Oldfield's case of North Carolina Minority Farmers.
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Abstract
Agriculture is one of the most accident-prone industries in the United States. Farm related injuries can range from cuts and scrapes to total disabilities and fatalities. North Carolina production agriculture workers have more farm related injuries, illnesses and deaths compared to the overall population. The purpose of this study is to examine the health and safety of minority farmers in three North Carolina counties. Base-line data was gathered using a comprehensive survey tool. According to the initial results, 65 percent of the farmers seldom use respirators when applying pesticides. Tractor attachments were found to be the highest sources of injuries.

Introduction
The United States agricultural industry has been very successful in contributing to the nation’s economy. Agriculture is extremely productive, but it has paid a price for that productivity. Agricultural work poses many safety hazards related to the use of tractors, harvesters, loaders, machinery and pesticides. Health hazards include heat stress, bee stings, snakebites, dust and air borne allergens. According to the National Safety Council, agriculture fatalities per 100,000 workers or approximately 730 deaths in 2002.

Objectives
The general objective of this study is to examine the health and farm safety challenges of minority farmers in rural North Carolina and to find solutions that are specially tailored to the needs of these underserved farm communities. The specific objectives are:

- To examine farm safety practices of minority farmers
- To determine farm injuries and health challenges of minority farmers
- To compare the perceptions of African American and Native Americans regarding their health and farm safety practices.

Methodology/Findings
County extension agents from three counties Halifax, Robson and Hartford provided the principal investigator with a list of the minority farmers they were working with in their respective county. Three local teachers were hired and trained, to work with extension agents to administer the questionnaires via face-to-face interviews to the farmers in each county. The questioners were approved by the North Carolina A&T State University committee on human subjects in research prior to conducting the survey.

Results from Objective 1
Farmers are not taking adequate safety precautions to avoid accidents/injuries. According to Table 1, 115 out of 248 tractors were equipped with rollover protective structures. Tractors equipped with seatbelts were 119. The table also shows that 82 of the tractors were equipped with CABS and 72 had CB radios. Many farmers seldom wore protective gear when working with pesticides, table 2.

Results from Objective 2
The number of work related injuries in the last 12 months was 29. Cuts, crushing, poisoning and punctures were the leading injuries among the farmers, table 3. Tractor attachments were the number one leading causes of farm injuries, table 4. Other causes of injuries include tractors, pesticides/chemical accidents and power tools. Figure 1 details the types of work the farmers were doing when the injuries occurred. Fieldwork accounted for 52 percent of the injuries. Farm maintenance and machinery repair each accounted for 21 percent of farm injury.

Farmer’s Health: Majority of the farmers believed that farm work causes stress, figure 2. Also, 31 percent and 13 percent of the farmers believed that their farm work can cause hypertension and heart problems, respectively.

Result from Objective 3
Results of cross tabulation analysis of the farmers’ health and safety issues indicate no significant differences in the health problems and farm safety precautions of African American and Native American farmers. Both races agree that stress can cause health problems. According to Native American farmers, hypertension is a health problem that results from farm related work. African American farmers suffer more from hypertension then Native American farmers. However, African American farmers believe that stress is more likely than hypertension and heart problem to be caused by farm related work.

Conclusion
A profile of a typical minority farmer in this study is a 58-year-old male, deriving income form a crop enterprise on 1-39 acres of land. Over 50 percent are full time farmers. The risks to these farmers associated with use of tractors, machinery and other agricultural equipments are high. In this study, tractor attachments, tractors and pesticides accidents are the leading causes of injuries among the farmers.

Recommendations
1. Safety training and increased awareness are strongly needed among minority farmers. This study found that majority of their tractors lack major protective safety equipment.
2. Increased educational outreach efforts are needed to reduce and prevent sever injuries and death.