White-tailed Deer

Managing for Age in White-tailed Deer

Most male white-tailed deer live to about 6 years of age. Some live longer, some less. Females tend to live about two years longer than males. The record white-tailed deer was a doe in Georgia that lived 22 years.

About 60% of a deer's body growth takes place the first year of its life. Long bone growth is complete at about three years of age.

Male deer begin growing their first set of antlers at about one year of age. They will grow a new set of antlers yearly. With proper nutrition equal, antlers will get larger each year until about six years of age. After six years, antler growth generally decreases. There is a great amount of variation among individual deer.

Female deer usually conceive at about one and one half years of age and usually fawn at two years of age. The first fawn is usually a single. After that most does tend to twin. Healthy deer herds can produce between 80 to 100% fawn crops. A herd with mostly older age females is more productive than a herd with mostly young females.

Buck to Doe Ratios

One of the ways mangers have been able to produce older age class deer is by managing for a 1:1 buck to doe ratio as opposed to a more typical 1:5 buck to doe ratio. For both the examples listed below assume (1) the deer herd begins at carrying capacity, (2) it is relatively healthy with a 100% fawn crop and (3) no natural mortality.

Carrying Capacity = 120 deer
Desired Buck to Doe Ratio = 1:1

Starting population in Spring
Bucks = 60
Does = 60
100% Fawn Crop = 60

Male Fawns = 30
Female Fawns = 30

1:1 Buck to Doe Ratio

To return the population back to carrying capacity, one would need to harvest 30 males and 30 females. If only older males and females were harvested, the remaining population would consist of 30 adult males, 30 adult females and 60 fawns. Under this scenario with 1:1 buck to doe ratio the herd would "turn over" every 3 years. It is easier to manage for more older age class bucks by managing for a 1:1 buck to doe ratio.

Carrying Capacity = 120 deer
Desired Buck to Doe Ratio = 1:5

Starting population in Spring
Bucks = 20
Does = 100
100% Fawn Crop = 100

Male Fawns = 50
Female Fawns = 50

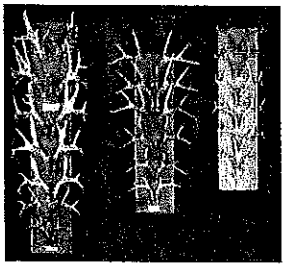
1:5 Buck to Doe Ratio

To bring the population back to carrying capacity one would need to harvest 50 males and 50 females. If only older males and females were harvested, it would leave the population with no adult males and 50 adult females leaving the range 30 deer in excess of carrying capacity. Under this scenario with a 1:5 buck to doe ratio the herd would "turn over" every year making it very difficult to increase herd age. It is more difficult to manage for more older age class bucks when there are wide variances within buck to doe ratios.

Antler Development

To the right are complete sets of antlers from three different deer. They are arranged from the yearling set at the bottom to the oldest set at the top. All deer were fed an unlimited 16% protein diet and were reared at the Kerr Wildlife Management Area deer pens. The set on the left were from a ten point yearling that grew into a 18 point adult. The set in the middle were from an 8 point yearling that remained an eight point throughout its life. The set on the right were from a spike antlered yearling that grew to a eight point adult.

Managing For Age



There are three basic components to managing deer herds. They are genetics, nutrition, and age. In order to manage for older age deer herds, a manager must manipulate the herd to produce some young deer, some middle age deer, and some older age deer. Having a nutritionally healthy deer herd at or below the carrying capacity of the land usually means a highly productive deer herd. This means that excess deer need to be removed yearly in order to maintain the herd at carrying capacity and in good nutritional health. Discounting natural mortality, in order for a deer herd to "turn over" every 6 years, only a 17% input of young deer is needed each year. Having a nutritionally healthy herd with a buck to doe ratio of 1:1 and a 80% to 100% fawn crop means more offspring are produced than needed. If these fawns are reared to one and one half years of age **then surplus deer with the least genetic potential (spikes or four points) should be removed leaving the remainder to reach 5 or 6 years of age.** Remember - just because a deer is five or six does not mean it will necessarily have big antlers. **The trick is to remove deer with little antler potential and save those with the best potential.**

Since older age does are more productive than younger age does, an older age herd produces more off spring from which to cull. However, younger does are more likely to be from the better bucks that were not removed at an early age. Having buck to doe ratios of 1 to 1.5 or 1 to 2 will increase fawn production but deer must be culled severely as yearlings to maintain age in the herd.

In order to add age to a deer herd some deer need to be removed at a young age and the remainder allowed to mature. Older age deer at maturity can then be harvested.