



West Virginia

AGED NEWS and VIEWS

Published by
West Virginia University's Agricultural and Environmental Education Department

November - December 2003

Harry N. Boone, Jr., Ph.D., Editor

Moving Beyond the Classroom

by Stacy A. Gartin

It seems as though an increasing number of students who enter the university have little, if any, idea as to what they would like for their initial career to be following graduation. We feel fortunate to have a large number of students who have a career path in their sights. However, we will have to admit that our program attracts a sizable number of students who really aren't sure "what they want to be in life." You know what, to have that feeling is OK. I'm not saying that it is a comfortable feeling. Actually, it is quite frustrating, but at least it is not life threatening. We should all be thankful to have family, friends and past teachers to help us sort out these monumental decisions.

It seems like yesterday that I began my undergraduate career majoring in agricultural economics at Colorado State University. Boy, that major was short lived, as was my major in animal science and physical education. I guess I am normal as the average student changes majors approximately three times during their pursuit of a career. I am so thankful that I finally selected agricultural education as my career path. I am also appreciative of all the "wise men and women" that I consulted during my searching time. The wisdom they all shared was very consistent, "Life is long enough to do a variety of things." They also lamented the fact that, "the first day you have to beat yourself to go to work, is the day that you should change jobs."

In trying to do my part in assisting students in sorting out career possibilities, I often ask them what they wanted be when they were at ages 5, 10, 12, 15, 16, 17 and

18. I have found that these tend to be pivotal years in a young person's life when they are trying to "find themselves" and are trying to formulate thoughts about what they "want to be in life." After the student has reflected on the previously mentioned years, we sit down together to analyze if there is a common thread or theme that connects his/her previous aspirations. It is amazing how often students never see the relationships that exist in their previous choices. While the process of assisting students in this activity is time consuming, it is very gratifying to see some of the stress diminish from their faces.

Recognizing that career decisions are difficult is why the mission of agricultural and environmental education program is, "***To empower agricultural and environmental education majors for the choices and challenges of the 21st century through education and experience.***" The agricultural and environmental education curriculum is designed to prepare students for entry into agricultural teaching, extension, and environmental technology positions or other professional employment in government, industry or entrepreneurship where competence in communications and leadership is required. With this broad perspective in mind, the curriculum has been designed to provide flexibility for a student, in consultation with his/her advisor, to design a program that will meet the student's career aspirations.

Present and past agricultural education faculty members are very proud of the students who have majored in agri-

cultural and environmental education over the years. We are proud of those who graduated with a major in agricultural and environmental education, as well as those who changed majors realizing that their life was headed in a different direction.

We are so proud of the impact our students have made in the agricultural and educational fields. We are proud of those who believed that one can do a variety of things in life with a foundation based in agricultural education. For years students have asked, "So just what can you do with a major in agricultural education?" Often our response is, "We haven't found many occupations which you can't be successful in with a formative education in agricultural education."

As we visit with our students we share with them the names of people who spent a life time in one career. We also share with them the names of people who had successful teaching careers who became successful extension agents. We talk of those who were successful agents and became teachers. We also relate the experiences of those who left teaching &/or extension to become entrepreneurs, supervisors, directors and leaders in some other aspect of agriculture, government or private industry.

Some of the career paths which our graduates have pursued beyond the classroom are:

- Managers of Southern States Cooperative and other similar type cooperatives

(Continued on page 7)

***Editorial* : New Year's Resolutions: A Few Suggestions**

by Harry N. Boone, Jr.

It is the tradition to make resolutions for the New Year. Many times these resolutions are personal in nature and suggest changes that will increase health, happiness, and/or personal satisfaction. In the event you haven't completed your 2004 resolutions, I would like to offer a few suggestions. I do not know your personal situation well enough to offer suggestions in that area, however, I am familiar with the role of a high school agricultural education teacher and would like to offer some suggested resolutions in this area.

1. I will deliver a course of instruction that meets the needs of my students.

Too often the course of instruction (COI) (if one exists) for a high school agricultural education program reflects the personal interests and/or areas of expertise of the teacher. If you are going to deliver an effective program for your students, the COI must reflect the agriculture in the local community, as well as the wants and needs of your students. The first step in developing an effective COI is to secure basic community data. Basic data should include the types of agricultural enterprises in the community now and in the future, approved practices being used and those in need of adoption, sizes and types of agricultural businesses, improvements needed in the community, number and types of agribusinesses, specific knowledge and skills needed by workers in agribusinesses, and employment opportunities and working conditions in agribusinesses. These data are summarized and interpreted. Next determine the wants and needs of your students. These will change from year to year. Factor the wants and needs of your students into the basic community data and you will have a sound COI.

