



# UPDATE

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## NIOSH ISSUES WARNING TO TOBACCO HARVESTERS



*Worker harvesting green tobacco*

The National Institute for Occupational Safety and Health (NIOSH) warns tobacco harvesters that they may be at risk of developing green tobacco sickness (GTS), a type of nicotine poisoning. A recent NIOSH study indicates that a startling number of tobacco workers are becoming afflicted with this illness, which may require hospital care. During a two month period in 1992, NIOSH researchers identified 47 persons seeking emergency room care for GTS in a five-county Kentucky area alone.

“If the numbers found in Kentucky are any indication of the magnitude of this problem, then we are dealing with an illness which is inflicting a tremendous burden on this nation, both in terms of human and economic costs,” said NIOSH Director, Dr. J. Donald Millar.

GTS is caused by absorption of nicotine from the surface of wet tobacco through the skin. Workers whose clothing becomes saturated from tobacco wet with rain or morning dew are at high risk of developing this illness. GTS is most often characterized by nausea, vomiting, dizziness, and severe weakness, and is often accompanied by fluctuations in blood pressure or heart rate. Workers with GTS frequently report abdominal cramping, headaches, and difficulty in breathing.

Jackie Scott, a hospitalized Kentucky tobacco farmer, recounts the severity of his symptoms: “Nothing has ever made me as sick as working in wet tobacco. It can make you feel like you’re going to die.” During the two-month period examined, NIOSH estimates that there may have been as many as 600 persons seeking emergency room care for GTS in Kentucky. Even this figure is likely to underestimate the true burden of GTS, since many affected persons do not seek treatment, but lose work time nonetheless.

To help prevent this illness, workers must be informed of the hazards of working with wet tobacco and of the work practices that can protect them. The following page presents these and other methods for prevention. NIOSH urges farmers and workers to take the necessary steps to prevent future cases of GTS.



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health  
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### ***Who Is At Risk?***

Tobacco harvesters working in wet clothing are at greater risk for developing symptoms of GTS severe enough to require medical treatment. After observing the tobacco harvesting process, NIOSH industrial hygienists found that workers' clothing often became saturated within minutes of beginning field work.

### ***What Are the Costs of GTS?***

Based on a sample of patients who received hospital treatment for GTS, NIOSH calculated the average cost to the worker for treatment of this illness. The fees were, on average, \$250 for out-patient treatment, \$566 for hospital admission, and \$2,041 for intensive care treatment.

These costs can impose an enormous burden on the farm family. In the state of Kentucky, most agricultural workers are not covered by workers' compensation and some tobacco harvesters have no form of health insurance. Moreover, farm workers must also deal with the added hardship of lost wages.

Gary Palmer, Ph.D., tobacco specialist with the University of Kentucky, adds that "medical costs are not the only loss to the farmer when someone gets sick during the busy tobacco harvest season. Taking the sick worker to medical care ties up another worker and a vehicle; thus harvesting is slowed down by the loss of one or more workers."

### ***Is This a New Problem?***

GTS is not a new problem. It is likely that GTS has existed as long as workers have been harvesting wet tobacco. Increased surveillance, as well as increased awareness of the condition, may explain the recent influx of cases. Because the symptoms of the illness are similar to those of organophosphate (pesticide) poisoning, GTS may be misdiagnosed by practitioners who are unfamiliar with this condition.

Questions remain about the remarkable number of GTS cases recorded in Kentucky in 1992. It is unknown whether it was due to an unusually wet growing season, or if GTS is a regular occurrence in Kentucky and other tobacco growing states.

### ***How Can Workers Be Protected?***

- In order to reduce the risk of GTS, avoid handling wet tobacco.
- Protective clothing may reduce the amount of nicotine absorbed through the skin.

Chemical resistant gloves, like those recommended for pesticide mixing, can prevent workers' hands from absorbing nicotine.

Plastic aprons and rainsuits have been used to reduce the exposure to nicotine, especially when excess moisture is present. However, this benefit must be weighed against the increased risk of heat stress caused by wearing impermeable clothing in hot weather.

- If a worker's clothing becomes saturated with moisture from the green tobacco leaf, the worker should change into dry clothes as soon as possible.
- If a worker becomes ill while working in tobacco and requires medical attention, the physician should be informed of the exposure to nicotine to aid in diagnosis.

### ***How Was This Outbreak Identified?***

The outbreak reported here was identified through the Occupational Health Nurses in Agricultural Communities (OHNAC) Program in Kentucky. The OHNAC program is part of the NIOSH Agriculture Health and Safety Initiative which supports surveillance, research, and intervention efforts directed at farmers, farm families, and farm workers nationwide. To receive a copy of the April 9, 1993 Centers for Disease Control and Prevention's Morbidity and Mortality Weekly Report dealing with this outbreak call 1-800-843-6356.

For more information about this or other occupational health concerns, call toll free:

**1-800-35-NIOSH**