

# Inside Agromedicine

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

NORTH CAROLINA AGROMEDICINE INSTITUTE • WINTER-SPRING 2011

From the  
Chair, Board of  
Directors, NC  
Agromedicine  
Institute



**Deirdre Mageean, PhD**

Dear Partners:

As we all know, the strength of the Institute lies in its staff and partners. This was most recently demonstrated in the successful submission of the Mid-Atlantic Center for Agricultural Safety and Health proposal to the National Institute for Occupational Safety and Health (NIOSH). This submission would not have been possible without the expert leadership of Dr. Ernest Hodgson, Professor Emeritus - NC State University, the Center Grant Planning Committee: Dr. Al Schreier, Dr. Jeffrey Bethel, and Ms. Robin Tutor - East Carolina University, and Dr. Richard Robbins - NC A&T State University, research teams from across the region that submitted individual project proposals, and many others. On behalf of the Institute and its Board of Directors, I would like to express our sincere thanks to these individuals for their tireless efforts and commitment. We look forward to hearing from NIOSH this summer regarding the outcome of this submission. In the interim, the Institute will continue working with partners across North Carolina and the mid-Atlantic region on currently funded projects as well as on developing new partnership initiatives. We look forward to working with you on these endeavors to promote the health and safety of farming, fishing, and forestry workers and their communities.

## Farmers Fit with Respirators for New Soil Fumigant Rules

*[Adapted from an article by K.J. Williams, The Daily Reflector, Saturday, March 12, 2011]*

This winter and spring as tobacco, peanut and strawberry growers prepared their fields for planting, the Institute played a key role in getting the farmers themselves ready for the task with respirators.

A change to the pesticide label requirements on some soil fumigants had farmers lining up for health checks and respirator fittings at meetings all over eastern and central North Carolina, sponsored by the Institute.

The new Environmental Protection Agency requirements for respirators and other safety measures took effect December 31, 2010. The rules increase protections for agricultural workers and bystanders for the soil fumigants chloropicrin, dazomet, metam sodium/potassium, and methyl bromide.

The respirator fit testing and informational meetings on the new fumigant regulations were a major undertaking of the NC Risk Mitigation Measures Project of the N.C. Agromedicine Institute, funded by a grant from the NC Tobacco Trust Fund Commission. Robin Tutor, project leader and Institute interim director, estimates that at least 2,200 farms in North Carolina use the fumigants that fall under the new regulation.

At the March 12 event at the Pitt County Agricultural Center, James Corbett, 48, who has farmed his whole life in Edgecombe County, was provided a respirator after passing the health clearance and fit-test.

"This is your safety; the same thing as firefighters," he said. Corbett, likely will use the mask when he fumigates his tobacco fields, he said.

George Elderbaum of EI Group was one of the health providers providing

the necessary testing. "Every face is a little different," said Elderbaum while testing the fit on the respirator worn



Elderbaum said farmers should get tests annually to make sure the respirator still fits correctly and still provides the protection for their lungs and upper respiratory system from exposure to the highly irritating fumigants. Anything from changes in body weight to wearing dentures to growing facial hair can affect the mask's ability to stay airtight, he said.

Some farmers with health issues such as high blood pressure or decreased lung

by Beaufort County lifelong farmer Jimmy Hardison.

Using an analyzer machine with tubes hooked into Hardison's mask, Elderbaum took readings while giving Hardison instructions to make sure the mask would remain airtight during daily activities. Elderbaum described the test as "pulling the vacuum on the mask and making sure there's no leakage."

"Take a deep breath and hold it and shake your head back and forth like you're saying no to me," Elderbaum instructed. Testing showed the respirator was a good fit for Hardison, 47.

"It's a little bit more inconvenience, but the safety it's going to provide for us is worth the extra work we have to go through, I reckon," Hardison said. Some farmers like Hardison are required to buy an eyeglass kit so that the respirator can be outfitted with their prescription lenses.



*George Elderbaum fit Ernest Winstead with a respirator.*

capacity could not be fit with a respirator on the day of the event. Project staff advised these farmers to visit a doctor to address these health issues before being fitted with or using a respirator.

Robin Tutor, Institute interim director, said they have provided the respirator health screenings and fit testing service to 617 farmers. "We have also provided technical assistance at other respirator fitting events for over 600 additional farmers," she said.

