

# **The Effects of Baiting on Deer Hunting in Wisconsin**

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## **Introduction**

Hunting deer with bait is currently a very controversial subject not only in Wisconsin, but also throughout the United States. At issue are ethics, disease transmission, hunter conflicts, and public perception, among others. While the disease and biological ramifications are well documented, the debate over ethics and the social aspects of baiting are far from resolution as both sides hold dearly to their opinions. However, missing is a rational discussion on the effects of baiting on deer movement patterns, and consequently on hunter success rates. It is widely assumed by virtually all hunters and non-hunters that baiting has an advantage over traditional hunting methods. Many deer hunters and wildlife regulators do not fully understand the implications baiting brings to deer hunting. With record deer populations some hunters and regulators are reluctant to change baiting laws for fear it will adversely impact the deer harvest. The intent of this paper is to shed some light on the success of hunting deer over bait and the effects of baiting on deer movements during the hunting seasons.

## **History**

The history of deer baiting in Wisconsin is not very well documented. It appears there always was a low level of baiting, particularly in the northern forested region, prior to the late 1980's. This low level of activity was probably due to the perception that baiting was illegal. Growing awareness that baiting was legal in the late 1980's and early 1990's is believed to have resulted in a sudden increase in baiting (McCaffery 2000). A survey of Wisconsin deer hunters following the 1992 hunting season revealed that 75% of hunters who baited had been hunting with bait for less than 5 years (it should be noted that 84% hunted deer for more than 6 years) (Petchenik 1993).

The same survey also found that statewide during the 1992 gun season, 17% of hunters reported using bait. However, the frequency of baiting was greater in the north, where 24% of the gun deer hunters reported using bait. A 1999 Wisconsin Department of Natural Resources (WDNR) survey of Wisconsin gun deer hunters found that 16% reportedly used bait (McCaffery, 2000). This figure is surprisingly low, and is likely due to recent publicity on the controversy of deer baiting. Distrust with the DNR who conducted the survey and perceived use of the data may have resulted in under reporting the use of bait (McCaffery 2001, Petchenik 2001). However, the increased use of bait has not gone unnoticed by hunters and conservation wardens. Baiting appeared so prevalent that warden pilots reported that the north "glowed yellow" with shelled corn prior to the 1999 gun deer season (McCaffery 2000).

Michigan deer hunters have the distinction for the most widespread use of bait in the Midwest. A 1999 Michigan DNR survey found that statewide, 48% of hunters used bait.

Baiting was most prevalent in the Upper Peninsula, where nearly 70% of hunters used bait (Frawley 1999). It appears Michigan deer hunters were the first in the Midwest to engage in the widespread use of bait, and it seems entirely plausible that Wisconsin hunters will soon approach the levels of baiting seen there.

### **Bait and Deer Consumption**

Although actual figures are not available, the majority of bait used in Wisconsin is shelled corn. Other types of bait include apples, pumpkins and potatoes (Sperling 1999). All these foods are much higher in carbohydrates than natural deer forage. When deer eat a high percentage diet of these foods, or are suddenly fed these foods without a sufficient acclimation period an acute condition called grain overload, or lactic acidosis commonly occurs (Lyons 2000). To prevent this condition it is recommended that captive deer be fed not more than 35% cereal grains, and that introduction to cereal grains take place slowly over a month (Lyons 2000). Large quantities of grain, or the sudden ingestion of feed high in carbohydrates without acclimation results in acidic conditions in a deer's rumen (stomach). This kills the bacteria necessary for digestion and causes bloating, diarrhea, enteritis, and in extreme cases death. The visible affects on deer include lameness, arthritis, and a decrease in appetite (Lyons 2000). This condition reportedly occurs yearly in Michigan (Mich. DNR 1999). During a severe winter in Saskatchewan 30% of the deer found dead near cattle feedlots were diagnosed with lactic acidosis (Wobster and Runge 1975). Deer have also been found dead and suffering due to this condition in Wisconsin, but the widespread affect is not known (Langenberg 2001).

On average deer will eat about 5-7 lb. of food a day (McCaffery 2001). However the amount of artificial feed a deer will eat is less as deer will always consume other natural foods if available (Doenier et al 1997, Schmitz 1990). Dr. James Kroll, a well known advocate of supplemental feeding recommends providing about 2 lb./day per deer (Kroll and Koerth). Studies of captive deer have found that they will consume about 3 lb./day of supplemental feed in the presence of native forage (Lenarz 2001).

