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SEEDING ROADSIDES FOR PHEASANT NESTING COVER¹

Do pheasants utilize roadside cover for nesting? The answer is a definite yes! Studies in Nebraska, Illinois, here in Colorado, and in other states, indicate as high as a fourth of the production each year comes from roadsides (Baxter and Wolfe 1973; Joselyn and Tate 1972; Klomglan 1955; Snyder 1974). Studies show pheasants utilize seeded roadsides for nesting more than they use roadsides containing natural weed and grass cover. Roadsides containing undisturbed cover, when compared with those farmed to the road shoulder, produce four to five times more young pheasants. Roadsides containing permanent cover yield 10 to 20 times more young pheasants per acre than do wheat fields.

There are other important values to seeding roadsides. One value, the prevention and control of noxious perennial weeds, is an important consideration. Weeds are a natural product of disturbed soil. If alfalfa (*Medicago sativa*) and perennial grasses are present, it is difficult for bindweed (*Convolvulus arvensis*), poverty weed (*Alva axillaris*), Canada thistle (*Cirsium arvense*), downy brome (*Bromus tectorum*), and others to get started. In contrast, persistent burning, cultivation, and disturbance of roadsides permit noxious weeds to establish and spread. So, one of the best and most economical long-term weed control techniques is to establish perennial cover and keep it undisturbed. Late summer seed harvest probably won't hurt the quality of the vegetation for pheasants, but mowing for hay, even in late summer, will lower its value as nesting cover the following spring.

Another dividend from roadside seeding is that perennial cover along roadsides has eye appeal which makes any farm more attractive and more valuable. In addition, the quality of farm life is enhanced by the presence of horned larks, lark buntings, meadowlarks, pheasants, rabbits, and other wildlife, and honey bees can

utilize persistently blooming roadside alfalfa as an important food source.

PROCEDURES IN COVER ESTABLISHMENT

Perennial cover is not hard to establish, but it does require a little more patience than growing the annual crops that most of us are used to. Perennial grasses are slow in getting started, so they won't flourish the first year. Close post-seeding inspections are needed to determine whether a satisfactory stand exists. But once established, they soon form excellent cover that persists without maintenance for many years. I have observed numerous stands of grass that were nearly or completely weed-free and remained that way year after year. In the long run, maintenance of perennial cover is probably much cheaper than other weed control techniques now used.

Most readers are probably already familiar with procedures for establishing perennial grass and alfalfa, but some of the following reminders may be helpful.

What to Plant

Alfalfa in combination with tall wheatgrass (*Agropyron elongatum*) is recommended for use as pheasant nesting cover on roadsides and in other situations in Colorado. Its value was noted in the Dakotas (Nelson 1972) and it probably is about as good as any cover for nesting throughout much of the Great Plains region. Tall wheatgrass has strong stems which are more lodge-resistant under heavy snows than intermediate wheatgrass (*A. intermedium*), crested wheatgrass (*A. cristatum*), and smooth brome (*Bromus inermis*). These shorter species can be substituted for tall wheatgrass, especially where taller grass might cause snow accumulations on road surfaces.

Grasses in pure stands become nitrogen-deficient, stunted, and root-bound in growth

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form within a few years. Inoculation of alfalfa and sweet clovers (*Melilotus* spp.) in grass stands provides nitrogen to retain better grass growth. Dahl et al. (1967) reported that intermediate wheatgrass-alfalfa pastures produced an average of 51 percent more forage and had 67 percent greater carrying capacity than did intermediate wheatgrass pastures without alfalfa. Production in grass-alfalfa pastures was still double that in pure grass pastures 11 years after seeding.

Studies in northeastern Colorado show alfalfa-grass combinations contained significantly higher pheasant nest densities than unmixed grass stands in roadsides. Ranger and Rhyzoma alfalfa varieties were used in these roadside studies, but others adapted to Colorado would probably work equally well. These alfalfa stands, which have not been mowed or cut, show no signs of dying out or becoming stunted several years after seeding (Fig. 1).

A seeding rate of 2 to 3 pounds of alfalfa and about 6 pounds of tall wheatgrass per acre is recommended. This rate should be doubled if the seed is broadcast rather than drilled. In addition, 1 pound of switchgrass (*Panicum virgatum*) can be added to the mixture. This warm season species forms very lodge-resistant bunches which provide excellent residual nesting cover the following spring. In general, however, cool season vegetation should dominate for nesting cover in preference to warm season grasses.



