



# Inside Agromedicine

Partners for Health & Safety In Agriculture, Forestry, and Fisheries

North Carolina Agromedicine Institute / Southern Coastal Agromedicine Center

Spring 2006

## North Carolina Agromedicine Institute

[www.ncagromedicine.org](http://www.ncagromedicine.org)

Kristen Borré, PhD, MPH  
Interim Director  
[borrek@ecu.edu](mailto:borrek@ecu.edu)

John Sabella, EdD  
Associate Director  
[sabellaj@ecu.edu](mailto:sabellaj@ecu.edu)

Rebecca Foster  
Administrative Manager  
[fosterb@ecu.edu](mailto:fosterb@ecu.edu)

## Institute Members

East Carolina University  
North Carolina A & T State University  
North Carolina State University

## Our North Carolina Partners

Cooperative Extension Service  
Eastern Area Health Education Center  
(EAHEC)  
Department of Agriculture & Consumer Services  
Department of Health & Human Services  
Department of Labor  
Department of Environment and Natural Resources  
NC Farm Bureau  
NC Fisheries Association  
NC Forestry Association

## Regional Partners

Virginia  
South Carolina  
Georgia  
Alabama  
Mississippi  
Florida  
Puerto Rico  
U.S. Virgin Islands

## ... from the Director

Welcome to the North Carolina Agromedicine Institute/Southern Coastal Agromedicine Center premier issue of *Inside Agromedicine*. The newsletter features the work of our research community and describes how results can improve the health, welfare, and safety of our farmers, foresters, and fishers. The Institute's mission is to improve the health and safety of the rural farming, forestry, and fishery communities of our state.

The mission will be accomplished by supporting partnerships among researchers, community organizations, government and funding agencies, and stakeholders.

Collaborations demonstrating research to practice (r2p) are described in this first issue. Future issues will continue to report on key projects. We look forward to hearing from you about how the NCAI may best meet your community's needs.

~ Kristen Borré, PhD, MPH

## NORA Town Hall Meetings

The Southern Coastal Agromedicine Center sponsored North Carolina leaders in rural and agricultural health and safety to testify at several NORA (National Occupational Research Agenda) Town Hall Meetings. These testimonies will be used to set the NORA II research agenda for the next 10 years of federally funded initiatives in occupational health and safety. During the past year, the NORA I agenda has been reviewed through several forums for comments from stakeholders, community leaders and officials, and researchers.

**Regina Luginbuhl, MS**, North Carolina Department of Labor, attended the Agriculture, Forestry, and Fishing Town Hall Meeting in Seattle, Washington. She testified about deaths from heat stress, the dangers and risks of pesticide exposure, and the work of the Gold Star Growers Program. At the national meeting in Washington, DC, **Julia Storm, MSPH**, North Carolina State University Cooperative Extension Service, reported on the significance of the Agricultural Health Study partnership for North Carolina farmers and the importance of collaborative research efforts. **Jim Mitchell, PhD**, Associate Director of the NC Center on Aging, East Carolina University, cautioned NORA officials that the demography and social structure of rural communities were changing rapidly and that agricultural health and safety needed to be considered within a more global understanding of the health problems of rural

populations. **Kristen Borré, PhD, MPH**, Interim Director for the North Carolina Agromedicine Institute, served as a moderator for the Washington, DC, Town Hall Meeting. In Jackson, Mississippi, **Robin Tutor**, Disability Coordinator for the East Coast Migrant Head Start Center, testified about health and safety risks of migrant farm worker families, focusing on the special needs of women of reproductive age working in the fields. **Sam Wiggins**, County Extension Coordinator, Alabama Cooperative Extension System, testified about the importance of partnerships between cooperative extension, health care providers, and farmers to inform research needs and to move research to practice. **Avinash Tope, PhD**, Kentucky State Univ., discussed the need for biomarker research for cancer prevention among farm workers and the role of the 1890 Land Grant Institutions in research on minority farmers.

Dr. Borré received a NORA Leadership Award for the Southern Coastal Agromedicine Center for organizing delegations from North Carolina and the Southeastern United States for the NORA meetings and for her service as a moderator in the Washington, DC, meeting.

To submit comments about occupational health and safety problems: [www.cdc.gov/niosh/nora/about.html](http://www.cdc.gov/niosh/nora/about.html). Transcriptions of NORA proceedings: <http://www.cdc.gov/niosh/nora/townhall/details.html>.

# Understanding the Agricultural Health Study: Getting the Word Out

Since 1993, four federal health research agencies have been conducting a long-term health study on health effects of exposures related to farming in North Carolina and Iowa. Scientists in the National Cancer Institute, the National Institute for Environmental Health Sciences, the Environmental Protection Agency, and the National Institute for Occupational Health and Safety are focusing on pesticides and dust, as well as genetic factors and lifestyle factors such as smoking and diet, to learn how they relate to health issues such as cancer, Parkinson's disease, and respiratory problems. Participants include nearly 90,000 farmers and their spouses in both states and 5,000 certified commercial pesticide applicators in Iowa.

By 2004, researchers had published more than 30 papers for the scientific community. The major source of public information about this landmark study is the Agricultural Health Study website. Because of the impact of research results on the farming community and the scope of services provided by statewide and community resources, a broader educational effort has been needed to put findings into context and reach a wider audience.



