



Deer Associates eNews

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Releasing Breeder Deer on Ranches: Risks and Unknowns

By Charles A. DeYoung

In the past year, I have had several ranch owners describe releasing a handful (<6) of breeder deer on high-fenced properties in the 700-1,000 acre range. At least one paid over \$10,000 for his animals and all seemed to expect a resulting "upgrade" in antler size of their herd. How realistic is this expectation and what does research tell us about possible risks? No value judgments are made about the breeder industry herein. It is possible to influence population genetics by releasing breeder deer. However, the practice of releasing a handful of deer into a large deer population is of dubious value. Following are five areas to consider when releasing breeder deer to improve a resident deer herd.

- (1) **Will they survive?** Deer from lines that have lived several generations in pens and have been intensively backcrossed not only have large antlers, but have adapted to pen environments. Consider the 300 plus B&C bucks produced by today's top breeders. If you could, would you want to release one of these on your ranch? Frequently these large bucks do not live long in pens, not to mention on a ranch. So, if these highly bred bucks (and does) are not suitable for ranch release, what is? Unfortunately, there is no standard or benchmark to follow. In 1987, we at CKWRI¹ released 13 pen-raised bucks (0.5-2.5 years of age) with mortality sensing radio collars and followed them for one year, along with nine wild bucks of the same age. The bucks were in LaSalle County on open range with no supplemental feed. However, 1987 was a wet year in south Texas. After one year 8 of 13 pen-raised bucks were dead (2 killed by hunters) and none of the wild bucks died. Harry Jacobson (Professor Emeritus from Mississippi State University and consulting biologist since his retirement) has an extensive data set of hundreds of tagged deer releases over many years. He estimates that 17% of deer survive to maturity if released as older fawns. He has also found that deer with Northern genetics have poorer survival when released versus deer from Texas stock. So, the origin of breeder deer is another factor to be considered.

- (2) **Will they breed?** Recent research by Randy DeYoung of CKWRI shows that few wild bucks sire more than a handful of fawns per year. A released penned buck has even less expectation of success, probably nil in the first year. Research by Texas Parks and Wildlife at Mason Mountain Wildlife Management Area showed introduced wild bucks sired few fawns in enclosures if a resident buck was present. Released penned does will surely be bred on a ranch, but their fawn-rearing success will depend on their age, as well as other factors. They have to learn how to compete with resident does for fawning territory and how to deal with coyotes, among other things. Older experienced does are more likely to raise fawns than young ones, especially recently released young does.
- (3) **Did you release enough?** Consider the size of the population you are considering releasing into. If you have 1,000 high-fenced acres with the deer herd being provided supplemental feed, you likely have at least 200 deer, probably more. (*Charlie's axiom: There are always more deer than you think!*) Just using common sense, do you think releasing 5-6 breeder deer into a herd of over 200 is going to increase population antler size? If not, how many should be released to make a difference in a few years? No one knows the answer to this question, but until some research is done, my guess is 50% or more of the population!
- (4) **Will enhanced genetics be expressed?** Breeder deer are adapted to producing large antlers in pens while consuming 100% feed rations. When released on a ranch, they have to learn to eat range forage, even if supplemental feed is provided. Along with other stresses, this reduces the size of antlers in spite of their enhanced genetics. In fact, native deer have a much greater genetic potential for antlers than they show. This is apparent when a ranch practices a comprehensive supplemental feeding program for several years. So, there is a difference between GENETIC POTENTIAL and what is really expressed on the range. Genetic potential is not useful if it is not expressed. Again, the breeder industry likely has data on pen versus wild antler expression, but it is not widely available.
- (5) **Will the herd revert back?** Some biologists believe that if deer with enhanced genetics are not continuously released into a population over time, then it will revert back to "native". (Think about feral hogs versus domestic hogs!) The theory here is that natural selection has produced the native deer you started with due to the various environmental factors impinging on a population. Without continued enhancement, the population reverts back to the form most beneficial to survival in the habitat.

As you can see from the five points above, there are risks and unknowns involved with releasing breeder deer on ranches. Given the current state of knowledge, I think the most likely avenue for results is a breeder buck on wild does in a DMP pen. However, even here, most of the five points come into play, especially point 3. The bottom line is that it is very difficult to genetically improve the antler size of a deer population in a ranch environment, with or without breeder deer.

¹McCall, T. C., R. D. Brown, and C. A. DeYoung. 1988. Mortality of pen-raised and wild white-tailed deer bucks. *Wildlife Society Bulletin* 16:380-384.

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