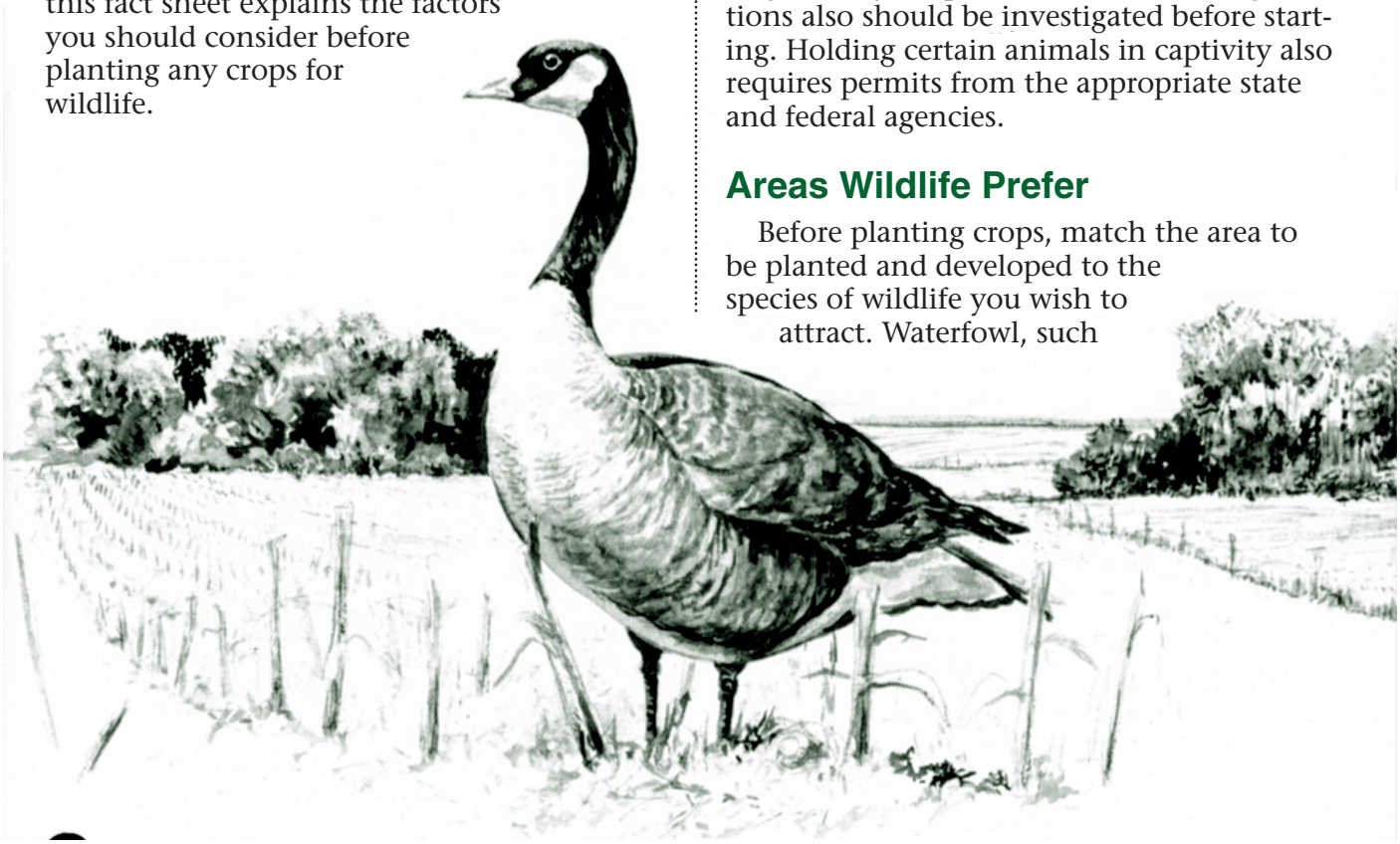
MARYLAND COOPERATIVE EXTENSION
UNIVERSITY OF MARYLAND
COLLEGE PARK•EASTERN SHORE

Fact Sheet

Fact Sheet 598

Wildlife Management
Planting Crops for Wildlife

Establishing habitat for wildlife can be an exciting and rewarding experience. It can also help to conserve your soil and protect water quality of local streams and rivers. To ensure a successful project, there are some basic guidelines you should follow. Various types and species of wildlife differ in their habitat needs. The three major needs are cover, food, and water. This fact sheet will explain how to match the area you wish to develop and the wildlife you wish to attract with the appropriate crops. First, however, this fact sheet explains the factors you should consider before planting any crops for wildlife.



