

GROWING ALFALFA FOR WILDLIFE

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Alfalfa has long been recognized as a superb forage crop, which is why it is widely grown for dairy cattle, horses, sheep, and many other types of domesticated forage-consuming animals. Reasons for its popularity include wide adaptation, excellent nutritive value, good yield potential, perennial growth habit, a long growing season, and the fact that (in association with *Rhizobium* bacteria) it is a nitrogen-fixing legume that does not require periodic applications of nitrogen fertilizer.

Although alfalfa is widely grown for livestock, most people do not think of it as a wildlife-enhancing crop, and especially not as a crop to be planted specifically for wildlife. This is despite the fact that many of the same attributes that make it popular as a crop grown for domestic animals are also valuable in wildlife settings. However, there are reasons to believe that attitudes regarding alfalfa's potential as a wildlife crop are changing at present.

WILDLIFE ENHANCEMENT AS A FRINGE BENEFIT

Evidence of alfalfa's potential for wildlife purposes is that wild animals have always recognized it as a great crop; they feel free to visit alfalfa fields, consume alfalfa forage, or otherwise use it anytime it is planted within the geographical area in which they live. In fact, some animals even alter their range in order to access it more easily or more frequently! There is hardly any alfalfa producer who has not had the experience of seeing deer, birds, or other wild animals in their alfalfa field(s).

Yet, the extent to which alfalfa is used by wildlife is almost certainly underestimated by most producers. After all, wild animals are shy and secretive and generally prefer to avoid being in close proximity to humans. Many are primarily or exclusively nocturnal, and thus are active only at times when humans are not generally present. In addition, there may be a considerable amount of unobserved underground biological activity in an alfalfa field including by mice, voles, ground squirrels, and other rodents.

In the Sacramento Valley in California, wildlife biologists did extensive studies of alfalfa fields to determine the extent of wildlife activity. They found that of 643 resident and migratory amphibians, birds, mammals, and reptiles known to occur in that area, 162 species (about 25%) were regularly using alfalfa fields to some extent, and about 10% percent were using alfalfa fields extensively.

In recent years agriculture has been criticized by some environmentalists who believe that virtually everything associated with food production has negative environmental consequences. In reality that is not the case. In many settings, especially in areas in which cities are encroaching on agricultural land, alfalfa makes an important contribution to wildlife and to the environment.

The point is that an alfalfa field is much more biologically diverse than it may appear, and actually offers a great deal to many wildlife species, including to game animals and game birds. Thus, anyone who grows alfalfa is, to some extent at least, enhancing wildlife, and thus might consider this to be a fringe benefit of growing the crop.

GROWING ALFALFA PRIMARILY FOR WILDLIFE

There are several reasons why alfalfa is not commonly considered a wildlife crop. First, although many farmers are wildlife enthusiasts, the majority of wildlife enthusiasts are not farmers. Thus, they often have limited experience with forage crops, and many don't fully understand the benefits the crop offers (unfortunately, some farmers don't fully understand them either). In addition, some may be a bit intimidated by the relatively precise planting requirements and management concerns associated with alfalfa, or may simply be unwilling to learn about and exercise such management.

Wildlife management has evolved greatly in recent years. Twenty or twenty-five years ago it was not particularly common practice to make plantings of any type strictly for wildlife. When such plantings were made, in most cases they mostly consisted of cool season annuals (often small grain or, in many areas, small grain and annual ryegrass) that, once established, required little management. In many cases the main, and often the only, objective for making such plantings was to attract game animals during hunting season in order to increase the likelihood of hunting success.

Things have changed. These days many wildlife managers are quite sophisticated in their management approaches. An increasing number are thinking about the long-term implications of management practices, including the importance of striving to provide optimum nutrition throughout the year. There is more awareness that nutrition can improve the health of wild animals, increase their size and weight, as well as increase wildlife populations by enhancing reproductive rates. Furthermore, while most plantings for wildlife are still made by hunters (or by people who are hired by hunters to do this work), there is also increasing interest in non-game wildlife by non-hunters as well as by hunters.

There have also been developments within the alfalfa industry that have facilitated the use of alfalfa in wildlife management. For example, advances in disease resistance, seed coating technology, and weed control have value in plantings of alfalfa made for wildlife enhancement just as they do in fields planted to produce forage for livestock. In particular, the introduction of grazing-tolerant varieties has greatly increased the feasibility of planting alfalfa in areas in which wildlife populations (mainly

deer or other large mammals) are so high that excessive defoliation is a threat to long-term stand persistence.

WHY CONSIDER PLANTING ALFALFA FOR WILDLIFE?

The answer to this question was touched upon in the introductory paragraphs of this paper, but a more detailed explanation should be helpful. There are numerous wildlife species, of course, and alfalfa offers different benefits to different wild animals. Because alfalfa as a wildlife crop is planted mainly by hunting enthusiasts, the emphasis in this discussion will be on benefits to game animals or to hunting enthusiasts. As viewed from the perspective of a wildlife manager, the benefits alfalfa offers can be put into a few main categories.

*Perenniation- As is the case with most farmers, wildlife enthusiasts like to use perennials whenever possible. The expense, the establishment risk, and especially the time and effort, involved in regularly planting annuals is something they would like to avoid.

*Nitrogen Fixation- Wildlife managers also like the fact that legumes such as alfalfa can symbiotically fix nitrogen when in association with *Rhizobium* bacteria. However, in the case of wildlife enthusiasts, appreciation of this unique trait of legumes is not so much due to avoidance of the expense of applying nitrogen, which is often an important incentive for many livestock or hay producers. Rather, wildlife managers are especially likely to appreciate the fact that use of legumes means that application of nitrogen is one less management practice to be remembered and accomplished.

