Changes in Agricultural Education

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As agricultural education changed from what it was in 1970 to what it is today, most certainly it has changed in form and substance, but the value agricultural education has added to the lives of students—value that could not be added by any other form of education or training—has not changed. While the previous statement may be very bold to some, those of us in agricultural education believe it to be fact. Nonetheless, agricultural educators still encounter some difficultly when attempting to convince the rest of society of the value added by agricultural education.

It seems reasonable to assume society would have suffered if agricultural education had been discontinued at the secondary, post-secondary, and the university level. To assume differently would be quite preposterous.

However, it would not be preposterous to assume the lives of the students that have and will participate in agricultural education would be considerably different; the lives of these students would have less value to the individual and less value to the constituent society in which these students participate.

Today, the forward-looking, modern secondary agriculture program is still comprehensive and is still designed to provide social development, occupational exploration and job preparation. Agricultural education still contributes considerably to career and general education. And for the student enrolling in a university agriculture curriculum, a high school agriculture program is still a valuable background.

For some students, secondary agriculture still provides the technical competencies and human relations skills to enter directly into the agriculture job market or into production agriculture itself. This entrance has not been achieved with a background of a nine-week exploring agriculture program. Agreed, the number of students in this category has been small, but where would these students have developed the competencies if there had been no secondary agriculture program?

Today's comprehensive secondary agriculture programs still provide students with opportunities to apply competencies gained from a broad spectrum of high school courses. Through classroom study and the student's supervises agricultural experience program, the principles of biology, mathematics, economics and communications are still being applied in the most "real world" situations available to high school students through dropping out of school and entering the real world.

The modern secondary agriculture program still emphasizes values, work ethic, problem-solving skills and decision-making abilities. The student is not successful in his or her supervised agricultural experience program unless he or she is adept at goal setting, problem solving and decision-making. Again, it should be stated that these skills and/or abilities are still being practiced in "real" situations.

The modern secondary agriculture program still stresses development of social and leadership competencies in public speaking, parliamentary procedure and other agriculture-related activities. The program still promotes cooperation and competition. For competitive events, every student will still receive basic preparation in the classroom and through additional concentrated training, every student will have the opportunity to achieve to the level of her or his ability.

To provide the student with a "real life" situation in which to practice and improve the aforementioned competencies, today's secondary agriculture program still encourages each student to be a participating member of the local FFA chapter. For exploration alone, involvement is still critical. Many individuals are still attuned to the value of this experience for many different occupations from many occupations.

Today's modern secondary agriculture program, through its comprehensive curriculum, still provides the student with a broad spectrum of experiences because agriculture does not pertain only to farming and ranching. It also involves manufacturing, sales, service, management, marketing, communications, science and technology. The secondary agriculture student still develops competencies useful in many occupations...

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By Paul Byrley and John D. Todd

Mr. Byrley taught vocational agriculture for 30 years in Union County, and has been serving as full-time vocational director in the same system for four years. Dr. Todd taught vocational agriculture for 10 years and has been an agricultural education teacher educator at the University of Tennessee, Knoxville for 31 years.

Agricultural education in Tennessee has experienced many changes during the past 45 years. These changes were necessary to keep pace with similar ones in the agricultural industry and society in general. Agricultural education programs have changed from preparing students for farming to preparing them for employment in many areas of agriculture, including farming.

Change to SAEF

Supervised farm programs became known as supervised agricultural experience programs (SAEP). Students could still conduct farming programs if they had the facilities, but cooperative work experience programs in agriculture became a reality and school laboratories (agricultural mechanics and greenhouses) were available for students who lacked farm facilities to get hands-on experiences.

Change to FFA

During the 1950s, there were about 10 farming-oriented proficiency areas. As agricultural education programs changed, similar changes occurred in the FFA. Today, degrees can be obtained in both production and agribusiness areas of agriculture.

Change to Include Females

In 1969, FFA changed its rules and allowed females to become members. This, along with the broader definition of agriculture, helped increase enrollment in agriculture classes. This led to increased demand for agriculture teachers in the 1960s and 70s.

