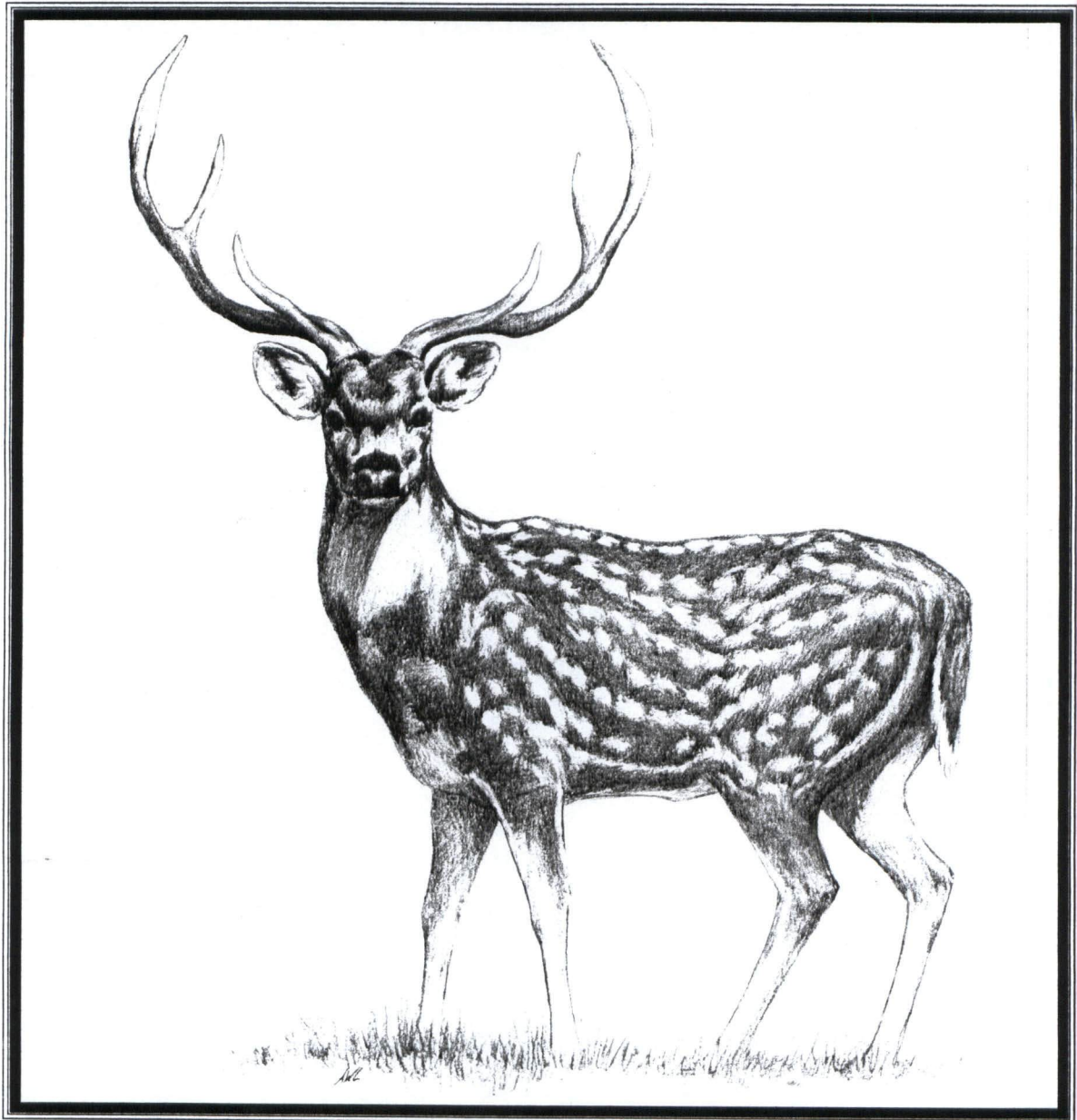


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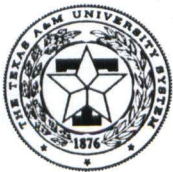
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CHAPTER 7

REPRODUCTIVE MANAGEMENT OF FARMED NON-NATIVE DEER

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Background. Profitability of any livestock production system is influenced by reproductive rate. Non-native deer respond to management with improved rates of fawn production. In this manuscript, an attempt will be made to answer some of the questions all producers must address in designing their individual management system rather than giving a “recipe” for reproduction management.

