

Supplemental Food and Cover Plantings for Bobwhite Quail in Mississippi



The northern bobwhite, commonly called the “bobwhite quail” in Mississippi, is an important game species whose populations have been declining for 30 years throughout the southeast. This publication provides specific information on managing resources you have and establishing new supplemental plantings to benefit quail.

One common question people interested in bobwhite quail ask is, “What should I plant to help the birds?” Although supplemental plantings may be an important part of management, the importance of supplemental plantings for quail often is misunderstood. A successful quail manager must understand all of the bird’s annual habitat requirements, determine which requirements are missing on the land, and implement a comprehensive management program to provide for those needs.

If you do not have a comprehensive quail management strategy, supplemental plantings won’t have much of an impact. For example, if your property does not have adequate nesting or brood-rearing cover, planting food plots probably will not increase the number of coveys you find during the hunting season. For detailed information about bobwhite quail and their management, pick up “Ecology and Management of the Northern Bobwhite” from your county Mississippi State University Extension Service office, or find it online at <http://msucares.com/pubs/publications/pub2179.htm>. Also, the Mississippi Department of Wildlife, Fisheries and Parks (MDWFP) has information about bobwhite quail management on its website at www.mdwfp.com.

Once you have developed a comprehensive management program, you may use supplemental plantings to meet specific goals and objectives. Quantity, quality, and availability of food can occasionally limit quail populations. Abundant foods, especially those available during the stress period of late winter/early spring, can help quail begin the summer reproductive period in better condition. Additionally, birds that spend less time feeding might be less vulnerable to predators during late winter when cover is sparse and there are more migratory birds of prey.

Supplemental plantings can also provide brood or nesting cover.



MANAGE EXISTING RESOURCES

Agricultural fields - Where small grains are grown, one way to provide quail with supplemental food and cover is simply to leave a border of crop standing around the edge of a field. This is a cost effective way to provide a variety of agricultural foods, some of which can be difficult to cultivate in small patches because of intense deer browsing. In situations where lands are leased for farming, contracts can be developed to require the farmer to leave a small portion of the crop standing, typically in exchange for a reduced land rental rate. Even strips as narrow as 10 feet wide can provide a lot of quail food on field edges.

Another effective management practice in agricultural settings is to leave a 20-foot or wider border of native vegetation around all field borders. Allowing natural herbaceous vegetation (grasses, weeds, and such) to grow along agricultural field borders can provide excellent nesting and brood-rearing cover for quail. You should maintain these borders of native vegetation every 2 to 3 years by burning, disking, or selective herbicides to keep them in herbaceous cover and keep out woody brush.

Native food plants - In many cases, you can produce important quail foods without actually planting anything! Two very effective and affordable tools available to the quail manager include prescribed burning and disking. Prescribed burning is perhaps the cheapest way to manage quail habitat. Normally done in winter, prescribed burns can remove undesirable woody plants and stimulate important herbaceous ones. And, prescribed burning is a versatile technique you can do in grasslands or woodlands. However, in grassland areas dominated by fescue, bermudagrass, or other exotic plants, burning alone may not improve quail habitat. In these situations, you may have to use herbicides or other tools to create good habitat.

Perhaps second in importance only to prescribed burning, disking also is a valuable tool for quail management. In grassland areas, you can disk to disturb the soil and stimulate the growth of new plants. Most old-field areas contain lots of dormant seeds in the soil. Because disking can “release” these seeds in the soil, you can use this technique to change plant composition and structure in grasslands and produce better quail habitat. You can disk in the spring or fall, but be aware that timing affects plant response. Disking in fall tends to favor legumes like partridge pea and forbs such as ragweed. Spring disking encourages many grass species. Disking is best done in strips on a 2-3 year rotation (Figure 1). Always disk along the contour of a field to reduce the risk of soil erosion.