2. I will develop and/or utilize the program's advisory committee.

An effective advisory committee will help you develop and maintain a COI that reflects the wants and needs of the local community. In addition to the fact that it is required by law, there are a number of reasons to have an active advisory com-

mittee. An advisory committee can help determine community needs, evaluate the present program, study the possibilities of extending and broadening the program, and help publicize the program. Keep in mind that the role of the advisory committee is to provide advice on the program, its content, and the degree the program is reaching its objectives. The advisory committee makes recommendations, however, the school and/or school board is free to reject the recommendations. If recommendations are rejected, the advisory committee should never be used as a pressure group.

3. I will strive for 100% plus FFA membership in my program.

I assume that most of you are aware of the "three circle" model of the total agricultural education program. Leadership activities through the FFA are one of the circles in that model. You cannot have a total program without all three components. Think of the total program as a three-legged stool. Will the stool stand with one of the legs missing? The answer is no. You cannot have a total program without everyone belonging to and participating in leadership activities through the FFA. Students should never have the option to "not join" the FFA. FFA membership should be a requirement. You will, however, have to make provisions for "indigent" students to earn their FFA membership in other ways. One way to accomplish this is to allow students to pay their FFA dues by participating in fund raising activities. To accomplish its mission, the FFA strengthens the confidence of agriculture students in themselves and their work, encourages achievement in supervised agricultural experience programs, develops interpersonal skills in teamwork, communications, human relations and social interaction, and builds character and promotes citizenship, volunteerism and patriotism. Are you going to deny your students these opportunities?

4. One hundred percent of my students will have a supervised agricultural experience (SAE) program.

The concept of the supervised agricultural experience program in agricultural education can be traced to the late 19th century and was based in part on the works of John Dewey. If your students are not applying the skills they learn in your classroom through a sound SAE program, you are not a "true" agricultural educator. You have limited your role to teaching "about" agriculture. I encourage you, in conjunction with your students, to assist each and every student to develop a sound and challenging SAE program that takes skills learned in the classroom and applies them to the students' personal situation.

5. I will provide year-round supervision for my students' SAE program.

The first word in SAE is "supervised." You, as the teacher, must supervise the students' SAE programs. This is an opportunity to provide individualized instruction to the student and develop essential relationships between parents and/or employers. Although supervisory visits are not limited to the summer, they are the reason that most agricultural education teachers have extended employment. If the SAE programs are not supervised properly, the majority of the educational experience is lost.

6. I will provide the "total" agricultural education program for my students.

If you accomplish the first five resolutions, you will have in place the "total" agricultural education program. If agricultural education is to succeed in the 21st century, it must be based on the "total" program concept. If you are not willing to implement and maintain a "total" program, it is time you look for employment elsewhere and stop denying your students the opportunity to the education they deserve.

The opinions expressed in the editorials are those of the editor and do not necessarily represent official positions and/or opinions of the Agricultural and Environmental Education program, the Davis College of Agriculture, Forestry, and Consumer Sciences, or West Virginia University.

Agricultural and Environmental Education Alumni Profiles

William Kraft, District Manager Southern States, Inc.

As a district manager for Southern States Cooperative, Inc., Bill is responsible for the daily operations and sales of 13 local Coops and Service stores in West Virginia and Western Maryland. Southern States, based in Richmond, Virginia, is one of the nation's largest farmer-owned cooperatives. Today the company encompasses some 1,200 retail locations in 23 states. Owned by more than 300,000 farmers, the cooperative purchases, manufactures or processes feed, seed, fertilizer, farm supplies and fuel.

In addition to his responsibilities with Southern States, Bill is a director with the WV Propane Gas Association. He also serves as a board member of the WV Retailers Association.

Bill graduated in 1985 from West Virginia University with a B.S. degree in Agriculture and a major in Agricultural Education. He taught vocational agriculture for 5 years in Harrison County, WV at Lincoln and South Harrison High Schools.

His career with Southern States began in June 1990 as a manager trainee at Clarksburg, WV. In January 1991, Bill was transferred to Buckhannon where he served as assistant manager. He was promoted to manager in July 1994 and served in that capacity until February 2001 when he accepted his current position as district manager.