Change to Scheduling

Block scheduling is becoming very popular. This permits students to earn course credits during a semester rather than an entire school year. Class periods are 90 minutes compared to the traditional 45- to 55-minute period. This is...

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The future development of agricultural education departments is a constant point of discussion. What classes should be offered, who should teach those classes, and where will the resources come from? This discussion should not concentrate on the actual structure of a specific department, but rather on the functions of what an agricultural education department should encompass or provide. Agricultural education programs should expand to include knowledge in such areas as the environment, business, value-added processing and global issues. I believe that agricultural education departments should concentrate more effort on preparing college students, including graduate students, and those other than teaching in formal settings. A 1988 report by the National Academy of Sciences entitled Understanding Agriculture: New Directions for Education, defined two avenues of interest within the scope of agricultural education. These are agricultural literacy, or education about agriculture, and vocational agriculture, or education in agriculture. Focus on these two major elements has not been quick in coming (Shinn, 1993). I believe departments need to realize this dual role, and place an increasing emphasis on the education of students interested in pursuing careers in education about agriculture.

Agriculture in changing. People are moving off farms. Less than two percent of the United States working population is employed in agricultural production, however, 15-20% of the value-added jobs require knowledge and skills in agriculture. Foreign markets are opening and developing countries are seeing a need for more advanced agricultural programs. Misconceptions about agriculture form the remaining 98% of the population need to be dispelled. An understanding of production and consumer acceptance of agricultural products and practices is important. Communication specialists in agriculture have their work cut out for them. The increased use and need for technology awareness is crucial to understand the consumer in order to enter the 21st century competitively. All these areas of agriculture and more should fall under the umbrella of agricultural education.

An agricultural education department should provide opportunities and flexibility for students who, with their educational background, will be prepared for teaching roles in society. Here, the term "teaching" needs to be defined. Whenever knowledge is passed on from one individual to another individual or group of individuals, teaching has occurred. Commonly, when talking about the role of a teacher or the act of teaching in the agricultural education setting, we are mistaken to believe that formal teaching in the classroom and, more specifically, in the secondary school classroom is the only focus. Teaching occurs in many different areas of everyday life, not just in the formal classroom setting.

The number of students being trained to teach is on the decline nationally. However, undergraduate enrollment in colleges of agriculture is at an all-time high (Brown, 1992). These trends are cyclic. Departments and, in turn, importantly the students within those departments, need multiple options. Quality teachers are extremely important, but employed students and eligible agricultural education departments have value as well. Dr. Kirby Barrick stated this view perfectly when he said:

"While teacher preparation is the central mission, the application of the teaching/learning process can be made in a variety of other settings. Teacher preparation should be redefined to include the preparation of personnel who will apply the teaching/learning process in agriculture. Extension agents are teachers who utilize the teaching/learning processes in non-formal setting and with audiences that include youth and adults. Communication also involves the principles of teaching and learning, but typically through print media or in informal situations such as broadcasting and advertising" (Barrick, 1993, p. 1).

Agricultural education departments are also responsible for educating non-agricultural students. Dr. Corrigan, while guest lecturing in an Agricultural Education 615 class at Texas A&M University, stated that, "If anyone should deal with food, energy resources and hunger, it's this group (agricultural education students)." (Corrigan, 1994). Educating the non-agricultural sector of society can only increase with placement of teachers into society with background in and a fondness for agriculture. A knowledge of the virtues associated with images affiliated with agriculture are exemplified in the following quote from Sacred Cows and Holy Potatoes:

The images of farm life as harmonious with nature are promoted in the books we read to our children. We teach them the animal sounds as Farmer Brown makes his way from pen to pen, and we teach them that the seasons are tied to planting, growth, harvest and regeneration. These images also teach the virtues of independence, hard work, family and community and that the natural environment is interwoven with those virtues" (Brown, 1992, p. 100).

Agricultural literacy programs are a perfect example of teaching agriculture outside traditional agricultural settings.

