

**The Economic and Environmental Implications of Feedlot Manure Utilization
in the Texas High Plains**

Jason L. Johnson
Ph.D. Dissertation
Eduardo Segarra, Advisor
Texas Tech University, December 1996

The Texas High Plains has 93 cattle feedlots with at least 5,000 head capacity. Over 5 million head of cattle are finished to market annually in the Texas High Plains. This represents over 20% of the annual production of cattle in the United States. The objective of this study was to examine the complementarity between feedlot waste management and crop production, by examining three fertilization strategies corresponding to three levels of manure utilization in crop production. The economically optimal and environmentally sensitive use patterns for over 10 million tons/year of feedlot waste produced in the Texas High Plains were derived.