The magnitude of deer baiting in Wisconsin is relatively unknown even to those who practice it but can be illustrated with a simple exercise in math. If we assume a conservative estimate that 20% of the Wisconsin gun hunters in 2000 used bait (that's 138,800 hunters), and we assume that each hunter placed 5 gallons (1/2 the legal limit) of shelled corn on the ground that adds up to 4.58 million pounds of corn each day. If deer eat 3 lb. of corn a day, this would completely feed 1.52 million deer, almost the entire estimated 1.8 million deer herd in 2000! Clearly all this artificial feed must have a significant effect on deer behavior.

### **Hunter Success Rates**

It is widely assumed that baiting increases a hunter's chance of seeing and harvesting deer. In fact 92% of Wisconsin hunters surveyed believe baiting increases a hunter's chance of harvesting a deer (Petchenik 1993). Remarkably the percentage is the same for baiters and non-baiters. However studies conducted in the Midwest do not support this

perception. The 1993 WDNR survey found that 50% of hunters were successful with bait, while 54% were successful without bait. Michigan DNR surveys also repeatedly bear this out. A 1984 survey found that hunters who used bait were no more effective than those who did not (2.4 vs. 2.2 deer harvested per 100 hunting days, respectively), and a 1992 survey had similar results (3.8 vs. 3.1 deer harvested per 100 hunting days). A more recent 1999 Michigan DNR survey found that 44% were successful using bait, while 52% were successful without bait (Mich. DNR 1999). Clearly there is little distinction between baiting and non-baiting success rates when hunting in areas where baiting is practiced. What is not considered is if success rates would be higher overall without baiting.

### **Changes to Deer Movement Patterns**

Intuitively one can infer that with the potential quantity of bait used by hunters (as shown above) there would certainly have to be a significant affect on deer movement and behavior. In fact research has consistently shown that artificially feeding deer alters their natural foraging behavior, which results in changes deer movement and distribution patterns (Schmitz 1990). One behavior change frequently observed with deer baiting is increased nocturnal activity (Charles 1993). A study of captive deer in Michigan documented that a majority of feeding at supplemental food sources occurred at night, and daytime feeding was almost nonexistent (Ozoga and Verme 1982). In Texas a controlled study of similar baited and non-baited hunting stands indicated the use of baited stands by deer became more nocturnal as the hunting season progressed (Wegner 1993). It was also noted that deer, especially mature bucks, learn quickly to avoid baited sites during daylight hours. Incidentally most of the bucks (77%) harvested from baited stands were yearlings. A Mississippi study also reported that the daylight activity of bucks decreased as the number of bait sites increased (Wegner 1993).

During the fall hunting seasons deer are generally active at legal hunting times for two reasons, food and rutting behavior. Since the Wisconsin gun season is in mid to late November primary rutting activity is over and deer would be mostly active in response to feeding. Deer are known to spend more time foraging for food than any other activity (Halls 1984). However, if supplemental feed were available as with baiting, this would significantly cut down on the amount of time needed for feeding. Thus baiting would reduce the amount of time a deer is active and generally visible to hunters. A study of captive deer in Michigan found that deer spend less than 15 minutes feeding at feed stations (Ozoga and Verme 1982). In addition, when suddenly offered a diet of corn or other high carbohydrate foods deer can suffer from lactic acidosis. This is especially true in the northern forest regions where there are few agricultural crops. The symptoms of this condition can also lead to reduced activity. A reduced level of deer activity would adversely affect the success rate for both baiters and non-baiters. And as the level of baiting increases this should become more pronounced.

One point to note is that in spite of lower hunter success rates with baiting, there have been record deer harvests in recent years. However there has been a substantial increase in antlerless permits and the addition of more gun hunting days in an attempt to rein in a

record deer population. Even so these measures have had little effect on the deer population. Baiting and recreational feeding has even negated the usual affects of winter stress and mortality on deer in the northern forested region, thus compounding the population problem (Mytton 2001).