What to Consider Before Planting

Obtaining Permits

If you plan to construct impoundments or modify an area in any way, consult local officials about existing laws and regulations before starting. Maryland has a Critical Areas law as well as a Nontidal Wetlands law that may affect your plans. Other laws or regulations also should be investigated before starting. Holding certain animals in captivity also requires permits from the appropriate state and federal agencies.

Areas Wildlife Prefer

Before planting crops, match the area to be planted and developed to the species of wildlife you wish to attract. Waterfowl, such

as geese, require a relatively large, open area, and they consume much more food than smaller birds. Ponds or impoundments can serve as resting areas, feeding areas, or both. Harvested fields or standing grain also are good feeding areas. Some of the same areas that make good habitats for geese also can serve for ducks, although some ducks will use wooded swamps and frequent smaller areas more than geese.

Upland game, such as rabbit, quail, and pheasant, need a relatively small area. Generally, they nest, feed, and rest in areas that supply all of their needs in close proximity.

Turkeys and deer move around more than other species, and the size of the area they live in varies depending upon the feed available. In some cases, relatively large areas are needed.

Some animals adjust more easily to inhabited areas than others. Many songbirds, squirrels, rabbits, and doves are found in suburban areas in abundance while other animals are less attracted to these areas.

The type of habitat you establish must meet the requirements of the animals you wish to attract. Squirrels require trees that produce both food and nesting areas. Rabbits, on the other hand, need cover, such as thick hedgerows or brush piles, adjacent to feed areas. Quail require nesting areas along wooded edges adjacent to feeding areas. These varying needs reinforce the importance of matching a species with your area.

Controlling Pests

Before planting, also be aware that there are registered pesticides for agronomic crops, such as corn, sorghum, small grain, alfalfa, and some clovers. Such crops as millet, buckwheat, and others do not have many, if any, pesticides registered for use on them. Care in timing the use of pesticides is important because many wildlife species feed on the weeds and insects that may be in the area. Integrated pest management (IPM) is a proven tool in making decisions about pesticide use so that environmental and yield responses can be considered before applying pesticides. Crops that are drilled or broadcast usually grow quickly enough so that weeds will not be a problem as long as the stand is dense. Contact your county Extension office for recommended pesticide usage and more information on IPM.

Noxious weeds. Some plants and seeds are contaminated with noxious weeds because they are produced in areas of the country where these weeds grow naturally. In Maryland, johnsongrass, Canada thistle, and shattercane are the three noxious weeds most likely to be present in purchased seed or the soil of purchased plants. These weeds are serious pests and must not be allowed to enter the state in seed or plants. They compete with desirable plants and often make an area virtually unproductive. Maryland has a law prohibiting these plants from going to seed. Seed and plant sources are required to label noxious weeds, and you should check carefully before ordering seed or plants. Other plants, such as multiflora rose, should be avoided because the seed is carried and deposited by birds into crop areas.

Insects. Although pest control may not impact the value of wildlife plantings, it can be a serious concern to agricultural producers in your area. Insects, such as the Colorado potato beetle, Mexican bean beetle, Hessian fly, and European corn borer, can infest your plantings and migrate to neighboring fields. For this reason, it is a good practice to control serious infestations at the source of infestation rather than treating large acreages. Less damage will result to crops, wildlife, and the environment because smaller amounts of pesticides will be used when following this practice. Plowing or destroying stubble is an effective way to reduce or eliminate some insect problems.

What Crops to Plant

Should you use natural foods, cultivated crops, or a combination? There are advantages to all of these methods. Natural foods generally will last for many years but often take longer to establish and may be overtaken by unproductive vegetation. Cultivated crops require more soil preparation and maintenance but usually will be productive much earlier and produce more food per acre. Combining both natural and cultivated crops can enhance your overall results. It is impor-

tant to note that the lack of game in an area may be caused by a lack of cover rather than food. You should have the area evaluated by a wildlife biologist before spending money on food crops.

Should you grow crops organically or with limited fertility? Crops will grow equally well whether the nutrients are in an organic or inorganic form. The amount of feed you will produce per unit area will depend largely on the amount of nutrients you supply. Have your soil tested by Maryland Cooperative Extension to find out the right amounts of nutrients to add and to ascertain whether you have a problem with soluble salts. Managing your areas for optimum production will result in a higher carrying capacity for the animals you want to attract.

Applying more than the recommended amounts of nutrients will result in higher costs without an appreciable increase in yields and accompanied by a possible pollution problem. Cutting back on recommended nutrients will probably result in reduction of the amount of food produced. This will be more of a factor for cultivated crops, such as corn, sorghum, millet, small grain, soybeans, alfalfa, and clover.