(continued on page 2)

## Farmers Fit with Respirators for New Soil Fumigant Rules *(continued from page 1)*

Thanks to the grant from NC Tobacco Trust Fund Commission, and recent additional grant funds from NCDA&CS' Pesticide Environmental Trust Fund, North Carolina farmers pay only half the cost of the respirators, which retail between \$120 to \$200. Farmers are also reimbursed half the \$75 cost of the medical clearance and fit tests.

"Respiratory health issues are one of the major health concerns of farmers just because of the working environment they're in and the things they're exposed to," she said, ticking off a list that includes chemicals, dust, plant matter, pollen, mold from hay, and ammonia and feathers from chickens.

Mitch Smith, director of the NC Cooperative Extension's Pitt County Center, said 2010 statistics show that 75 percent of the county's 6,251 tobacco acres, and 10 percent of the 6,099 peanut acres would require fumigating before planting. Farmers need to fumigate to protect their crops, he said. "Research conducted at N.C. State has shown that the use of these products reduces disease losses by 30 to 60 percent."

Farmers may call Robin Tutor at 252-744-1045 for information about future fit-test opportunities.



*The Soil Fumigant Work Group is led by Robin Tutor (R), Bob Bruss (C), and Asimina Mila (L).*

## STILL NEED FUMIGANT RULE HELP?

CONTACT:

Robin Tutor at 919.880.4225, [tutorr@ecu.edu](mailto:tutorr@ecu.edu)

Barbara Gallagher at 910.567.7159, [bgallagher@commwellhealth.org](mailto:bgallagher@commwellhealth.org)

OR COMPLETE SURVEY:

[www.surveymonkey.com/s/respirators](http://www.surveymonkey.com/s/respirators)

Additional meetings will be scheduled on an as needed basis and will cover respirator requirements, fumigant management plans, and other parts of the new fumigant rules as well as providing opportunities for medical clearance, fit testing, and respirator purchase options.

## EPA Visits NC to Learn Fumigant Label Concerns

On March 23, three staff from EPA's Washington office visited North Carolina, at the invitation of NC Risk Mitigation Measures Project representatives, to hear concerns about new soil fumigant label rules, called Reregistration Eligibility Decisions (REDs). Of particular concern is the requirement that a self-contained breathing apparatus (SCBA) be on-site and available for use in the event of a fumigant emergency.

Although the requirement for SCBA is not new, the increased scrutiny new labels are receiving has drawn attention to it. Presenters made the case that requiring SCBAs was actually more hazardous than not having them. Safe and effective use of expensive (\$1200-\$1600) SCBA equipment requires the following conditions, which are difficult to achieve in the farm setting:

- Personnel with regular training and experience in SCBA use,
- Personnel with excellent health and physical conditioning; [health issues including high blood pressure that would preclude SCBA use are increasingly seen among NC's aging farmers],
- Storage in cool, dust free area AND immediate access for in-field use with assurance of good working condition.

The overall message was that emergency responders are more qualified to deal with injuries and haz-mat situations and are better prepared to store and maintain SCBA equipment in good working condition. Alternative strategies, such as notification of emergency personnel in advance of



*Grower Mitchell Wrenn discusses concerns with EPA staff. Representatives of the NC Agromedicine Institute, NCDA&CS, and the NC Strawberry Association, and others from NC, VA and GA met with EPA representatives.*

fumigation and summons by cell phone if needed, were offered as safer and more effective options, along with prevention of accidental exposure through training, shut-off valves, pressure-release devices, and other means. Requirements for air quality monitoring were also discussed. Discussion was informal and the EPA staffers were interested in discovering ways that the rules could be improved.

# Safety and Savings: A Win-Win for Certified Safe Farms

Jeffrey Lee, a Johnston County tobacco farmer, was one of the first farmers to act on the cost-share opportunity for Certified Safe Farms made possible through NC Tobacco Trust Fund Commission (NCTTF) grants to NC State University in collaboration with the Agromedicine Institute. A series of events led to safety and savings on Lee's farm.

First, Lee participated in an on-farm safety review with Tim Britton and others from NC Cooperative Extension's Johnston County Center as part of the Certified Safe Farm and AgriSafe of NC programs. The half-day review examined 16 areas of the farm for safety hazards and concerns. Everything from tractors and harvesting equipment to the farm shop were closely reviewed as Britton and Lee walked the farm together. Along the way, they discussed solutions for safety problems. Lee commented: "I ended up with about 3 pages of safety recommendations from Tim's visit."