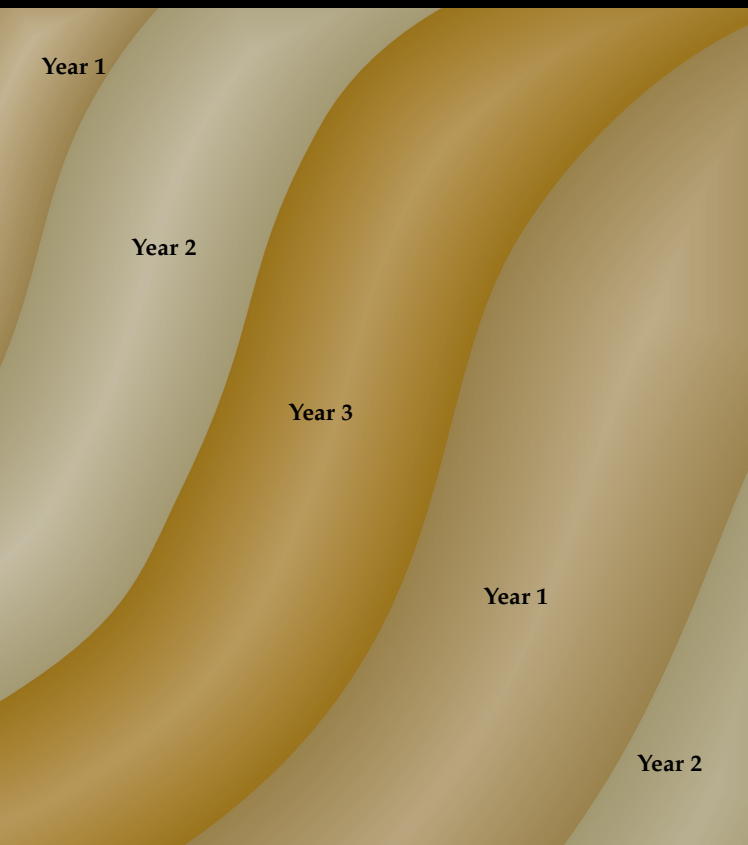


Figure 1. Example of disked strips on a 3-year rotation. Be careful to disk along elevation contours to reduce erosion.

ESTABLISH NEW PLANTINGS

Food plot design - Before deciding which plants to include in your food plots, you should first consider the number, size, shape, and location of the plots. Food plot size and shape are important because they influence the amount of edge around a plot, which occurs where different types of habitat come together. Because quail depend on edge habitat, your management practices should create as much edge as possible across your property. Planting several smaller food plots, rather than a few large ones, and making those plots an irregular shape maximize the amount of edge and thus make food plots more valuable for quail. In addition, you should carefully consider and plan where to establish food plots. For example, the best food plots are next to areas with good escape cover. Also, you should know the soil types on your property and understand the requirements of different plants before selecting the location and type of food plot to plant. Once you decide on the number, size, shape, and location of food plots, you may then select which plants to propagate.

Rotational plantings - When establishing annual food plots, you should consider rotating your food plots each year and leaving some portion of the plot unplanted or fallow. In some cases, quail benefit more from the native weed community found in a fallow food plot than from the actual food planting itself. An example of this technique would be to establish strip plots of grain sorghum along the border of a grass field. The next year, leave that plot undisturbed and establish a similar strip plot beside the fallow plot. The soil disturbance associated with preparing a good seedbed for planting encourages growth of many beneficial grass and weed species. Also, these fallow areas create a habitat that harbors plenty of insects necessary for broods. They also provide bare ground to let quail chicks move around.

Reseeding Annual Plantings - A number of reseeding annual plants can be established to provide important quail food. With proper management, these plants can be maintained for several years without replanting. Of all these plants, partridge pea and kobe lespedeza may be the most popular across the Southeast. While these legume seeds are fairly expensive, it is important to remember that a single planting can provide food for several years with proper maintenance.

Partridge Pea

Soil Adaptation: Most Mississippi soils, but avoid extremely wet sites.

Planting Date: February - March.

Planting Rate: Broadcast 10-15 lbs./acre. Cultipack or lightly harrow to cover.

Fertilization: 200-300 lbs./acre 0-20-20, or as recommended by soil test.



Other Considerations: Partridge pea stands usually do well for a few years but require maintenance to persist several years. You can maintain partridge peas by burning and disking in January and February.

Kobe Lespedeza

Soil Adaptation: Suited to most soils; does not grow well on deep sands or very wet soils.

Planting Date: Early spring (2 to 4 weeks before last spring frost is considered optimum).

Planting Rate: Broadcast 30-40 lbs./acre; cover lightly.

Fertilization: 200-300 lbs./acre 0-20-20, or as recommended by soil test.

Other Considerations: Best results when pH is 5-6.5.

Effective maintenance includes spring burning or disking where previous year's plot was grown.

Florida Beggarweed

Soil Adaptation: Well- to moderately-drained sandy loam soils.

Planting Date: April - May.

Planting Rate: Broadcast 10-15 lbs./acre.

Fertilization: 300-500 lbs./acre 5-10-15, or as recommended by soil test.

Other Considerations: May volunteer annually following soil disturbance.

Wild Reseeding Soybean

Soil Adaptation: Best on well-drained soils of average or better fertility.

Planting Date: April 15 - June 1.

Planting Rate: 20-25 lbs./acre broadcast, cover about 1 inch; 8-10 lbs./acre drilled.

Fertilization: 300-400 lbs./acre 0-14-14, or as recommended by soil test.

