of the grove, and may be planted either at the outset or when the main trees of the grove begin to prune themselves rapidly. Under any circumstances, the total width of the grove should not exceed one and one-half times to twice the expected height of the trees at maturity. The single-row hedge or windbreak is of value—in addition to the protection given—only for the production of posts and small timbers in which freedom from knots is not an essential feature. An osage orange hedge will, in many widely scattered areas, be found an excellent windbreak. Calculating the value of an osage hedge on the basis of an annual net benefit equal to the yield of a strip of land twice as wide as the height of the trees, there is at the end of twenty years a surplus in favor of the windbreak (on slightly
breaks, it may be stated that, in general, white pine is the very best windbreak tree for the Lake States and in the northern portion of the Eastern States, in both regions the belts running north and south. White pine grows rapidly enough to be planted in belts from 80 to 90 feet wide if they are to be held for 40 years, with close spacing, about 4 by 6 feet at the outset, which gives good form with rapid height growth. When mature, these belts will be immensely valuable. A few rows of white cedar on either side will augment the value of the white pine windbreak and yield a crop of valuable posts. The white cedar may be planted very closely—about 2 by 4 feet.

In the southern part of the Eastern States, where, because of the greater summer heat the conservation of moisture becomes important, chestnut and tulip poplar will show best results. Both grow thriftily, and may be managed as a coppice. As auxiliary, short leaf pine may be used on soil too poor for white cedar or white spruce. The common red cedar, so frequently found in natural hedgerows, should not be allowed to exist in the neighborhood of apple or pear orchards.

In the Middle West cottonwood is best suited for windbreaks, when these are planted on good moist situations. The trees should be in belts from 125 to 150 feet in width, running east and west, and the trees should not be cut until 45 years old, when their height will average 90 feet. Osage orange, green ash, honey locust and Scotch and Austrian pines may be used in situations where the cottonwood would not thrive. On the northern prairies, windbreaks must run both north-south and east-west. On good situations many conifers will succeed, about the most desirable being Scotch pine, red or Norway pine, Colorado blue spruce and Black Hills spruce. Scotch pine develops well only when planted closely.

In the poorly watered regions on the Southwest protection from wind and conservation of moisture are most important considerations, but little has been done in

MONTEREY CYPRESS WINDBREAK SHELTERING ORANGE ORCHARD, RIALTO, SAN BERNARDINO CO., CALIFORNIA.
the way of windbreak planting. Artemisia or sage-brush has been used to some extent in New Mexico, but, on account of the low growth of this species—about 4 feet—hedges, to be of any real service, must be placed at intervals of not over 100 feet. Osage orange will thrive in the river bottoms, and would, perhaps, with careful cultivation, grow in much of the country where “dry farming” is practiced. Alligator juniper and piñon will furnish winter protection in the dry climate of the lower elevations.

In California windbreaks are more or less extensively used, especially by fruit growers; eucalyptus, Monterey cypress and Monterey pine giving excellent results in this part of the country.

The right kind of a windbreak correctly placed and properly handled is a source of both comfort and profit, and will add much to the attractiveness of any farm or rural home. The prejudice found in some localities is based, invariably, on one of two things: experience with poorly planned and poorly administered windbreaks, or a failure to comprehend the current as well as the eventual profit derived. The United States Forest Service is doing much to educate the country to a realization of the value and beauty of windbreaks, and promptly extends assistance in the way of advice to anyone contemplating their planting. This fact should be appreciated by all farmers who wish to improve their land in this way, and who need practical and helpful suggestions from an authoritative source.

COTTONWOOD GROVE AT DUNCAN, NEBRASKA, RATHER CLOSELY PLANTED AND NOT VERY EFFICIENT, BUT VERY GOOD FROM TIMBER STANDPOINT.

ORNAMENTAL STUMPS

UPON a lawn not far from me are two stumps that have been turned into things of beauty. They were cut off smooth on top, and on each was placed a potted sword fern, which, having considerable shade from nearby trees and plenty of water, had grown to enormous size. About the roots of the stump a fine-leaved ivy or woodbine had been planted and this quickly wrapped itself over the unsightly, decaying wood.

If a stump is old and soft in the center the top may be hollowed out and filled with earth, and in this many woodloving ferns or plants may be grown, the spengeri being especially adapted to such culture.

Many landscape gardeners prefer to leave tall branchless tree trunks upon a lawn, using them as trellises for ivies or vines.