

Grasses and Forbs for Wildlife: Fall and Winter Food Plots

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Practically all wildlife species rely on plants for food and cover. Herbivores such as white-tailed deer and cottontail rabbits depend on plants for sustenance. Bobwhites, turkeys and songbirds rely on plants for food and shelter. Different parts of plants – leaves, stems, seeds, buds, berries or flowers – are consumed seasonally. Trees, shrubs and native grasses afford cover when wildlife are resting, nesting, brooding young, escaping from predators and surviving cold winter temperatures. Legumes attract insects, which wild turkey, songbirds and bobwhite chicks consume during critical life stages.



Figure 1. Bobwhite quail populations are declining because of habitat loss. A small field of ungrazed native warm-season grasses with scattered shrubs located near a field of annual grasses and forbs provides ideal nesting and brood habitat for bobwhites.

The key to providing wildlife habitat is establishing a diversity of plants to provide year-round nutrition and cover for wildlife survival. Wildlife are adapted to native plants that meet their nutritional needs. Enhancing beneficial native plants is an essential part of any habitat plan.

Typically, native forbs and grasses are established through creating disturbances, such as disking, prescribed fire and thinning trees. Timing is everything. Exactly when these disturbances occur and the types of plant species present in the seedbed result in different plant responses. Through trial and error, landowners gain understanding about native plant responses to these practices on their property.

However, in some circumstances, managing native plant species may not be an option. Those who lease land may be restricted from particular habitat practices, such as hunting clubs leasing industrial or commercial forestlands. In these instances, planting grasses and forbs provides patches of habitat and increases habitat diversity. By cultivating particular plant types and seeding in strategic locations, viewing opportunities are improved. Hunters can draw wildlife into openings for selective harvesting. Others may enjoy seeing songbirds and butterflies in open areas near their rural homes or hearing bobwhites whistling in the countryside.

Grasses and forbs suitable for wildlife food plots with planting information for Arkansas are listed in the table inside. Note that some plants may not survive in extreme northern- or southernmost locations of the state. This list is not meant to be exhaustive or exclusive of other adapted cultivars or varieties. Check with your local county Extension office before purchasing seed to be sure the climate and soil conditions are appropriate for your selected plant species.

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Seed Type (Other Names) 'Varieties'	Plant Type	Planting Date(s)	Seeding Rate (pounds per acre) (PLS = pure live seed)	Planting Depth (inches)	Wildlife Species
Alfalfa 'Alfagraze' 'Amerigraze 401+Z'	Introduced Perennial Cool season Legume	Sept. 1 - Oct. 15 Grows best alone or with orchardgrass	15-20 broadcast 10-15 drilled Inoculate seed	1/4"	Cottontail rabbit White-tailed deer Wild turkey
Bahiagrass	Introduced Perennial Warm season Grass	South Arkansas Nov. 1 - June 1	15-20 broadcast Overseeded with clovers, ryegrass and/or winter peas	1/4" - 1/2"	Bobwhite quail Cottontail rabbit Mourning dove Wild turkey White-tailed deer
Blackeyed Susan	Native Perennial Forb	Sept. - Dec.	10 broadcast 6-8 with grass	< 1/4"	Songbirds White-tailed deer
Bluestem, Big 'Earle' 'Kaw' 'Roundtree'	Native Perennial Warm season Grass	Dec. 15 - April 10	5-10 PLS drilled	1/4" - 1/2"	Bobwhite quail Songbirds White-tailed deer Wild turkey
Bluestem, Little 'Aldous' 'Cimmaron'	Native Perennial Warm season Grass	North Arkansas Dec. 1 - April 20	5-10 PLS drilled	1/4" - 1/2"	Bobwhite quail Songbirds White-tailed deer Wild turkey
Canola (see Rape)					
Clover, Arrowleaf 'Yucchi' 'Amclo'	Introduced Annual Cool season Legume	Sept. 15 - Oct. 15	8-15 broadcast 5-10 drilled Inoculate seed	1/4"	Bobwhite quail Songbirds Cottontail rabbit White-tailed deer Wild turkey
Clover, Berseem 'Bigbee' or 'Big B'	Introduced Annual Cool season Legume	Sept. 1 - Oct. 1	20-25 broadcast 10-15 drilled Inoculate seed	1/4"	Bobwhite quail Cottontail rabbit Songbirds White-tailed deer Wild turkey
Clover, Crimson 'Tibbee' 'Chief' 'Dixie'	Introduced Reseeding annual Cool season Legume	North Arkansas Sept. 1 - Oct. 15 South Arkansas Sept. 15 - Nov. 1	20-30 broadcast 10-20 drilled Inoculate seed	1/4"	Bobwhite quail Cottontail rabbit Songbirds White-tailed deer Wild turkey
Clover, Red 'Cherokee' 'Kenland III' 'Redland Graze' 'Cinammon'	Introduced Reseeding annual Cool season Legume	Sept. 1 - Oct. 1	8-15 broadcast 6-8 drilled Inoculate seed	1/4" - 1/2"	Bobwhite quail Cottontail rabbit Songbirds White-tailed deer Wild turkey
Clover, Rose	Introduced Reseeding annual Cool season Legume	South Arkansas Sept. - Oct.	15-20 broadcast Inoculate seed	1/4"	Bobwhite quail Cottontail rabbit Songbirds White-tailed deer Wild turkey
Clover, Subterranean	Introduced Annual Cool season Legume	Aug. 15 - Nov. 15	15-20 drill with 6"-10" row spacing Inoculate seed	1/2"	Bobwhite quail Cottontail rabbit White-tailed deer Wild turkey

