What's Up Doc?

In this issue of "What's Up Doc," we will tackle three questions: 1. "What is the drug used to make bucks drop their antlers? 2. Is it healthy and should I use it?" 3. "I removed my buck's antlers and left one inch of base. It has not fallen off, now what?"

1. Many ideas and theories have been used to combat this situation. However, one of the most commonly used practices has involved the hormone injection, Depo Provera (medroxyprogesterone). Depo Provera is the trade name for a synthetic long lasting progestin contraceptive for women. Progesterone is a reproductive hormone that is naturally produced. Progesterone is a sex hormone that is produced from cholesterol, in a complex series of events, and is the precursor of testosterone, and testosterone is a precursor of estrogen. Progesterone ("For Gestation") is referred to as the female hormone of pregnancy. In reproduction, testosterone and estrogen levels become low because of a negative feedback phenomenon on the pituitary gland in the brain. As Gestation increases, the level of progesterone increases and plateaus causing the negative feedback and decreased release of testosterone and estrogen. This period of time in the doe is known as the "calm period." In white-tailed bucks, this period coincides naturally post rut when testosterone begins to decline in response to increasing day light. The cyclic nature of these naturally occurring reproductive hormones is due to the hormone, Melatonin, which is released from the Pineal gland in the brain in response to changes in the "photo period" (Acta Vet Hung. 1998;46(3):341-56). In white-tailed deer, as the day length shortens, an increase in melatonin is responsible for the sex hormones changing from the "Transitional reproductive period" to normal reproductive cycling activity in both sexes. As the photoperiod begins to increase in post rut, melatonin is produced in lower concentrations thus ending the reproductive period in white-tailed deer. Synthetically bypassing this natural photoperiod, as with the use of a highly concentrated progesterone product (medroxyprogesterone), causes an alteration in the "normal" timing of the body's bio-rhythm and induces an early end to the reproductive period. The theory is that when medroxyprogesterone is administered to bucks, it induces a rapid decrease in testosterone, which results in a rapid termination to the breeding season and an early release of antlers. This decreased testosterone period is also noted for the "calming down of bucks" and the beginning of the "bachelor group period."

2. Anytime we try to interfere with nature's normal cycle, we can experience difficulties down the road. One common problem with injecting males with high levels of female hormones is infertility. Synthetically altering the normal reproductive cycle can have negative consequences in the Fall with the return to normal cycling activity. All animals respond differently to hormones even at the same dosage. A prolonged "Transitional period" can occur causing bucks to be infertile or have decreased sperm production and quality. Infertility results from decreased testosterone levels preventing normal spermatogenesis. Immature sperm, abnormal sperm heads, bent tails, and decreased volume and concentration are a few consequences observed from decreased testosterone production. Some bucks will not respond to the dosage and some may react more than expected (decreased fertility, delayed velvet removal, et cetera).

3. One must consider the pros and cons of hormonally manipulating their deer. Medical reasons for the use of such a hormone should be limited to prevent death loss by allowing for "complete release" of the antler from the pedicle in the case of enormous racks (which may tear the skull plate) or bucks that have difficulty shedding because they shed part of their skull plates in the past. Another use noted has been in the case of one antler dropping and the other side remains for an abnormal period of time. As the pedicle of the first shed side heals, it begins to prepare for re growth. If the other side does not shed in a timely manner, this side will naturally be behind and exhibit abnormal unsymmetrical growth. Cases responsible for delayed "base drops" can arise from antler and pedicle infections to delayed growth season from prior hormonal usage. Manually removing bases by surgical means can cause damage to the existing pedicle and delay and alter antler growth and development. Consensus shows that producers have had good success with this hormone, but producer beware, we have experienced an increasing number of reproductive problems in bucks the last few years. This brief amount of information presented is to help shed light for the questions many producers have asked. The use of this synthetic hormone in white-tailed deer is not the suggestion of the author. None of the above information is approved for use in White-tailed deer. If you have further questions, please contact the Deer Breeders Corporation and label your inquiry "What's Up Doc?" and we will work to provide more information to our industry. God bless and good luck !!!

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