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FOR QUAIL AND  
SOIL CONSERVATION  
IN THE SOUTHEAST



U.S. DEPARTMENT OF AGRICULTURE  
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# BICOLOR LESPEDEZA FOR QUAIL AND SOIL CONSERVATION IN THE SOUTHEAST

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IDLE LAND is a symbol of waste, and often a testimony of abuse. It is a sign of poor land management, and adds nothing to farm income.

For a few years, idle land may produce a heavy cover of ragweed, bull grass, beggarweed, and annual lespedeza—food for the bobwhite quail. But quickly these will be crowded out and replaced by dense growths of briars, broomsedge, and persimmon and sassafras sprouts. Before long these sprouts will grow tall and the land will be covered by broomsedge and poor trees, unless it is returned to cultivation or made into pasture. Idle land is not even a dependable producer of quail food.

However, you need not have idle land on your farm. If you manage the land properly you will put every acre to some worth-while use. Whether you use the land for cropland, pasture, or woodland, you still can provide food for quail. Since the quail is more than a game bird—he devours large quantities of insects which damage crops—you may want to do this.

You can attract quail and encourage their increase by planting clumps of shrub lespedeza—*Lespedeza bicolor*—in odd corners, and strips of it at the edges of fields, pastures, or woodlands which you have established on your idle lands. Bicolor lespedeza seeds make a much better quality food for quail than the seeds of annual lespedezas or the weeds that grow on idle land. It also has considerable value as an erosion-control plant, and makes a beautiful flowering border in midsummer (fig. 1).

Bicolor is a permanent perennial shrub that grows 5 to 10 feet high. Each spring it leafs out as do other woody shrubs. It is a legume which supplies its own nitrogen after the first year. Its seeds are eaten readily by bobwhite; the bark and leaves are eaten by rabbits; and the flowers are attractive to honeybees. Bicolor and some other shrub lespedezas were brought from Asia as ornamental flowering plants. Though several have more showy flowers, none produce as many seed as bicolor.

The use of bicolor has greatly advanced the conservation of farm game and the management of farmlands suitable for wildlife. Now almost any farm in the Southeast, even one of moderate size, can be made to feed and shelter a few coveys of bobwhite quail. And you can do this with a small outlay of money and labor. Large holdings of southern pinelands are managed with the primary aim of having high populations of quail to hunt. Owners of thousands of small farms also are hunters who want more birds. Many who do not hunt would like to grow quail for the pleasure of seeing them and hearing their cheery whistle; others may wish to increase their farm income by leasing shooting rights to those who own no land.



*Figure 1.*—A flowering border of bicolor lespedeza.

The Soil Conservation Service developed the use of bicolor for land which could be devoted to game management as part of a well-rounded soil and water conservation program (fig. 2). Before the era of bicolor, most quail were usually produced under wasteful practices of land management. Quail populations were highest on idle land, weedy fields, and burned-over woodland.

From November through April, the quail's greatest need is food. Bicolor will produce enough quail food to replace the weed seeds of cropland and the wild legumes of burned woodland. Though every acre may have some kind of plant which ripens seed for quail food, the quantity is usually too small. Fifty pounds of seed are useless if scattered over 10 acres. An equal amount on one-eighth of 1 acre will feed the birds well.

There is a limit to the number of birds your land will support, even with all the bicolor seed they can eat. On the other hand, to make full use of your land and its game food you must harvest no more than half of the birds. For every 6 or 7 birds left at the end of the hunting season, you can expect a covey of 12 to 15 birds the next fall.

Thus, when you have provided good food and cover on your land, your chief concern is to maintain the same conditions year after year. Keep your bicolor vigorous and don't overshoot the birds.

### PATTERNS OF USE

You can use bicolor with almost any kind of farming and without regard to the absence or presence of other foods. Quail eat many kinds of seeds but they require only one in adequate amount. Bicolor serves from early fall throughout the hunting season. You will find the birds using it daily until they begin eating insects, fruits, and various seeds of early summer. Fortunately, doves, blackbirds, sparrows, and other small birds eat little bicolor seed. Thus you can always be sure of having bicolor for the quail.

