USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

Wildlife Food Plots

Providing food for a variety of wildlife

Definition

A food plot is an annual or perennial planting of grain, cover crops, grass, forbs, legumes, or a mixture thereof, to provide food for a variety of wildlife on rural land.

The information contained in this fact sheet may or may not meet other conservation program requirements. Producers are encouraged to check with your local Natural Resources Conservation Service (NRCS) office for additional information on conservation programs.

How do food plots help wildlife?

A food plot can enhance wildlife survival and improve the wildlife habitat complex by providing readily available food. Food plots are especially important on land planned to provide a winter or early spring food source. In many areas with good quality winter habitat, the food source is unavailable or too far away. Food plots may reduce the impacts of weather and predators when placed in proximity to winter protection. Food plots can also provide good nutrition for females preparing for offspring.

Planning Considerations

- The recommended food plot size is 5-10 acres with a minimum size of 1/2 acre.
- In five months, one pheasant may use approximately one bushel of corn, while one deer may use approximately eight bushels.
- Design the food plot size according to the estimated population of wintering wildlife.
- Consider multiple food plots where adequate winter cover exists.
- Locate food plots within one-fourth mile of quality winter cover.
- Wildlife Food Plots
- Perennial food plots should be located downwind from protected areas to minimize snow accumulation.
- Food plots should be in the least erosive areas of each field. If planted on erosive sites, then perennial food plots are recommended.
- Adequate vegetative cover must be developed and maintained to provide both wildlife and erosion control benefits. If food plots are relocated or discontinued, the site should be reestablished to acceptable cover.
- Food plots may be located on slopes greater than five percent provided soil losses do not exceed tolerable levels — food plots planted on the contour are recommended.
- Plantings shall be seeded early enough to ensure maturity of food plants.
- Food plots should be configured in a block or square as opposed to linear plots to counter winter snow drifting and predation.
- Food plots should not be grazed by livestock at any time.
- The minimum recommended width of a food plot is 200 feet.
- Food plots should be located adjacent to winter cover on the downwind side. Snow drifting into food plots can be lessened by establishing snow traps. For annual food plots, harvest 12-20 rows just inside of the outer 4-6 rows on the windward side. See example designs on last page.

Site Preparation and Seeding

The following information represents procedures used during a three year (2005-2007) perennial food plot study conducted in North Dakota (ND) by the ND Game and Fish Department (ND GF) and the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plant Materials Center in Bismarck.

- When seeding into killed sod, multiple chemical applications may be necessary for perennial and seed bank weed control. Consult your local Cooperative Extension Service office for chemical application information. When using chemicals, follow all label directions.
- Early fall (October) burning may be necessary.
- Spring planting is recommended as most forbs and native species require a shallow seeding depth and are prone to fall germination if conditions are favorable.

- If a fall dormant seeding is planned, the seeding should occur when soil temperatures are below 40 degrees Fahrenheit at 10 a.m. The seeding should also be planted into high residue amounts to help reduce soil temperature fluctuations and extended periods of warm soil conditions that promote fall germination of seed.
- No-till planting methods are recommended.
- Initial planting site management and seedbed preparation are critical for success. Existing weeds and soil seed banks should be controlled prior to seeding.

Operation and Maintenance

- Control all noxious weeds as identified by state and local laws, by (1) treating with chemicals per label directions, or (2) spot mow before seed heads form.
- Protect the acres from unplanned haying and grazing — fences may need to be constructed and maintained to exclude livestock.
- Legume-only food plots generally will not persist beyond five to six years. Manage vegetation every three to five years after adequate vegetative establishment Management may include one or more of the following options: (1) mowing with residue removed or spread evenly across the field, (2) light disking, or (3) re-establishment. Management activities, which substantially disturb the vegetative cover, should take place prior to May 1 or between August 1 and September 1.

  If all food in the plot is used, consider increasing the size of the plot the following year. If less than 40-50 percent of the food is used, consider leaving the food plot for another year.
- For annual food plots, determine wildlife

Recommended Perennial Food Plots

The following food mix information represents procedures used during a three-year (2005-2007) perennial food plot study conducted in ND by the NDGF and the USDA NRCS Plant Materials Center in Bismarck.

- Perennial food plots containing forbs and legumes are more attractive to wildlife species and provide additional food and cover types compared to annuals and/or legumes alone.
- Perennial food plots containing forbs are taller than introduced perennial food plots or legume-only annual food plots. Because they are taller, these foods are generally available in winter.
- Initial planting site management and seedbed preparation is critical for success. Existing weeds and soil seed banks should be controlled prior to seeding.
- Perennial food plots are a valuable addition for improving wildlife habitat when used in conjunction with upland nesting habitat as part of a complete wildlife management plan.
- Perennial food plots include both plots that consist of all native plants and plots that consist of introduced grasses and legumes with native shrubs.
- Some species may not be suitable for your location. The number of forb species may be reduced; however, the perennial native wildlife mix should still contain 10 percent grasses, 30 percent legumes, 50 percent forbs, and 10 percent woody proportions. Consult your local NRCS staff for further assistance.
- Planting dates will vary by geographic location, variety, and weather conditions. Species need to be planted according to soil capabilities and limitations.