A problem of resource availability within departments and educational levels could be questioned if implementing these ideas in the university setting. I believe these resources are there. Distance education is a way to meet some remote resource needs (Newcomb, 1993). The benefits gained with this expansion of knowledge would create a situation where accessibility of lost dollars or time would be offset. Increasing learning possibilities can only enhance the academic curriculum with access to and enough resources in knowledge and a willingness to expand methodology in any progressive department. I also do not believe that the added curriculum would cause a conflict of interest among the constituents of any specific department or in the profession as a whole. It would, instead, create synergy. Research should also be used as a tool in order to experience benefits within limited resources. A collaborative approach to research and learning through distance education, electronic mail, telephone conferencing and facsimile transmission will enhance individual departments (Newcomb, 1993). It may take substantial efforts to create the cooperation necessary, but the end result would be rewarded (Newcomb, 1995).

Critical mass is important (Shinn, 1994). The structure of the discipline must be common and basic, almost to the point of being considered traditional. A model was developed to illustrate this concept (see Figure 1). This base of instruction will then lead to specific study within a subdiscipline area of interest. This model was based on the land-grant mission in which there are three rings of teaching, research and service. Dr. Barrick expanded this model into four areas: teaching and learning; human resource development and management; communication; and research methodology and data analysis. Barrick's vision agricultural education departments is represented within a square (Barrick, 1993).

This could be seen as restrictive to the flow between ideas. A circle may be more appropriate with each area building and learning from another, while still allowing for specialization.

Agricultural education departments were once incorporated within the umbrella of agricultural education. Students and professors were specialized within one of the specific disciplines. Their offices were in the buildings of their specific area of knowledge. Agricultural education departments merged into the "own building" in many universities, and in many places, extension fits under the umbrella of agricultural education. The agricultural education mission has developed into what we now consider the best program for providing the best learning experience in the field of teacher training. The field of agricultural education now has the opportunity to expand this excellence into areas possibly never dreamed of in traditional agricultural education settings.

"As educators, we should constantly record the changing conditions in consumer expectations, environmental concerns, structure of agriculture, global economic and political forces, availability of food, financial forces, and the functions of agricultural education in an information-driven society" (Shinn, 1994, p. 1). Not only will the agricultural disciplines provide excellent teachers in the classroom, but specialists in the environmental education, educational methodology, leadership, agricultural extension and youth development as well. National priorities can be incorporated into the agricultural education programs including water quality, waste management, youth at risk, food safety, quality of life, the structure and function of the family, and sustainable agriculture to name a few (Brown, 1992). I believe that the role of agricultural education departments is changing and these departments should concentrate their effort on preparing graduates for roles other than teaching in formal settings as well as continuing to provide excellent teachers for the formal settings.
Commitment to these adult organi-
cations can vary from a full-time
adult educator to the absence of
any adult programming affiliated
with their program (NCR-158
Committee on Adult Education

Numbers and
Arrangements of Adult
Organizations

Our national study revealed that
217 of the 218 secondary agricul-
ture teachers surveyed had at least
one adult organization affiliated
with their programs. The most
common arrangements were to
have an advisory committee and
one other adult organization (91)
or just one organization (82), usu-
ally an advisory committee.

Within the discipline, profession-
als promote an ideal of secondary
education programs being affiliated
with an advisory committee, FFA
Alumni affiliate and NYFEEA
chapter. Each of these adult organiza-
tions has unique goals that, if achieved togeth-
er, should provide exhaus-
tive and well-balanced advising support,
continuing education and literacy educa-
tion through the agricultural educa-
tion framework. However, our
results indicate that although most
secondary agriculture teachers had a
positive attitude toward the three-
organization model, only 9 percent
(19) had adopted it.

Teachers indicated the principle
advantages of having all three orga-
nizations were increased levels and
diversification of program support
and resources, community involve-
ment, promotion and public rela-
tions, support for FFA and other
youth activities, program guidance,
and strengthened ties with the
community and industry. Only a
couple of teachers cited advantages
for the adult members themselves.
Principle disadvantages were
increased teacher responsibilities
and time added to the job, not
enough adults to support three
organizations, increased conflict
within the program, and too many
adults telling the teacher what to
do or trying to run the program.