Other Considerations: Disking in early spring can encourage regeneration in previously planted areas.

Annual Plantings

Several annual plantings are beneficial to quail, and most are relatively inexpensive to start. Although new plants and plant varieties are constantly marketed for wildlife management, the traditional plantings are still the most effective and affordable.

Millet (Browntop)

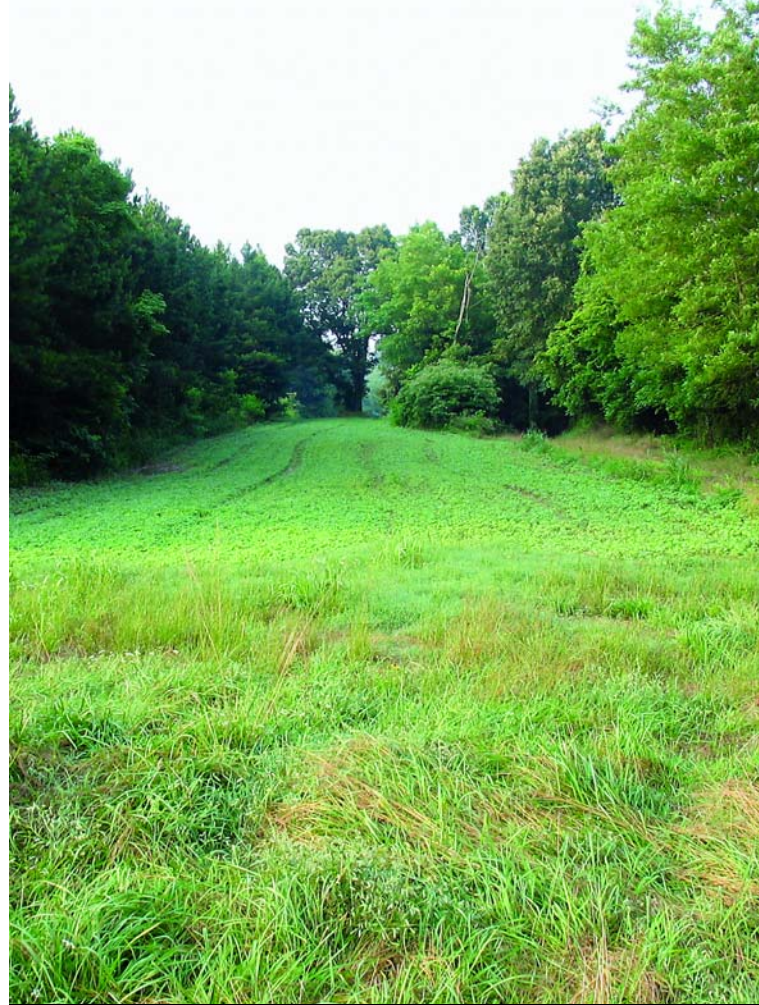
Soil Adaptation: Most upland soils and bottomland soils with a water table less than 4 inches from the surface.

Planting Date: June - August.

Planting Rate: 20 - 30 lbs./acre broadcast, or 8-15 lbs./acre broadcast.

Fertilization: 300 - 400 lbs./acre 13-13-13, or as recommended by soil test.

Other Considerations: Generally produces mature seed within 60 days. Plant on clean, well established seedbed.



Millet (Proso)

Soil Adaptation: Suited to most Mississippi soils but does not grow well on sites with excessive moisture. Relatively drought tolerant.

Planting Date: Late May - July.

Planting Rate: 20-35lbs./acre broadcast; or 12 -15 lbs./acre drilled.

Fertilization: 200-300 lbs./acre 13-13-13, or as recommended by soil test.

Other Considerations: Plant on clean, well established seedbed.

Sorghum (including milo)

Soil Adaptation: Adapted to a wide range of soils, best suited to well-drained sites with pH 5.5 - 6.5.

Planting Date: April 15 - May 30.

Planting Rate: 15-20 lbs./acre broadcast, covered about 1 inch; or 8 - 10 lbs./acre drilled.

Fertilization: 300 lbs./acre 13-13-13, or as recommended by soil test.

Other Considerations: Do not select bird-resistant varieties for wildlife purposes.

Egyptian Wheat

Soil Adaptation: Grows well on most soils, best suited to moderately to well drained soils.

Planting Date: April - July.

Planting Rate: 15 lbs./acre broadcast, covered 1 inch; or 5 lbs./acre drilled in 36 inch rows.

Fertilization: 200 lbs./acre, or as recommended by soil test.

Other Considerations: Not a true wheat, but rather a tall (often more than 7 feet) member of the sorghum family. Plant in patches to provide both food and cover.

Laredo Soybean

Soil Adaptation: Moderate to well-drained soils.