*See Figures 1-4

Annual Food Plots

- Annual food plots may be provided as part of a normal crop rotation in fields devoted to crop production.
- Standing crops may be left unharvested adjacent to existing wildlife habitat (e.g., filter strips, woody plantings, Conservation Reserve Program land, and grasslands).
- Utilize no-till cropping systems and leave standing residue in fields (or portions thereof) adjacent to existing habitat.
- Annual food plots may also be planted in grasslands. If installed in grass, then annual food plots should be installed using no-till systems.
- Annual food plots are more labor intensive because they are annually planted. If not planted with a no-till system, then input costs will increase due to increased tillage, fertilization, and herbicide application.
- Annual food plot crops should be rotated between grasses (e.g., corn, sorghum, and millets) and legumes (alfalfa, clover, and Sainfoin).
- If planting an annual food plot, then the use of cover crops as the wildlife food is highly encouraged.

*See figure 5

FIGURE 1: SEEDING INFORMATION FOR NATIVE SPECIES				
Type	**Grass**	**Legume**	**Forb**	**Woody**
Number	3	5	17	7
Percent of Mix	10	30	50	10
Seeds/Acre*	13,500	78,408	43,560	16,335

***Actual seed amount planted for species may vary**

FIGURE 2: PERENNIAL NATIVE WILDLIFE MIX			
Common Name	Type	Seeds/Pounds	#PLS/AC
Big Bluestem	Grass	176,000	.21
Canadian wildrye	Grass	115,00	.37
Switchgrass	Grass	390,000	.11
Leadplant	Legume	200,000	.39
Canadian milkvetch	Legume	266,000	.29
Snowy partridgepea	Legume	50,000	1.57
White prairie clover	Legume	278,000	.28
Purple prairie clover	Legume	290,000	.27
Giant hysspo	Forb	1,538,000	.03
Illinois bundleflower	Forb	60,000	.25
Snowy ticktrefoil	Forb	88,000	.26
Illinois ticktrefoil	Forb	68,800	.26
Black Samson/Purple coneflower	Forb	120,000	.36
Blanket flower	Forb	157,000	.27
Indian blanket	Forb	153,000	.27
Maximilian sunflower	Forb	250,000	.51
Stiff sunflower	Forb	85,000	.51
Meadow blazing star	Forb	160,000	.09
Dotted gayfeather	Forb	63,000	.32
Lewis Flax	Forb	287,000	.15
Wild Beebalm/ bergamont	Forb	1,463,000	.03
Shell-leaf penstemon	Forb	273,000	.16
Prairie/upright/yellow coneflower	Forb	737,000	.12
Greyhead coneflower	Forb	625,000	.12
Stiff goldenrod	Forb	772,000	.06

***Bulk seed amount not PLS**

FIGURE 2: PERENNIAL NATIVE WILDLIFE MIX			
Juneberry	Woody	82,000	.25
False Indigo	Woody	52,000	.32
Chokecherry	Woody	4,790	3.40
Golden/Buffalo Currant	Woody	240,00	.07
Prairie rose	Woody	45,000	.37
Silver buffaloberry	Woody	41,000	.4
Western snowberry	Woody	74,400	.22
Plains coreopsis	Annual	1,650,000	.08

***Bulk seed amount not PLS**

FIGURE 3: SEEDING INFORMATION FOR INTRODUCED SPECIES AND NATIVE SHRUBS				
Type	**Grass**	**Legume**	**Forb**	**Woody**
Number	1	5	0	7
Percent of Mix	20	70	0	10
Seeds/Acre*	65,340	182,952	0	16,335

***Actual seed amount planted for species may vary**

FIGURE 4: PERENNIAL INTRODUCED WILDLIFE MIX			
Common Name	**Type**	**Seeds/Pounds**	**#PLS/AC**
Mammoth wildrye	Grass	55,000	3.58
Intermediate wheatgrass	Grass	88,000	.76
Dahurian wildrye	Grass	86,000	.76
Tall wheatgrass	Grass	79,000	.82
Alfalfa	Legume	210,000	1.1
Cicer milkvetch	Legume	134,000	1.37
Red clover	Legume	275,000	.67
Sainfoin	Legume	22,000	8.3
Hairy vetch	Legume	20,000	9.55
Juneberry	Woody	82,000	.2
False indigo	Woody	52,000	.32
Chokecherry	Woody	4,790	3.40
Golden/Buffalo Currant	Woody	240,000	.07
Prairie rose	Woody	45,000	.37
Silver buffaloberry	Woody	41,000	.4
Western snowberry	Woody	74,400	.22

***Bulk seed amount not PLS**

FIGURE 5: ANNUAL/COVER CROP WILDLIFE FOOD	
Common Name	**POUNDS PLS/AC**
Corn	12
Soybeans	15
Sorghum (grain)	10
Sunflowers (oil)	7
Buckwheat	50
Millet (Proso)	30
Barley/spring wheat	60
Flax	20
Rye/winter wheat	90
Sundangrass	25
Alfalfa	6.5
Alsike clover	3
Ladino white clover	1.5
Canola	5
Cowpea	30
Lentil	30
Pea	90
Radish	10
Turnip	4