In summary, teachers perceived
the three-organization model more
as a source of headaches than a
source of relief. The fact that agri-
cultural educators have positive
attitudes toward the three-organiza-
tion model, but demonstrate 91%
rejection of the model indicates
the teachers weigh the disadvantages
more heavily than the advantages.
Factors such as the number of
teachers in the program did not
influence attitudes toward the
model.

What Goals do the
Adult Organizations
Accomplish?

We determined from the litera-
ture that there are 21 primary goals
for advisory committees (National
Center for Research in Vocational
Education, 1982), the FFA Alumni
Association (National FFA
Foundation, 1993), and
the NYFEEA (National Young Farmer
Educational Association, Inc.
1992). Teachers participating in
the national study were asked how fre-
quently each of the 21 primary
goals was being met by the adult
organization(s) affiliated with their
secondary agricultural education
programs.

Based on the teachers’ responses,
we recommended establishing a net-
work of seven essential goals that
should be addressed by an advisory
committee and up to one other
adult organization. This framework
includes three advisory committee
goals (goals #1, 2, and 3 below),
and three goals common to all types
of adult organizations (goals #4, 5
and 6 below). Despite teachers’ low
ranking, we also recommend includ-
ing an NYFRA goal for continuing
education (goal #7 below). The
framework of 7 goals is:

1. Advise teachers in the agricul-
tural education program on course
content.
2. Assess equipment and facility
needs of the agricultural educa-
tion program.
3. Evaluate the agricultural educa-
tion program.
4. Assist with public relations and
promotional efforts for the
agricultural education program.
5. Identify community resources for
the agricultural education program.
6. Support FFA youth activities.
7. Assist the agricultural educa-
tion program in involving for-
mer students who remain in the
community after graduation.

What is the best way to
determine where to pour
a concrete walkway is to plant
grass and observe where people
walk. We feel this is the case for adult
organizations in agricultural
education.

well as those of the secondary agri-
cultural education program.

Furthermore, teachers indicated
that agriculture students who
remain in a community after gradu-
ation are obtaining continuing edu-
cation in agriculture from other
sources such as post-secondary
institutions, Cooperative Extension
Service, Farm Bureau and com-
modity groups, rather than through
secondary agricultural education
programs.

Despite its low initial support,
the seventh goal should remain as
part of the essential framework.
Continuing education and support
in agriculture is important for
former students who remain in the
community after graduation. Existing
educational programs should be
continued and expanded.

However, for this to happen, agricul-
ture teachers need to maintain or
develop linkages with existing
continuing education programs in
the community rather than duplicat-
ing efforts to provide quality
adult agricultural education.

Conclusions

Sometimes the best way to deter-
mine where to pour a concrete
walkway is to plant grass and
observe where people walk. We feel
this is the case for adult organiza-
tions in agricultural education.
The teachers who responded to
our national survey indicated that
it should only take an advisory com-
mittee and one or other adult organi-
zations to meet the needs of the sec-
ondary programs and adult mem-
bers. The framework of seven
essential goals, developed from the
teacher responses, can be used as
a guide for building or maintaining
an effective adult agricultural edu-
cation network. Are these goals
exhaustive and inclusive for every
program? Probably not. Other
goals for adult organizations affili-
ated with secondary agricultural
education programs should be
based on local needs.
Agricultural education has been a dynamic profession. Many changes have occurred in the profession over the last 25 years as a result of changing student population and agricultural industry. Our writing is based on more than 50 years of combined experience in four states and several agricultural education positions. This article is not intended to be all inclusive, but to provide some of our observations of changes in the agricultural education profession. We have chosen to present our comments by categorizing them according to various aspects of the program.

