

## **Skin Cancer Prevention Education for the Agricultural Community**

**Ellen P. Smoak**  
**Ellen T. Miller**  
**Judieth E. Mock**

### **Situation**

Farming, generally perceived by the public as a "healthy outdoor activity," is one of the most dangerous occupations in the country. Farmers and others who spend the majority of their occupational time outside are in a high-risk category for developing various forms of skin cancers (Bernhardt and Langley). Often, farmers receive their greatest exposure to the damaging ultraviolet rays of the sun during the peak sun hours (10:00 am to 3:00 pm) from May to October.

The incidence of skin cancer is noticeably higher in farmers than in the general population (Marlenga and Lee). People with light-colored skin who burn or freckle easily and those with blue or gray eyes are at greater risk than people with darker-colored skin. However, people with darker skin and eyes are not immune to skin cancer and must also take necessary precautions to protect themselves from the damaging rays of the sun.

According to a Mayo Clinic report, malignant melanoma is becoming increasingly important as a health problem. The incidence of melanoma is increasing at a faster rate than for any other cancer. "The 1997 estimated lifetime risk for developing melanoma among Americans is 1 in 84. In 1985 the risk was 1 in 150. In 1935 the risk was estimated to have been 1 in 1,500. Since the 1950s there has been an annual 6% increase in the incidence of melanoma and an annual increase in mortality of 2%" (Rigel).

A report by the North Carolina Department of Environmental Health and Natural Resources (NCDEHNR) projected that 14,700 cases of basal and squamous cell skin cancers -- usually curable if detected and treated early -- would be diagnosed among North Carolinians in 1995. Melanoma, the most serious skin cancer, would be diagnosed in 775 people during the same year. Based on available data, 220 of those with melanoma, or 29 percent, would die. Sixty of those with all other skin cancers, or less than one percent, would die. The mortality rates for

melanoma are higher in rural North Carolina, and overall, they are higher than national rates according to NCDEHNR.

Early detection of all types of skin cancers is crucial to successful treatment. In the case of melanoma, it is critical. The 5-year mortality rate for whites with melanoma is 85 percent, and for blacks it is 70 percent (NCDEHNR). The earlier the detection, the greater are the chances of survival.

Research has shown that although farmers are aware of the dangers of the sun, they view the potential for developing skin cancer as "not a problem" and something that does not affect their ability to farm (Marlenga and Lee). Because of such attitudes, they do little to protect themselves from the sun. Clothing covering the body can be worn to protect the skin, but this often becomes intolerable during the hot summer months. Sunscreens can be applied to help protect the exposed skin, particularly the head, face, arms, torso and legs. However, one study found that fewer than 23 percent of farmers surveyed reported use of sunscreens (Marlenga and Lee).

In a skin cancer screening program in Connecticut, those who did not seek medical follow up within one year of receiving a presumptive diagnosis gave the following reasons for not seeking follow up: not concerned about the suspicious lesion, only wanted reassurance that they did not have melanoma, cost, and denial (Bologna, Rewick and Fine).

### **Prevention Education**

Recent survey results indicate many adults have little knowledge of skin cancer. A 1995 survey by the American Academy of Dermatology reports that, of adults over 18, approximately 50 percent of men and 35 percent of women did not recognize the term melanoma. Young adults, aged 18-24 were least knowledgeable of risk factors and warning signs (Centers for Disease Control and Prevention).

Prevention education is one way to raise awareness and change behaviors of those most at risk for skin cancers. Farmers and others affected by skin cancer need to be aware of the results of delayed treatment and increased surgical and rehabilitation time also -- valuable time away from the operation of the farm.

To respond to this situation, Textile and Apparel Specialists with the North Carolina Cooperative Extension Service collaborated in developing an educational package targeting the agricultural community. This educational package includes two parts: an educational exhibit illustrating skin cancer prevention methods and an instructor-led curriculum. The primary purpose of this program, *"Skin Cancer Awareness and Prevention Among Agricultural Workers,"* is to raise awareness and to effect behavioral change by the program participants about skin cancer

prevention. The secondary purpose is to provide resources (i.e. curriculum, handouts, etc.) for educators' use in implementing community-based programs tailored to specific target audiences. The objective of the curriculum is that program participants will become knowledgeable of the major skin cancer facts concerning incidence, prevention and treatment.

### **Implementation**

This program was adapted from a skin cancer awareness and prevention program developed in Oklahoma entitled "The Dark Side of the Sun." It was revised to meet the geographic needs and conditions of the farming environment in North Carolina. It targets specific farming audiences including small and part-time farmers, Latinos, Native Americans, and African Americans. The "train the trainer" model allows lay people to become involved in the presentation of the program.

The program is designed to appeal visually. The curriculum uses colorful overheads and includes a supplemental videotape for agent and paraprofessional use and self-training. The exhibit consists of pictures illustrating simple skin cancer prevention methods, with an accompanying handout for reinforcement. The exhibit can be used alone for such events as commodity field days, county fairs, farm safety awareness programs and will be available in both English and Spanish.

### **Results and Conclusions/Implications**

In cooperation with an on-going Farm Safety Project at North Carolina A&T State University, program impacts are currently being gathered. Preliminary findings indicate that between 10 percent and 50 percent of local program participants report an intention to change behavior by incorporating protective measures. Final information will include benchmark data on current skin cancer behaviors and practices of farmers and farm workers, followed by data collected about specific behavioral changes. In addition, anecdotal reports from educational programs will provide data on incidence of behavioral changes.

The total program, including the exhibit and curriculum, is available for county use throughout North Carolina. Counties may obtain a copy of the curriculum package from Textile and Apparel Extension staff at NCSU or A&T State University, and two traveling displays are available on loan from the Extension Media Library, NCSU; and from Dr. Ellen Smoak, A&T State University.

**References**

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**Author**

Ellen P. Smoak, North Carolina A&T State University

Ellen T. Miller, Extension Assistant, Human Environment

Judieth E. Mock, Extension Specialist, Human Environment, North Carolina Cooperative Extension Service, North Carolina State University.