

Dr. Deer's Whitetail World

BY DR. JAMES C. KROLL

Are You Managing For Cattle Or Deer?

My career now stretches over 3 1/2 decades. Over the years, it's been my pleasure to see interest in deer management grow to exponential proportions. This is especially true since the first issue of ***North American Whitetail*** came out in 1982, but even before that I remember the first talk I ever gave on deer management in 1978. It happened in an abandoned rock schoolhouse in Copperas Cove, Texas. Eight people attended from the surrounding ranches.

As I youthfully presented newly discovered principles of deer management, I could tell right away that we were getting nowhere! Afterwards, the attendees were very complimentary about my talk. However, I walked away knowing full well that they did not buy into any of it. My greatest sin was to put forward the "foolhardy" notion that it was necessary to shoot does. Later, during the same talk to some east Texas hunting clubs, an old woman picked up a biscuit and hit me right between the eyes. "Who is your mother?" she asked.

THE SACRED DOE

The world clearly was not ready for doe harvest! We've come a long way since then, and ***North American Whitetail*** has done a lot over the years to convince hunters about the importance of shooting does to maintain proper balance. Despite the progress we've made, though, I recently received an e-mail from a fellow in Mississippi who was desperate for ammunition that would help him get his hunting club members to shoot more does. In Pennsylvania, hunters still come out in large numbers anytime the subject of doe harvest or protecting young bucks is proposed. So I have to wonder: Have we really made any progress? The following discussion touches on some of the incredible comments and false dogma I encounter on a weekly basis.



PHOTO | MIKE BIGGS

"Doe harvest is a critical component to modern deer management," Dr. Kroll says. "You should always remove at least as many does from your herd as you do bucks."

"YOU ONLY NEED ONE BULL TO BREED YOUR COWS"

This is a particularly irritating comment to hear. For some strange reason, there are still people who think deer and cows are the same thing. "Whatever works for cows surely must work for deer," they insist, not realizing that deer management and cattle management have two completely different goals.

The goal of a cattleman is to produce calves, the sex of which is usually unimportant. The goal of the deer manager is to produce bucks. Indeed, with deer, the sex of offspring is very important! Furthermore, although it's true that it only takes one bull to breed a large number of cows, the breeding system and physiology of deer and cattle are very different. Cattle come from a species that characteristically exhibited a harem breeding system. Bulls fought for dominance and then herded as many cows as possible into their breeding harem.

Whitetails, on the other hand, fight for individual breeding rights. Since bucks do not have harems, while one buck is breeding one doe, another may be taking advantage of another nearby doe. Further, bucks are not sexually equipped to breed large numbers of does. The ratio of body size to scrotum size for bulls is much higher than with whitetail bucks.



For many years, we've been involved in whitetail semen collection research. Whereas you can routinely obtain 200 or more straws of semen from a single bull collection, our average semen straw production for whitetail bucks is only 38. Bucks simply cannot breed as many females as bulls. Pen studies clearly show that the

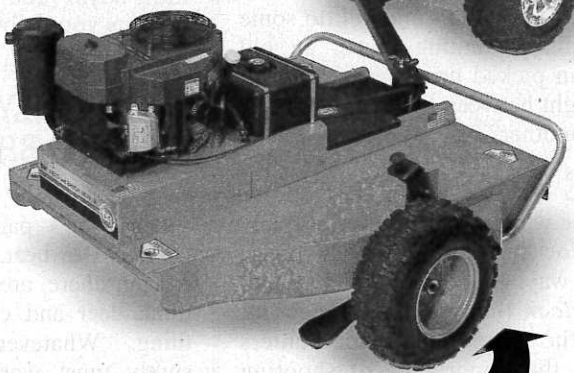


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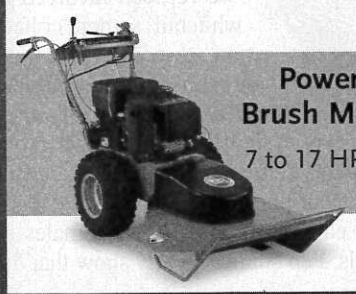
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breeding of more than 12 does in any one season by a single buck can seriously affect his antler size in subsequent years. And once the sex ratio (antlered bucks to does) falls below one buck per four does, we see a serious reduction in reproductive success.