**Students**

The student population enrolled in agriculture has changed over the last 25 years. Youth, boys enrolled in secondary vocational agriculture because they planned to go to work on farms. A majority of today's students enroll because of other interests in agriculture, and they do not have a farm or ranch background experience from which to draw. Many students today enroll in agriculture because they wish to acquire the leadership development skills that our instruction and the FFA have to offer. More students today come from single-parent or step families. Some students are found to be living alone. Often these factors contribute to a lack of support system, which makes it difficult for them to participate in FFA or have a strong Supervised Agricultural Experience Program.

When we started teaching, females were not allowed in FFA, therefore, they did not enroll in FFA agriculture. Today's secondary agricultural education classes are composed of many young women who will make substantial contributions to the agricultural industry.

**Curriculum**

Most of the curricular changes that have occurred over the last 25 years are in the areas of the agricultural sciences and businesses. Instruction in production agriculture has been reduced considerably. Today we see more agriculture being taught and greenhouses are a part of our instructional facilities. Wildlife management and other environmental subjects have become a part of our curriculum.

Students used to be taught more farm business management. With the change in student interests and backgrounds, the emphasis is now on agribusiness management, including marketing and sales. A global understanding of agriculture and marketing of its products has been included in the curriculum. In general, our secondary agriculture curriculum has been changed to meet the needs of the diverse industry and our students. Many curricular changes have occurred in secondary agriculture programs as a result of recommendations made in the publication, *Understanding Agriculture: New Directions for Education*. Curriculum materials available from the National Council for Agricultural Education have also included many of the changes in agricultural programs across the country.

We have not experienced as much change in agricultural mechanics. Agricultural mechanics should contain much of the same equipment as years ago, some of which is outdated and some newer models. However, interest in agricultural mechanics at the secondary level still seems to be there. In contrast, agricultural mechanics at the university level has become non-existent in some institutions. The emphasis has changed to other technologies. The agricultural mechanics labs at the University of Nevada, Reno were closed about seven years ago. Students in agricultural education now have to take mechanics courses at a community college and transfer them to the university.

**FFA**

Our changing student population has contributed to changes in the FFA. Females and students with diversified interests have influenced change in the Career Development Events (CDE) and awards offered. Our observations indicate that females have a keen competitive nature and seem to mature earlier than male students. In general, females thrive on the opportunity to "beat out" male student for places on CDE teams. They tend to get their work done on time and it is often of higher quality than males.

What used to be called judging contests are now called Career Development Events. Several new events have been established including horse selection, agricultural sales, agricultural marketing, parliamentary procedure and floriculture. All CDE's have been updated to reflect industry changes. New award areas have also been established. The proficiency award program has been expanded. Computer-generated applications have been developed and are used, and computerized record books are common.

The number of resources available to help agriculture teachers be successful with their FFA organization is tremendous. Twenty-five years ago, we had the FFA Manual as a reference. Today we have the FFA Student Handbook and the Advisor's Guide to the FFA Student Handbook, the new Guide to Local Program Success, and other references for completing proficiency awards, organizing and staging Career Development Events, for completing the American FFA Degree application, and many others.

Scholarships for FFA members have become more available. This past year, ten seniors enrolled in agriculture at Spring Creek High School of Elko, Nevada, garnered in excess of $20,000 of scholarship money—$3,000 of which was from local and National FFA sources.

**Supervised Agriculture Experience Programs**

The changes in our supervised agriculture experience programs, too, have come about to meet the needs of our students of today. CDE programs have become more diverse. Most students worked on farms when we began teaching. Now most students have placement or entrepreneurial programs. We find students working in veterinary clinics, dog kennels, golf courses, feed stores, western clothing stores, recreation facilities such as bed and breakfast establishments, ski resorts and as hunting guides. Students own small businesses such as lawn care services, sheep breeding services, welding services, raising exotic animals and fish, and raising their own production enterprises as they have done in the past.

**Facilities and Equipment**

Changes in enrollment and the curriculum in agricultural education have spurred change in our facilities. Most agriculture departments now have laboratory facilities for females instead of a lock in the boy's room. Many schools have greenhouses, aquaculture tanks, agriscience labs, computer labs, land labs, livestock facilities, turf and landscape labs, and small animal care facilities. Virtually all departments have at least one computer. Many are linked to the Internet, Agri-Datas or another provider of electronic information.