Soon afterward, an insurance agent called Lee to discuss liability insurance. After a visit to Lee's farm, the insurance company's safety engineer made similar recommendations to that of the CSF review.

Lee was quick to initiate repairs to hydraulic hoses, equipment lighting and marking, and

other safety issues the CSF on-farm safety review brought to light. He applied for and received cost-share funds, also provided through a NCTTF grant, covering 50% of eligible costs for safety improvements.

Lee hoped that being proactive with safety would result in insurance savings. His insurance agent confirmed his instincts. Lee reported a \$10,000 savings on his new insurance policy as a result of his \$4,000 safety investment (before cost-share).

Lee has since also participated in the occupational health review with AgriSafe of CommWell Health. AgriSafe Nurse Barb Gallagher tested Lee's lung capacity, checked his vision and hearing, and fit test a respirator for him.

When it comes to safety and savings, here's how the Lee Farm balance sheet worked out:

The investment: a 4-hour CSF safety review and the cost (\$4,000) of safety improvements (equipment and labor).

The incentive: a 50/50 cost share (\$1,232) for allowable costs for recommended safety improvements.

The payoff: Certified Safe Farm recognition, significant insurance savings (\$10,000), and peace of mind.

Other community members have taken notice



*Cost-share funds help pay for safety improvements such as new hydraulic hoses and fittings. Jeffrey Lee receives his Certified Safe Farm sign from Jeff Jennings of NCTTFC (L) and Bryant Spivey (R), Johnston County Extension Director.*

too. Lee's banker noticed the Certified Safe Farm sign at the farm entrance and inquired about it. Lee has encouraged his neighbors to take part in the program, saying, "The whole program has been very helpful to me and my operations."

## Cost-share Funds Available!

Farmers in Johnston, Duplin and Sampson Counties are eligible for Certified Safe Farm on-farm safety reviews and AgriSafe occupational health and wellness reviews. 60 farms, including crop, livestock, greenhouse, and agritourism operations, have already participated.

Cost-share funds are available for recommended safety and health improvements.



*Before and after pictures show the safety improvements made with cost-share funds on the James Peterson Hog Farm in Duplin County.*

### CERTIFIED SAFE FARM CONTACTS:

*Johnston County Extension*  
Tim Britton: 919-989-5380

*Duplin County Extension*  
Amanda Hatcher: 910-296-2143

*Sampson County Extension*  
Paul Gonzalez: 910-592-7161

### AGRISAFE OF COMMWELL HEALTH CONTACT:

Barbara Gallagher: 910-567-7159

# FOND FAREWELLS

## Dr. Alton Thompson Leaves NC A&T to Join Delaware State University

NC Agromedicine bids a fond farewell to Dr. Alton Thompson, who is now the provost and vice president of Academic Affairs at Delaware State University. Dr. Thompson served from July 2008 to July 2010 as the interim provost and vice chancellor for Academic Affairs at North Carolina A&T (NCA&T). He served as the dean and executive director of agricultural programs in NCA&T's School of Agriculture and Environmental Sciences from 2000-2008. Prior to that, he served from 1991 to 2000 as a professor and chairperson in the Department of Agricultural Economics, Education, and Rural Sociology at NCA&T.



*Dr. Alton Thompson*

Dr. Thompson served since 2000 on the NC Agromedicine Institute Board of Directors and was instrumental in the establishment of the Institute. He provided leadership for agromedicine at NC A&T and the consortium of 1890 institutions. He conducted rural sociological research related to Black farmers and agricultural health and safety.

Dr. Thompson's leadership and dedication to agricultural health and safety and collaborative spirit will be greatly missed.

## Dr. Edwin Jones Leaves NCSU to Join Virginia Tech

NC Agromedicine also bids a fond farewell to Dr. Edwin Jones, who began his new role as associate dean of the College of Agriculture and Life Sciences at Virginia Tech and director of Virginia Cooperative Extension on April 1.

During his 23-year tenure with North Carolina Cooperative Extension, Jones held numerous leadership positions. Since 2004 he served as associate director and state program leader for agriculture, natural resources, and community and rural development at North Carolina Cooperative Extension at North Carolina State University.

Dr. Jones was a founding member of the Board of Directors of the NC Agromedicine Institute. His leadership, knowledge of North Carolina issues, and commitment to broad-based solutions will be sorely missed.

