

THE KEY IS

# DIVER

# DIVERSITY

Deer are called concentrate selectors, edge animals and many other names. The reason? They need a diverse landscape to thrive.

■ by *Josh Honeycutt*

**T**he whitetail is one of the most adaptable animals on the planet. They inhabit not just North America but reach across the world. Even countries such as Bolivia, Finland, New Zealand, the Czech Republic and others harbor wild populations.

And just as deer are diverse in their ability to adjust, they also need diverse habitat within their home ranges. That holds true for bedding and food sources.

## **UNDERSTAND DEER DIGESTION**

To grasp why optimal deer habitat offers diversity, you must first fathom how deer digest food.

“Deer are considered concentrate selector ruminants,” said Levi Jaster, big-game coordinator for the Kansas Department of Wildlife, Parks and Tourism. “They have the prehensile lips and tongue with a narrow muzzle that allow them to select the most nutritious and easily digestible parts of plants.”

PHOTO BY CHARLES J. ALSHIMER

Although most deer only eat about 200 plant species on any landscape, scientists have recorded about 700 as viable food sources throughout the whitetail's range. That's a lot of cud to chew.

Of course, deer swallow food upon intake only to regurgitate and chew it a few hours later. Because of that process, deer can fill up quickly and then ruminate while bedded. This is safer than spending more time on their feet, as they aren't as exposed to hunters and predators. When habitat is poor, they spend more time searching.

As a ruminant, the whitetail has four stomach chambers, including the rumen, reticulum, omasum and abomasum. The first two compartments — rumen and reticulum, respectively — work in close harmony with one another. Lightly chewed food is stored in the rumen until it's time to ruminate.

"It also has an immense population of bacteria, protozoans and a few fungi that do most of the digestion for deer," Jaster said. "Deer can't digest at all without this microbiology since the microbes are the way food is broken down. A deer, when ruminating, fully masticates the food and then it mixes with the microbes in the reticulorumen, where fermentation takes place. The kinds of microbes and the quantity of each varies based on the diet the deer is eating and change as the diet changes, which usually takes several days. The reticulum filters smaller particles into the omasum, while larger particles stay in the rumen for further digestion."

After being ingested, matter passes to the omasum, where water (and some nutrient) absorption takes place. Afterward, what's left passes on to the abomasum, which is the compartment most similar to a nonruminant stomach.

"This is the chamber where acid is pro-

duced, along with other enzymes for digestion, and where proteins are prepared for uptake in the intestines and fats are broken down," Jaster said.

As noted, because deer are concentrate selectors and choose only the best parts of many plants, it's necessary to offer plenty of options. Still, there is another dimension to why diversity is so important to white-tailed deer.

### ACKNOWLEDGE WHITETAIL BEDDING BEHAVIOR

Security cover is of the utmost importance to whitetails. Deer don't like to bed in big, mature timber or mowed fields. They prefer — and need — an area that offers a high stem count. This usually comes in the form of briars, young trees, tall native grasses and other low-level thickets.

Of course, diversity isn't a direct synonym with early successional habitat, but they are linked. Generally, when a property has one, it has both. That offers lots of food and bedding cover.

Not all properties offer enough early successional habitat, though. Logging, hinge-cutting timber and other timber management practices will eventually produce the higher stem count deer love, but that doesn't address fields and open areas that could be optimized more quickly.

"We have a fairly new mix called Conceal (whitetailinstitute.com/conceal)," said Whitetail Institute General Manager William Cousins. "It creates cover, and in those areas where you don't have enough cover for deer to feel comfortable, this is so easy to use. It creates a jungle that they'll bed in."

Planting Conceal provides security and makes deer feel like they aren't out in the open. Although Conceal is great for creating blocks of bedding cover, it's also ideal for establishing travel corridors between bedding areas and food sources, as well

as soft edges and screens around food plots. These are also important parts of the land-management process.

### MANAGE FOR DIVERSITY

When managing a property, it's vital to approach it with a plan. Consider forethought. This includes having the right food-to-cover ratio. Getting that ratio correct optimizes the land's whitetail carrying capacity. That's why Cousins likes to have about 3 to 10 percent of hunting grounds in food plots. However, he said it's difficult to pick an exact number, because it depends on the lay of the land and soil.

