

Feeding Stations and Shelters for Quail on Missouri Farms

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The "Winter Depression."—On most Missouri farms under normal conditions, there is enough food and cover during the summer and fall for more quail than are usually found there. One reason—perhaps the most important reason—why these additional quail are not there is the great reduction in the amount and quality of food and cover during the winter.

This we call the "winter depression." Most of the crops have been gathered, the herbaceous seed-bearing plants have died back and have been matted and tramped down, most of the insects are gone, and the available cover no longer affords adequate protection against natural enemies and the elements. The regular result is that half or two-thirds of the birds are lost each year, even on good quail range, and the spring breeding stock is made up of the survivors.

Why Artificial Feeding and Shelter?—It is safe to say that on nearly every farm, especially in northern Missouri where winter conditions are more severe, both the number and health of the spring breeders can be built up by the means outlined in this circular.

The bob-white quail is not a truly migratory species. Now and then quail travel considerable distances, but as a rule a bird remains in the neighborhood where it was hatched. When a farmer cares for quail in winter, therefore, he is caring for birds that will remain on or near his farm. He is providing more live birds the next year, more allies in his fight against weeds and destructive insects, and more sport for himself and his friends if he wishes to use the surplus in this way. Winter feeding and shelter for quail pay dividends in several ways.

Artificial Feeding and Shelter Especially Important in Abnormal Years.—There have been abnormal weather conditions in Missouri in the past, and there will be more in the future. In 1936, for example, several weeks of bitterly cold weather came in the late winter, when the natural food and cover of quail had reached their lowest point. As a result, thousands of birds died from starvation and exposure,

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many of which would have been saved by a widespread and effective program of feeding at that time.

In the spring there was a fair early hatch of quail, but the second great drought in three years dried up the water-holes, prevented the formation of dew, and killed back the seed-bearing plants on which quail normally feed. To make matters worse, hordes of grasshoppers ravaged many parts of Missouri, reducing the vegetation still further. The autumn quail supply was far below normal—first, because the later hatches of eggs failed; second, because the birds lacked food, cover, and water. A severe winter, following such a summer, may entirely exterminate the quail on many farms unless they are fed and sheltered by artificial means.

The results which can be obtained through a well-organized program of emergency winter feeding are indicated in the records of the various 4-H Clubs, chapters of the Future Farmers of America, and other organizations during the severe winter weather of January and February, 1940. In some parts of the state this was the most severe winter in the history of the local weather bureaus; yet the loss of quail and other birds was not much greater than that of an ordinary winter, except in those areas where cover was scarce.

A census conducted by the Missouri State Conservation Commission in February, 1940, on 208 square-mile areas scattered at random over the entire state, revealed a statewide average of one bird per 20.6 acres, which may be regarded as highly satisfactory, indicating a good breeding reserve.

The most important cause of this low mortality is believed to have been the program of emergency feeding and shelters initiated by the State Conservation Commission, with the cooperation not only of the sportsmen but also of the county extension agents, teachers of vocational agriculture, and the farmers and farm-youth groups under their leadership. Several hundred tons of feed were distributed through the 4-H Clubs, F.F.A. Chapters, farmers, sportsmen, rural mail carriers, conservation organizations, and highway-maintenance crews.

Thus the shelters and feeders described in this circular are valuable in any year; but when the quail have already been severely reduced by natural conditions these devices are more than valuable—they are *necessary* if the birds on the farm are to survive.

Shelters and Feeders Valuable Also to Other Birds and Small Game.—A quail shelter and feeder always attracts a large number of other species. Chief among these are the small song and insectivorous birds, which are such valuable allies of the farmer and which have the same needs as quail. In addition, squirrels and other small mammals benefit from food set out for the birds. If rabbits use the feeders, they are less apt to interest themselves in the farmer's fruit-trees. Other small mammals kept alive in this way are likely to serve as a "buffer" between predatory species and the farmer's chickens.

