

# QUAIL MANAGEMENT ON PASTURES

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The best explanation I can find for the general decline of bobwhite quail in the South in recent years is the widespread increase in livestock farming. Typical counties in eastern Texas now have 90 per cent of their agricultural lands in pastures, where 15 years ago most of the land was in corn, cotton, peas and other row crops, or in fallow. This crop farming was ideal for quail.

Maximum numbers of quail and maximum numbers of livestock are incompatible; but the problem is to salvage part of the native quail habitat in pastures and to design improvements that will appeal to the livestock farmer. There is no other alternative, if you look at the quail problem from a region-wide viewpoint.

Private quail preserves, such as those in the southeast, with their intensive management and high quail populations are fine for those who can afford them; but their contribution to the total bag is negligible. The bulk of the quail will continue to come as by-products of lands used for cash crops.

The basic concept that food and cover control quail numbers can't be over-worked. It may seem "old stuff" to some; but there are many who have not fully accepted it. It can't be repeated too often. Troubles develop when it is ignored. And there is no satisfactory way to increase quail except through habitat improvement.

Much is yet to be learned about quail population dynamics. We don't know how to interpret fully sex and age ratio data. We can't explain why the stockman can produce 400 pounds of beef per acre but can produce no more than a few ounces of quail. Such problems are intriguing but they must not detract from our efforts to improve habitat. It appears most likely that additional knowledge will supplement rather than displace the basic habitat concept.

Responsibility for improving habitat needs to be defined. The quail belong to the public and public agencies regulate their harvest. Taxes on hunters also provide funds for research and management. But it does not follow that the quail crop depends entirely on the State. Little, if any, credit is offered the State when hunting is good. Yet when hunting is bad, there is a tendency to blame the State and demand more action.

Since the bird crop depends on the productive capacity of the land, most of which is in private hands, the landowner is more directly responsible. The State's power to produce quail is limited to advice, encouragement, and perhaps some materials, voluntarily accepted by landowners.

For the individual hunter the implication is clear. He should place part of his demand for action with the landowner. He should find himself a place to hunt and do whatever is necessary to get the landowner to maintain or improve the crop.

The task of public game managers is to advise what can be done in such difficult but common places as cow pastures.

Whatever is done for quail must not interfere with the cattle or pine trees if the landowner is trying to make money out of them. However, since excessive

grazing pressure is incompatible with quail, arguments in favor of moderate grazing pressure are needed.

Some points that might influence him to cull his herd are: the remaining cows will be in better condition, requires less feeding and general overhead, produce more and heavier calves, do less damage to young pines, prevent deterioration of climax range grasses, and make way for more quail. With moderate grazing, the landowner can develop quail densities up to a bird per five acres with little cost.

The question of what to advise for quail on moderately stocked pastures depends on local land use, soil types, cover pattern, and similar factors.

No intensive spot development will counteract low quality range conditions. The pasture as a whole must have a satisfactory cover. Birds won't use good spots such as food patches if they are surrounded with untenable barrens.

Moderate grazing in tall grass formations, such as the longleaf belt, is better than grazing exclusion. Birds seem to require some open ground to permit easy travel and feeding. Often, there is more food production where grazing keeps the grasses in check, and food availability is certainly higher with some grazing.

Controlled burning is a necessary tool for keeping herbaceous and woody cover in proper condition and for setting back the dominance of grasses and increasing quail foods, especially legumes and spurges. It is impossible to fully regulate these species with grazing, and the fire also improves the range for livestock. Burning about half of the range each winter seems desirable.

## COVER MANAGEMENT

Bulldozing brush often destroys covey territories and this is a common part of pasture improvement. Enough brushy cover to keep the quail must be saved. This can be done without materially affecting the pasture productivity. A high quality spot of cover 50 feet square may be sufficient. If possible it should be in the places birds are already using.

One opportunity for quail hunters, to help preserve their sport, is to exert influence on landowners to preserve essential cover. Timing is the important factor. Usually the technician is called in after the brush is removed. Waiting until it is gone makes the job of quail management slower and more difficult. If cover is lacking, it must be developed before anything else can be done to increase quail.