"If everything is there for them, they're going to stay in that area (other than the rut)," he said. "You can certainly hold them in an area. There are things they like and things that cause them to feel more comfortable on a tract of land."

Food sources change throughout the year, and most of those are only viable for a brief period. That further influences the need for a diverse management plan. Failing to acknowledge that can leave your property void of food at various points throughout the year.

"Understanding what foods deer prefer at what time and how deer move related to foraging and digestion will help hunters put themselves in the right place at the right time," Jaster said. "Knowing deer nutrition and digestion can also help hunters lay out habitat and choose species of plants to assist deer."

Part of that planning includes a balance of annuals and perennials.

"Sometimes, I hear people rant and rave about perennials," Cousins said. "I love perennials, but in a diverse plan, you also want annuals. Some people prefer 50 percent annuals and 50 percent perennials, but the annuals really give you that diversity."

### BE DIFFERENT. BE GREAT

Entrepreneurs — successful, failed or otherwise — know well that you must be first, best or different. To attract customers, you must satisfy one or more of those categories. The same concepts hold true for attracting and holding wildlife on your property.

Providing the best comes with premium forage. Being the first to do it in your area increases the odds of attracting deer and keeping them from straying. And being different is all about offering variety, especially things



#### IMPERIAL WHITETAIL

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#### Optimum Growing Environment:

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- Soil pH: 6.0-7.5
- Sunlight: 4 to 6 hours of broken, filtered or direct sunlight a day



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deer aren't getting elsewhere. Of course, we usually don't know what's going on at adjacent properties, but encouraging a buffet of natural vegetation and establishing numerous food plot plant species will increase the odds of planting something deer can't get on neighboring tracts.

Cousins is currently conducting a forage research project in partnership with colleagues at a major ag university. The fields are divided into patterns with various food sources, and deer can eat in whichever of the squares that they choose.

"We're doing this trial in three different geographic locations," Cousins said. "It's absolutely remarkable. It's uncanny how deer absolutely have preferences. I feel that selecting a premium forage that will do well in your area based on your soil type is the most important. It just gives you a leg up over most neighbors. Research projects are a part of everyday life at Whitetail Institute and one of the most enjoyable and satisfying parts of the job."

One thing is certain: If deer can't find what they need and want on your property, they'll find it elsewhere.

"Digestion and nutrition dictate much of the habitat used, as deer will move around to find the plants that are needed for nutrition," Jaster said. "Deer focus on the most nutritious palatable forage that's available and meets their needs physiologically. They adjust as different forages become palatable. Understanding what is nutritionally limiting to deer will allow hunters to focus habitat improvements on releasing deer from those limits."

### GROW THE GOOD STUFF

Whitetail Institute seed blends offer uniqueness and variety. Choosing several options will help reach that goal of offering a diverse range of forage. That's the most important aspect of fostering a healthy deer herd.

Start with a proven perennial base, such as Imperial Whitetail Clover (<https://whitetailinstitute.com/imperial-white-tail-clover-perennial/>) or Fusion (<https://whitetailinstitute.com/fusion-perennial/>), which is a clover and chicory mix. Then, supply a healthy dose of annuals, too. Beets & Greens (<https://whitetailinstitute.com/>

beets-greens/) includes kale, radishes and turnips. Ravish Radish (<https://whitetailinstitute.com/ravish-radish/>) provides several varieties, too. You also can't go wrong with a premium cereal grain, such as Whitetail Oats Plus.

"I'm a huge fan of Pure Attraction (<https://whitetailinstitute.com/imperial-pure-attraction-annual/>), which is our proprietary oat and Winter-Greens," Cousins said. "It's super high in sugar. If you're using some perennials, such as Fusion, and you're planting some [Beets & Greens] and Pure Attraction, you have a pretty diverse plate out there."

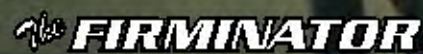
Land managers have many choices. But, aside from the negative effects of disease and injuries, age, genetics and nutrition are the consistent influencers on antler growth. As land managers, we can only control age and nutrition. And as Cousins commonly says, an antler is the barometer of the nutrition available to deer.

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