To use bicolor effectively you will have to plan the use of all your land at the same time. This lespedeza can be used on the poorest or best of soils. A Soil Conservation Service technician can help you decide where to

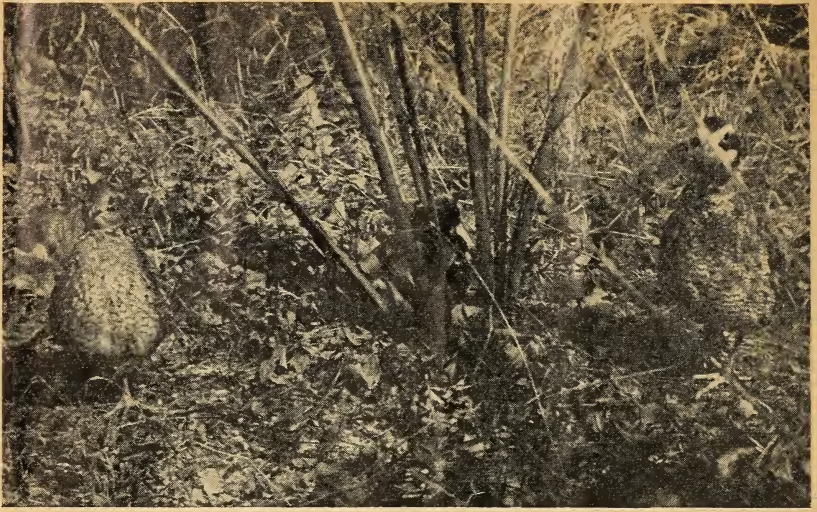


Figure 2.—Bicolor controls erosion, and provides quail a safe place for easy feeding.

plant it and where not. Bicolor will not grow in wet, poorly drained soils. It will not stand grazing; cattle and horses like it too well. Where deer populations are high, the deer will badly damage the bicolor.

Bicolor may be grown as a game-food strip in an open place in the woods. If the stand of trees is thick, wait until you cut logs or poles—then put the bicolor in the open places. This new quail food can be used also in hedges across fields. It is useful on highway fills, dikes, and spoil banks. You may grow it in odd acres wherever you want a covey of birds. Your pattern of planting, however, is as important as the plant itself.

For best economy use bicolor on land you do not need for other purposes—field borders, for example. Borders may take 3 percent of a field. Or if you want to produce quail on land which is also suitable for other uses, grow bicolor lespedeza on small strips of land set aside for the sole use of the birds. Strips in woods will take no more than 1 or 2 percent of the woodland. Hedges across fields will probably use 5 percent of the cropland. The remaining land should produce highly of crops and woodland products. With bicolor you will find that in no case do you need to produce quail food on more than 5 percent of a tract.

## PLANTS OR SEEDS

Bicolor can be established by planting seeds or transplanting nursery-grown 1-year-old seedlings. You can obtain small amounts free of charge from local soil conservation districts, which get them from the Soil Conservation Service or the State game department. Seed and plants may also be purchased from commercial sources.

Common bicolor, chiefly available now, is the original stock which proved so surprisingly successful. New strains that produce more seed per acre will be distributed soon. Strain 101 is the best to date for the Southeast. Drought-resistant strains are being developed to push the range of bicolor westward into Texas and Oklahoma. Earlier ripening strains which will mature seed before frost are being tested north of the Ohio River. Perhaps one of the related species, instead of bicolor, will be the final answer to this

northern need. *Lespedeza cyrtobotrya*, a similar kind of lespedeza, is suitable for Kentucky, Tennessee, Virginia, and northern North Carolina. Bicolor has not been successful in peninsular Florida. The plants will grow from Florida to the Canadian border, and are useful to rabbits and bees; but they must make seed every year to have value for quail.

### IMPORTANCE OF FERTILIZER

Fertilizer is important; the poorer your soil the more you will need fertilizer to establish growth. Potash and phosphates produce vigorous growth. These elements greatly increase seed yields, too. Without sufficient fertilizer, bicolor fails. When we try to guarantee enough food for a covey of birds on only one-eighth acre of land, we must take good care of the plantings. A vigorous growth is, therefore, a constant aim. By using enough fertilizer you can produce adequate food in the poorest woodland soils where no birds could otherwise live through the winters. When your bicolor lacks vigor, fertilize it.

### HOW AND WHERE TO PLANT

The following outline tells you where to use bicolor, how to plant it, and what you should do to keep it in good condition permanently.

### Food Strips In Open Woodland

*Size.*—Approximately one-eighth acre in each strip.

*Shape.*—300 to 400 feet long; 15 to 20 feet wide; 4 or 5 rows wide (fig. 3). Rows may be straight or curved.

*Number.*—One strip to each 20 or 25 acres to begin with. If you have a covey of birds for each strip, add more food strips until the food strips exceed the coveys. You can afford no more than 2 strips per covey.