The damage done by predatory animals which may discover the feeders is minimized by providing "escape exits" and a clear view for a *short* distance around the feeders.

Some General Advice.—(1) Build shelters before the heavy snows set in.

(2) Build shelters and feeders where the birds usually stay. Most farmers know where these places are on their land.

(3) Don't leave food in open and exposed places. Put it in or near patches of cover, where the birds can get to it without exposing themselves to danger.

(4) Don't scatter the food. Put it in the feeders or, if placed on the ground, in relatively large piles.

(5) Keep the snow cleared around the shelters and feeders.

(6) A covey of quail requires ordinarily about a gallon of food per week. Keep an ample supply in the feeders at all times. Most bird starvation is the result of short rations over an extended period, not for a few days only.

(7) Keep the feeders in operation from January 1 to April 1; don't stop feeding when the snow leaves the ground.

(8) Birds need coarse sand and similar forms of grit. This should be mixed with the food or placed nearby, if the ground is covered with snow for more than a week or two.

(9) The best foods are corn, cane seed, buckwheat, rye, and soybeans, or mixtures of these with other small grains. Some green foods, such as alfalfa or clover leaves, should be kept in the feeders. Meat scraps, suet, or clabbered milk form valuable parts of the food, especially during the coldest weather.

(10) Don't be satisfied with the mere survival of the birds. Keep them if possible in first-class condition. It is now known that this means a better hatch and healthier young in the spring.

SHELTERS AND FEEDING STATIONS

In the interest of economy and efficiency, feeding stations and shelters should be planned to meet the needs and conditions of the individual farm. For instance, there is no need to use brush where brush is scarce, or corn shocks where brush is plentiful. Several types of structures are described below, designed particularly for Missouri farm conditions and for those in surrounding states where similar conditions prevail. Some are modifications of standard types; some are new. All of them have been selected on the basis of efficiency, simplicity, and relation to the natural surroundings. We recommend the first type described below as one of the best.

1. Tepee-Type Brush Shelter and Feeder. (Figure 1)

LOCATION: Willow thickets, brushy hollows, or wooded areas where small saplings or "whips" of the non-commercial timber species may be found.

MATERIALS: Bundle of cane or Kaffir corn. A few pieces of smooth wire.

DIRECTIONS: In a well-sheltered part of the thicket, preferably on a south slope, clear the brush in a circle six feet across, leaving one stout sapling standing to serve as the center pole. Top the center sapling about five feet above the ground, and trim off all except the bottom limbs. Top the saplings around the edge of the clearing about six feet above the ground, and trim off the limbs on the side facing the clearing.

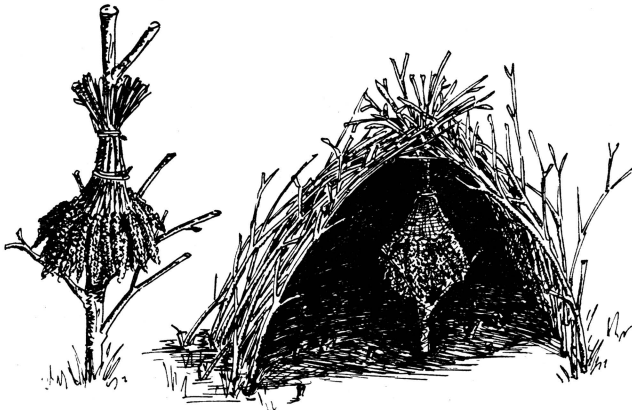


Fig. 1.—TEPEE-TYPE BRUSH SHELTER AND FEEDER. The left-hand drawing shows the bundle of food attached to the center pole. At the right, the center pole is shown in position inside the shelter.

Wire a large bundle of cane or Kaffir corn around the center pole, with the heads down and supported by the bottom limbs about a foot from the ground. The stalks should be long enough so that the butts are level with or above the top of the pole. Then bend the tips of the topped saplings around the center pole together around the bundle as a support. Wire them firmly in place, making a tepee-like frame with limbs only on the outside.

