# FOODS OF NORTHERN DEER
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There was a time before baiting became popular when hunters were interested in learning what deer were eating during the non-winter periods of the year. There are still hunters that are interested in the more natural behavior of deer. This article is for them.

Deer are considered to be browsers. Their pointy faces contrast rather significantly from the blunt mugs found on grazers like bison, horses or Holstien cattle. Most people see "browse" as the dormant woody twigs that one finds in winter. Technically, browse also includes the leaves of plants.

And, there are times of the year when deer appear to be actively grazing. Spring and fall are two times when it is common to see deer on roadsides, in forest openings and on farm fields eating new-grown grasses or legumes.

Hunters' interest in deer food habits seems to increase especially as we approach the fall hunting seasons. Two studies of non-winter food habits of deer have been conducted in Wisconsin; one in the farmlands of the South and one in the forested North.

## Farmland foods

Briefly, the study in southern Wisconsin found that deer rumens (stomachs) contained plants from 51 different groups (genera) during the year. However, the principal food items were corn (both leaves and kernels), alfalfa, grasses and sedges, and acorns. The order of these principal foods changed with the season, but these four tended to dominate year-round.

Grasses and sedges led in the spring, alfalfa and corn leaves in the summer, and kernel corn and acorns in the fall. Clearly, cultivated crops were the main source of forage in farm country. Other studies in farm country of the Midwest have also found that about half of all food items in deer rumens were of agricultural origin.

This should not be a surprise as a high percentage of the home range of farmland deer is composed of agricultural fields. Moreover, agricultural crops are fertilized and grown for food. Deer aren't dumb. But, the use of crops by deer for food should also underscore a potential problem. There is a limit to farmer tolerance when it comes to hosting deer. A limited number of deer can be charming. But, too many deer can be damaging.

Hunters must recognize their role in supporting and maintaining responsible numbers of deer in farm country. Decades of experience has shown that the level of tolerance is somewhere below 25 deer per square mile of habitat over winter.

**Putting Knowledge to Work**

The mechanics of hunting in farm country has always seemed fairly simple. Food habits there were not really a mystery. By simply finding some suitable cover, one could assume deer would move from bedding to the food source. The latter was normally a nearby agricultural field. But, where do deer find their food in the extensive northern forest?

Too many hunters have forgotten or have given up trying to understand deer biology and behavior in forested environments. They have instead and increasingly relied on habituating deer to bait that is normally of agricultural origin.

Perhaps a little knowledge of northern food habits will convince some hunters that they can be successful without resorting to bait. Plus, they might again experience the satisfaction of employing personal skills while hunting. The main purpose of this article is to highlight deer food habits in habitats that are less altered by humans than the farmlands.

**Northern Forest Foods**

The northern food habits study was conducted prior to a time when baiting and recreational feeding of deer was highly popular; a time when deer were dependent primarily on natural foods. As with similar studies in other states, we used road-killed deer as our source for rumen samples.

There was no deliberate effort to sample all habitats equally. We took deer as they became available. Thus, most deer came from habitats where deer were most abundant. Collections were made from mid-April until mid-November. We divided the snowfree period into 4 seasons: spring (April-May), early summer (June-July), late summer (August-September), and fall (October-November).

Gardeners and landscapers know that the list of plants known to be eaten by deer is long and the list of plants known to be avoided by deer is short. This seems true in the wild as well. We identified over 70 different plant types (genera and families) in deer rumens.

Surprisingly, only 3% of the volume eaten during these snowfree seasons was composed of woody twig ends. Most of this seemed to have been eaten incidental to leaves or fruit. About 10% of the rumen content

was made up of fruits and 87% was composed of herbaceous material like leaves and grass.

Another significant finding was that aspen leaves were THE principal food item throughout the snowfree period of the year.

## Spring

Grasses and evergreen ground plants were the dominant food items in April and May. Prominent ground plant foods included barren-strawberry and wild strawberry. Aspen leaves ranked among the top 4 food items despite not normally being available until mid- to late-May.

