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ON FARMS IN THE SOUTHEAST

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U. S. DEPARTMENT OF AGRICULTURE

SHRUBS FOR WILDLIFE ON FARMS IN THE SOUTHEAST

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The Right Place for Shrubs

On many farms in the Southeast patches of briars and small scrubby growth have been allowed to grow up in pastures, fields, and meadows, where they interfere with good farming. Shrubs have therefore come to be thought of all too often as plants that should be destroyed. The areas they occupy are shrubbed out and burned in an attempt to combat insects and to present an appearance of clean farming. This treatment destroys ground cover and hastens erosion. It deprives wildlife of food and shelter. It reduces the number of beneficial insects but does not exterminate the noxious kinds.

Shrubbing out and burning may be called fighting shrubs blindly. It is easier to manage them.

Shrubs may be managed so as to fit into patterns of neat, orderly farming. Putting shrubs in the right place or leaving them there is the first principle of such management. Shrubs belong at the edge of woods, in fence rows, in hedges, on stream banks, along drainageways, on steep slopes or rocky outcrops lying within cultivated fields. Here they do not interfere with cropland, pasture, or woodland. They enhance the beauty of the farm and the value of fields and woods. They bear small fruits that can be used in making jellies and preserves. They provide protective cover for eroded or erodible areas on many sites not suitable for other vegetation.

At the edges of fields and woods, on shrub-lined stream banks, along hedges and shrubby fence rows, wildlife seeks food and cover. Greater numbers of rabbits, bobwhite quail, and insectivorous birds will be the reward of the farmer who keeps shrubs in the right place.

Wildlife Borders

Where Fields and Woodlands Meet

The edges of fields adjacent to woodland are usually unproductive and often severely eroded (fig. 1), for the tree roots extend into the

FIGURE 1.—Unproductive borders such as this are a common sight. Wildlife finds no home here, erosion is severe, and money spent in planting field crops is entirely wasted.

FIGURE 2.—This field and woodland border supplies food and shelter for wildlife. There is no erosion here, and the roots of the trees do not take plant food and moisture from the cropland.

fields and take plant nutrients and moisture from the soil. A study of more than 3,000 fields adjacent to woodlands in the Southeast revealed that woodlands prevent useful crop production to an average distance of 35 feet from the base of the outermost trees. The distance to which mature woodlands affect the growth of crops is ordinarily greater than this.

It is a rather common practice in parts of the South to cut back both trees and shrubs to protect the crop, but this is of benefit only temporarily. Furthermore, though trees removed from the woodland edge adjacent to field crops supply fuel, their removal before they are large enough to cut reduces crop production. Taking trees for fuel from the edge of woodlands is usually unnecessary on farms in the Southeast because most woodlands contain too large a proportion of trees suitable only for fuel wood. Removing these trees of poor form or species increases the productivity of farm woodlands, for it gives space to the more valuable trees. Too often these thinnings in the interior of the woodland are not made because the farmer cuts his fuel wood from the woodland border to protect his crops.

A better plan is to run a 35- to 40-foot strip of herbaceous plants and shrubs between the woodland and the field. The half of the strip in herbaceous plants, next to the crop, is a field border. The other half, in shrubs next to the trees, is a shrub or woodland border. The entire strip is commonly known as a wildlife border (fig. 2).

If a border of shrubs and herbaceous plants is maintained along the woodland, the encroachment of tree roots into cropland is much less extensive. Crops do not have to compete with the trees. There need be no bare eroded strip at the field's edge.

It is evident, therefore, that maintaining such a border along the woodland is good management in forestry, agronomy, and erosion control. Furthermore, it is good wildlife management.

A border of shrubs provides a wealth of berries and fruits for wildlife, as well as cover and nesting sites. On the border of the woodland, where there is ample sunlight, shrubs produce fruit abundantly. In the understory of woods, they produce comparatively little fruit. To make cuttings in the more mature stands to favor shrubs would be bad economy. Moreover, it would be unjustified, because the main body of trees provides cover and mast for wildlife. The farmer who desires to provide habitats for wildlife by maintaining shrubs on his farm can

neglect shrubs in the interior of the woodland. His opportunity to improve conditions for wildlife lies in maintaining a shrub border at the woodland's edge and a few den trees in the interior.

Arrangement and Treatment of a Wildlife Border

Wildlife borders should include both herbaceous plants and shrubs. The herbaceous strip, 15 to 20 feet wide, is managed by mowing or plowing at intervals to keep the shrubs away from the crop. This strip also provides herbaceous foods for wildlife in an area that is needed both as a turnrow for work stock and as an outlet to handle excess water draining from the ends of contour rows. *Lespedeza sericea*, a perennial legume, is best adapted to this use because its deep root system permits it to withstand the competition of shrubs and trees. It is also exceptionally tolerant to shade. For details of the establishment and care of herbaceous strips, see United States Department of Agriculture Leaflet 168, Protecting Field Borders.

The shrub border, about 20 feet wide, extends from the base of the trees to the herbaceous strip. In this border it is desirable to encourage shrubs such as dogwoods, sumacs, plums, blackberries, haws, and huckleberries, and vines such as grape and Virginia creeper. Pines, oaks, gums, poplars, maples, and hickories should be kept out. In the half of the shrub strip next to the woods, small food-producing trees such as red cedar, persimmon, and black cherry can be left. Trees that appear in the border before it becomes established are best removed while they are saplings (fig. 3, A, B), for then a single stroke of the ax will take them out.

