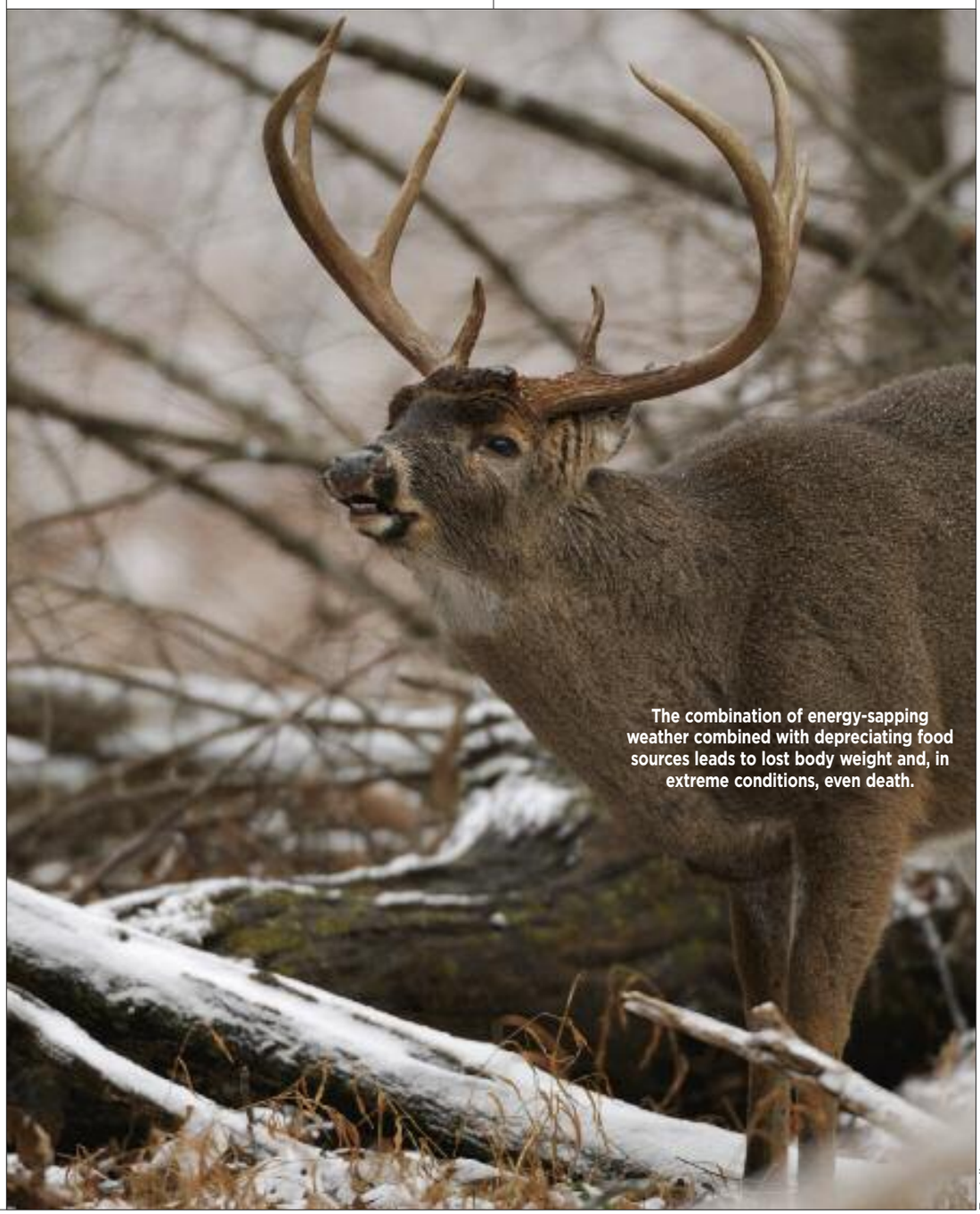
By **Matt Harper**

Winter Nutrition is About Survival

The winter of 2007-08 was long, cold and plagued with ice storms and heavy snowfall. In fact, the snowfall in some parts of the country hit record levels. Power outages, treacherous roads and furnaces that never seemed to shut off characterized six months — and even more in some parts of the country. To say that cabin fever was running rampant would be an understatement; a better description would be epidemic. Even with all the bad weather, most of us had the blessing of a warm home and food to eat. We could sit by the fire and view the winter landscape transform into an icy, snow-filled panorama. One blustery January day, I cruised around the countryside in my heated truck when I saw a group of about 20 deer picking through a harvested cornfield. They couldn't have been getting much for the effort, as the ground was covered with 12 inches of snow piled on top of about two inches of ice. Even if the deer had excavated the field surface, there would have been little corn to find. What the combine left had long since disappeared, because nearly every animal the deer shared the farm with had scavenged the field. However, the deer valiantly dug away, trying to find anything to eat to keep them from starvation.