Jones is nationally recognized for his knowledge and expertise in natural disaster education. He has served as chair for the Extension Disaster Education Network, a national clearinghouse for extension educational information on disaster preparation and recovery.



*Dr. Edwin Jones*

**Save  
the  
Date**

### **EAST COAST MIGRANT STREAM FORUM October 20-22, 2011 • Location West Palm Beach, FL**

The East Coast Migrant Stream Forum is an annual conference that offers farmworker health professionals an opportunity to explore new ideas, discover innovative strategies, and gain relevant training that contributes to improving health care delivery for migrant and seasonal farmworkers and their families living and working along the East Coast. The conference strives to provide migrant health professionals an opportunity to hear from experts in the field about the latest trends in migrant health, to share best practices, to learn about cutting-edge research, and to discover the latest resources and services in farmworker health. Through workshops and networking, attendees are challenged to enhance their cultural competence and explore innovative ways to improve health care delivery to migrant and seasonal farmworkers.

*Visit our website at [www.ncchca.org](http://www.ncchca.org) (under calendar)*

# Dr. Greer's Research, Teaching Blends Ag Roots & Rural Nursing

Dr. Annette G. Greer, PhD, MSN, RN is Assistant Professor in the Department of Bioethics and Interdisciplinary Studies and Co-Director of the Office of Interdisciplinary Health Sciences Education at East Carolina University's Brody School of Medicine. She teaches rural health, public health, nursing, adult education, honors, and medical courses.

Dr. Greer has been committed to the mission of the North Carolina Agromedicine Institute from its inception, serving from 1997-1999 on the steering committee chaired by Dr. Byron Burlingham of ECU that laid the groundwork for the North Carolina Agromedicine Institute. Dr. Greer came from a farm background and, along with her husband, owns 72 acres of farm and forestry land in Jones County. Dr. Greer has two associate in applied science degrees in Agriculture Science and Agriculture Business in addition to her degrees in nursing.

Prior to her nursing career, Dr. Greer served as an Integrated Pest Management consultant for farmers in Lenoir, Jones, Greene, and Duplin Counties. Dr. Greer is a participant in the NCI/NIEHS/EPA Agricultural Health Study and has served on the national advisory board representing spouses for over a decade.

Over the last two years, Dr. Greer has been involved with evaluation and research projects in agritourism, pesticide education, and farm emergency response of farm, EMS, and Fire Safety members. The farm emergency response studies gathered pilot data for a NIOSH proposal with co-primary investigator Dr. Bill Meggs from ECU Emergency Medicine. This project was included in the Mid-Atlantic Agricultural Health and Safety Center proposal submitted to NIOSH earlier this year.



*Annette G. Greer, PhD, MSN, RN has a long-time interest in agromedicine.*

In addition, Dr. Greer's research interests include a collaborative study of farm wives' knowledge and skills relative to responding to farm emergencies with Dr. Ann McLaughlin, an NCSU faculty member. Other research efforts are planned in collaboration with Dr. Suzanne Lea, Department of Public Health, to study the relationship between pesticide, obesity, and metabolic syndrome in farm women.

Dr. Greer and her husband Reverend Martin Greer live in rural Lenoir County, where they tend a large vegetable garden. Rev. Greer pastors rural churches located in Duplin County's Beulaville and Kenansville that serve several rural farm communities.



## SUPPORT THE INSTITUTE

*The NCAI invites you to help further its mission through your contributions to the following funds:*

**NC Agromedicine Institute Fund** (for current and ongoing activities): Make check payable to "East Carolina University Foundation" with memo designation "NC Agromedicine Institute." Mail to NCAI, c/o Director, 1157 VOA Site C Road, Greenville, NC 27834. Make a secure online donation at <https://onestop.ecu.edu/onlinegiving/>

**North Carolina State University Agromedicine Endowment** (for long-term sustainability of Institute activities) and **North Carolina State University Agromedicine Enhancement Fund** (for current and ongoing activities): Make check payable to "NCSU Agromedicine Endowment" or "NCSU Agromedicine Enhancement Fund." Mail to NC Agricultural Foundation, c/o Chris Wessel, Campus Box 7645, Raleigh, NC 27695-7645. Make a secure online donation at <http://www.cals.ncsu.edu/givenow>.

