Feeding Deer to Death

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Winter is a time of trial for many of the deer in North America. Wherever the temperature drops below freezing and snow covers the ground, their habits and physiology combine to make starvation and malnutrition a constant hazard, especially where their range is heavily populated. Worst lot of all falls to the whitetailed deer in the northern United States and Canada.

White-tailed deer are mainly browsing animals—which means their best diet is tips, twigs, and buds of bushes and trees. In winter, as the snow gets deeper, it is their habit to congregate in "deer yards," move to winter ranges, or seek sheltered areas. In a severe winter, or when too many deer try to gather in too small an area, they quickly eat all the available browse, even down to twigs as thick as pencils, as high as they can reach.

Then, crowded into a small space, they begin to starve. The smaller deer suffer worst, because only the big bucks and larger does can reach high enough in the trees for food. The fawns are first, then the smaller two and three-year- old deer. Even the survivors suffer from malnutrition. They become gaunt, lethargic, and even have difficulty running or standing. They offer a pitful picture with their bones showing awkwardly through unkempt fur.

Demand Action

At such times, people become very concerned with the welfare of "their" deer. Indeed, few who have seen the miserable animals could feel any other way. Led by hunters and nature-lovers, standing shoulder to shoulder, they storm conservation headquarters, demanding that something be done to feed the deer. If conservation agencies can't, or won't, many individuals and organizations take the matter into their own hands and feed the deer themselves.

As emotions rise, harrassed conservation agencies have been forced into artificial feeding programs, putting out alfalfa hay, corn, and other livestock feeds. Such feeding programs are very expensive and harmful to the deer in that they tend to concentrate even more around feeding areas, and around roadsides, causing a traffic hazard to themselves and motorists as well.

But feeding the deer, as almost all game managers now agree, was only treating a symptom. The real problem was and is overpopulation; the real solution was and is reduction of oversized deer herds by predation, hunting or some other method of population control. Even chemical sterilization and contraception have been tried, and research continues. Still, the demand for feeding has continued for decades—and the problems continued as well. One of these problems was a real mystery. Deer were found dead m yards and wintering areas, sometimes lying on a bed of hay with their stomachs full!



The winter diets of wild deer are geared to rather specific plants. Handouts of artificial foods at this time are usually more damaging than beneficial.

For years wildlife biologists puzzled over the mysteries of the starved deer with full stomachs. It took about 15 years of detective work to find the answer but now they know, and now they have their strongest argument against artificial feeding of deer.

The story is a rather long one, but worth telling in detail:

Deer are ruminants, like cows. That is, they have four compartments in their stomachs, each with a particular function. Bits of browse, grass and other herbs are swallowed, and pass in balled-up cuds into the first compartment, the rumen. There it mixes with digestive juices that contain billions of microbes—tiny plants and animals commonly called microflora and microfauna.

Four Stomachs

The food then shifts back and forth from the rumen to the second stomach, the reticulum, mixing with the juices, then on through the other two compartments, the omasum and the abomasum. But even four stomachs could not digest the woody fibers of browse without those microorganisms. They thrive on browse, especially the hard to-digest woody portions. In doing so, they change the woody materials into more digestible food for the deer. Even the microorganisms themselves go on through the digestive process, contributing protein to the host deer's diet.

Though deer are not born with a supply of these microorganisms, they get them from plants, soil, the air, and the mother deer. By the time they are two months old and browsing, they are well supplied. The microbes are made up of a variety of species, depending on the plants the deer eat. As a matter of fact, they are so specialized that they can only work efficiently on specific items in the deer's natural diet. Any sudden change in the deer's diet can stop their action, and mean serious trouble for the host deer.

During the winter, as the deer work harder and *harder* for browse, their diet becomes more anil more woody. The microbes adapt to the change, though badly, and the deer may begin to suffer from malnutrition.

In that condition, the deer will readily accept artificial foods. But the high-quality foods—hay, corn and cattle feed—usually offered in feeding programs are too much for the little organisms inside them. When the deer's supply of micro-organisms is gone, the deer can no longer digest any food and they die of starvation, in the midst of plenty, with their stomachs packed with expensive, high-quality food!

To make matters worse, another factor works against the microbes as well. When the deer's diet is of poor quality in winter, the bacteria that depend on ammonia may be low in numbers. But high- quality livestock feeds are very high in ammonia. As a result, ammonia poisoning may occur or the surplus may form urea, some of which may be absorbed in the bloodstream, where it poisons the deer.

Difficult to Explain

The problem of informing the well-meaning public that they can feed their deer to death is an enormous one. These facts of deer nutrition are hard to explain and hard for people to understand. Yet their importance is vital, for well- meaning people may he causing more harm to deer than the natural hazards of winter.

If winter starvation and malnutrition are only symptoms, and the disease is over-population, what can be done to help?

Most important is population control. Natural predators can help keep deer herds in check, but there are no longer enough large predators to do the job. Game management, especially through controlled hunting, can replace natural predators to a great extent reducing populations to healthy levels, which in turn insures that natural winter food will be enough to get the herd through until spring.

Providing more good year- around food for the deer is another approach. Several states schedule commercial timber sales on state game lands, systematically removing large trees to that more small brush and trees can grow where deer can reach them, In addition, the cutting leaves tops and tips of the trees on the ground for deer, especially if the cutting is done in the winter, when food is in short supply. In addition to timber management, habitat can be managed by planting good browse in the cut-over areas, to create even better winteung range. In some locations, planned fires produce the same effect.

Browse Cutting Operations

At least five states are spending time and money on a stopgap method—cutting natural browse around wintering areas to get the food within the reach of the deer. In some states, sportsmen's and conservation groups rally to help with axes and chain saws on areas where permission is obtained for browse cutting. One northeastern state employs "Food and Cover Corps-men" to cut browse for its heavy *deer* population. During some years, that state has spent over a half million dollars to cut browse on 10,000 or more acres. This method has the added advantage that it is an active, satisfying way to try to help.

Unfortunately, biologists point out that browse cutting to help deer is like taking aspirin for a brain tumor—it doesn't solve the big problem of overpopulation. Nor can a few hundred or thousand men with chain saws cut enough browse to help a significant number of deer.

It is a paradox that, when deer need help the most, we cannot give it to them. The help that seems *the* cruelest—population control—is the most merciful.

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