Pile the cut-off tops against this frame, wedging them among the limbs left on the poles and wiring them in place if necessary. Use enough additional brush to make the shelter fairly tight against snow, rain and wind.

Leave an opening on the south side at least two feet wide at the ground. The opening should be high enough so that the heads of grain can be seen from the outside. Leave other smaller openings on the other three sides near the top of the shelter, to serve as escape exits. The ground, if bare, should be covered with several inches of straw, leaves, or dry grass. Heap leaves or grass around the base to a height of about a foot; this will cut off ground drafts.

The saplings should be small enough to bend easily, but strong enough to support the brush. If the brush is too short and scrubby

to use for a frame, one can be built around the center sapling with poles or stout limbs. Often the brush left from wood-cutting is suitable.

The essential feature of this shelter and feeder is the center pole with a bundle of food attached to it. If cane, corn, or Kaffir corn is not available in the shock, strip back the husks from several dozen ears of corn and wire them in a bundle around the pole, attaching them by the husks so that the ears hang down.

Once in operation, it is not necessary to inspect this type of structure oftener than once a month.

2. Tepee-Type Shock Shelter and Feeder. (Figure 2)

LOCATION: Areas where suitable brush is not plentiful, as on the prairies or other ranges where grass, weeds, and briars are the principal cover.

MATERIALS: A pole or two-by-four, seven feet long. Shock of corn or tall cane, Sudan grass, or Kaffir corn. Bundle of cane or Kaffir corn, or a bushel of unshucked corn. A few pieces of smooth wire.

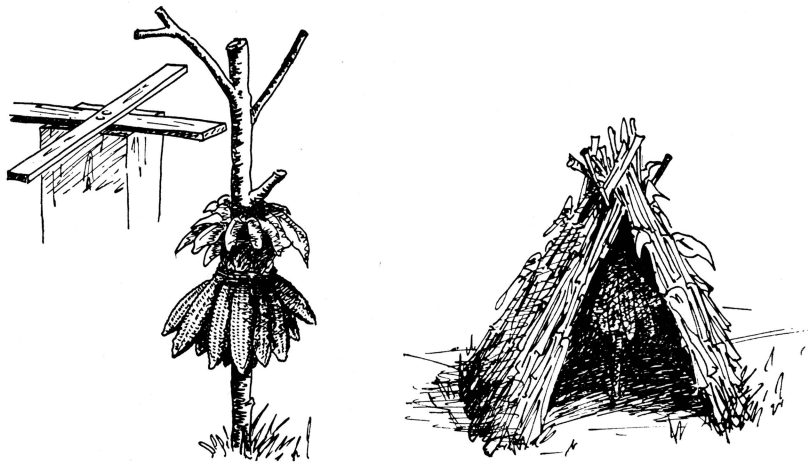


Fig. 2.—TEPEE-TYPE SHOCK SHELTER AND FEEDER. The center drawing shows the bundle of food attached to the center pole. At the right, the center pole is shown in position inside the shelter. If a two-by-four is used for a center pole, nail a couple of boards across the top to serve as supports, as shown in the left-hand drawing.

DIRECTIONS: Set the pole about two feet into the ground, and tie on the bundle of cane or ears of corn as shown in Figs. 1 and 2. Arrange the corn, cane, or other fodder in a hollow shock around the center pole; wire together around the butt of the shock or tie to the pole. Leave entrance and escape exits as described under Type 1 above.

If corn fodder is used, the ears should hang down inside the shock and should be partly stripped. In this case, cane should be used to hang on the pole. Try to offer a variety of food; do not use the same food in the central bundle and the outside cover.

3. Brush-pile Shelter. (Figure 3)

LOCATION: Farm woodlots; forest edges.

MATERIALS: Waste limbs and brush from wood-cutting operations. Two three-foot lengths of pole or two-by-four.