# NC's AmeriCorps SAFE Program Expands Partnerships

The AmeriCorps SAFE Program in North Carolina (NC-SAFE) is made possible through the collaborative efforts of the Association of Farmworker Opportunity Programs (AFOP), the Pesticide Environmental Trust Fund, the Structural Pest Control and Pesticides Division of the NC Department of Agriculture & Consumer Services, and the North Carolina Farmworker Health Program (NCFHP), within the NC DHHS Office of Rural Health and Community Care, with its contract clinic and outreach sites serving as hosts.

The overall purpose of the NC-SAFE Program is to reduce farmworker pesticide exposure through training, education, and outreach. To achieve its goal, the eight bilingual AmeriCorps volunteers will engage in the following activities:

- Pesticide Training and Education (WPS Standard, take home exposure, other health topics)
- Outreach (identification of farmworkers, health assessments, health documentation, transportation, interpretation)
- Partnership Development (growers/crew leaders, Extension agents, community volunteers).

Last year, nine AmeriCorps volunteers conducted 4,871 pesticide safety trainings, 1,521 presentations with families about take home exposure, and 2,610 other health trainings. They made 600 contacts with growers, farmworker service organizations, and faith-based organizations.

This year, four 11-month volunteers, Luis Libreros, Silas Acosta, María Álvarez, Ahira Sanchez, return to work in eastern North Carolina with Greene County Healthcare, Columbus County Community Health Center, Pender County Health Department, and the NC Farmworkers Project. New 11-month volunteers Juana Madrigal and Hermegilda



*AmeriCorps volunteers are excited about using the Pesticides and Farmworker Health Toolkit to train tobacco, sweet potato, Christmas tree and other crop workers.*

Pantaleon will join Greene County Healthcare and Columbus County CHC respectively.

In addition, two volunteers are sought to serve in western NC. This year in a new partnership, NC Cooperative Extension's Watauga County Center will host a 6-month AmeriCorps volunteers. A second 6-month volunteer will work with the Toe River Health District.

In addition, in partnership with NC State University Toxicology, all NC AmeriCorps SAFE volunteers will use the new crop-specific Pesticides and Farmworker Health Toolkit for pesticide safety training. A training workshop with AmeriCorps volunteers was held February 28 to introduce the toolkit and effective, engaging ways of teaching pesticide safety to farmworkers.

## Train-the-Trainer Workshops Available for Pesticides and Farmworker Health Toolkit

The Pesticides and Farmworker Health Toolkit, a new, engaging, highly visual, pesticide safety educational resource in Spanish and English is available June 1. The resource is EPA-approved for worker protection standard training and is available for 11 crops.

### TO ORDER:

[HTTPS://EPRINT.UNIVERSALPRINTING.COM/PESTICIDE-TOOLKIT](https://eprint.universalprinting.com/pesticide-toolkit)

Thanks to a grant from the NCD&CS Pesticide Environmental Trust Fund, train-the-trainer workshops to introduce the toolkit are available beginning June 1.

Contact Catherine LePrevost at [celeprev@ncsu.edu](mailto:celeprev@ncsu.edu) or 919-515-2276 to schedule a workshop in your area!

**NC** Cooperative Extension  
Pesticides and Farmworker Health Toolkit  
Available June 1

**Toolkit for each crop includes:**

- Introductory DVD for trainers
- Flip chart (Spanish)
- Handouts (Spanish)
- Interactive materials: Jug & labels, Symptom charade cards
- Tote bag
- Optional items:
  - Poster size handout
  - English flip chart and handout

Available in English and Spanish

Schedule a training!  
Catherine LePrevost  
[celeprev@ncsu.edu](mailto:celeprev@ncsu.edu)  
919-515-2276

For ordering information visit: <http://go.ncsu.edu/pesticide-toolkit>

# Successful Farming Features Boswell's Certified Safe Farm



Stay Safe and Sound, by Cheryl Tevis, March 2011

[http://www.agriculture.com/family/health/prevention/stay-safe-sound\\_337-ar15087](http://www.agriculture.com/family/health/prevention/stay-safe-sound_337-ar15087)