WINTER CONDITIONS

In many parts of the country, winter is the most stressful nutritional period for deer. The reason stems from a one-two punch by Mother Nature. First, winter conditions exact a heavy demand on body condition. When temperatures plummet, deer must use large amounts of nutrients to maintain core-temperature homeostasis. Deer, however, are very well equipped for cold weather. As the thermometer begins to drop, a deer's summer hair coat is replaced with a winter coat of hollow hairs that act as body insulation. Moisture is far more damaging than temperature, whether it comes as ice, snow or rain. Ice creates a nearly impenetrable barrier over food sources, on the ground and hanging browse. Although snow might make browsing more difficult, ice can make it nearly impossible. Snow can be detrimental in several ways to deer, but one of the worst is the increase in energy needed for locomotion. Navigating through deep snow causes a tremendous increase in energy needs, further draining an already limited supply. As we know, moisture makes cold weather feel even colder, especially with windy conditions. Rain and wind mixed with cool temperatures can be far more energy draining than cold temperatures alone. The other detrimental aspect of winter is the dwindling food supply. Being a herbivore, deer rely on growing vegetation for food. As freezing temperatures stop all vegetation growth, the food supply deer use becomes limited. The choicest food sources are the first to be used, such as acorns and agricultural crops. As mentioned, these highly preferred food sources are used by many animals. From those sources, deer move progressively down the list of preferred foods until they are forced to consume foods they would normally ignore. Typically, as food-source preference decreases, so does food-source quality. The last food sources consumed by deer are normally low in digestibility and nutrient content. The combination of energy-sapping weather combined with depreciating food sources leads to lost body weight and, in extreme conditions, even death.



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Tes Jolly

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WINTER NUTRITION

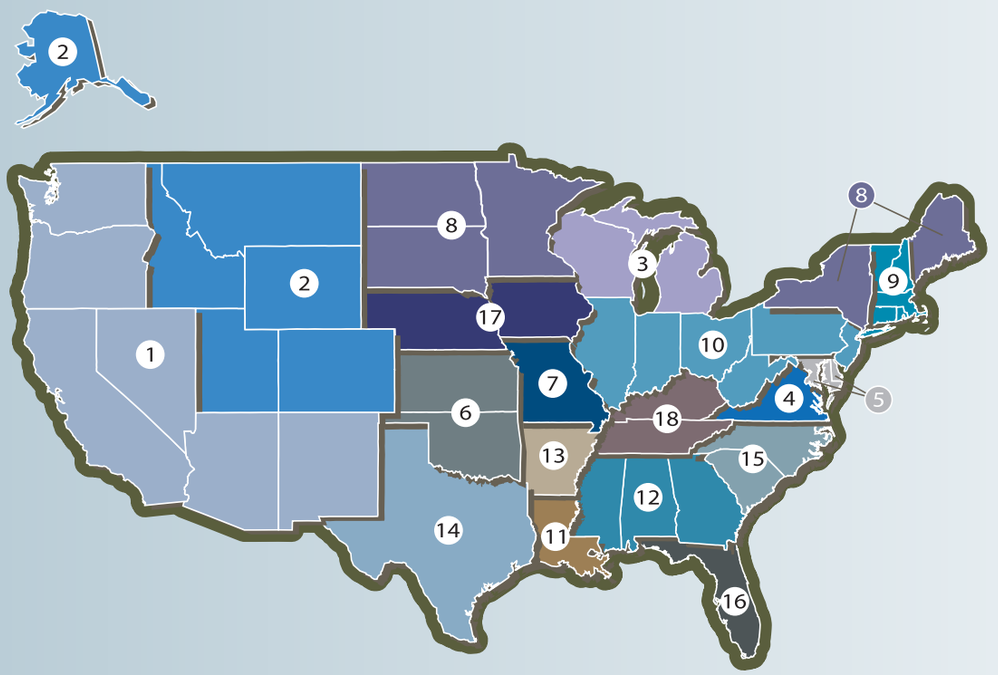
When antlers harden in late summer, a buck's nutritional needs change dramatically. Protein and mineral needs decrease. That's not to say protein and minerals are not still needed; only the amounts needed decreases. Energy needs, however, remain high, as deer eat lots of carbohydrates and lipids to build fat reserves. During the rigors of the rut, bucks can lose 25 percent or more of their body weight. This weight must be regained for the deer to survive harsh winter conditions. Likewise, does undergo a change in nutrient needs. As fawns are weaned and milk production stops, protein and mineral needs decrease while energy needs remain high. Of all deer, fawns and yearlings are the most vulnerable to winter conditions. They are smaller, making travel more difficult in deep snow. Also, young deer are more susceptible to winter-kill because they lack of good nutrition. Deer have a natural defense system against the trials of winter. They undergo a semi-hibernation phase during the period. In this phase, deer movement decreases dramatically as they naturally conserve energy. More important, a deer's metabolism slows dramatically, so they have lower food-volume requirements. Intake decreases dramatically during winter. The typical consumption levels of deer average three percent of their body weight but can decrease to less than two percent during winter. That's even true for deer that have unlimited access to quality food sources, such as pen-raised deer.