***Bulk seed amount not PLS**

FIGURE 6: Food plot design to help protect inadequate winter cover
Size 3-5 acres

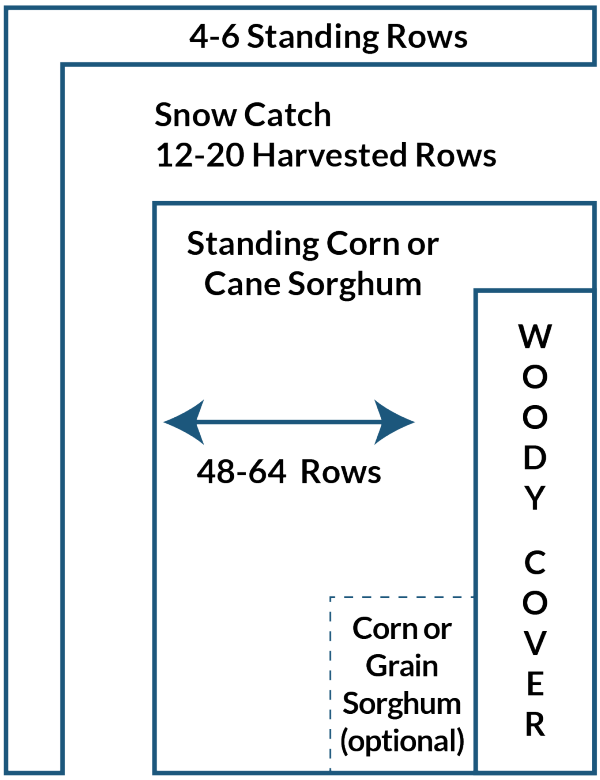

FIGURE 7: Stand alone food plot design
Size 5-10 acres

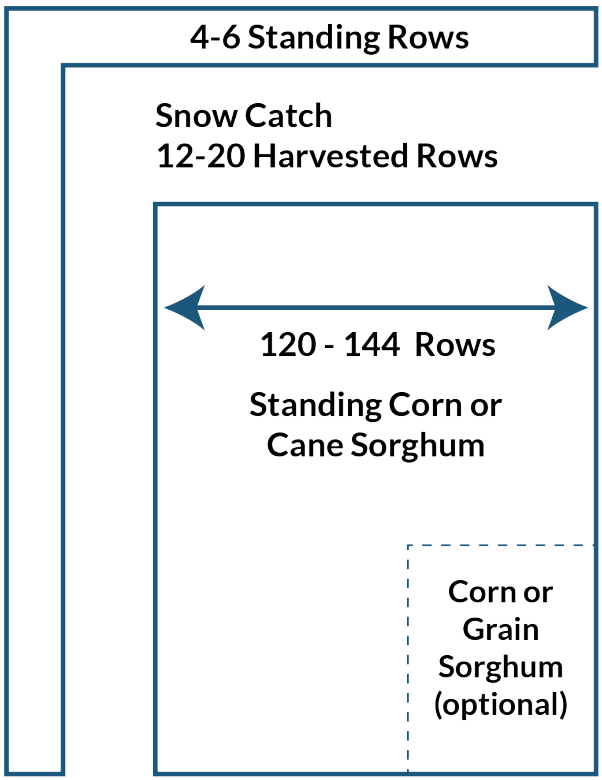

FIGURE 8: Food plot design where adequate existing snow trap is available
Size 5-10 acres

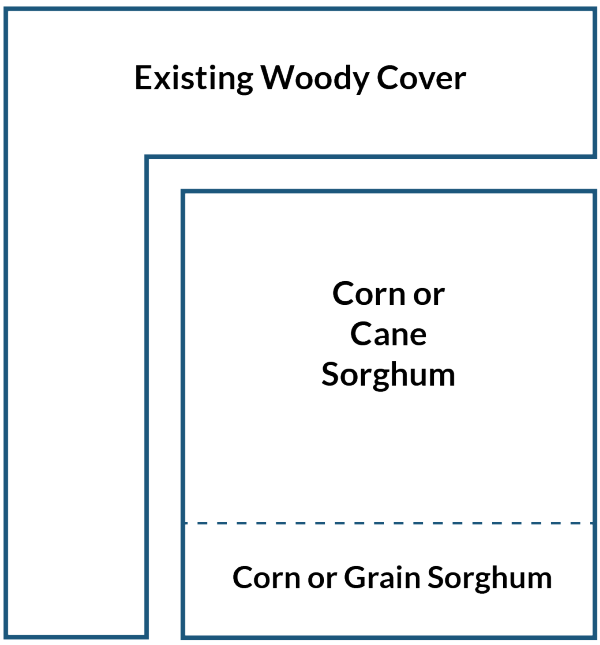

FIGURE 9: Perennial food plot design where winter cover is provided by a semi-permanent or wetter wetland
Food plot should be at least 100 feet from wetland edge