

Winter Deer Feeding – *Important considerations for those considering feeding deer in winter.*



Photo courtesy: Ian Gazeley

Winter deer feeding has occurred across North America as part of both government managed ungulate programs, and as undertaken by private citizens who simply wish to connect to nature in their own way, keeping deer healthy and as a part of their lives. Typically private winter feeding programs conducted by individual landowners become more commonplace during more harsh or severe winters and while this can benefit deer populations, if not conducted with specific considerations to the nutritional requirements of deer in winter, can result in tragic consequences, in effect ***killing them with kindness.***

Feeding usually involves providing artificial food supplements such as corn, oats, hay or alfalfa, alfalfa cubes, or specially formulated pelleted ration. The issue of winter feeding is not only a question of whether or not to feed, but also includes considerations on when, how and what to feed; what are the long-term effects versus the short-term ones; and what are the benefits versus the costs.



Advantages of Winter Feeding:

- Winter feeding may prevent and/or reduce winter-kills, resulting from starvation and diminished body condition of deer.
- Winter feeding of deer may prevent pre and post-natal fawn deaths caused by reduced body condition of pregnant does, resulting in higher birth rates and better body condition of fawns in spring.

Both of these outcomes can help reduce fluctuations in the size of localized populations of deer, and this can help sustain all associated recreational, commercial and sustenance uses.

Disadvantages of Winter Feeding:

- Because of their high reproductive rate, deer numbers in our region are largely determined by annual winter severity, and the availability of suitable and well distributed winter range habitats which deer can exploit during those severe winter conditions. The geographic distribution and relative abundance of mule deer and white-tailed deer is therefore related to the ability of these species to survive those severe winters. By sustaining artificially high deer populations through severe winters via winter feeding, there are potentially long-term consequences to deer winter habitats, as well as to agricultural crops and forest cutblock regeneration. Deer herds could grow to levels well above the winter range habitat carrying capacity and result in degraded winter habitat quality for many, many years.
- Winter feeding can also result in changes to traditional migratory patterns and usage of seasonal habitats in some areas. Deer who use artificial feeding stations have been documented to migrate to other seasonal ranges later in the spring and this can result in even higher impacts to the health of winter range habitats. Deterioration of winter range habitats will increase the dependence of deer on supplemental feeding and populations could crash if any change in the feeding regime and supply, or increased winter severity occurs. Population swings of this nature can have dramatic effects on other wildlife species, ecosystems and recreational opportunity. As well, if winter feeding is sufficiently widespread, there might also be consequences related to the ability of white-tailed deer to survive in areas that were formerly occupied only by mule deer and/or larger shifts in the range of the species.
- Once initiated, a season-long commitment to winter feeding and managing the associated costs of delivery and supply must be made in order to prevent higher than normal, late winter deer losses. If a long-term or multi-year feeding program has been undertaken resulting in higher than natural densities of deer, even more dramatic die offs in severe winters when the feeding has been stopped, are likely to occur. Natural recovery of these herds can occur through time, but the initial crash



can affect the abundance and distribution of other species and the overall habitat condition.

- Feeding stations often result in ‘crowding’ of deer at the feeding site. This can result in abnormal social stresses resulting from the increased density of deer at the feed sites, and causes deer to be more aggressive toward one-another. Increases in herd size, disease and body parasite outbreaks and infections, are directly linked to the increased density and exposure of deer using the feeding stations. Research has shown that no method of artificial feeding substantially reduced the exposure risk of deer to disease and parasites. This transmission of disease and parasites can also have large impacts to the health of other wildlife species such as moose through increased infection rates of brain and lung worms, and wolves resulting from an elevated occurrence of the larval stages of tape, hook and round worms.
- Higher densities of deer in specific feeding locations often results in increases to local predator abundance in those same areas. This can have implications to landowners who raise and free-range livestock, as predator home-ranges can be more fixed on the landscape than prey species such as deer. When deer do finally migrate to spring ranges, predators may shift their focus to domestic animals.
- Artificial food supplies can interfere with normal declines in deer metabolic rates in winter and cause intestinal bacterial community composition to remain in a summer condition, reducing the ability of deer to metabolize normal winter food items such as woody browse. Not only will deer not be as well equipped to digest normal foods, but their metabolic rates will remain abnormally high and they will be less able to cope with harsh winter conditions.
- Finally, improper food items and diets can lead to digestive upset, infection and death. A variety of diseases related to feeding the wrong types or too much of one kind of food have been documented.

In the past, feeding programs in other parts of Canada have met with limited success due to the use of incorrect food types and mixtures, and the delivery method. This can have huge effects on the long-term health and reproductive success of local populations of deer.