Is it better to plant mixtures or a single crop in an area? Again, you need to consider the purpose of your habitat area. The advantage of a single crop in an area is that you can manage it for higher production more easily than multiple crops. Some mixtures contain several different species of plants, and adapted plants may dominate and crowd out the others. The selection of compatible crops in mixtures is very important.

Matching Crops to the Area

If you know the soil conditions of the area you are planting, you can refine your planting to include only those species that are adapted to that area while saving money on seed purchases. Some crops do very poorly in wet areas while others thrive under these conditions. Soluble salts can also be a problem in low-lying areas close to tidal water. Under such conditions, crops with wildlife food value that have a high tolerance to salt should be used.

Matching Crops to a Wildlife Species

Crops serve as both food and cover for wildlife. Most of the following crops attract a variety of species. Their main uses are outlined. For most crops, the seed is the most important food source although wildlife consume both the seed and vegetative portions of some crops. Browse is a term used to describe the eating of the vegetative portions of plants.

Corn. Corn is a food source for a wide variety of wildlife. Geese will eat corn as their primary feed when available. Ducks, squirrels, deer, turkeys, and some other species also feed on corn. If the corn is to be left exclusively for wildlife, a variety with good yielding ability but poor standability will allow the birds and animals to eat the corn without chopping or disking the crop.

Soybeans. Soybean plants are consumed by deer and quail. Deer relish the young tender foliage while quail eat the seed. Geese and ducks will also eat this crop but prefer other feed. There are two varieties of running or trailing soybeans that may be worth trying along woods' edges or as a co-crop with corn or sunflowers. If you grow soybeans with another crop, make sure that any herbicides used are approved for both crops.

Sorghum. Sorghum, like corn, is a food source for a wide variety of animals and is available as bird-resistant or nonbird-resistant types. The bird-resistant type contains tannin in the glumes, causing a bitter taste that discourages feeding until the grain is fully ripe. This discourages flock birds, such as blackbirds and grackles, from consuming the crop and also keeps other birds, such as bobalinks, out of the fields. If these birds are present in your area, the use of the bird-resistant types is recommended.

In other areas, the nonbird-resistant type is preferred. Planting areas to both the bird-resistant and nonbird-resistant types can lengthen the useful feeding period as the wildlife will start to feed on the nonbird-resistant type and then feed on the bird-resistant type later in the year.

Another factor you should consider when selecting sorghum is plant height. There are varieties available that normally grow 36 to

40 inches tall. Since the grain head is about 6 to 8 inches long, it puts the grain within reach of geese and many ducks.

The other advantage of sorghum is that it is somewhat more salt tolerant than corn, making it a preferred crop on soils where corn yields suffer because of salt in the soil. A soil test for salt is recommended to ascertain the salt level before planting.

Millets. Both the seeds and the vegetative parts of millets are consumed by wildlife. Wildfowl and upland birds are the most common feeders of millet. Japanese millet is the most widely used of the millets for wildlife feed. It is a good seed producer, stands wet conditions well, and grows in salty soils. It appears, based on research, that millet will tolerate about the same amount of salt as sorghum. The other millets are adapted to better growing conditions, with browntop millet showing promise as a good seed producer in areas where soil is dry and salt is not a problem. Proso millet has been used to attract doves in the southeastern states. Proso is a tall millet that produces a lot of seed but grows back after cutting, making it necessary to control regrowth up until frost so that doves will use the area. Proso millet also may be contaminated with johnsongrass.

Rice. Rice is a relatively new introduction in Maryland and shows promise as waterfowl food. Wild rice, if established, will reproduce itself for years as long as conditions are satisfactory. Cultivated rice is a better producer of seed and fits in with growing crayfish or in freshwater ponds that can be drained. Further research is needed to identify the best varieties; however, varieties used in Arkansas should do well in Maryland because weather conditions are similar.

Small grains. Of the small grains, oats are preferred as browse. Wheat is preferred as browse for geese and ducks while doves eat the seed. Planting strips of wheat and sunflowers or proso millet has produced excellent feeding areas for doves. The major problem with wheat is getting it established early enough in the fall while not planting before the Hessian fly-free date. Planting before this date can result in serious reductions in stands and movement of the insect to production fields in the spring. If you are using wheat, contact your county Extension office for the Hessian fly-free date. Barley and rye generally are less valuable than oats and wheat as wildlife feed.

