

Dr. Deer's Whitetail World BY DR. JAMES C. KROLL

Do Antler Size Limits Really Work?

or almost 25 years now, *North American Whitetail* has had a dramatic influence on the way hunters think about their favorite game animal. We were the first to really show you there were big bucks in the world! Guys who had spent most of their hunting career shooting small bucks suddenly discovered what amounted to a "new species" of whitetail. Hunters with the means to do so rushed to trophy buck hotspots like Texas, Alberta, Saskatchewan and Kansas, with the goal of putting a monster buck on their walls.

Yet it was also our goal to demonstrate that you could grow big bucks right at home. That's how we came up with our popular series "Building Your Own Deer Factory," which ran several years ago. The parameters for producing large numbers of quality bucks were simple. First, you had to turn your land into the place a deer wanted to be - "one-stop shopping," so to speak. Next, you had to hold your herd within the limits of this highly productive deer factory by harvesting enough does to keep herd numbers at a healthy level. And finally, you had to change the way you harvested bucks. Even today, in most of the whitetail's range the average bucks harvested are immature bucks, mostly yearlings.

Every B&C buck that ever lived — even Milo Hanson's world record — once was a yearling. But even if a buck has the genetic quality to grow into a new world record, his chances of realizing his full potential are slim in most parts of North America. The average hunter sees a buck for three seconds: Deer! Buck! BOOM! For that reason, we knew we had to change the way hunters looked at bucks.

Along came the Dooly County experiment in Georgia in 1993. Again, *North American Whitetail* had a big influence on and made a significant contribution to this program. It amounted to a bold experiment. Working from a grass-roots perspective, landowners and hunters of Dooly



Dr. Deer's research clearly shows that size limits do help increase the number of mature bucks in the herd as long as other important management objectives are met.

County requested an experimental change in regulations to protect young bucks.

Unlike the trophy hotspots of south Texas and western Canada, both of which have very large landholdings, the deer range in most places is broken up into small pieces. For instance, our studies in eastern Texas revealed that over a 34-year period the average parcel size dropped from slightly under 400 acres to less than 20! How on earth do you manage a deer herd under those conditions?

No wonder small landowners trying to protect young bucks were so frustrated. "Why should I not shoot a yearling buck," one hunter asked, "when letting him go just puts him in the bag for another hunter on the next property over?"

So, the Dooly County experimental regulations turned an unmanageable

situation into a manageable one. By there being a size limit set on bucks, the chance of a young buck making it to at least 3 years of age was greatly increased. Our research has shown that once a buck reaches 2 1/2 years of age, he is almost free from natural mortality agents. Research here at the Institute (at Stephen F. Austin State University) also has shown that by setting a size limit of a 14-inch outside spread, you protect 97 percent of yearlings and 68 percent of 2-year-old bucks.

Since the majority of bucks harvested are in these two age-classes, the spread limit worked well. It seemed the deer also like such a harvest criterion, because in much of their range, bucks hold their ears at exactly 14 inches. All you have to know is whether or not a buck's antlers extend outside his ears to

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(Continued from page 6) make a harvest decision.

The Dooly County experiment was met with enthusiastic support and ultimately led to the desired result. The proportion of mature bucks taken each season in the county increased. And word spread across the South about this revolutionary new program. The response was rapid and profound. Hunters and landowners in other states began pushing to get their state or county into such a program. The movement had begun!

You'd think that, frustrated by years of seeing bucks being overharvested, state biologists would greet this movement with open arms. On the contrary! Many state agencies viewed size limits as a threat to "hunter opportunity." After all, funding for most agencies comes from license sales, fines and fees, and anything threatening the number of licenses sold would affect operations of these agencies. Besides, the concept was just too revolutionary to accept at face value in spite of the fact that the vast majority of the hunting public enthusiastically endorsed it.

As a scientist, I subscribe to the basic philosophy of my profession that nothing should be taken at face value. The best word to describe a scientist is "skeptical." So the skepticism of professional biologists led immediately to research projects aimed at disproving the theories behind size limitations. But even though good scientists are supposed to be unbiased, they often inject their personal philosophies into the mix.

So those interested in size limits quickly organized into two groups: 1) those accepting the practice as the solution for their pains; and, 2) those wanting to maintain the status quo. The latter group, oddly enough, included both professionals and the approximately 20 percent of hunters who liked things just as they were.

All this "research" produced a mixed bag of results. In an effort to deal with public demand for size limits, some states came up with their own brand of harvest criteria. Arkansas, for example, used an antler point minimum, rather than the spread limit imposed in Georgia. Some east Texas counties adopted a

spread limit similar to Georgia's, but added an additional spike buck to what had been a one-buck limit.