Problem Diets:

Hay or Alfalfa – In certain circumstances providing this food type too late in the season can be very dangerous to deer. When deer metabolic rates decline as part of the normal seasonal cycle related to a shift towards woody browse as the predominant food source, digestive activity declines and the fermentation of hay-fibre decreases. The type of fibre in alfalfa and hay cannot be readily broken down and it can cause



intestinal blockages that in turn results in the starvation of deer. Feeding deer alfalfa cubes, if the deer are not habituated to them, can result in the rumen wall rupturing. These ruptures occur because of the expansion of the alfalfa inside the gut the deer, as a result of the cube reabsorbing liquids. Also, with exposure to weather, the quality of hay and alfalfa can easily degrade and will result in a very unhealthy food source for deer that have habituated to coming to the feeding stations.

Pure Corn – The very high starch content in corn (likewise for pure barley and wheat) can cause a starch overload, creating ideal conditions for the growth of certain kinds of bacteria (e.g., clostridium) in the gut. Deer suddenly presented with an abundant supply of these types of grains can develop over-feeding diseases such as acidosis (excessive acid build up) and rumenitis (ulcers of the rumen). If the diet of a deer suddenly changes from woody browse to a pure corn diet, development of other disease conditions such as scours (diarrhea) will also result.

Summary:

Due to continued public interest for local deer herds across North America, aspects of deer nutrition and the societal attitudes related to winter deer feeding have been the subject of many studies. Resulting from these works is a general policy statement from government and land management ministries that the public should not feed deer in any situation. At the same time, government ministries recognize that some citizens will still implement their own feeding activities; if this is undertaken, the ministry would recommend:

1. **DON'T** feed *just* hay, or alfalfa, or corn, or wheat or barley; instead feed a mixture of corn and oats (1 part cracked corn to 4 parts oats). A pelleted ration made by Purina (and other manufacturers), can be purchased and is far superior to all other types of feed nutritionally, but this is more difficult to feed and is higher in cost than the 1:4 corn/oats mixture. Whatever type of food is provided, it is extremely important for the food supplier to ensure that the quality of food remains high. Wet, rotted or mildewed food can harm all wildlife including birds and deer, and cause infections, disease and even death.
2. **DON'T** start feeding until about mid-February and once started, feeding must continue until April or longer, depending upon the arrival of spring conditions. Feeding can occur earlier in severe winters (e.g., late January), but a deer's metabolism needs to undergo an annual cyclic pattern which is created through winter conditions and food supply. If feeding is started too early in normal winters, deer fail to complete this cycle and may develop digestive problems. In severe winters the deer complete this cycle in December and could benefit from feeding in



- January. This emergency situation is rare and the food supplier must consider the cost of the additional feed. Deer would fare better in severe winters by not being fed at all, rather than if they were fed in January and due to economic reasons, the feeding was stopped in February.
3. **DON'T** feed deer sporadically or just on some weekends. Deer feed stations need to be checked a minimum of every 10 days, once the decision to start feeding has been made. Each 10 day feeding could require up to 10, 25kg bags of feed and this feeding must continue until spring. When deer are fed artificial foods, their metabolism quickly speeds up and it cannot shut down as easily. Sporadic irregular feeding will cause deer to burn up fat reserves that they require to survive through the spring green-up period and will do more harm than good.
 4. **DON'T** place feed in wide open areas, or areas that are inaccessible, or present a risk to deer; areas such as roadsides, front lawns and in the middle of fields are poor locations. An individual must decide which is important to them, feeding deer for the good of the population, or feeding deer simply for viewing opportunities. Admittedly, there are locations that can address both points mentioned. The best feeding locations will be areas along traditional game trails and in locations that offer protection from deep snow accumulations, the weather and predators.
 5. **DON'T** place feed in just one large pile as this will result in social stresses within the herd, and increase physical conflicts and injuries as deer fight over the food. One-pile feeding also increases the potential for disease, parasite and sickness transmission between deer. Food placements should force the deer to move between small piles, thereby removing the territorial attitude some deer develop toward the feeding location; this will also reduce the predation risk of deer that return to feed. Small piles help ensure that the feed is completely eaten at each site and results in less waste food, while maintaining a better quality of the food provided.

Instead of supplemental feeding and the costs, liabilities and negative outcomes that can result, the ministry would recommend that concerned landowners incorporate habitat enhancements on their property to better enable deer to survive those harsh winters. Planting desirable food crops; leaving an outside row of crop around your fields for wildlife; planting or enhancing desirable food/fruit shrub and browse species; and creating habitat conditions in your forested areas that help deer to survive winter are far better solutions that ensure that natural deer populations are never out of alignment with the habitat's carrying capacity. Your cooperation in understanding the many risks and very limited rewards of operating feeding stations for deer is appreciated.

Please, don't kill our deer with kindness.