Legumes. Legumes have the capacity to produce their own nitrogen. In addition to being good soil-builders, they provide browse and cover for many species of wildlife. These plants should be treated with rhizobium bacteria at planting to assure the formation of nitrogen-fixing nodules on the roots. Perennial, biennial, and annual legumes are useful in wildlife plantings. Deer, rabbits, quail, pheasant, waterfowl, turkeys, and songbirds use legumes.

Perennial and biennial legumes are best established in the spring to assure the stand will not be overgrazed while the plants are young. Plant winter annuals as early as possible (preferably in August) to allow for sufficient growth before waterfowl begin feeding. Some annuals, such as lespedeza and partridge peas, may reseed themselves so that they are useful for more than a year.

Perennial and biennial legumes (hay-type) should be harvested and the hay removed for optimum production. If not harvested and removed, the stand may be smothered by the old growth. The clipping associated with harvesting will also help control weeds that may be of little value to wildlife.

Bicolor and VA 70 lespedeza will provide cover and feed, and serecia lespedeza will provide cover if planted in rows that are 100 to 300 feet long and 8 to 20 feet wide. Planting larger areas is not recommended if hunting is a reason for planting shrub-type crops.

Grasses. Grasses provide browse and nesting areas to a variety of wildlife, and some birds feed on the seed. Grasses used for wildlife planting are usually perennial, thus making them long-duration crops. Clipping after young wildlife are raised will help reduce weed problems. These grasses are often grown with legumes, such as alfalfa and some of the clovers.

Buckwheat. For waterfowl, buckwheat provides an attractive feed. Although it will not last very long, it will entice the birds to your land. Because of its short-term usefulness, buckwheat should not be used as the sole crop for wildlife.

Selected wildlife crops

Crop	Planting depth (inches)	Planting rate [a] (pounds/acre)	Best time to establish crop
Alfalfa [b]	1/4-1/2	12-18	Feb.-Apr. and Aug. 15-Sept. 15
Red clover [b,c]	1/4-1/2	4-16	Feb.-Apr. and Aug. 15-Sept. 15
Ladino clover [b,c]	1/4-1/2	1-2	Feb.-Apr. and Aug. 15-Sept. 15
Alsike clover [b,c]	1/4-1/2	4-5	Feb.-Mar. and Aug. 15-Sept. 30
Crimson clover [b,c]	1/4-1/2	6-20	July-Oct.15
White & Dutch clover [b,c]	1/4-1/2	1-2	Feb.-Apr. 1 and Aug. 15-Sept. 15
Hairy vetch [b,c]	1/2-2	15-30	Aug. 15-Oct. 10
Lathco flat peas [b]	1-1 1/2	30-40	Apr.-May
Japanese millet [d]	0-1	20-30	June-July
Browntop millet	1/2-1	40-60	May-July
German millet	1/2-1	5-30	May-June 15
Proso millet	1/2-1	20-40	June-July
Corn	1-2	16,000-24,000 seeds/acre	Apr.-May 20
Trailing soybeans [b]	1-3	25	May 15-July 15
Soybeans [b]	1-3	40-60	May 15-July 15
Wheat (winter) [c,e]	1-2	90-120	Oct.-Nov. 15
Barley	1-2	72-96	Sept.-Oct.
Oats	1-2	64-96	Sept.-Feb . and Apr. (spring oats)
Korean lespedeza [b,c]	0-1/2	10-25	Feb.-Mar.
Kobe lespedeza [b,c]	0-1/2	20-40	Feb.-Mar.
Serecia lespedeza [b]	0-1/2	10-40	Mar.-May
Bicolor lespedeza [b]	3	2-10	Apr. 15-May 15
VA 70 lespedeza [b]	1/2-1	2-16	Apr. 15-May 15
Kentucky 31 fescue [c,d]	1/4-1/2	8-15	Feb.-Apr. and Aug. 15-Sept. 15
Switchgrass [f]	1/2	8-12 PLS	May-June
Smooth bromegrass	1/4-1/2	2-10	Feb.-Apr. and Aug. 15-Sept. 15
Reed canarygrass [g]	1/4-1/2	6-8	Feb.-Apr. and Aug. 15-Sept. 15

[a] Use lower rates for mixtures and highest rates for broadcast.
[b] Use appropriate inoculant at planting.
[c] Seed can be broadcast on top of soil in a standing crop as long as herbicides that affect germination of the seeded crop were not used.
[d] Will tolerate some salt.
[e] Plant wheat after Hessian fly-free date. (Contact county Extension educator for date in your area.)
[f] Sold only as pure live seed.
[g] Slow getting established.
[h] Wild rice seed must be kept at 28 percent moisture or higher during seeding. Area should be flooded with 6 to 12 inches of water in April and remain flooded until grain starts to fill.
[i] Not well-adapted on flood plain soils of Maryland.