Electronic instructional equipment has improved over the years. Most teachers have capability to show videos and CDs as well as slides and overheads. We haven't seen a flipstrip shown in years! Photocopiers provide the capability to enlarge, reduce, collage and staple.

**Teacher Education**

The preparation of agriculture teachers has changed to reflect the needs of today's teachers. Additionally, and probably more notable, is the fact that the university structures in which these teachers are prepared has changed dramatically. In the 1970s and early 1980s, there was a national shortage of agriculture teachers, and agricultural education programs in universities thrived. We were in a situation where it was necessary to recruit heavily in order to try to meet the demand for teachers. The shortage was attributed, in part, to the growth of the economy. There was a demand for good people in various agricultural occupations, and good agriculture teachers left the profession after two or three years of teaching to enter those jobs, leaving a continuous demand for teachers. University students often choose their major based upon the demands of the job market. Agriculture students knew they could obtain a job teaching. This enhanced recruiting efforts and enabled agricultural education departments to remain strong.

In the mid-1980s, the agriculture economy took a turn. New businesses and agencies to close or restructure. Job opportunities became less available, so agriculture teachers stayed in their positions for a longer period of time. The demand for teachers was not as great as it has previously been. As such, it has been more difficult to recruit students into agriculture teacher education. Many agricultural education programs have had to restructure to continue to be a viable unit in their university. The restructuring led to consolidation of several units, including such disciplines as communications, rural sociology, human resource development or agricultural technology. Some departments were absorbed into other existing units on campus. The agricultural education program at the University of Nevada, Reno, is a teaching major in secondary education in the Department of Curriculum and Instruction in the College of Education. With these various changes, it is often difficult to...
Agricultural Education: Changing Because You Change

By Michael P. Sibiga and Alfred J. Mannebach

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There have been many changes in agricultural education over the years. The authors started their teaching and teacher education positions some 25 years ago in Connecticut. What changes have taken place in agricultural education during those years? What were the major factors that caused agricultural education to change?

Over the years, we have witnessed changing societal, educational, and agricultural environment. Gone are state highway tolls, free tuition at U-Conn, ten-cent pay phones, free road maps at service stations. The Hartford Times, about 40 banks and the Hartford Whalers. With us are shopping centers and outlet malls, shopping on Sunday, personal computers, cable TV, the state income tax, Lyme Disease, AIDS and legalized gambling. Major changes have taken place in agriculture, in education, in the students, and in the teachers themselves, all in the context of major societal changes including the aging population, advances in technology, shifting demographics, increasing diversity, corporate mergers and downsizing, globalization and a host of other factors.

Changes in Agriculture

All of us have witnessed major changes in agriculture. While farms once dotted the landscape, much production agriculture has given way to urban sprawl. The dairy booms and busts, the rapid growth in housing, the rise in governmental regulations and many other factors have substantially decreased the number of family farms in Connecticut. Concern about the quality of life for suburbanites has replaced interests in maintaining quality of life on the farm. Efforts to preserve farmland and the environment are underway. Advances in mechanization, computerization, transportation, robotics, hydraulics, animal and plant genetics, and chemical and biological processes have changed agriculture greatly.

Production agriculture, generating some $2.1 billion of revenue annually, remains important in Connecticut and is the core of what we do in agricultural education.

However, its growth, magnitude and success have spawned many employment opportunities in agricultural research and development, marketing, distribution, sales, communication, management engineering, finance, education, and other areas of specialization.

Globalization, specialization, technology and niche marketing are emerging areas of agriculture, all with the common denominator of conserving natural resources, concern for the environment and maintaining and enhancing quality of life.

With the changes in agriculture, concurrent changes in agricultural education. Emphasis shifted from production agriculture and farming programs to students studying any occupation which involved knowledge and skills in agricultural subjects. With the release of the National Research Council Report on Agricultural Education (1980), emphasis was expanded again, from preparing students in agricultural occupations only to an emphasis on teaching both in and about agriculture and agricultural issues. As a result, enrollments have increased as increasing numbers of students seek the kind of education offered in the expanded agricultural education program.