Seed Type (Other Names) 'Varieties'	Plant Type	Planting Date(s)	Seeding Rate (pounds per acre) (PLS = pure live seed)	Planting Depth (inches)	Wildlife Species
Clover, White 'Durana' 'Louisiana S-1' 'Osceola' (ladino type) 'Patriot' (ladino type) 'Regal' (ladino type)	Introduced Perennial - North Annual - South Cool season Legume	North Arkansas Sept. 15 - Oct. 15 South Arkansas Oct. 1 - Nov. 1	2-4 broadcast 2 drilled Inoculate seed	1/4"	Bobwhite quail Cottontail rabbit Songbirds White-tailed deer Wild turkey
Coreopsis 'Lanceleaf' 'Plains'	Native Perennial Forb	Sept. - March	10 broadcast 6-8 with grass	< 1/4"	Songbirds White-tailed deer
Deertongue Grass 'Tioga'	Native Perennial Warm season Grass	Dec. 15 - April 10	12-15 drilled	1/4" - 1/2"	Bobwhite quail Songbirds White-tailed deer Wild turkey
Gamagrass, Eastern 'Bumpers' 'Pete' 'Luka' 'Verl'	Native Perennial Warm season Grass	North Arkansas Nov. 10 - Hard ground South Arkansas Dec. 1 - Hard ground	8-10 PLS drilled	1"	Bobwhite quail Songbirds
Indiangrass 'Cheyenne' 'Osage' 'Rumsey'	Native Perennial Warm season Grass	Dec. 15 - April 10	6-10 PLS drilled 12-15 broadcast	< 1/2"	Bobwhite quail Songbirds White-tailed deer Wild turkey
Kale	Introduced Annual Cool season Brassica	Aug. 1 - Sept. 15	3.5-4 broadcast	1/4" - 1/2"	White-tailed deer
Oats 'Bob' 'Ozark'	Introduced Annual Cool season Grass	Sept. 1 - April 1	90-120 broadcast	1" - 1 1/2"	Bobwhite quail Cottontail rabbit Mourning dove Songbirds Tree squirrel Waterfowl Wild turkey White-tailed deer
Orchardgrass 'Benchmark' 'Hallmark' 'Shiloh'	Introduced Perennial Cool season Grass	Sept. 1 - Nov. 1	12-15 drilled, preferably with a legume	1/4" - 1/2"	Cottontail rabbit Songbirds White-tailed deer Wild turkey
Rape (Canola)	Introduced Annual Cool season Brassica	Aug. 1 - Sept. 15	25 broadcast 4 drilled	1/2"	Cottontail rabbit White-tailed deer Wild turkey
Rescuegrass (Bromegrass) (Metua) Caution: Can become an invasive weed	Introduced Annual Cool season Grass	Sept. 1 - Oct. 15	20-30 broadcast	1/4"	Bobwhite quail Cottontail rabbit Mourning dove Songbirds Waterfowl Wild turkey
Rye, Cereal (Winter rye) 'Elbon' 'Wintergrazer' 'Wrens Abrussi'	Introduced Annual Cool season Grass	Sept. 1 - April 1	90-120 broadcast	1" - 1 1/2"	Bobwhite quail Cottontail rabbit Songbirds Waterfowl White-tailed deer Wild turkey

