

An Assessment of Practices and Perceptions on Sun Protection Among Farmers Attending a Regional Farm Show in North Carolina

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Introduction

- Farmers are at a higher risk of getting skin cancer compared with other outdoor work groups due to the inherent “sun up to sun down” nature of their work, exposing them to considerable amounts of ultraviolet radiation (UVR).¹⁻⁷
- In the United States, UVR exposure from sunlight accounts for approximately 90% of nonmelanomas⁸ and 65-90% of melanomas^{3,9}.
- To reduce the risk of skin cancers from outdoor UVR exposure, accepted guidelines include seeking shade during midday hours; wearing clothing to protect exposed skin; wearing a hat with a wide brim; wearing sunglasses to block UVA and UVB rays; and using sunscreen with sun protective factor (SPF) 15 or higher.¹⁰

Purpose of the Study

- To describe the self-reported practice on the use of personal protection against sun exposure while working outdoors and the perceived importance of sun protection among farmers in North Carolina and its surrounding areas

Materials and Methods

- Data were collected using self-administered questionnaires distributed to farmers (n = 397) attending a 3-day regional farm show in Raleigh, NC.
- The questionnaire was designed to gather information on the use of and the perception on the importance of personal sun protection (including hats, caps, long-sleeved shirts, gloves, sunglasses and sunblock) when working outdoors, skin types and skin cancer history.



Figure 1. Farmer participants completing questionnaires during a 3-day regional farm show in Raleigh, North Carolina.

Results

- Farmer participants were 71.8% men and 19.9% women, with the mean age of 53.9 years (SD=14.7).
- Most farmers identified themselves as non-Hispanic white (93.7%), with high school education (52.6%).
- 59.2% of the participants were farm operators, 14.9% were farm workers, and 11.5% were farm managers.

Skin Type and Skin Cancer History

- 23.7% reported having skin type I and II (susceptible to burn) and 76.3 with skin type III and IV (sometimes or rarely burn).
- 77.3% reported being concerned about developing skin cancer.

Sun Safety Practices

- Most farmers (58.8%) reported wearing baseball caps as sun protection, which provides little or no protection to the back of the neck and ears (Table 1).
- Smaller proportions of farmers reported wearing wide-brimmed hat (27.1%) and hat with a back flap (5.9%), which provide better sun protection to the back of the neck and ears (Table 1).
- Skin type has significant association with wearing sunblock ($p = 0.013$) and wide-brimmed hat ($p = 0.053$).

Perception on the Importance of Sun Protection

- The categories “extremely important” or “very important” ranked higher than “very unimportant” or “not at all important” for all sun safety practices, indicating awareness of farmers on the importance of sun protection (Table 2).
- Farmers with skin types I and II ranked the importance of using all the sun safety practices (except wearing baseball cap) as higher compared to those with skin types III and IV.

Table 1. Sun Safety Practices of Farmers When Working Outdoors in the Last Year

Sun Safety Practices	No. of Responses	Always	Half of the Time	Rarely	Never
Wear sunscreen SPF 15 or higher	367	72 (19.6%)	131 (35.7%)	106 (28.9%)	58 (15.8%)
Wear wide-brimmed hat	343	93 (27.1%)	101 (29.4%)	67 (19.5%)	82 (23.9%)
Wear hat with back flap	290	17 (5.9%)	20 (6.9%)	55 (19.0%)	198 (68.3%)
Wear baseball cap or other hat	340	200 (58.8%)	89 (26.2%)	20 (5.9%)	31 (9.1%)
Wear long-sleeved shirt	331	63 (19.0%)	116 (35.0%)	78 (23.6%)	74 (22.4%)
Wear gloves	331	49 (14.8%)	121 (36.6%)	96 (29.0%)	65 (19.6%)
Wear sunglasses	365	163 (44.7%)	116 (31.8%)	49 (13.4%)	37 (10.1%)
Wear shirt with collar	342	119 (34.8%)	111 (32.5%)	60 (17.5%)	52 (15.2%)

Table 2. Perception of Farmers on the Importance of Sun Safety Practices When Working Outdoors

How important do you think the following items are for protecting your skin from the sun?	No. of Responses	Extremely important	Very important	Neither important nor unimportant	Very unimportant	Not at all important
Wear sunscreen SPF 15 or higher	380	187 (49.2%)	157 (41.3%)	29 (7.6%)	2 (0.5%)	5 (1.3%)
Wear wide-brimmed hat	366	143 (39.1%)	161 (44.0%)	49 (13.4%)	5 (1.4%)	8 (2.2%)
Wear hat with back flap	336	92 (27.4%)	135 (40.2%)	87 (25.9%)	10 (3.0%)	12 (3.6%)
Wear baseball cap or other hat	359	115 (32.0%)	166 (46.2%)	62 (15.6%)	8 (2.0%)	8 (2.0%)
Wear long-sleeved shirt	359	133 (37.0%)	151 (42.1%)	60 (16.7%)	8 (2.2%)	7 (1.9%)
Wear gloves	349	96 (27.5%)	139 (39.8%)	83 (23.8%)	18 (5.2%)	13 (3.7%)
Wear sunglasses	369	167 (45.3%)	150 (40.7%)	42 (11.4%)	7 (1.9%)	3 (0.8%)
Wear shirt with collar	345	116 (33.6%)	135 (39.1%)	69 (20.0%)	13 (3.8%)	12 (3.5%)

Conclusions

- Farmers with lighter, fairer skin tended to use more sun protection and ranked the importance of sun protection higher when compared to those with skin that was less likely to burn in the sun.
- Farmers were concerned about acquiring skin cancer due to excessive sun exposure and recognized the importance of protecting themselves from sun exposure, but their actual personal practice in using proper sun protection methods needs improvement.
- The importance of personal sun protection should be continued to be emphasized among farmers, as well as educate them on the appropriate protection methods and their proper use, at every available opportunity including farm shows, trainings and through health care providers.

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