*Material.*—Each strip requires 800 to 1,000 seedling plants, or 1 to 2 pounds of scarified seed.



Figure 3.—Strips of one-eighth acre (15 feet wide) in woodland support birds better than nature unaided.

*Planting.*—Space plants 24 inches apart in the row. Rows may be 3, 3½, or 4 feet apart. Set plants any time from November to April in the South, the earlier the better. In Central and Northern States, plant (suitable variety) as soon as possible after frost is out of the ground. Plant in holes or furrows deep enough to accommodate the 6- or 8-inch roots, upright. Cover the plant an inch or two above the root collar, leaving the stem above the ground.

*Seeding.*—Prepare the seedbed well. Use scarified seed. If you plant in rows, place 20 to 30 seeds per foot in shallow furrows spaced as you wish from as little as 12 inches to as much as 3 feet apart. Cover the seed about one-half inch deep. For broadcast planting, be careful to sow evenly over the edges as well as down the center of the strip. A cultipacker is very helpful on broadcast seedings, as a firm seedbed is always best. The time to seed is when the ground moisture is good and the danger of killing frost is past. Never seed in dry soil.

*Fertilizing.*—This legume responds best to potash and phosphates. Apply fertilizer before or at the time of planting or seeding. The amount needed depends on the fertility of the land being planted. A liberal amount (400 to 800 pounds per acre) assures vigorous, rapid growth and high seed production—the major objectives. An 0-12-12 or similar fertilizer is good.

*Maintenance.*—Row plantings should be cultivated the first year, once or twice, to destroy competing vegetation. Broadcast plantings must be left to struggle through the weeds and grass. No cultivation is needed the second year, or thereafter, unless some perennial grass or other weed begins to invade the bicolor. In late winter or early spring, when the plants lack vigor or seed yields are low, add fertilizer at rates of 400 to 800 pounds per acre. The fertilizer can be broadcast by hand, without cultivation or cutting of the bicolor. Mowing or burning in winter will do it no harm. If you want the best in beauty, you can mow the stems as low as possible every March.

### Field and Woodland Borders

Bicolor is the best quail-food plant for all borders wherever it will raise seed. Your bicolor border should be 12 to 20 feet wide, immediately adjacent to the woods, stream bank, or brush covert adjoining the field. It should be planted in the same way you plant woodland food strips. You can use sericea lespedeza in a 12- to 15-foot strip between the bicolor and cropland where you need a turn row and protection from erosion. Borders should extend the full length of the woodland-field junction. The sericea is sown broadcast on top of the ground at a rate of 30 pounds per acre, following thorough land preparation, as in seeding bicolor.

Your woodland borders are usually more eroded and less fertile than your cropland; therefore, they will need more fertilizer at the beginning (fig. 4). A badly eroded border will need a mulch of straw, leaves, or branches to protect the little seedlings through the first year of growth.

### Hedges

With bicolor hedges you can populate the fields with birds (fig. 5). Hedges help to rebuild the soil on worn-out and abandoned fields and protect such fields from further washing. Bicolor hedges across cropland are new. In fact, we cannot say, yet, whether additional cover is necessary in the form of evergreen clumps, or grass edges. Four or five rows of bicolor are needed for each hedge. Spacing of hedges appears best at about 300-foot intervals



Figure 4.—The wildlife border is a symbol of better land use: *A*, The usual border—useless, troublesome, wasted; *B*, a border made useful with bicolor and sericea.

across the field. They should be on the contour on sloping fields, but straight on level lands.

### Other Sites For Bicolor

Bicolor will produce good-quality food when planted on dikes and highway fills, spoil banks from mines and drainage ditches, and odd areas at the corners of fields, or in gullies. The same principles hold true for planting and care of the bicolor on these sites as for food strips in woodland and borders.



*Figure 5.*—With bicolor hedges you can populate the fields with birds.

### ADVANTAGES OF BICOLOR

Bicolor is a preferred quail food. It has produced seed every year from northern Florida to Kentucky and Virginia. It is a perennial which you need plant but once. You do not run the annual risk of spring weather that is too dry or too wet for planting.

The birds find the seed quickly by scratching among bicolor leaves on the ground if other vegetation is not allowed to grow underneath. It produces (with fertilizer) ample seed on sandy soils. Other kinds of wildlife do not compete with quail for this valuable food. Bicolor will hold birds throughout the winter on pine or oak ridges, preventing the fall shuffle to swamps and fields. It can be used in patterns that contribute to soil and water conservation and the best land use.

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