Bill graduated from Grafton High School in Grafton, WV. He currently resides in French Creek, WV.



Professional Workshops -- Summer 2004

Agricultural Mechanics

Twenty-four agricultural education teachers responded to our request for topics for agricultural mechanics workshops to be conducted during summer of 2004. Fifty-three topics were suggested. The top five categories included:

Welding	11
Arc	4
Tig/mig	4
Oxyacetylene	2
Electricity	10
Small engines	8
Plumbing	4
Anything	6

We will use the suggestions to continue the development of a summer course

offering with an agricultural mechanics focus.

Research Methods

As most of you know, two classes are required for the completion of a Master of Science Degree in Agricultural Education. They are "research methods" and "statistical applications." Both classes are taught annually on campus, however, it is not feasible for many of you to participate in the on-campus courses. Several individuals have suggested we offer these courses during the summer. Because of the nature of the material and work required of each course, we have developed a proposal to offer "research methods" during the summer of 2004. The following reflects a suggested schedule

for the course. Care has been taken to avoid any major statewide FFA or agricultural education event.

Meeting 1 (8 hours)	June 5
Meeting 2 (8 hours)	June 18
Meeting 3 (8 hours)	July 9
Meeting 4 (8 hours)	July 23
Meeting 5 (8 hours)	August 6

In addition, the course will include two Internet based assignments that will require between 4 and 6 hours to complete. If you are interested in participating in the course during summer 2004, please contact me at hnboone@wvu.edu. This will be the only time in the next 4 to 6 years this course will be offered during the summer. If you are interested in completing a Master of Agricultural Education degree, this is your opportunity.

Personals

Roger and Crystal Wright are the proud parents of Charles Edgar, born November 3, 2003. Charles was 19 inches long and weighed 7 lbs and 6 oz.

Hartzel Guy Strader, age 71, of Miamisburg, OH, passed away on May 31, 2002. Hartzel taught Vo-Ag at Talcott High School August 23, 1971 - October 8, 1971.

An Update on Potomac State College of WVU

René Trezise, Director of Marketing & Communications

“The one-on-one attention in the classroom has been a great advantage,” says Isaiah Smith, a sophomore animal science major, regarding his experience at Potomac State College, a two-year residential, regional campus of West Virginia University, located in Keyser, WV. Smith has just come from his last final for the fall semester – organic chemistry—that he describes as “brutal.”

“I wasn’t the smartest student in my [high school] class but I was always willing to work hard,” said Smith, who also serves this year as president of the Ag & Forestry Club. He learned about Potomac State College in his junior year from his County Extension Agent Dave Seymour, whose two sons are alumni of the College.

Smith says his advice to students shopping for a college is “to consider what your needs are.” He believes if students are accustomed to larger classes, then they might be ready to head straight for the University. However, in his instance, coming from Pendleton County High School, in Franklin, WV, he has felt much more at home in a smaller environment and believes he will be better prepared to transfer to WVU next fall.

“I have received a lot of hands-on experience. I believe people here really care about your academic progress,” says Smith.

The Benefits

Faculty and staff making up the Agriculture and Forestry Program at Potomac State College include: Sandy Smith, who serves as coordinator (no relation to Isaiah Smith), Jeff Jones, who is helping to launch the new Forestry Technology Program, Dee Singh-Knights, who is teaching Agribusiness Management and Resource Management, and Roger Poling, a Research Assistant, who in addition to assisting with student recruitment also works the farms.

In addition to the benefits already mentioned by Isaiah, Jones believes it im-



These students had their hands full keeping the two ornery colts in line for this photograph. Standing left to right are: Alex Moore, from Tucker County High School, Hambleton, WV; Kim Godbey, from Ripley High School, Ripley, WV; Adam Boner, Lewis County High School, Weston, WV; Shannon Totten, Liberty High School, Clarksburg, WV; Leonard McDonald, East Hardy High School, Baker, WV; Isaiah Smith, Pendleton High School, Franklin, WV; and Erica Alt, Petersburg High School, Petersburg, WV.

portant to note that courses taught at Potomac State College match those being taught at WVU. In fact, the program has added two new courses, forest ecology and forest mensuration to aid in the ease of transferring students to the four-year forestry program at WVU.