That grasses and sedges ranked first should not be too surprising to most readers as spring is a time when deer are commonly seen grazing in forest openings, old fields, and on roadsides. After winter, it seems that anything green is going to be sought by deer. Rapidly growing grasses are said to be a protein-rich concentrate.

## Early Summer

Aspen leaves were by far the most frequent food item found in rumens during June and July comprising nearly 30% of the aggregate volume. Rapidly growing aspen leaves are high in protein. Don't ask how deer know that! But, it seemed that year-round food habits revolved around the availability of aspen leaves. Other foods became prominent only when aspen leaves were not available.

This is also a time of year when rapidly growing stump sprouts are eagerly eaten. One has only to walk through a recent clearcut timber sale to note heavy browsing on stump sprouts of maples, birch and basswood. Although woody twig ends appeared to comprise only 3% of the diet, much new growth like twigs of stump sprouts had not hardened to the point of being woody.

Other prevalent foods at this time of year were grasses, bush-honeysuckle, and strawberry. Bush-honeysuckle (Diervilla) is a native low-growing shrub that should not be confused with the invasive honeysuckles (Lonicera).

## Late Summer

Aspen leaves continued to be the principal food item in August and September. Other dominant food items included bush-honeysuckle, asters, grasses, and wild strawberry.

Fruits also became significant in this time period, particularly black cherries and blackberries. Bowhunters that scout at this time of year will

note accumulations of deer droppings around cherry trees.  There is also likely to be ample sign of bear activity (broken branches and droppings).

Open-grown cherry trees, those in old openings, will have the most fruit.  One might also find thornapple trees in the same habitat.

**Fall**

Grasses and sedges again became the most prevalent food items found in deer rumens during October and November.  Aspen leaves still ranked among the four principal foods, even though most aspen leaves in northern Wisconsin have fallen by mid-October.

Acorns were important wherever there were oaks.  Acorn crops are not consistent and occur in good quantity only once every few years with bumper crops being as rare as once every 4 to 7 years.  And, oaks are not well distributed across the north.  However, acorns appear to be THE preferred food item when and wherever available.

Other principal fall foods included asters and mushrooms.  Fall food habits seem more heavily dependent on weather patterns than at other times of the year.  A wet (rainy) August seems to set the stage for favorable grass for grazing as well as for mushroom growth.  Acorn crops, particularly for red and pin oaks, seem dependent on frost patterns during the previous two years.

Still, oaks and openings are two of the first places hunters should check for current deer activity when planning a fall hunt.  Food habits change fairly quickly in fall depending on weather and acorn availability.

**Fast Food**

Rapidly growing plants seem most highly preferred by deer and other herbivores.  Thus, "fast food" takes on a different connotation when discussing deer.  Actively growing plants contain higher amounts of protein and somehow animals know that.

Cool-season grasses grow in both spring and fall and are eagerly sought by deer in these seasons.  Aspen leaves were most highly preferred in early summer while actively growing.

It should go without saying that the best forest habitats for deer are where plants grow the fastest.  These habitats are where sunlight reaches below the height of a deer.  Aspen, oak, and forest openings are key components of good deer habitat.

Aspen, especially, is an early succession species that is normally regenerated by clearcutting.  This promotes an abundance of deer food.  Late succession forests, such as sugar maple, are not clearcut when harvested and

are characterized by dense shade in the understory.  Food production here is low.

One of my colleagues also refers to venison as "the original fast food."  He makes this comment in reference to the fact that an adult deer can easily travel at 30 miles per hour!

## Sources

McCaffery, K.R., J. Tranetzki, and J. Pietchura, J.  1974.  Summer foods of deer in northern Wisconsin.  J. Wildl. Manage. 38(2):215-219.

Pils, C.M., M.A. Martin and J.R. March.  1981.  Foods of deer in southern Wisconsin.  Wis. Dep. Nat. Resour.  Res. Rep. No. 112.  14pp.

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