# Dr. DEER

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# OVERBROWSING ISSUES



While locust seedpods and various other foods help deer survive winter, woody browse is their mainstay in tough times.
PHOTO BY RON SINFELT

Does woody browse really matter all that much in whitetail management?

Food plots rightly get a lot of the attention from people trying to grow forage, but it's a huge mistake to overlook the impact of woody plants on a whitetail's diet through the full year. Woody plants have relatively deep roots and, once established, are more drought- and cold-tolerant than more ephemeral species, including most forbs (weeds). Woody plants can survive conditions that would kill many others.

We can divide browse plants into several categories. One of the most obvious distinctions is evergreen versus deciduous. In most cases, deciduousness developed as an adaptation not to cold, but to dryness. During the tropical dry season, trees and shrubs drop their leaves to prevent loss of moisture from pores on their leaves. In cold climates, trees and shrubs drop leaves for largely the same reason, as they're physiologically (but not physically) incapable of actively storing water, and thus lose moisture passively. At least, that's the theory.

Even when browse plants lose their leaves, they still can provide good nutrition. The twigs, especially those produced in that year's growing season, can be high in digestibility and energy. A perfect example is aspen ("popple"). The shoots it produces during early regeneration provide tons of winter food for deer. In South Texas, most shrubs are deciduous during droughty times. But their twigs still can provide quality browse when there's not a weed to be found. You can see why having enough good browse plants is the backbone of any forage-management program.

The whitetail evolved to be able to survive tough winters and droughts, provided such events don't last too long. The winter of 2013-14 is an excellent example of what happens when survival conditions persist too long. Many herds came out of last winter with almost no recruitment (survival of 2013 fawns), translating to fewer bucks in later years. This also happened with 2011's "millennial" drought in Texas. Food plots couldn't get deer through either crisis, as they themselves couldn't survive.

In short, browse is a "safety valve" for bad times. Sadly, many places now have a serious lack of browse available to deer for the periods in which they're most needed.

## NOT ALL BROWSE IS EQUAL

My late friend Dan Lay of East Texas developed a system for rating browse plants back in the 1960s. Studying browse preferences over the year, he designated browse plants into classes: first, second and third choice. (A fourth category consists of "emergency" foods, those eaten

only when a deer is starving.) Dan developed a standardized browse survey for assessing the deer stocking rate of a given place, based on average utilization of each class of browse.

Over the last 100 years, whitetails have gone from almost extinct to overabundant and now to declining. There are many reasons, but the main one is what happened to browse during the population boom. Because browse is the mainstay, and because deer have definite browse preferences, long-term overpopulation tends to reduce the species deer prefer and increase those they don't.

## LET'S DO THE MATH

The average whitetail will eat about a ton of dry-weight forage each year. To put this into perspective, even the best deer woods contains only a few hundred pounds of forage per acre. So if you want to estimate how many deer land will "carry," divide the estimated amount of food per acre by 2,000.

A typical pine-hardwood forest in East Texas will contain about 600 total pounds of plant material per acre. (We're not counting tree trunks or branches above a deer's reach.) And this vegetation isn't all first-choice deer food. In fact, on the average East Texas acre, there's just 27 pounds of high-quality browse!

Of course, whitetails also can do reasonably well on a diet including second-choice foods, and there are far more of those plants in most woods. Because of them, the typical East Texas forest will support a deer per 10-12 acres. So a 100-acre property will support 8-10 deer annually in good health.

But even at that, the numbers aren't encouraging. As the average buck:doe ratio is 1:4, the 100-acre landowner or hunter can expect to have a grand total of only two bucks! Factoring in age distribution, you can see why there are so few mature bucks per square mile in most forests.

## OVERPOPULATION'S TOLL

In the late 1970s, I began warning fellow biologists, landowners and hunters that at some point, long-term overpopulation would begin to reduce the productive capacity of deer ranges. And it's now happened. Many species of first-choice plants — and even some second-choice plants — have disappeared or have been heavily reduced in abundance by whitetails in many parts of the range.

Increases in agricultural crops such as corn and soybeans in the Midwest have produced a false perception that large numbers of deer can be maintained without problems. But once crops are harvested, deer retreat to small woodlots and streamside areas for the winter. My own browse surveys of some of these fragile deer refugia show their productive capacity has been greatly diminished by overbrowsing.

## IN CONCLUSION

To have a lot of healthy deer in an area takes great living conditions for them all year long. In the Spring issue, we'll discuss some practical, cost-effective ways to increase the amount and quality of native forages growing on the land you hunt. In the meantime, dust off those field guides and refresh yourself on the best native browse species for whitetails in your part of North America.