To meet this need, **Julia Storm, MSPH**, agromedicine information specialist at North Carolina State University, spearheaded a major project to disseminate essential information about the study. Along with NCSU Extension faculty members **W. Gregory Cope, PhD**, and **Wayne Buhler, PhD**, and **Katherine McGinnis**, Deputy Director for Programming, Eastern Area Health Education Center at East Carolina University, Ms. Storm initiated a project called Understanding the Agricultural Health Study. The project includes a three-part publication, a Microsoft PowerPoint presentation with speaker's notes, and a website. Also part of the project is an on-line continuing education course for health care providers, *Pesticide Related Illness and Health Issues*, available at [www.AHEConnect.com](http://www.AHEConnect.com). The publication and presentation are available through Extension centers in every county in North Carolina and Iowa (a total of 199 counties).

For further information on the study, visit the Agricultural Health Study website at [www.aghealth.com](http://www.aghealth.com) and the NC Cooperative Extension web pages at <http://extension.tox.nccsu.com>.

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## 1890 Agromedicine Alliance

With support from the Southern Coastal Agromedicine Center (SCAC), the 1890 Agromedicine Alliance was established in 2005 to coordinate regional research projects and funding efforts among 1890 Land Grant Institutions in the southeastern US. The Alliance will strengthen initiatives among its partners to address the needs of minority agricultural workers and train scientists and educators to work in agricultural safety and health. **Alton Thompson, PhD**, Dean of the School of Agriculture and

Environmental Sciences at NCAT, led the organizing efforts. Dr. Thompson also serves as chair of the Association of Research Directors (ARD) for 1890 Land Grant Institutions. **Mohamed Ahmedna, PhD**, of NCAT has been appointed campus coordinator for the Alliance.

The SCAC assisted three groups of 1890 Agromedicine Alliance researchers in developing R01-type proposals. The Center is also working with 1890 Alliance partners on appli-

cations for state, federal, and private foundation funds to support regional research projects on health disparities among agricultural workers and their families. Researchers will focus on disparities related to chronic disease and disability.

To find out more about the 1890 Agromedicine Alliance, please contact Dr. Mohamad Ahmedna at [ahmedna@ncat.edu](mailto:ahmedna@ncat.edu) or Ms. Becky Foster at [fosterb@ecu.edu](mailto:fosterb@ecu.edu).

# From East Coast Fishermen to Puerto Rican Farm Workers

Commercial fishermen have a higher incidence of skin disorders than those who work in other industries. However, fishermen have proven to be a difficult population to reach with health care. This is due in part to low levels of health insurance, problems with access to appropriate health care providers, and the demands of their jobs.

To address this concern, the NC Agromedicine Institute and the Southern Coastal Agromedicine Center worked with **William Burke, MD**, of The Brody School of Medicine at East Carolina University. With funding through NIOSH, Dr. Burke and co-PI **David Griffith, PhD**, ECU, surveyed commercial fishermen to identify common skin disorders and the fishermen's key sources of information about the disorders.

The researchers conducted skin screening sessions for commercial fishermen in North Carolina, Alabama, and Maryland. Among 59 fishermen tested, they found precancerous lesions and five cases of skin cancer. They also developed and distributed educational materials on the risks of skin disorders among people who work on the water.

This successful initiative has been expanded with funding from the Southern Coastal Agromedicine Center to the island of Puerto Rico to assess the risk factors associated with injuries and illness in Puerto Rican agricultural workers. According to **Jaime L. Matta, MD**, of the Ponce School of Medicine, principal investigator of the study, there are over 40,000 agricultural workers in Puerto Rico. The island is exposed to very high levels

of ultraviolet radiation. Farm workers also are exposed to environmental, mechanical, biological and chemical factors that can cause injuries and adverse health effects.

Dr. Matta performed a pilot study with farmers to identify risk factors for the most common work-related injuries and adverse health effects of environmental exposures. His research has led to the submission of an RO1 research grant in partnership with the SCAC and the Moffitt Cancer Center of the University of South Florida to expand the study to include high risk agricultural workers in Florida.



Images of squamous cell carcinoma from [www.matrix.ucdavis.edu/tumors/tradition/gallery-ssc.html](http://www.matrix.ucdavis.edu/tumors/tradition/gallery-ssc.html), copyright 1998, Art Huntley, MD, University of California Davis.

## r2p Project Activities

From 2001 to 2006, the Southern Coastal Agromedicine Center supported 11 R01 type projects and 19 R21/Discretionary type projects. Projects range from basic and applied research to prevention outreach and educational activities.

Products include:

- 25 peer-reviewed publications (journal articles)
- 20 other publications (e.g., book chapters)
- Newspaper and electronic media articles
- 78 presentations to scholarly, trade, extension, community groups
- 52 outreach/education programs for 2200 farm workers and medical personnel

## Southern Coastal Agromedicine Center NIOSH Research Forum

The NC Agromedicine Institute and the Southern Coastal Agromedicine Center are hosting a Research Forum to present the funded research of the Institute since 2000. The research represents North Carolina, South Carolina, Virginia, Georgia, Alabama, Mississippi, Florida, and Puerto Rico. Presentations will focus on NORA 1 Objectives: infectious disease, musculoskeletal diseases, injuries, cancer research methods, control technology and protective equipment, exposure assessment, health service research, indoor environments, and special populations. Principal investigators will be available to answer questions on research methods, findings, and significance.

The Forum will take place June 13-14, 2006, at the NC Cooperative Extension Pitt County Center, 403 Government Circle, Suite 2, Greenville, NC. For more information, call Becky Foster at the NCAI, 252-744-1000.