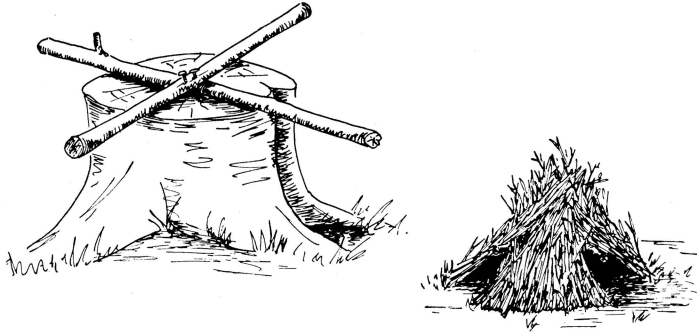


Fig. 3.—BRUSH-PILE SHELTER. The left-hand drawing shows the stump with cross-bar nailed in place. At the right is the finished shelter built around the stump.

DIRECTIONS: In cutting trees for wood, an occasional tree should be cut so as to leave a stump about three feet high. Nail the three-foot poles as cross-bars at right angles across the top as shown in the figure, so that the ends project a foot or more beyond the edge of the stump. Pile waste brush and limbs in the angles formed by these poles, forming a tepee-like structure; start with the longer, coarser limbs, and finish with fine, leafy brush. Leave openings about a foot wide at ground level on all four sides. The open space inside should be about six feet across. Ears of corn may be wired around the stump, or other kinds of food can be left inside.

4. Rail Fence or Hedge Fence Lean-to Shelter.

LOCATION: Along a rail fence or a low hedge fence.

MATERIALS: Brush. Feed as described above.

DIRECTIONS: An Osage orange hedge, trimmed about waist-high, is a favorite shelter for quail. Since the annual growth is often trimmed off in the fall, this affords excellent opportunity to build a shelter and feeder with little extra labor. When the sprouts are cut off, they should be laid against the fence in the form of a lean-to, about ten feet long and on one side of the fence only, facing the east or south. Quail can go through the partly-screened opening formed by the hedge, but the larger predatory birds and animals cannot. The ends should be left open. The slanting roof may have to be supported by poles as rafters, unless the brush is long and strong enough to form a shelter of the proper size. Straw, fodder, and finer brush may be used to supplement the hedge sprouts.

The rail fence lean-to is constructed in the same way, except that the fence instead of the Osage orange hedge furnishes the support for the brush, fodder, and limbs laid against it.

Food of various kinds can be kept in the shelter, either fastened to the hedge or the fence within the lean-to or placed on the ground.

5. Lean-to Shelter on Other Natural Supports. (Figure 4)

LOCATION: Rock ledges, shallow caves, fallen trees, leaning trees, and similar places may serve as supports for brush or fodder shelters of the lean-to type.

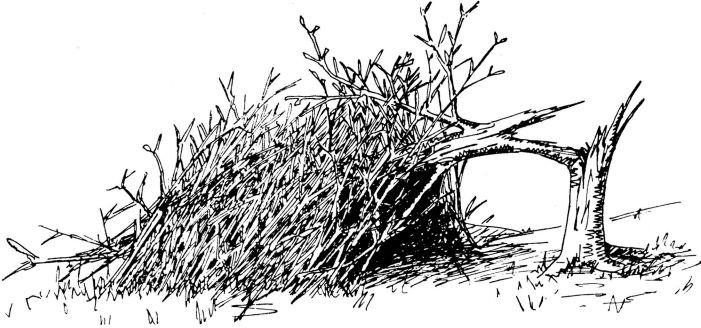


Fig. 4.—LEAN-TO SHELTER ON A FALLEN TREE. The shelter may be constructed of either brush or fodder.

MATERIALS AND DIRECTIONS: Same as for Type 4. Sheltered places are the best, and the openings should never be toward the north or west.

6. Lean-to Shelter and Feeder. (Figure 5)

LOCATION: Any patch of natural cover.