Seed Type (Other Names) 'Varieties'	Plant Type	Planting Date(s)	Seeding Rate (pounds per acre) (PLS = pure live seed)	Planting Depth (inches)	Wildlife Species
Ryegrass 'Marshall' Caution: Can become an invasive weed	Introduced Reseeding annual Cool season Grass	Sept. 1 - Nov. 1	20-25 broadcast 15-20 drilled	1/2"	Cottontail rabbit Waterfowl White-tailed deer Wild turkey
Singletary Pea (Caley peas) (Rough winter peas)	Introduced Annual reseeding Legume	Sept. 1 - Oct. 15	30-60 broadcast Inoculate seed	1/4" - 1/2"	Bobwhite quail Mourning dove White-tailed deer Wild turkey
Switchgrass 'Alamo,' lowland 'Blackwell,' upland 'Cave-in-Rock,' upland 'Kanlow,' lowland 'Pathfinder,' upland	Native Perennial Warm season Grass	Dec. 15 - April 10	5-6 PLS drilled 10 broadcast	1/4" - 1/2"	Bobwhite quail Mourning dove Songbirds White-tailed deer Wild turkey
Turnips, Seventop (for forage)	Introduced Annual Cool season Brassica	September	1.5-4 broadcast	1/4" - 1/2"	White-tailed deer
Turnip, Purpletop (for root growth)	Introduced Annual Cool season Brassica	September	1.5-4 broadcast	1/4" - 1/2"	White-tailed deer
Vetch 'Common' 'Hairy' 'Bigflower' 'Winter Hairy'	Introduced Annual Cool season Legume	Sept. 1 - Nov. 1	25-30 broadcast 15-20 drilled	1" - 2"	Bobwhite quail Cottontail rabbit Mourning dove White-tailed deer Wild turkey
Wheat, Winter	Introduced Annual Cool season Grass	Sept. 1 - April 1	90-120 broadcast for forage 69-90 broadcast for grain	1" - 1 1/2"	Bobwhite quail Cottontail rabbit Mourning dove Songbirds Tree squirrel Waterfowl White-tailed deer Wild turkey
Winter Pea, Austrian (Field pea)	Introduced Annual Cool season Legume	Oct. 1 - Nov. 1	20-30 broadcast Inoculate seed	1/2" - 1"	Bobwhite quail Cottontail rabbit White-tailed deer Wild turkey
Wildrye 'Canada' 'Virginia'	Native Perennial Cool season Grass	Sept. - Nov.	8 PLS drilled	1/4" - 3/4"	Bobwhite quail Songbirds White-tailed deer Wild turkey

Planting Tips

Before planting, conduct a soil test to determine nutrient needs. Prepare the seedbed so that seeds will contact the soil and germinate. Following are additional planting tips:

- **Legumes.** Apply the appropriate inoculant to legumes before planting. An inoculant contains microorganisms which are applied to the seed to improve growth. These microorganisms are specific to a particular legume species, so make

sure the inoculant matches the plant type. Store in a cool location to avoid killing microorganisms, and discard old inoculant that is past the expiration date.

- **Native warm-season grasses.** The seed of native warm-season grasses is measured as pure live seed (PLS), a term used to describe the viability and purity of native prairie seed. It is calculated as $PLS = (\text{lbs seed}) \times (\% \text{ germination} + \% \text{ dormant seed}) \times \% \text{ purity}$. Warm-season grass species can be planted in the winter; however,

they won't emerge until the soil warms up in April, by which time existing species like tall fescue, downy brome (also called cheatgrass) and little barley may crowd them out. Reduce the competing grasses by applying a herbicide treatment, disking or prescribed fire prior to planting. Check with your local county Extension agent for details about soil testing and plant establishment.



Figure 2. In small plots, seeds can be broadcast with a hand-held spreader. Select a spreader with multiple seed settings to accommodate smaller seeds like clover.

- **Extending the life of your food plot.** Some agricultural practices can help extend the life of your food plot so that it continues producing wildlife benefits. For example, wheat can benefit from planned applications of nitrogen during certain growth stages. Periodic liming of pastures can be critical for maintaining clover. These agricultural “tricks of the trade” gleaned from production agriculture can result in more habitat availability for wildlife with relatively little effort, while maximizing your initial investment in the food plot. Ask your local county agent for assistance with extending the life of your food plot.

Common Errors

Here are some common mistakes when establishing food plots:

- **More is better.** Exceeding the seeding, lime or fertilizer recommendation is a waste of both time and money and may negatively affect the crop. Recommendations for seeding and nutrient application have been researched and should not be exceeded.
- **Not fertilizing.** Most crops need applications of fertilizer to help them grow and achieve maximum productivity. Don't assume your soil doesn't need fertilizer. **Soil test – don't guess.**
- **Using old seed.** Seed that is old may not have been properly stored and handled. Make certain to use new high-quality seed in your food plot.