Planting Date: May - Early June.

Planting Rate: Broadcast 50 - 60 lbs./acre on a firm, clean seedbed and cover 1 inch; or drill 30 lbs./acre (20-30 inch rows, with 8-10 inch spacing).

Fertilization: As recommended by soil test

Other Considerations: Produces hard, black seed, often viable into late winter. Not a good choice for small plots in areas of high deer density, although Laredo may be less susceptible to heavy deer use than some production soybeans.

Shrub Plantings

Quail rarely move more than 150 yards from quality woody cover, so shrubs are a very important habitat component for quail. You can use shrub plantings such as bicolor lespedeza and American plum to provide both food and cover for quail and other wildlife. You can also use shrubs to "break-up" extensive open areas, such as large crop fields, into smaller management units.





Shrub Lespedeza (bicolor, thunbergii, and others)

Soil Adaptation: Best on well-drained sites, not suited to very deep sands or some prairie soils with high pH.

Planting Date: March - April.

Planting Rate (seeds): Broadcast 15 lbs./acre scarified and inoculated seed; or drill 10 lbs./acre of scarified and inoculated seed in 36 inch rows.

Plant Spacing (seedlings): Plant seedlings 24 inches apart in 36 inch rows.

Fertilization: 400 lbs./acre 0-20-20, or as recommended by soil test.

Other Considerations: Mowing in early February can restore older stands of shrub lespedeza by encouraging regrowth. Ask your seed supplier about deer resistant varieties if planting in areas with high deer density.

Landowners should be cautioned that shrub lespedeza, particularly bicolor, can become an invasive plant in some areas.

American Plum

Soil Adaptation: Best on well-drained soils.

Planting Date: April - May.

Plant Spacing: Plant seedlings on 5' x 5' grid, or in compact clusters of 3-4 seedlings.

Fertilization: As recommended by soil test

Warm Season Grasses

Establishing native warm season grasses (NWSG) to benefit quail is increasingly becoming a popular management practice. While NWSG, such as switchgrass, big and little bluestem, Indiangrass, Eastern gammagrass, and broomsedge are not important food plantings, they provide excellent quality nesting cover for quail and other grassland birds. NWSG benefit quail because they are bunch grasses. They grow upright with mostly bare ground between clumps or bunches of grass. This provides overhead cover for protection and material for nest construction, but it also lets young quail move through the cover.

Establishing NWSG can be difficult and expensive. Generally, you should plant NWSG in May and June on a clean, well-prepared seedbed. Use a cultipacker to smooth and compress the soil before and after planting. NWSG seeds may be broadcast with some success, although drilling is considered the preferred method of seeding. Some NWSG species can be planted with conventional equipment; for example, switchgrass can be planted with a grass seed box on a normal grain drill, and Eastern gamagrass can be drilled using a corn planter. However, many NWSG species have bearded or fluffy seeds that will not pass through conventional equipment and thus require



specialized drills or broadcast seeders. If you are interested in establishing NWSG on your property, contact your plant material provider, the Natural Resources Conservation Service, or MDWFP for additional technical information.

Management of Deer Plantings to Benefit Quail

Many landowners who plant food plots for deer also have interests in quail and other wildlife. You can help quail by selecting the proper plant material for deer plots. Many traditional deer plantings can provide quality brood-rearing cover for quail. Cool season mixes of clovers and cereal grains such as wheat and oats can benefit both deer and small game. However, using ryegrass in fall plantings is generally not beneficial to quail, since the ryegrass tends to choke out other vegetation in the plot. Ryegrass also tends to form a dense mat of vegetation the next summer, which limits the use of the plot by small quail chicks.

You can make existing deer food plots more beneficial for quail through planned management. Leaving a small portion of larger deer food plots fallow can improve the value of these areas for quail. For example, you might plant a 10-acre deer food plot in the fall. The next year, you could leave 1 acre on the north end of the field fallow, and plant the southern 9 acres. The second year, you could plant 9 acres on the north portion of the field, and leave 1 acre fallow in the south end of the field. The weed communities in these fallow areas provide food and cover for quail, and this rotational management makes enhancing larger deer plots for quail relatively simple. If mowing is part of your management plan for deer food plots, avoid it through June to protect nesting hens.

Develop a comprehensive plan.

Remember that quail can benefit from supplemental plantings, but the greatest benefits occur if food plots are part of a comprehensive management plan. Managers must understand quail seasonal habitat requirements, identify limiting factors on their property, and address those factors with a management program. Contact the Mississippi Department of Wildlife, Fisheries and Parks (Small Game Coordinator Dave Godwin, 662-325-5119) or the Mississippi State University Extension Service for information and technical guidance with quail habitat management.





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