MATERIALS: Gunny sack. A few pieces of smooth wire. Two stout forked poles, five feet long. One stout ridge-pole, seven feet long. Brush or fodder.

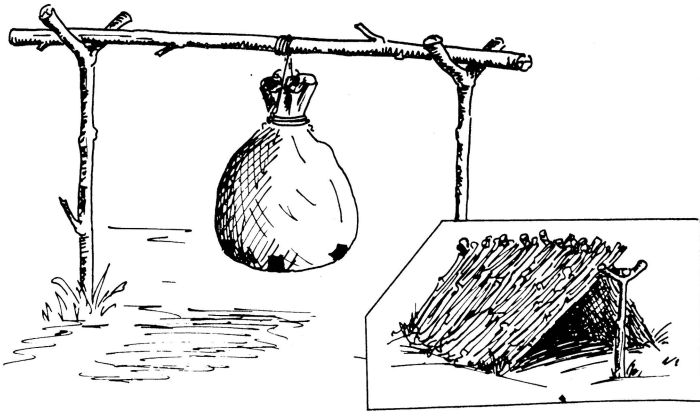


Fig. 5.—LEAN-TO SHELTER AND FEEDER. The left-hand drawing shows the gunny sack of food suspended from the ridge-pole, with uprights in place. At the right is the completed shelter.

DIRECTIONS: Set the forked poles in the ground about six feet apart, or use suitable forked saplings already in place. Wire the ridgepole in place. Place a quantity of food (see above) in the sack and suspend it from the center of the ridge-pole with the bottom of the sack about eight inches from the ground. Cut three holes, about

half an inch in diameter and three inches from the bottom, on each side of the sack and one at each end. Lean brush or fodder on a long slant against the ridge-pole from both sides until it is well covered, wiring the ends to the ridge-pole if necessary to hold them in place. Leave the south end open, but close the north end with brush except for a small escape exit near the top.

The more food there is in the sack, the less often the shelter will need to be visited and disturbed. At least a bushel should be placed in the sack at first.

To keep rats and other small animals away from the sack, punch a hole in the center of a piece of tin ten inches in diameter and run the wire suspending the sack through this hole.

7. Feeders Only.

On many farms there is a shortage of food, with plenty of natural cover available to shelter both the birds and the feeding station. Shallow caves, abandoned farm buildings, heavy growths of brush, cedars, vines, shrubs, and the like are ready-made shelters in which food may be set out without additional construction.

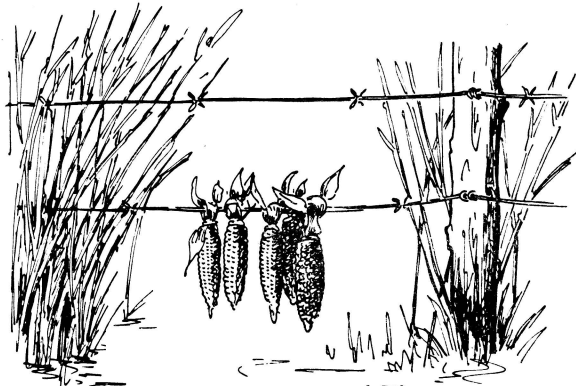


Fig. 6.—FOOD SUSPENDED FROM A WIRE FENCE. Any type of food will do, but it should be used only where the fence is well provided with protective cover for the birds.

In other places the following suggestions may be useful: (a) Select a fairly large tree in the middle of a good patch of cover, and wire a bundle of cane around it, with the heads down and about a foot from the ground, as shown in Figure 1. (b) Strip back the husks from a few dozen ears of corn and wire to a tree, as shown in Figure 2. (c) Suspend a gunny sack, prepared as shown in Figure 5, from a limb or rail in a good patch of cover. (d) Strip ears of corn and tie by the husks, three or four in a bunch, at intervals along a wire fence where it runs through good cover, as shown in Figure 6.

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