Fig. 1. A seeded stand of alfalfa with scattered tall wheatgrass intermingled.

When to Plant

Hull et al. (1962) recommended fall and early spring as the most reliable times for seeding cool season grasses. Where alfalfa is a primary component of the seed mixture, late August or early September are probably the best times if moisture conditions are adequate. Perennials seeded at these times have a better chance of

getting ahead of fast-growing annual weeds than those seeded in spring. But, fall moisture is often insufficient in Colorado. In northeastern Colorado studies, some stands were successfully established by seeding into dry ground in early August. Subsequent rains brought the vegetation up later in September. Other stands seeded in May, June, and July also were usually successful, especially if seeded during a rainy period.

Spring-seeded stands are usually dominated by annual weeds during the first year. This overstory vegetation can be mowed back later in the summer to reduce weed competition. Herbicides should not be used on new seeding until at least 6 to 8 weeks after the vegetation is up (Heikes and Fults 1974).

How to Plant

Although we cannot predict or control moisture conditions for seeding in dryland, we can try to provide optimum conditions when moisture does come. One of the most important essentials is a firm seed bed, which helps hold the moisture and helps insure its availability when needed.

One of the major planting problems is that most modern farm machinery is too large to use in roadsides. Therefore, it may be necessary to borrow or rent the proper equipment. Basically, the seeded area should be plowed or rototilled to destroy existing vegetation. One or more rains, before seeding, will help settle the soil and prepare a moisture base for seeding. Subsequent weed sprouts can be destroyed by shallow tillage.

A drill equipped with depth bands to control seed depth placement is best. Tall wheatgrass seed, which is fairly large, should be placed about 1 inch deep (Hull et al. 1962). Small seeds, such as those of alfalfa and switchgrass, should be placed in the upper half-inch of soil. An agitator in the drill box is a necessity when seeding light or chaffy seeds.

Broadcasting with a small, hand-cranked cyclone seeder, followed by shallow soil disturbance with a spike tooth harrow, will also work in roadside seeding, and may be the only method of seeding the road shoulder. Seeded stands in the bottoms of road ditches will eventually spread up the shoulder but this is a slow process. If possible, a roller-packer should be used following seeding or broadcasting to firm the soil around the seed.

Remember that grasses are slow in germination and slow in initial growth. Also, that the stand may look poor during the first year, but within a couple of years it will probably be nearly weed-free. Moderately dense stands attain better vigor and growth and persist in a healthy state longer than stands that were too dense initially (Fig. 2).



Fig. 2. Crested wheatgrass, intermediate wheatgrass, and alfalfa in combination provide nearly weed-free nesting cover along this roadside.

VEGETATION FOR WILDLIFE SURVIVAL

Although nesting cover is usually the most critical need for survival and development, pheasants need protective cover throughout the year. Roadside vegetation can be a real asset for both of these requirements. For example, alfalfa offers good brood-rearing cover and grasses are of considerable use to pheasants through the fall and winter. Roadsides provide edge cover along which roosters stake their territories to defend in the spring. But, in winter, snows often fill roadsides so that other cover, such as wind-breaks or large corn and wheat stubble fields, are needed for pheasant survival.

Wild plum (*Prunus americana*), cedars (*Juniperus* spp.), or other shrub species also provide excellent cover and can be planted in clumps that do not take up much space. They can be established easily and economically and can be maintained with a minimum of time and effort. Wild plums are among the hardiest of woody vegetation, and their root sprouts keep going despite rabbit damage and other adversities. Most trees gradually self-prune their lower branches and become open underneath, but plums and cedars retain the low growth form needed by pheasants and other wildlife year after year.

Many grassy draws and other unfarmed "waste areas" contain buffalo grass (*Buchloe dactyloides*), blue grama (*Bouteloua gracilis*), and other short grass vegetation of marginal value to pheasants and other wildlife. These sites, if plowed and reseeded to tall wheatgrass and alfalfa, would yield many more birds. Tall sweet clover could be added to provide additional winter cover for the first few years. More and better cover, interspersed throughout the farmlands, is our best hope for sustaining pheasants and other wildlife in our farming communities. Without wildlife, our vast farmlands will become bleak, sterile, and mere land.

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