One researcher in a Southern state asserted that using size limits not only didn't work, but also tended to degrade the genetics of the herd. Another reported no response at all to imposing size limits. But in each case, the research was poorly conceived and did not consider the most important variables affecting the quality and abundance of bucks. Will these limitations achieve the desired goal of more mature bucks? Let's take a look at the critical issues.

Returning to the three tenets of managing a deer factory, we must remember that the most important factor affecting the abundance of bucks is *recruitment*, the number of new deer entering the population each summer. Biologists often talk about the fawn crop in terms of percentages. A 50 percent fawn crop refers to the number of fawns coming into the hunting season in October — 50 fawns for every 100 does. The Midwest often shows very high fawn crops — so high, in fact, that the herds should be growing at the speed of light!

Yet, when we examine the number of deer actually recruited, many herds fall way below the optimum level. Our research has shown it takes a recruitment rate of at least 20 percent to produce older-age-class bucks. Unfortunately, most herds now have recruitment rates in the 10 to 15 percent range. So how do we increase recruitment?

There are two ways. First, we need to provide quality forage for our deer. That's what "Building Your Own Deer Factory" was all about: improving the productive capacity of your range. Next, proper doe harvest will increase recruitment. Dr. Harry Jacobson (Professor Emeritus, Mississippi State University) and I published what amounted to a "bombshell" paper a number of years ago in an international publication. In it, we revealed that most states were not controlling their herds and that most deer herds were, in fact, in a runaway state. Why? Because even today hunters are reluctant to harvest enough does. Our recommendations included managing deer on an ecological basis rather than a hunter opportunity basis. You can imagine how *that* was received! It's political suicide to increase the bag limit on does in many states.

To answer the question posed by this column, we need to consider what will and will not work based on science, not opinion. Size limits will work only if there is an equal effort to reduce the number of does on the land. Believe it or not, proper doe harvest is the best form of habitat management! By reducing the number of mouths on the range, we leave more space for the new deer arriving each year, a little over half of which are bucks. It is difficult for many hunters to grasp, but we actually see higher recruitment when there are fewer deer in the woods.

So placing a size limit on bucks when the herd is not recruiting enough deer will produce only a slight, often insignificant, increase in older bucks. A commitment has to be made by hunters to do their part to remove enough does. Harvesting does is the price you pay for having bucks!

Furthermore, adding a second buck to the bag because it is perceived to be "genetically inferior" will not produce results, either. In eastern Texas a high percentage of yearling bucks are spikes. In much of Florida, almost all of the yearlings are spikes. Our landmark research on antler development in free-ranging bucks (coming soon to North American Whitetail) clearly has shown that spike bucks are just as likely to turn into quality bucks as not. By adding yearling bucks to the bag limit, no matter what they have on their heads, the probability of producing larger numbers of mature bucks is seriously diminished.

If you really want to make a difference, become active in the management of deer in your state. Size limits on bucks can be a sound practice, provided that a partnership is developed between hunters, landowners and state agencies. Deer management is *not* like a buffet line in which you pick and choose what you like. It's a package deal; take all of it or leave it. As size limits reach your state (and they will), support proper herd management, as well. Size limits will work, but only if you do your part.

in the world, and now a five-year dream was 20 yards away from becoming a reality for me. As much as I wanted to continue soaking him up with my eyes, I knew I couldn't. I knew I had to stay totally focused.

NOW OR NEVER

Instinct seemed to take over. I drew back, settled in, aimed behind the front shoulder, and released. The arrow was off and the hit was low, but it was a straight pass-through just above the white belly line. Both deer bolted and I could hear them stop just out of sight about 50 yards away.

The next 30 seconds was a whirl-wind of thoughts ranging from calling it quits forever if I had wounded him to really thinking that he might go down right where they had stopped. Moments later, Switchback ran back down through the opening, looking back. Seconds later, I heard what I thought to be the sound of the monarch going down. I was completely shaken up and felt as if I were engulfed in a haze.

I couldn't imagine what would happen when I climbed out of the tree, but emotion seemed to take over. I could see the blood-soaked arrow sticking out of the ground, and I guessed that I would be able to see NT from the spot where the arrow had landed. Shaking, sweating and lightheaded, I reached the arrow and peered over in the direction he had run. Unbelievably, there he was, lying motionless on the ground. I walked up to the deer, knelt down and completely broke down, letting tears reveal my mixed emotions for just having killed the largest whitetail I had ever known.

In closing, I'd like to give a special thanks to my family and friends for sharing this moment with me. Without a doubt, this buck has given me more understanding for the value of a sport I love so much, bringing out every emotion while at the same time greatly increasing my extreme respect for the animals we hunt.



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