# *Living* ON THE EDGE

## Winter Feeding of Deer: What You Should Know

When it comes to winter feeding of deer in Maine the adage might be: "if you care, let them fend for themselves". Despite a sincere concern for wild deer, many people will do more harm than good and may be killing deer with kindness.

A deer's diet changes with the season. In the summer and early fall deer primarily eat leaves and young green twigs from woody plants. In the fall, when leaves become less available, a deer's diet increasingly consists of twigs and evergreens like cedar. This change in diet is a gradual process which gives the microorganisms in a deer's stomach time to adjust to these new foods. These microorganisms are specialists. Some species thrive on woody fiber, and others thrive on the proteins and sugars found in green plants. Offering grains or hay to a deer after the deer's stomach has adjusted to a woody diet, introduces foods these microorganisms are not prepared to digest. This may slow digestion to the point a deer starves to death, or create an acidic environment in the stomach that can kill a deer. Remember: Just because deer will eat a food provided by humans in winter does not mean that it is good for them.

Three main factors impact winter survival: 1] winter severity, 2] body condition going into winter as determined by availability of high quality foods in the summer and fall, and 3] adequate softwood cover in the winter.

In this brochure we have outlined some of the undesired impacts of supplemental feeding and provided alternative opportunities to help improve winter survival of deer. In most cases supplemental feeding does not reduce deer losses during winter and in some cases actually increases losses. Although abnormally severe winters inevitably cause periodic declines in deer abundance, healthy and naturally-fed deer do not require a handout to thrive in Maine.

## WINTER ADAPTATIONS OF DEER

Deer increase food intake during September and October, increasing fat accumulation by as much as 20–30%. During the winter, they reduce food intake (regardless of availability), relying on fat reserves for as much as 40% of daily nutritional needs.

Deer conserve energy during winter months to slow fat loss, and select specific winter habitat offering features that enhance energy conservation. Yard-up" with other deer to share the energetic cost of maintaining a winter trail network that provides access to cover and browse and escape routes from predators.

## UNDESIRED IMPACTS OF WINTER FEEDING

- Feeding deer in late fall may **disrupt deer migration** to natural wintering areas.
- Feeding concentrates deer in smaller areas reducing size and effectiveness of trail networks.
- Concentrating deer in smaller areas can **create a feeding ground for predators**.
- Concentrating deer in smaller areas may **increase their vulnerability to diseases** such as Chronic Wasting Disease.
- Concentrating deer in smaller areas can literally kill all vegetation within their reach over one to several hundred acres, impacting regeneration and **reducing the forest's ability to shelter deer in the future**.
- May cause **long-term impacts on deer behavior** as they lose their wariness toward people.
- Feeding sites near homes also place deer at greater risk of death from **free-roaming dogs**.
- Feeding sites can significantly **increase deer/vehicle collisions**.
- Deer may actually **starve when fed supplemental foods** during winter if they have a full belly of indigestible foods; many deer have starved to death with stomachs packed full of hay.
- Providing inadequate amounts of supplemental foods can actually **cause malnutrition** in normally healthy deer populations.
- Spoiled or moldy feed may be **ingested and can be fatal**.
- Introducing a sugary diet to a deer used to eating a fiber-rich diet of browse can also lead to **rapid death**.
- Deer compete aggressively for scarce, high-quality foods and only the strongest, most dominant deer (who would have survived the winter anyway) gain access to food, while deer most vulnerable to starvation in winter (usually fawns) are denied access to supplemental feed by more aggressive deer.
- Deer may **die from eating too much** feed at one time.
- Ending a feeding operation prematurely will lead to **nutritional problems** for deer that have become dependent on winter feeding, as will beginning a feeding operation too late.
- Winter feeding is **expensive;** one deer requires 2 to 5 lbs of feed per day depending on the quality of feed.

**INAPPROPRIATE WINTER FEEDING OF HAY WITHIN A DEER WINTERING AREA:** Note how high concentrations of deer have consumed all available browse indicating that deer densities have exceeded local carrying capacities. With complete regeneration failure, there will be no mature winter-cover trees in the future.