Multiflora rose is superior to any natives or other exotics tried in eastern Texas. Birds use it some after two years and after four years it makes a livestock-proof fence 6 to 8 feet high.

Where it is needed for a fence and the site is open and well drained, a continuous row may be planted. Where quail cover is the only objective, 25 plants set 3 feet apart in a single row appear to be sufficient for a spot. Fencing and good cultivation are required for the first year, thereafter annual fertilization is recommended. At least one spot should be planted in every potential covey territory that lacks cover.

Where excessive grazing has damaged native cover such as blackberry patches, plum thickets and vine tangles, a little barbed wire management will often do a quick job of renovation. Also, an application of fertilizer will speed recovery.

## FOOD MANAGEMENT

Saving native weeds from mowing is one of the first steps in managing food in pastures. Goatweed and partridge pea are two of the most important species widely lost to mowing in Texas. A mile strip 16 feet wide contains only two acres, so asking a pasture man to leave weeds around the edges is not unreasonable.

In fact farming for weeds is reasonable and practicable if quail are desired. On most land formerly cultivated, fallow disking produces an abundance of legumes, spurge, and other groups of quail foods. This is cheaper than any planting, where it works. Burning, properly controlled, increases the same food plants more cheaply but benefits are more temporary.

Planting quail foods should be easy to promote if it helps the cows and this is true of the annual lespedezas, common, Kobe, and Korean. Where these are adapted, I know nothing better. Moderate grazing will permit at least a four-inch stubble in the fall and this is sufficient to reseed the pasture and provide winter quail food. Heavier grazing will eliminate the benefits to quail and make costly reseeding necessary.

Other crop plantings that benefit quail are the winter vetches and peas when they are permitted to seed.

Bicolor lespedeza has a place in the program as an intensive method of developing food. But it is too costly and not quite good enough to be a one-shot remedy. In Texas, we have found that most people who planted bicolor patches had opportunities to do other things that would have fed more quail at less cost.

Less intensive work for quail, widely applied, offers more promise. The landowner with interest in quail also can adjust his land use and gain quail with little or no cost.

Where pastures are only partially improved and annual lespedeza is seeded, the pattern of the improvements is important. Scattered spots of improved pasture throughout a range make the lespedeza seed available to more coveys and help spread the cows over the whole pasture. Any extra cost resulting from not having the improvements in one block next to the barn is covered by the increased use of free grass.

Likewise, grazed firebreaks can be used to advantage. Fertilized and seeded strips about 20 feet wide serve as firebreaks about nine months a year. Grazing keeps them cropped close enough that fire can cross only during exceptionally dry periods. Quail use these strips for feeding, dusting, and as edges through areas of heavy rough.

Hay meadows of Kobe lespedeza are good or bad depending on the amount of seed produced by the stubble after the hay is cut. To benefit quail the hay should be cut by the end of July with the blade set about four inches high. Then with normal rainfall a good seed crop is produced, providing one field is not grazed before November. As far as the hay crop is concerned, better quality hay results from the early cutting.

Where cross fencing makes deferred grazing possible, as in hay meadows, early fall protection from grazing not only helps the quail but also is good business for the livestock operator. The free seed crop of lespedeza is gained and new growth of clover is allowed to get a start.

This clover provides winter green stuff for quail, which is important where the native flora lacks species which are green in winter. Fortunately clover is almost always planted in improved pastures, so this is rarely a quail management problem.

Artificial feeders for quail are said to be adapted to use in pastures to increase quail. While experience in Texas has confirmed that wild quail will feed at them, we think their value is in providing temporary food supplements. For year around use, their cost is greater than that of developing native foods, and their artificial character creates some problems.

## CONCLUSION

These comments on methods of improving pastures for quail are not intended to be complete, but they do suggest some starting point for developing locally sound techniques of habitat management.

The real problem, however, is to create desire among landowners for such advice.