## Chemicals in Rural Areas—A New Educational Resource for Youth

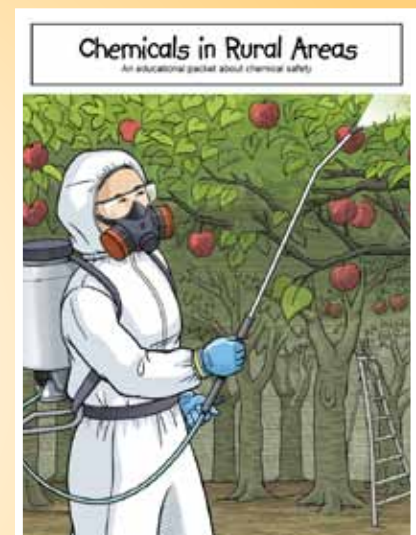
By Shari Burgus, Education Director, Farm Safety 4 Just Kids

Farm Safety 4 Just Kids, a non-profit with a mission of promoting a safe environment to prevent health hazards, injuries, and fatalities to children and youth, develops resources used to teach about farm safety and health. One of their foremost resources is a series of educational packets that include lesson plans, brochures, poster, and activity ideas that make teaching the concepts of farm safety and health fun for the instructor as well as the students. The packets are designed for various aged children and youth.

The most recently developed educational packet is on the topic of chemical safety. Agriculture is a large user of chemicals in their quest to increase yields, grow new and more bountiful grains, produce a variety of inexpensive fruits and vegetables, and prevent livestock from illness. Since chemicals are often a part of the farm environment those living and working within the area may be exposed to the potential hazards that chemicals may pose.

The packet is written in both English and Spanish as a way of reaching multiple populations. To ensure accuracy of the packet an advisory team of Julia Storm, NC Agromedicine Institute and LaMar Grafft, Great Plains Center for Agricultural Health participated in the development process. The Spanish translation was completed by Teresa Andrews with the Western Center for Agricultural Safety and Health.

Contact Farm Safety 4 Just Kids at 1-800-423-5437 or [www.fs4jk.org](http://www.fs4jk.org) to obtain a copy of the Chemicals in Rural Areas educational packet.



## 2011 National Symposium on Agriculture, Forestry, & Fishing Health & Safety

JUNE 26-30, 2011, GROVE HOTEL AND CONFERENCE CENTER BOISE, ID

Strengthening Partnerships Across Multiple Disciplines <http://nifsagsafety.org/>



North Carolina Agromedicine Institute  
 West Research Campus  
 1157 VOA Site C Road  
 East Carolina University  
 Greenville, NC 27834

# CALENDAR

## Progressive Agriculture Safety Days:

- June 01, 2011:** East Carolina Agricultural & Education Center-Livestock Arena, Rocky Mount, Tanya Heath, 252-641-7827, tanya\_heath@ncsu.edu
- June 07, 2011:** Hertford Grammar School, Hertford, Lewis Smith, 252-426-5428, lewis\_smith@ncsu.edu
- July 15, 2011:** Vernon James Research & Extension Center, Plymouth, Rebecca Liverman, 252-793-2163 rebecca\_liverman@ncsu.edu
- September 17, 2011:** Lazy O Farm, Smithfield, Barbara Gallagher, 910-567-7159, bgallagher@commwellhealth.org
- October 05, 2011:** Storeybrook Farms, Murfreesboro, Crystal Smith, 252-358-7822, crystal\_smith@ncsu.edu
- June 28, 2011:** DEADLINE to submit public comment to EPA on bilingual (English and Spanish) pesticide labels. More info: <http://www.epa.gov/pesticides/regulating/labels/bilingual-pesticide-labels.html>. To comment online, visit [Regulations.gov](http://www.regulations.gov) and refer to docket EPA-HQ-OPP-2011-0014.
- June 26-30, 2011:** 2011 National Symposium on Agriculture, Forestry, & Fishing Health & Safety, sponsored by ISASH (formerly NIFS) and NIOSH, Grove Hotel and Conference Center Boise, ID, Strengthening Partnerships across Multiple Disciplines, <http://nifsagsafety.org/>
- September 8, 2011:** Deadline to submit farm family safety grant application to Farm Safety 4 Just Kids, <http://www.fs4jk.org>
- October 20-22, 2011:** East Coast Migrant Stream Forum, Location West Palm Beach FL, [www.ncchca.org](http://www.ncchca.org) (under calendar).



Special thanks to AgriSupply for enhancing the NCAI logo.

## NC Agromedicine Institute

[www.ncagromedicine.org](http://www.ncagromedicine.org) • 252.744.1000

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