- **Planting agricultural seeds in shaded areas.** Plants grown for agricultural purposes require sunlight for energy and growth. Avoid placing these seeds in shaded areas such as woods. Instead allow brushy growth in these areas, or consider seeding native plant species that are adaptable to shade.
- **Not planting enough acres.** Food plots need to be large enough so they aren't grazed down too early in the season and small enough that wildlife can flee to protective covering. As a rule of thumb, food plots should be from 1 to 3 acres and an irregular shape with brushy edges. Grain food plots should be no less than 1/4 acre.
- **Plant the entire field from fence to fence.** Consider planting grain on only half of the field and leaving the remaining half disking but unplanted. Native plants in the seedbed will furnish food and cover for wildlife and provide an additional measure of plant diversity that wildlife may need in times of feast or famine.
- **Planting too late for maturity.** All crops require a certain number of days to grow and mature. If planted too late, plants will not mature and will fail to provide food for wildlife.
- **Plant midwest or northern seed varieties.** Because of climate differences, many seed varieties suitable for cooler climates are not well adapted to Arkansas. Use plants that have been proven to grow in Arkansas conditions.

Figure 3 Ten Steps for Establishing a Food Plot

1. Select the best sites for food plots with consideration to size and shape.
2. Check soil type, conduct a soil sample and follow its recommendations.
3. Select plant varieties according to adaptability and soil type.
4. Check on availability of seed and order if necessary.
5. Prepare seedbeds beginning several months before planting.
6. Apply inoculant to legumes before planting.
7. Plant using the recommended rates and dates for wildlife.
8. Install exclosures.
9. Follow maintenance and management requirements to enhance plant growth and sustainability.
10. Check exclosure cages and measure your success.

(Adapted from “Managing Wildlife” by Greg Yarrow and Deborah Yarrow, 1999.)

Measuring Success

Many land managers don't keep records for their food plots. However, these records are very beneficial as you begin experimenting with various plantings, seed mixtures and planting techniques. These records may contain location and identity of food plot; types and variety of plants; how seedbed was prepared; planting dates and seeding rates; information from soil test; type, rate and timing of fertilization and liming; planting method; maintenance and management of planting; rainfall and temperature during planting and growing season; use by wildlife; cost of establishment and maintenance; wildlife harvest in vicinity of food plot; and evaluation of the food plot's success.

Sometimes landowners report that seeds didn't germinate or shoots emerged but disappeared. This may happen for many reasons, such as poor soil temperature or soil moisture, inappropriate soil fertility, or applying the wrong inoculant or no inoculant at all. However, in some circumstances, wildlife may be consuming the new growth, particularly in areas with high deer densities and smaller-sized food plots. To discover how much your food plot is being utilized, install a caged enclosure after planting seed (Figure 4). The cage is simply a small fenced-in area usually 4 to 5 square feet that protects plants from being eaten by wildlife. A 4- x 6-inch woven-mesh



Figure 4. Setting up a cage can visually demonstrate the value of your food plot for wildlife.

fence can be constructed with fence posts. To protect against rabbits and rodents, a smaller mesh size (e.g., chicken wire) can be added to the bottom half of the fence. The height and density of plants inside the cage can be easily compared to the surrounding food plot. Be sure to measure the height of plants in the center of the fence, as those along the outer edges are accessible to wildlife.

Digital or video wildlife cameras, also called scouting cameras, can be used to visually measure wildlife utilization of food plots (Figure 5). These cameras can be purchased in many sporting goods stores and catalogues or a homemade version can be constructed. When something crosses a laser beam, ambient heat is detected and the camera is triggered to take a picture 24 hours a day. An array of camera features is available, such as recording the date and time on the picture.



Figure 5. Wildlife cameras installed at key locations provide visual evidence of wildlife using food plots.

For more information about food plots, see FSA9092, *Establishing Wildlife Food Plots*, and FSA3110, *Seeding and Fertilization Rate Conversions for Small Areas and Wildlife Food Plots*. Additional information about establishing plants listed in this fact sheet can be found in FSA2139, *General Traits of Forage Grasses Grown in Arkansas*, FSA2117, *Forage Clovers for Arkansas*, and FSA2151, *General Traits of Winter Annual Clovers Grown in Arkansas*. Contact a regional private lands biologist with the Arkansas Game and Fish Commission (800-364-4263) for additional information about practices for establishing native plants in your area.

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