Both Sandy Smith and Jeff Jones give the following reasons why they believe Potomac State College is a viable option for students starting their college careers:

- The Living and Learning Program gives agriculture and forestry majors the opportunity to live with fellow classmates in a portion of a residence hall. This environment, where students share similar interests and work schedules, is more conducive to study groups. Students see this as a way to get to know the people who will be working in agriculture and forestry careers in the future.
- The Ag and Forestry Club is a great opportunity for student involvement.

Just this past fall club members participated in a Welcome Picnic for incoming freshmen; helped construct a building for the Mineral County United Way’s Day of Caring and Sharing and organized a haunted barn at the upper farm.

- The College has rejuvenated its livestock judging team. Last year students represented Potomac State College in the Collegiate Livestock Judging Contest held during the North American Livestock Exposition in Louisville, KY.
- Dr. Darin Matlick, a WVU graduate and also an alumnus of Potomac State College, provides veterinary services for the College’s livestock and teaches in the department as an adjunct faculty member.
- The recent donation of 27 quarter horses from Bob and Jewel Evans to WVU will enhance Potomac State’s efforts to provide “living laboratories” for students. An Equine Safety Course

will be taught for the first time during the spring semester.

The Future

To advance as a progressive Agriculture and Forestry Program, changes are being discussed and timelines considered to meet the needs of tomorrow's students. The College has already started remodeling barns to meet animal care standards and to ensure that proper facilities are in place to handle sheep as well as the new proposed enterprise of meat goats.

Not only did the horses bring excitement and publicity to the College, but they

also triggered plans to build horse stables with an indoor arena. Construction is expected to begin late in 2004.

The Ag and Forestry Club in concert with the general horticulture class will spend the winter growing greenhouse crops and plan to offer vegetables and flowering plants to the public this spring.

"We are committed to enhancing our Agriculture and Forestry program," said Kerry Odell, Interim President. "Renovation of our farm facilities, the addition of livestock enterprises, the construction of a riding arena and revision of our academic offerings will better position our

graduates for entry into careers in agriculture and forestry or for transfer to baccalaureate degree granting institutions."

This past fall, Potomac State College experienced its third consecutive year of increased enrollment totaling 1,365 students. To learn more about the College and its 47 associate degree programs or its 18 associate of applied science degrees, call Enrollment Services at 800-262-7332 or visit the College on-line at www.potomacstatecollege.edu.

National FFA Convention Wrap-Up

by Keith Burdette

West Virginia FFA members joined with members from across the nation to celebrate FFA's 76th National Convention, held October 29 - November 1 in Louisville, Kentucky.

The theme for this year's convention was "Living the Legacy." The convention set an all time attendance record of 51,338 members and guests present! Members were energized by the motivational remarks of Chad Varga and agricultural broadcaster, Orion Samuelson. Outgoing national officers delivered inspirational retiring addresses, and the National FFA Band, Chorus and Talent performed stirring musical selections.

West Virginia competitors brought distinction to their chapters and the state association through their outstanding performances. Seven individuals received gold emblem ratings in their respective Career Development Events (CDEs).

Individuals receiving gold emblems in national competition included: **Angela Fisher** and **Stacey Gleason**, Ripley, *Agronomy*; **Justin Loy**, Liberty, *Environmental and Natural Resources*; **Katie Brown**, Roane County, *Farm Business Management*; **Veronica Milliken**, Roane County, *Floriculture*; **Steve Akers**, Tyler, *Forestry*; **Matt Hicks**, Ripley, *Horse Evaluation*; and **Ronnie VanCamp**, Tyler, *Nursery Landscape*.

West Virginia teams receiving silver ratings in national competition were: **Ripley**, *Agronomy*; **Ripley**, *Dairy Cattle*; **Taylor County**, *Dairy Foods*; **Liberty**, *Environmental and Natural Resources*; **Roane County**, *Farm Business Management*; **Roane County**, *Floriculture*; **Tyler**, *Forestry*; **Ripley**, *Horse Evaluation*; **Tyler**, *Nursery Landscape*; **Roane County**, *Parliamentary Procedure*; and **Cameron**, *Poultry*.

Teams receiving a bronze-rating were: **Ravenswood**, *Agricultural Mechanics*; **Lewis County**, *Livestock*; and **Tyler**, *Meats*.