WINTER NUTRITION PLAN

When developing a winter nutrition program for deer, the two critical elements revolve around a dense energy food source coupled with high digestibility. A third consideration is to supply a food source that doesn't adversely affect rumen microorganisms. Food plots are normally considered spring, summer and fall nutritional management tools. However, some food plots can be used specifically as a winter food source. These food sources must produce large amounts of forage before a killing frost and should also contain lots of digestible carbohydrates. Brassicas are one plant type that provides these specific needs. Three years ago, the Whitetail Institute developed a product called Imperial Winter-Greens. Winter-Greens is a blend of specifically selected brassica varieties that combines dramatic growth, winter hardiness, high nutrient content and incredible attractiveness. Winter-Greens is typically planted in late summer or early fall and provides high amounts of energy during winter. Several years ago, the Whitetail Institute introduced a product line called Cutting Edge Nutritional Supplements. Cutting Edge consists of three products, each designed to provide nutritional supplementation for three distinct periods. The genesis of this project was the development of a supplement designed to supply required nutrients during mid- to late-fall and winter. Cutting Edge Sustain is a supplement that contains a highly concentrated energy source designed to help supply needed carbohydrates and lipids. Further, it ensures that this energy is supplied from sources and ratios that maintain and even enhance rumen function. In addition, Sustain contains protein, minerals, vitamins, buffering agents and microbial enhancers. As stated, deer don't need lots of protein and minerals at this time, but they still need them. Sustain helps provide all cold-weather nutritional needs.

FALL PLANTING DATES

for Imperial Whitetail® Winter-Greens™



1. Call for planting dates
2. Call for planting dates
3. July1 - August 1*
4. **Coastal**: Aug 15 - Sept 30
   Southern Piedmont: Aug 1 - Sept 15
   Mountain Valleys: July 15 - Sept 15
5. July 15 - Sept 15
6. Aug 1 - Oct 1
7. **North**: July 15 - Sept 15
   South: Aug1 - Oct 1
8. **North**: July 20 - Aug 1*
   South: July 15 - Aug 15*
9. July 1 - Sept 15
10. July 15 - Sept 15*
11. Sept 15 - Nov 15
12. **North**: Sept 5 - Nov 1
    Central: Sept 15 - Nov 15
    South: Sept 25 - Nov 15
13. **North**: Aug 15 - Oct 1
    South: Sept 5 - Oct 20
14. **North**: Sept 5 - Oct 30
    Central: Sept 15 - Nov 15
    South: Sept 25 - Nov 15
15. **Coastal**: Sept 1 - Oct 1
    Piedmont: Aug 15 - Sept 20
    Mountain Valleys: Aug 5 - Sept 15
16. **North**: Sept 15 - Nov 15
    Central: Sept 25 - Nov 15
    South: Sept 25 - Nov 15
17. July 15 - Sept 1
18. Aug1 - Sept 30