The footnotes to this table are general recommendations compiled from various sources. For more specific recommendations, contact your county Extension office, the Maryland Department of Natural Resources, the United States Soil Conservation Service, Department of Interior, or commercial representatives.

Selected wildlife crops

Crop	Planting depth (inches)	Planting rate [a] (pounds/acre)	Best time to establish crop
Bluestem [g]	1/2	10-12	Mar.-Apr.
Annual or perrenial ryegrass [c]	1/4-1/2	4-25	Mar.-Apr. and Aug.-Sept.
Orchardgrass [c]	1/4-1/2	3-10	Feb.-Apr. 20 and Aug. 15-Sept. 15
Buckwheat	1/2-1	36-48	June 15-July 30
Austrian winter peas [b,c]	1-2	40	Mar.-Apr. and Aug. 15-Oct. 10
Partridge peas [b]	1/2-3/4	16-20	Apr. 15-June 1
Rice	1-2	90-150	Apr. 20-May 20
Wild rice [h]	1-3	30-45	Sept.-Nov. and Apr.
Sorghum [d]	1-2	6-8 in rows	May-June
Peanuts	1-2	75 shelled nuts/acre	Apr. 20-May 20
Sunflowers (black, oil-type) [d]	1-2	8-10	Apr. 20-May 20 (Can plant later for longer use in fall and winter)
Spinach	1/2	10-14 clipped	Mar. 12-Apr. 20 and Aug. 10-Aug. 31
Rape	1/2	6-9 (broadcast) 2-3 (in rows)	Feb.-Mar. and Aug.-Sept.
Kale	1/2	3 (in rows)	Apr. 1-20 and July 10-Aug. 10
Lettuce	0-1/4	1-3	Mar.-May
Birdsfoot trefoil [b,i]	1/4-1/2	4-12	Mar. 1-Apr. 15 and Aug. 15-Sept. 15
Crownvetch [b,g]	1/4	3-20	Feb.-Apr.

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Sunflowers. Sunflowers provide excellent food for doves and songbirds. Planting the crop in rows and using herbicides, cultivation, or both will be beneficial because doves prefer to feed on ground that is not filled with vegetative growth. The small, black, oil-type seed seems to be the best for wildlife food.

Miscellaneous crops. There are several perennial shrub-type plants, as well as various cultivated and other species, that may fit into your plans. Autumn olive, smartweed, and redroot cypress are examples of plants that may fit in with your specific needs.

How to Plant Crops for Wildlife

Perennial shrubs and trees usually come as bare-root specimens and are best planted in the spring or fall. Planting should take place as soon as possible after obtaining the plants. If you cannot plant trees and shrubs right away, ask your supplier or your Extension educator how to preserve them.

Some perennial plants are also available as seed. These, as all seeds, should be planted in a well-prepared seedbed. Planting depth depends on the size of the seed. Small seeds should be planted shallow–one-quarter to one-half of an inch deep. They require a fine, firm seedbed, which can be achieved by disking the ground two or three times followed by cultipacking or by using another tillage tool that will result in a fine, firm seedbed. Drag or cultipack broadcast seedings after planting to provide good seed to soil contact, which improves germination.

Alfalfa, clovers, millet, and grasses have relatively small seed and require a fine, firm seedbed and shallow planting. Larger seeds, such as soybeans, corn, and sorghum, should be planted deeper, and the seedbed can be somewhat coarser. Regardless of the crop, a uniform seeding is important for best results in growing that species of plant. Small-seeded crops and some large-seeded crops can be broadcast to establish the stand. Other crops, such as corn and sorghum, generally are better planted in rows. If nesting and feed are requirements of the area, some small open areas will be beneficial. Check with a wildlife biologist for more information.

The Selected Wildlife Crops table provides information on recommended rates, depths, and planting dates of various crops for Maryland conditions. There are crops listed in the table that are not discussed in this publication. They are either crops that have shown promise for wildlife or crops that have a special niche. You may see different rates and planting information in other publications. If you have additional questions about planting crops for wildlife, contact your county Extension office.

Reviewed by:

Dr. Lester Vough
Extension Specialist, Forage Crops
Department of Agronomy
University of Maryland, College Park
Dr. James Milliken
County Extension director (former)
Kent County

Funded in cooperation with the
Maryland Department of Natural Resources
and the U.S. Fish and Wildlife Service

Wildlife Management
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by

Ronald Wade
Principal Extension Agent Emeritus
Dorchester County

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, University of Maryland, College Park, and local governments. Thomas A. Fretz, Director of Maryland Cooperative Extension, University of Maryland.

P92/V02