Buck to doe ratio:

We all tend to underestimate the number of does that a buck can successfully breed in a breeding season. In a large experiment, fallow does were exposed to bucks at buck to doe ratios of 1:5.5, 1:16.7, 1:17 and 1:20. Pregnancy rates for all does averaged over 90% with no differences due to buck to doe ratio. Yearling bucks at ratios of 1:16.7 or 1:17 were capable of breeding as many does as were 2 or 3 year old bucks and had pregnancy rates above 90%. A conservative estimate of buck to doe ratio would be 1:15 for yearling bucks and 1:20 for older bucks. With older bucks a ratio of 1:25 should result in similar pregnancy rates.

All bucks are not equal in their ability to service does successfully. If possible, it would be best if the producer observes that each buck serves at least one doe early in the breeding season. Bucks that have no interest or that are physically unable to serve does should be culled immediately. Avoid mixing yearling bucks with more mature bucks as the mature buck will prevent the young bucks from breeding. All bucks should have their antlers removed as soon as possible after they are hard to avoid damage to other deer and for safety in handling the bucks.

Body weight and condition of does:

As in all mammals, does lose weight and body condition (fat) during lactation. Species such as the fallow, sika and red deer are seasonal breeders and breed in the fall and early winter months. This is the time of year that forage production is most limited in Texas. Does need to be in moderate

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body condition as they go into the breeding season to have high pregnancy rates. Does in extremely fat or thin condition fail to breed more often than does in moderate body condition. In a large experiment with fallow does in Texas, mature does weighing less than 80 lb had a pregnancy rate of 83.5%, does weighing over 96 lb had a pregnancy rate of 81.2% compared with a 94% pregnancy rate in does weighing between 80 and 96 lb. If does are losing too much weight and body fat during lactation you should supplement them to maintain their weights during the critical last months before weaning. This will result in heavier fawns at weaning as milk production will be stimulated and in higher pregnancy rates in the next breeding season. A high quality, all natural protein supplement with at least 14% protein fed at 1 to 1.5% of body weight will normally be adequate with forages available at this time. Does which fail to raise a fawn do not need supplemental feeding as they do not expend any energy or protein for lactation and are usually quite fat at the beginning of the breeding season.

Culling procedures for does:

Before the breeding season it is possible to use lactational status as a culling tool to improve reproduction in the doe herd. Because of cross nursing it is not possible to assume that a fawn was born to a doe that is observed suckling. The best method to determine if a doe reared a fawn is to examine the doe's udder after weaning. The doe that reared a fawn will have a full udder the day after weaning that can be felt easily. Does that failed to rear a fawn have been found to have lower (77.3%) pregnancy rates than does that reared a fawn (94.3%). Culling does that did not rear a fawn is an effective method to improve reproduction in a doe herd.

After the breeding season is over there are two effective methods for pregnancy testing does. Ultrasonography is an accurate and rapid means to determine pregnancy status in deer. This method can be used after 35 days of pregnancy in does. As a rule, it should be done at least 35 days after removing the bucks from the does. Blood testing for Pregnancy Specific Protein B is another pregnancy test that is very accurate and can determine pregnancy by 35 days of pregnancy in does. This test requires collection of a blood sample which is shipped to a laboratory for determination of pregnancy status. Accuracy is very high but it takes longer to get results compared with ultrasonography.

Culling of does that fail to rear a fawn and does that fail to become pregnant will improve the reproductive rate of any doe herd.

Considerations for natural service:

Most breeders will pen mate does to bucks with desirable traits in individual breeding groups. Due to the high risk of injury, seldom can a manager justify turning a valuable buck into a

multiple sire breeding group. When a buck is spending a large proportion of his time/energy seeking and protecting a doe harem, he cannot breed as efficiently and will generally sire fewer offspring. Individual sire groups offer the advantage of known paternity of the subsequent fawn crop. Each mature buck should be capable of breeding at least 20 does during each breeding season in an individual breeding group. The manager should remove the hard antlers from pen mated bucks to avoid bucks killing non-receptive does.

Management at fawning:

Fawn mortality is a major concern for deer farmers. Seasonal breeders that breed in the fall and early winter fawn in the summer months. Fawns born late in the season are exposed to high environmental temperatures and losses may occur due to heat and dehydration. The deer farmer can avoid some of these losses by providing shaded areas for the fawns in the pastures.

Fallow deer fawns will suckle does that are not their mothers. The does allow this to occur. This lets the older fawns compete for milk with those born later in the season. Lowering the density of animals in the pastures will help to avoid some competition between older and younger fawns for milk and result in higher survival of late born fawns. Placing the does that are fawning for the first time in a separate pasture with a low density (less than 8/acre) will help in avoiding some fawn losses in this age of doe. Some losses of fawns born to does having their first fawn are due to low birth weights which are more susceptible to heat stress, dehydration and starvation.