*Forage Quality- The nutritional benefits alfalfa provides to livestock are likewise of benefit to wild animals that consume the forage. In the case of deer, which is the wildlife species for which alfalfa is most commonly planted in the eastern United States, the nutritional attributes of alfalfa are of special interest. Not only is alfalfa forage highly digestible with a high protein content, it also contains high levels of calcium and phosphorus, which are important in antler development (this is a major selling point to deer hunters). In addition, having alfalfa available during summer helps ensure adequate milk production by does, increases the likelihood of rebreeding, and helps increase deer weights prior to the onset of winter.

*Insect Attractant- Alfalfa is an excellent insectory. In a study done near Ithaca, New York, entomologists identified 591 insect species in a single field. For many species of birds, including game birds such as quail and wild turkey, availability of a good supply of insects is quite important, especially when the birds are young. Alfalfa provides birds with high quality green leaf material as well as insects.

*Long Period Of Forage Availability – Bridging nutritional gaps is of critical importance in wildlife management, and it is difficult to find a crop that rivals alfalfa with regard to the ability to provide high quality forage over a long period of time. For example, in the Upper South alfalfa can provide forage for wildlife for 6 or 7 months in

most years, and in the Deep South, alfalfa varieties that are in fall dormancy categories 7 or higher come close to being a year-around source of forage. In view of the fact that most wildlife species prefer a varied diet, having alfalfa available for wildlife over a long period of time is a major advantage. It is also important that alfalfa is a source of high quality forage during drought periods when other forage crops are unproductive.

*Potential To Attract Or Hold Wildlife- Some species of animals range over large areas. Because of its attractiveness to wildlife, alfalfa can be used as a tool to help keep wild animals in an area where they are desired. To a degree, it can even be used as a tool to encourage them to stay away from areas where they are **not** wanted. For example, a planting of alfalfa on a side of a large farm or ranch that is a long way from a paved road can decrease the likelihood of collisions with motor vehicles.

*Cover- Although many other plants provide cover for wildlife as well or better than alfalfa, this is another benefit to wildlife that can be mentioned. Alfalfa can be especially attractive to small animals such as rabbits, and for young game birds including quail or wild turkeys that simultaneously need cover as well as a high level of nutrition.

UNIQUE ASPECTS OF GROWING ALFALFA FOR WILDLIFE

Site selection is always important in alfalfa production, but location of a suitable site for a wildlife planting deserves special mention. Plantings made specifically for wildlife are often located in remote areas, so ease of access with planting and fertilizer application equipment is a consideration. Though locating plantings close to trees or other heavy cover may provide advantages to wildlife, alfalfa will not be productive in shady areas or in close proximity to tree roots.

Also, wildlife plantings are often made in areas that have not been in regular agricultural production, and thus may need more attention than is the case with most sites where alfalfa is planted on farms. Thus, the desirability of planning ahead and starting early to get a field in proper condition (taking soil tests, applying lime, eliminating roots or undesirable species, etc.) is especially important.

Most of the agronomic considerations associated with establishing alfalfa for wildlife are the same as for growing the crop for livestock. For example, it must be planted on a suitable soil type and a well-drained site. In addition, lime will usually need to be applied several months before planting to raise the soil pH to a suitable level, any needed fertilizer nutrients should be applied in accordance with a soil test, the seed should be planted with precision, etc.

Although a wildlife enthusiast generally will be pleased with a beautiful, thick stand, alfalfa stand density is actually not as important in wildlife plantings (especially in older stands) as is the case when plantings are made for livestock or for hay production. Although mowing to reduce shading or making a herbicide application may sometimes be desirable, as long as grasses or volunteer forbs are not offering excessive

competition, in many cases it is not particularly harmful to have some volunteer plants growing along with alfalfa in a wildlife situation.

Assuming that alfalfa has been planted on a suitable site, a good stand obtained, and that pH and nutrient needs of the crop are met, the life of a stand planted for wildlife can be as long, and may actually exceed, that of a planting made for livestock. In many wildlife plantings there is less defoliation stress than occurs when alfalfa is used for hay or pasture. Also, with a planting made for wildlife there is usually less need to immediately replant another forage when alfalfa stands thin. A low percentage of alfalfa in a mixture with volunteer species may make a perfectly acceptable wildlife food plot.

FINAL THOUGHTS

While alfalfa clearly has many attributes as a wildlife plant, it is not right for every wildlife situation, just as it is not right for every livestock farm. Many soils and sites are not suitable for growing alfalfa, and various people have different goals, attitudes, and resources. Alfalfa should be viewed as a tool that is available to a wildlife manager that can be used when an appropriate situation arises. Furthermore, most wildlife species prefer a diversity of foods in their diet. Thus, even in situations in which it is clear that alfalfa can be used to advantage for wildlife purposes, it usually should be only one of a number of species planted for wild animals on a given piece of property.

However, interest in alfalfa as a wildlife crop has increased greatly in recent years. Foremost among the reasons why this has happened are: (1) greater interest among wildlife managers in providing year-around nutrition for wild animals; and (2) the availability of grazing tolerant varieties. Many wildlife managers have already proven that alfalfa can play an important role in wildlife enhancement, and it appears likely that the trend toward greater use of alfalfa for wildlife purposes will continue for the foreseeable future.