**HARMFUL WINTER FEEDING:** Hay and potatoes left for deer can cause malnutrition, starvation and death. Many deer congregated to this site, as shown by the paths. In recent years, there have been more than 60 deer killed adjacent this site from vehicle collisions as they leave softwood cover and travel across a state road.

## PRACTICES TO MINIMIZE UNDESIRABLE IMPACTS OF FEEDING

- The best option is to **not feed deer at all**, but if you choose to please read on.
- Locate deer feeding sites in or near deer wintering areas (softwood cover).
- Locate deer feeding sites **1/2 mile or more from plowed roads** to minimize road-kill losses.
- Distribute feed in **many locations, every day** to reduce competition among deer.
- Begin feeding in late December or after accumulating 12 inches of snowpack (whichever comes first) when deer have likely transitioned to their wintering areas.
- **Proper feed is natural browse** items such as; dogwood, maple, ash, birch, or witch hobble. Oats or acorns can be given as diet supplements.
- **If providing artificial feed** consider the following:
    - Deer require up to **three weeks to adjust** to new foods, so deer should not be overfed, nor introduced abruptly to new foods;
    - Food with high sugar content must be introduced in early December; if later than introduce very gradually or rapid death can occur;
    - Deer feed should not contain animal proteins from animals rendered into feed;
    - **DO NOT FEED**: hay, corn, kitchen scraps, potatoes, or cabbage/lettuce trimmings;
    - Use a complete horse, dairy, or **deer formulation in pellet form**. Other feeds are available with corn and molasses but offer less nutritional value increasing the volume you need to provide and ultimately costing you more (even though the price per bag is similar);
    - Feed should be **protected from moisture** or located on a platform off the ground to prevent mold which can be fatal; and
    - Consider that an average deer may consume 2 to 5 pounds per day (depending on quality), a 50-pound bag is about $11, and duration of feeding could be about 90 days in northern Maine. That equals $40 to $100 per deer, per winter or if you are feeding 30 deer than $1,200 to $3,000 for the winter.
- Once a feeding program is begun, **do not interrupt or terminate it until spring greenery emerges**.
- People who feed a few deer in December should expect to buy food for considerably more deer by February.
- **Watch for over-browsing or stripping bark off trees**, this can be an indication of too many deer and not enough food.

**BENEFIT OF HARVEST TIMING:** Deer browse on treetops made readily available from harvesting near their softwood cover.

## PREFERRED ALTERNATIVES FOR LANDOWNERS

- Take an active role in managing your woodlands to **improve deer habitat naturally**.
- Key is to **maintain** sufficient amounts of **high-quality wintering habitat**.
- The Maine Department of Inland Fisheries and Wildlife (MDIF&W) encourages landowners to **develop a management plan** for their woodlands to provide optimal winter and/or summer habitat (depending on applicability) for deer.
- Many wood harvesting practices are good for deer, while also providing income from timber production. Some practices, such as thinning, crop tree selection, and firewood cutting can provide immediate benefits for deer, and simultaneously enhance the value of future timber sales.
- Timing one's forest management activities, whether for firewood or lumber, to occur during winter also provides deer with a large amount of natural browse from tree-tops, when they can best use it. Generally, deer prefer hardwood tree-tops for browse.
- Many practices **improve year-round habitat** for deer and other wildlife:
    - Apple trees can be released from competition to encourage better production of fall foods,
    - Small fields can be planted with cool season forages, or create food-plots for deer,
    - Hardwood stands can be managed to favor acorn and/or beechnut production, and
    - Wetlands can be improved to diversify forages for deer.
- Team up with your neighbor to increase the benefit of these efforts.
- There are a number of avenues for assistance if you are interested in improving wildlife habitat:
    - The USDA Natural Resource Conservation Service offers many cost-sharing programs, educational materials, and technical advice.
    - Enlist the services of a licensed forester.
    - Contact your Maine Forest Service District Forester at http://www.maine.gov/doc/mfs/fpm/df_visit.htm
    - Use online resources or contact your Regional MDIF&W office. For telephone numbers, visit our website at www.mefishwildlife.com.