Once established, a permanent shrub border needs little attention since shrubs then have the whole available supply of sunlight, plant food, and soil moisture and will therefore be vigorous enough to check nearly all reproduction of trees.

The herbaceous strip of the wildlife border is usually planted on the cultivated land to avoid the interference of shrubs during its establishment. The shrub strip can be developed by cutting trees from the edge of the woodland or by retiring from the field a strip wide enough for both the herbaceous and shrub borders. Whether it shall be taken from the field or the woodland is a question to be decided according to conditions at the site.

If there is an abrupt change in slope between the cropland and woodland, the herbaceous part of the wildlife border is planted on the less steep slope along the edge of the cropland, and shrubs are put on the steeper, wooded slope. In other words, the line between the two parts of the wildlife border follows the line between the two slopes—and it is frequently an exact contour.

Unless a stand of trees consists of only a few trees of inferior quality, it should never be removed to make room for a shrub border, nor should trees be removed if there is a shortage of woodland on the farm and ample open land to accommodate both the shrub and herbaceous borders.

If the shrub border is established in the edge of the woodland, only the trees should be cut out. The shrubs should be left. The limbs of pines that are cut should be used for mulch to cover eroded spots on the field border or other galled areas on which it is difficult to establish vegetation. Detailed information about mulching is given in

United States Department of Agriculture Leaflet 190, Mulching to Establish Vegetation on Eroded Areas of the Southeast. The larger oaks, hickories, poplars, maples, and gums may be cut, but smaller ones should be girdled or grubbed to prevent sprouting after their removal.

FIGURE 3.—The pine trees in *A* suppress the flowering dogwood, plum, cedar, persimmon, blackberry, and sumac that make the natural shrub border in *B*. Only the flowering dogwood can be seen among the trees in *A*.

If a border throughout its length is of uniform width, maintenance of both shrub and herbaceous strips is easier, and the field edges will be more even.

Shrub Borders of New Woodland Plantings

The borders of new woodland plantings should be set to shrubs in a strip 15 to 20 feet wide. Many common shrubs and herbs will seed in; therefore, a spacing of 5 by 5 feet or 6 by 6 feet is close enough for planted species. Privet (*Ligustrum amurense*), shrubby lespedezas (*Lespedeza bicolor* and *L. cyrtobotrya*), and autumn elaeagnus (*Elaeagnus umbellata*) are exotics that appear to be useful in border plantings. Native species may also be added.

Though shrubby borders to newly planted woodlands will develop in most places without planting, it is preferable to hasten the development by adding desirable shrubs. To prevent crowding of the shrubs, large-tree species must be removed from newly planted borders as soon as they appear.

Hedges

A managed hedge gives a neat appearance to the farm landscape. It serves as a travel lane, which permits the movement of insect-pest destroyers through the fields. Hedges also provide nesting sites for the familiar insectivorous birds of the farm. They contribute to the summer and winter foods of these birds and of game and provide them with needed shade and cover. (See fig. 4, *A, B*; opposite page.)

A hedge need not be allowed to go wild and spread unevenly into the field or to attain sufficient height to injure crops. Trees should be kept out (fig. 4, *C, D*), and even the shrubs that attain more than moderate height may be removed or trimmed.

Management of hedges is the same as that of woodland borders except that the hedge should not be allowed to become more than a few feet wide. Shrubby fence rows are a type of hedge and should be developed and managed in the same way as a hedge.

Marshes

Marsh areas and poorly drained sinks, known by such local names as pot holes, grady ponds, and wet-weather ponds, may be allowed to grow up to shrubs. Borders next to fields should be kept free of trees.

Steep Slopes and Rocky Outcrops

Steep slopes and rocky outcrops within or jutting into cultivated fields are unsuited to crop or hay production. Shrubs can be used to advantage on such areas, where they protect the land from erosion and benefit wildlife (fig. 5, *A*).

Slopes too steep for cultivation occasionally occur between bottom land and first and second benches. An ample cover of shrubs on these slopes will prevent damage to the land below and accomodate run-off from the fields above. Trees should be confined to the central part of the area. Only shrubs should be permitted to grow adjacent to crops.

FIGURE 4.—Hedges on farm boundaries *A* and contour fences *B* provide wildlife with travel lanes and nesting sites and beautify farm landscapes. Removing the trees in *D* released the shrubs. In *C*, in the places where the trees grew, the shrubs are not so high or dense as in the rest of the hedge, where the shrubs did not have to compete with trees. Removing the trees will permit the normal development of the suppressed shrubs, and the hedge will take on a pleasing, uniform appearance.

Stream Banks and Drainageways

The steep banks of running streams need the protection of natural shrub growth to prevent cutting and consequent meandering of the streams through fields, pastures, and woods (fig. 5, *B*). Even intermittent streams and drainageways should have such protection (front

FIGURE 5.—Shrubs on steep slopes *A* and stream banks *B* control erosion and provide shelter from which wildlife may forage into the adjoining fields for food.

cover). The common practice of cutting and burning vegetation on the banks of streams not only adversely affects soil conservation and wildlife but is, after all, rather useless.

If woody vegetation is left along the banks of streams, unharvested seeds in adjacent fields and pastures can be used by game birds and other wildlife that feed from the vantage of the cover. Fish find cool retreats beneath branches that overhang the streams. In pastures, shrubs should be left only on the banks of streams and other drainageways that cannot be reached with a mowing machine.