LET BUCKS GROW UP

So, deer are not cows. They have different breeding systems, different habitat needs and different nutritional requirements. For far too long, deer hunters have placed heavy pressure on the buck segment while under-harvesting does. The result is an extremely young buck herd and a very old doe herd. I've found it productive to point out that no rancher in his right mind would sell only the best bulls and keep the worst, year after year. The result would be a very poor herd of cattle! Yet, that is exactly what deer hunters often do by over-harvesting older bucks.

Back in the early '90s, the Georgia Department of Natural Resources, along with significant financial support from ***North American Whitetail***, managed to convince hunters and landowners in Dooly County, Georgia, to place size limits on bucks. This was a landmark experiment. It actually became a Master of Science research project for University of Georgia graduate student Micah Goldstein, and it worked from the ground up with both landowners and hunters. In a short time, the project garnered significant public support. The project was a success, and now several other states have implemented similar size restrictions.

"LEAVE THE OLD DOES TO BREED"

Both laymen and some wildlife biologists subscribe to this incorrect doctrine. In Michigan, for example, it's a commonly held belief. Sadly, many of our deer herds are in such poor shape that results of research lead some professional biologists to entirely incorrect conclusions. These deer herds have had such poor quality for so many years that some biologists have started to think the abnormal is normal!

For several years now, I've been conducting research on the productivity of certain Michigan herds. We do this by collecting fetuses from harvested does and aging them. Long ago, scientists in South Carolina and other locations found a remarkably predictable relationship between the crown-to-rump length of deer fetuses and their age. By simply taking this measurement from the fetuses, we can estimate conception date.

Likewise, the average number of fetuses per doe is a valuable indicator of the productive capacity and health of the herd. At first, our data showed the same thing being reported by other Midwest scientists: Older does *were* prone to have more fetuses than younger does. But there's a lot more to the story.

Another aspect of my research involved reducing the herd to a level below carrying capacity, as well as increasing the nutritional plane of the deer through habitat manipulation and food plots. After this was done, we started seeing a much higher incidence of younger does becoming more productive. There is no reason that the average number of fawns produced by younger does will not equal that of older individuals, but the reason for the misconception is clear. Indeed, at high population densities, it takes a doe longer to reproduce successfully.

At maturity (4.5 years old or older), a doe tends to gain dominance over the other individuals in her matriarchic group. Being the "top dog," she then has access to the best fawning sites and best foods. However, once you remove the sociological and biological stress factors, even the younger does are successful, and younger does tend to produce the best offspring.

Our pen studies have shown that younger does tend to produce larger-antlered bucks than older does. We do not know why at this time, but it is a fact, nonetheless. Furthermore, if you are protecting young bucks, the best bucks tend to do the breeding, and young does in these herds are more likely to be the offspring of the best bucks.

Consider this: If you happen to shoot an 8-year-old doe on your property now, what were you doing for management nine years earlier at the time she was conceived? Or maybe I should ask what were you *not* doing? Through good management, does conceived under your "watch" should be physiologically and genetically superior to their older relatives.

"ALL DOES PRODUCE TWO FAWNS"

I have saved this particularly irritating belief for last. With both the general, non-hunting public and many seasoned hunters alike, there is an incredible perception that each doe has two fawns, and they all live to maturity. I've already shown above how we do not see this demonstrated in the wild. In a sound management program, success generally is measured by having each doe successfully add one fawn to the herd each year.

Yes, does should have twins (some even triplets), but twinning is an adaptation to ensure that at least one fawn survives. We measure this by checking whether does harvested are "in milk," meaning they successfully nursed at least one fawn. Does that lose their fawns during the summer rarely have milk in their udders during the hunting season. A doe that weans at least one fawn is also more likely to have that fawn recruit into the population the following spring. Do me a favor. Next season, keep a record of all the deer you see. Write down the number of does and the number of fawns you observe during the season. If the number of does and the number of fawns are not equal (or nearly so), your herd is not realizing its full potential.

Doe harvest is a critical component to modern deer management. Since does tend to live longer than bucks, even in the absence of hunting, you always have to remove at least as many does as you do bucks from your property. This keeps the sex ratio in balance, and increases recruitment of new fawns — half of which are bucks. Resistance to doe harvest is slowly declining, as more and more landowners become actively involved in management. Publications like ***North American Whitetail*** have done much to spread the message over the past 25 years, yet there still are "die-hards" out there who resist change. Hopefully, this column has given you some ammunition to use against that old way of thinking! ■

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