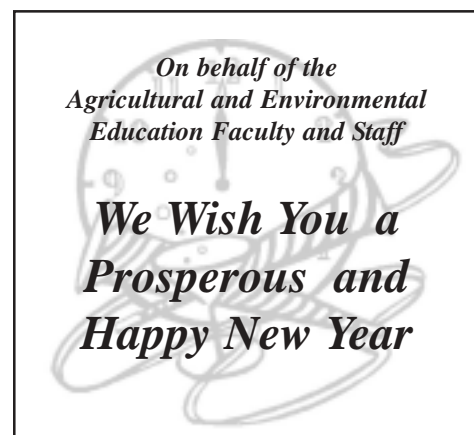
Adam Judy, Moorefield Middle, led the way in individual awards, capturing **FIRST PLACE** in *Division I, Biotechnology-Microbiology-Food Science* area of the National FFA Agriscience Fair. **Way to go, Adam!**

Several other FFA members also brought honors to West Virginia through their participation in the convention. In the individual speaking events, **Brent Wellings** (Doddridge County) earned a silver emblem in *Extemporaneous Public Speaking*, **Kaela Kuhn** (Hundred) received a bronze emblem in *Prepared Public Speaking*, and **Alex King** (Marion County) was honored with a bronze emblem in the *FFA Creed CDE*.

Former WV FFA President *Nathan Taylor* was a proud representative of the state's membership, giving an outstanding effort in his attempt for a **national office**. Although he was not elected, Nathan was grateful for the support he received from FFA members statewide.

An Honorary American FFA Degree went to state FFA supporter and Carhart representative Gary Connell. In addition, a National VIP Citation was presented to Benny Renick of Kroger Mid-Atlantic, and a Distinguished Service Award was presented to Kroger Mid-Atlantic for their commitment to agricultural education and the FFA.

Congratulations to all who participated in this year's convention.



Knowledge and Attitudes of Biotechnology and Agriscience by West Virginia Agricultural Education Teachers

Jason E. Hughes, S. A. Gartin, and H. N. Boone

The concept of biotechnology is not new. If you have consumed a piece of cheese or yeast bread, you have consumed a product of biotechnology. Man has been selectively breeding plants and animals and using microorganisms to make food items such as cheese, bread, and beverages to improve his way of life for thousands of years. In fact, the term biotechnology was originally coined in 1919 by a Hungarian engineer, Karl Ereky (Murphy and Perrella, 1993). At that time, the term meant all the lines of work by which products were produced from raw materials with the aid of living organisms

As the use of modern biotechnological techniques was accelerating in the 70s and 80s, agricultural education was at a major crossroad. In a major study funded by the National Academy of Sciences, the authors challenged the profession to broaden the relevance and scope of the agricultural education curriculum to better prepare students for the study of agriculture in post secondary schools and colleges and for current and future career opportunities in agricultural sciences (National Research Council, Board on Agriculture, Committee on Agricultural Education in Secondary Schools, 1988). One response to this challenge was to infuse more science and technology into the agricultural education curriculum. Agriscience, bioscience, and ag-technology became buzzwords that reflected the infusion of biotechnology and genetic engineering into the agricultural education curriculum (National Council on Vocational Education, 1990). The techniques of biotechnology are among the most complex and widely applied innovations of our time, however, many are already applied to agriculture in more ways than most of us suspect (Smith, 1989).

While the concept of integrating more science into the agricultural education curriculum was widely accepted, a major question arose. Did agricultural education teachers have the knowledge, understanding, and attitudes about biotechnology to

properly implement the concepts into the high school curriculum? The purpose of the study was to explore the attitudes and knowledge of biotechnology and agriscience issues by agricultural education teachers in West Virginia.

Demographics

Information was received from 62 teachers (65.3%). Of the teachers reporting, the mean for years taught was 16. When asked what was their highest degree earned the respondents indicated that 31 (50%) held a B.S. degree, 29 (46.8%) held a M.S. Degree, and 1 (1.6%) held a Ph.D. Among the respondents, 40 (64.5%) operated a farm and 14 (22.6%) operated an agribusiness.

