

Evaluating Whole Cottonseed as a Supplemental Feed for Deer

Sarah L. Bullock, David G. Hewitt, Kim C. McCuiston, Randy L. Stanko, Michael K. Dowd, Don A. Draeger, and Jimmy Rutledge

An increasing number of white-tailed deer managers are looking for alternative supplements that provide the same benefits as a pelleted feedstuff. Whole cottonseed has moderate-to-high content of protein, energy, and fiber, and it may be a viable supplement for white-tailed deer. Gossypol, a toxic pigment within the cottonseed plant, reduces intake by non-target animals, but is of concern because of its ability to reduce fecundity and induce toxicosis when consumed in high amounts.

Our objectives are to (1) evaluate the health and production of captive white-tailed deer on a diet of up to 50% whole cottonseed, (2) evaluate digestibility and utilization of whole cottonseed by white-tailed deer, (3) develop a regression model relating cottonseed consumption to plasma gossypol concentration in captive deer, and (4) use this captive deer regression model to determine consumption of cottonseed by wild deer by measuring their plasma gossypol levels.

Preliminary data suggest overall health and production of white-tailed deer is not compromised by diets of up to 30% whole cottonseed. However, deer appeared to limit intake of diets containing 50% cottonseed. Wild-caught deer exhibited plasma gossypol concentrations indicating over 90% had eaten cottonseed. Results of this project will help managers make informed decisions about using cottonseed as a supplement for white-tailed deer.

Cooperative funding was provided by the Comanche Ranch and T. Dan Friedkin.