## **Conclusion**

The evidence that deer baiting causes the spread of diseases is well documented (McCaffery 2000, Mich. DNR 1999). It is also well known that baiting causes hunter conflicts and that the non-hunting public's view of baiting is not favorable. In addition it appears baiting also has the following affects:

- Despite the overwhelming perception there is no evidence that deer baiting increases the overall success rate.
- Baiting provides a concentrated source of food thus reducing deer activity. This causes deer to be less vulnerable to hunter harvest which will lower the success rate as it does for other factors, like the weather. Baiting also causes hunters to see less deer and can explain why so many deer hunters question the WDNR deer population estimates.
- High carbohydrate foods used as bait are known to have harmful effects on deer health under certain circumstances due to lactic acidosis, which also contributes to reduced deer activity.
- The level of baiting in Wisconsin has likely increased to the point where the amount of bait provided will completely feed the entire deer herd every day of the gun hunting season.
- The cumulative effects of baiting (and feeding) deer are changing natural deer productivity and survival rates to unmanageable levels. This is especially true in the northern forested region.
- Deer baiting is not as innocuous as some claim. Deer baiting affects the hunting experiences of all hunters, and is increasingly disruptive to hunters who choose not to bait.

It may seem counter intuitive, but eliminating baiting for deer hunting would result in more deer sightings and increase the deer harvest which can ultimately help in controlling the deer population. It would also reduce conflicts among hunters, help prevent the spread of diseases and improve the public perception of hunting.

## **References Cited**

Charles, G. 1993. Baiting has made deer night feeders. Traverse City Record-Eagle, p. 7B.

Doenier, P. B., G. D. DelGiudice, and M. R. Riggs. 1997. Effects of winter supplemental feeding on browse consumption by white-tailed deer. Wildl. Soc. Bull., 25(2):235-243.

Frawley, B. J. 2000. 1999 Michigan deer hunter survey: deer baiting. Mich. Dept. of Natural Resources Wildlife Report No. 3315. 26 pp.

Halls, L. K., ed. 1984. White-tailed deer ecology and management. 872 pp.

Kroll, J. C., and B. H. Koerth. Do your deer need supplemental feed? <http://www.huntbigbucks.com>. 4 pp.

Langenberg, Julie A. Wisc. Dept. of Natural Resources Veterinarian. Pers. Com. May 2001.

Lenarz, M. Forest Wildlife Group Leader. Minn. Dept. of Natural Resources. Pers. Com. May 2001.

Lyons, B. O. 2000. Avoiding and treating grain overload. Deer Lines & Antler Tines, Off. Pub. of the Alberta Whitetail and Mule Deer Assoc., August 2000.

McCaffery, K. R. 2000. Deer baiting and feeding issue. Adapted from a paper presented at the midwest and northeast deer groups. 6 pp.

McCaffery, K. R. 2001. Wisc. Dept. of Natural Resources Research Deer Biologist. Pers. com. April 2001.

Michigan Dept. of Natural Resources. 1999. Deer baiting issues in Michigan. Wildlife division issue review paper 5. 12 pp.

Michigan Dept. of Natural Resources. 1999. Deer and elk feeding issues in Michigan. Wildlife Division Briefing Paper. 9 pp.

Mytton, W., Wisc. Dept. of Natural Resources Chief Deer and Bear Ecologist. Pers. com. June 2001.

Ozoga, J. J., and L. J. Verme. 1982. Physical and reproductive characteristics of a supplementally fed white-tailed deer herd. J. Wildl. Manage. 46(2):281-301.

Petchenik, J. 2001 Wisc. Dept. of Natural Resources Sociologist. Pers. com. May 2001.

Petchenik, J. 1993. Deer baiting in Wisconsin: A survey of Wisconsin deer hunters. Wisconsin Dept. of Natural Resources. 20 pp.

Schmitz, O. J. 1990. Management implications of foraging theory: evaluating deer supplemental feeding. *J. Wildl. Manage.* 54:522-532.

Sperling, D. L. 1999. The bait debate. *Wisconsin Natural Resources Magazine*, December 1999.

Wegner, R. 1993. To bait or not to bait: the debate roars on. *Deer and Deer Hunting*. March 1993. p. 24-31.

Wobster, G. and W. Runge. 1975. Rumen overload and rumenitis in white-tailed deer. *J. Wildl. Manage.* 39(3):596-600