Level of Knowledge

Teachers were asked to rate their knowledge of each of the 18 biotechnology topics using a score of 1 = no knowledge, 2 = heard about, but very little knowledge, 3 = read about, possess some knowledge, and 4 = applied, knowledgeable. Animal reproduction was the only topic that a majority of the agricultural education teachers (73.7%) perceived themselves as having “applied knowledge.” Approximately one-third of the respondents indicated “applied knowledge” on growth hormones (36.2%), hybridization (35.1%), resistant plant species (25.9%), and plant tissue culture (29.1%). Between 10 and 20 percent of the teachers had “applied knowledge” of biotechnology ethics (19.4%), cloning (15.0%), genetically modified food (15.0%), genetic engineering (13.6%), microbial biotechnology (12.1%), electrophoresis (11.9%), food biotechnology (10.0%), and environmental biotechnology (10.0%). Less than 10 percent of the respondents indicated “applied knowledge” about gene splicing (8.3%), recombinant DNA (8.3%), transgenic species (5.4%), human genomics (3.5%), and bioremediation (3.3%).

A majority of the teachers perceived themselves having “applied, knowledgeable”, about the topics of plant pathology (85.5%), animal and vet science (74.2%), aquaculture (71.0%), soil science (69.4%), agriculture mechanics/engineering (64.5%), botany/plant science (62.9%), environmental science (54.8%), and horticulture (85.5%). Less than 50% of the respondents rated themselves as “applied, knowledgeable” on the areas of crop science (48.4%), hydroponics (45.2%), forestry science (40.3%), and food science (33.9%).

Attitudes

Teachers were asked to express their attitudes toward biotechnology topics by responding to 10 items using a score of 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. Over two-thirds of the respondents agreed (agree or strongly agree) with each of the 10 attitudinal statements. Over ninety percent of the respondents agreed that “biotechnology should be a topic in an agriscience class” (90.3%), “local, state, and federal money should be spent to enhance the teaching of biotechnology” (90.2%), and “genetic engineering of feed crops should be supported” (90.2%). The agreement for the other items included: “support the use of biotechnology for environmental purposes” (82.3%), “support the use of biotechnology for human medicine” (79.0%), “support the genetic engineering of food crops” (75.8%), “biotechnology should be a class taught by AgEd teachers” (74.2%), “support the genetic engineering of animals” (73.8%), “crossbreeding to produce hybrids is not morally wrong” (72.6%), and “cloning living organisms is not morally wrong” (66.1%).

The attitudes possessed by West Virginia agricultural education teachers of agriscience were determined by the teachers’ responses to seven agriscience issue questions. The teachers agreed or strongly agreed with every agriscience statement with the exception of one. The statements included “WV agriculture education

teachers should have the option to be dual certified in science and AgEd” (93.5%), “WV agriscience courses should receive science credit (92.0%), “all WV agriculture programs should teach agriscience courses” (90.3%), “agriscience should be taught at the middle school level” (82.3%), “WV agriculture education teachers should be dual certified in science and AgEd” (72.6%), and “agriscience courses are equally enriched with science concepts across WV” (67.8%). Teachers did not agree with the statement, “WV agriculture education programs should teach only agriscience courses” (17.8%).

Teacher Responsibilities

Teachers were asked the relationship between their job responsibilities and 10 biotechnology issues. Teachers were asked to rate their agreement on including the 10 biotechnology topics in their job responsibilities using a score of 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. Over eighty percent of the respondents agreed (agree or strongly agree) with four of the job responsibilities. The responsibilities included: teach high school students about biotechnology (90.3%), involve students in biotechnology related SAE’s (83.9%), educate farmers and agriculturists about biotechnology (82.9%), and develop biotechnology instructional materials (82.3%). A majority of the respondents agreed with an additional three responsibilities including: educate public policy makers about biotechnology (62.9%), educate consumers about biotechnology

(53.2%), and distribute publications about biotechnology (50.0%). A majority of the respondents failed to agree on three responsibilities including: sponsor meetings related to biotechnology (37.1%), conduct biotechnology research (37.1%), and distribute publications about biotechnology (29.0%).

Teachers were asked the relationship between their job responsibilities and 10 agriscience issues. Each statement was preceded by “It is my job to...” A majority of the teachers agreed or strongly agreed it was their job to develop instructional materials and lesson plans on agriscience, (95.2%), teach high school students about agriscience, (95.1%), involve students in agriscience related SAEs, (92%), educate farmers and agriculturists about agriscience, (83.9%), educate public policy makers about agriscience, (67.7%), educate consumers about agriscience, (61.2%), distribute publications about agriscience, (59.6%), and sponsor meetings related to agriscience, (56.5%). Less than half of the teachers agreed it was their job to conduct agriscience research, (43.5%), and develop publications about agriscience, (38.7%),

Conclusions

Agricultural education teachers in the target population had limited knowledge of biotechnology topics. Teachers perceived themselves as having more knowledge on biotechnology topics that have traditionally been associated with

agriculture (animal reproduction, hybridization) and less knowledge on topics that are associated with other fields (environmental biotechnology, human genomics). Teachers, however, perceived themselves as knowledgeable about agriscience.

Agricultural education teachers in the target population were split on their attitudes about biotechnological issues. They agreed that biotechnology issues had a place in the high school classroom and the agricultural industry. The overall support dissipated as the “extremes” of biotechnology were introduced.

Agricultural education teachers in the target population were split over their role in biotechnology issues. Teachers agreed that it was their role to educate their high school and adult students, develop biotechnology instruction materials, and educate policy makers and consumers. They were not as strong in their support of sponsoring meetings, conducting research, and developing publications on biotechnology issues. Teachers do not feel that agriscience courses should be the only courses taught in an agricultural education program.

Jason Hughes earned a Bachelor of Science Degree in 1992 and a Master of Science Degree in 2001 in Agricultural Education from West Virginia University. For a copy of the complete report, go to the WVU ETD project at: <http://etd.wvu.edu/templates/showETD.cfm?recnum=1932>.

Moving Beyond the Classroom (Continued from Page 1)

- Managers of Tractor Supply, Inc.
- Field Supervisors in the poultry industry
- Loan Officers for Virginia-West Virginia Farm Credit
- Manager for DeKalb Swing Breeders
- Sales & Marketing for Milk Specialties Company
- Marketing & Public Relations for Charleston/Orwig
- Farm Manager for Potomac State College
- Meat Inspector of Moyer Packing Company
- Field Specialist for NRCS and State Soil Conservation
- Specialists for Farm Service Agency
- Specialists for USDA & the WV State Department of Ag
- Director for VA and Ohio Beef Councils
- Lawyers
- Judges
- Chiropractor
- Owners &/or Operators of Agricultural and Nursery Operations.

If you know of and are in contact with an individual or individuals who have reaped the benefits of his or her agricultural and environmental education, we’d love to hear their story.

Important Dates

Feb 6-8	FFA Winter Leadership Conference	Cedar Lakes
Mar 13-15	State Ham Bacon and Egg Show	Charleston
April 9	Beef Expo and Grasslands CDEs	Jackson's Mill
April 16	FFA Governing Body/Ag Ed Program and Policy Committee	Cedar Lakes
April 24	State Equine CDE	Salem
April 29	West Virginia Envirothon	Jackson's Mill
June 17	Ag Ed Teacher's In-Service	Morgantown

Email Addresses and Phone Numbers

WVU

Dr. Stacy A. Gartin	sgartin@wvu.edu	(304) 293-4832 ext. 4480
Dr. Harry N. Boone, Jr.	hnboone@wvu.edu	(304) 293-4832 ext. 4481
Dr. Deborah A. Boone	debby.boone@mail.wvu.edu	(304) 293-4832 ext. 4482
James Carr	james.carr@mail.wvu.edu	(304) 293-4832 ext. 4477
Dr. Graeme Donovan	graeme.donovan@mail.wvu.edu	(304) 293-4832 ext. 4477
Alice Compton	alice.compton@mail.wvu.edu	(304) 293-4832 ext. 4484
Office Fax		(304) 293-3752

WVDE

Donald L. Michael	dmichael@access.k12.wv.us	(304) 558-2347
Keith Burdette	kburdett@access.k12.wv.us	(304) 558-2347
Kim Honaker		(304) 558-2347
Office Fax		(304) 558-0048/1149

Published by:

**West Virginia University
Davis College of Agriculture, Forestry, and
Consumer Sciences
Division of Resource Management
Agricultural & Environmental Education
Morgantown, WV 26506-6108**

in cooperation with

**West Virginia Department of Education
Division of Technical & Adult Education
Services**

**Office of Program Services
Agricultural Education
Charleston, WV 25305**

and

**West Virginia Association of Agricultural
Educators**

Volume LIII No. 5

Non Profit Org.
U.S. POSTAGE
PAID
Morgantown, WV
Permit No. 34

Agricultural & Environmental Education
Davis College of Agriculture, Forestry, and
Consumer Sciences
P.O. Box 6108, Room 2056 Ag. Sciences Bldg.
West Virginia University
Morgantown, WV 26506-6108