Changes in Education

Many changes have taken place in education over the years. Emphasis over time has been placed on meeting the needs of individuals, increasing academic, and on meeting the needs of the labor market. In the early 1970s, career education and emphasis on meeting the needs of the individual was the focus. The publication of a nation at risk (1983) shifted the emphasis back to the basics and academic rigor. Passage of the School-to-Work Opportunities Act (1994) again shifted emphasis back to meeting the manpower needs of the nation, increasing standards and preparing students for the global economy.

A number of other social, economic and political changes have also affected education. Proponents of back-to-the-basics, rigorous academics, integrated curriculum.

Changes in Students

A major change in agricultural education has been in the students enrolling in the program. In the past, students were more likely to come from farms, be male and have extensive work experience in agriculture. Students today are more likely to come to the program with less agricultural experience than before, an interest in animal, plant or environmental science, and little or no farm background. In addition, students are almost as likely to be female as male. Today's students, however, are likely to be more diverse, more academically and technically prepared and more ready and willing to learn. With the widespread availability and ownership of personal computers, students today have more access to the tools of knowledge and resulting information than ever before in our history.

Elements of Success

Agricultural education has been successful in adapting to these changes in the content of a rapidly changing society. Scientific and agricultural education. It has continued to serve its clientele and the agricultural industry. The strength of agricultural education has been that it has had the capacity of adapting to change while retaining essentially the same. While content, clientele, budgets, equipment and resources have changed, the underlying organization, structure and philosophy of agricultural education has remained essentially unchanged since its inception some 80 years ago. In addition to the classroom and laboratory instruction, the supervised agricultural experience program and the FFA— which are the core of the program—corporate programs and components and philosophical beliefs undergird our...continued on page 19
Don’t Look Back, You Might Trip Over an Opportunity

By Dale R. Butcher

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I got involved in the professional organizations because I knew I had gained so much that I needed to give something back. My heroes taught me that the profession could remain viable only if the members took an active part.

I believe I have changed more than the things around me. Back in ‘64, I had my teachers. If I could only speak and have the personal presence of a Deed, if I could only have the experience of Bill Barnett or Glenn McDowell, if I could only be as dedicated as Bob Mcbride or as well liked as Odell Miller; if I could develop the desire of Ben Gullinger or the positive attitude projected by Virgil Tidder; if I could just tell a story as well as Leon Crowe, coach a soil judging team like Byron Cahalain, win proficiency awards like Richard Graham and Ron Hefy, or get as much out of a small school as Jerry Cook; if I could just analyze a problem and present a learned solution the way Glen Shinn could; if I could only be as effective a leader as Layton Peters or be able to express myself like Tom Jones; and most of all, if I could earn the respect of my peers like Albert Timmerman, then I could be a success.

As time went on, I found that my heroes became my colleagues. They shared with me and gave me an opportunity to get a glimpse of the "Professional Agriculture Teacher." I found I couldn’t be any of those persons or copy their successes, but I could adopt bits and pieces of their philosophies, ideas, programs, methods and characteristics. Something from here and something from there. Suddenly, I wasn’t sitting in the crowd watching my heroes. I was doing my part to improve the profession and become a model to others. Other professionals were looking to me for leadership.

I started mentoring younger teachers by working with sophomores in the agricultural education classes and student teachers from Purdue. I attended every Indiana Vocational Agriculture Teachers’ Association (IVATA) activity I could and took an active role whenever I could. Local, state and national agriculture teacher activities became important to me professionally because that was what my role models had taught me. As leadership opportunities presented themselves, I made a special effort to get less-experienced IVATA and National Vocational Agriculture Teachers’ Association (NVATA) members involved. Many young teachers were introduced to NVATA regional and national meetings. Several were also involved in American Vocational Association (AVA) activities. I hoped to demonstrate that the local agriculture teacher is a very talented individual.

I got involved in the professional organizations because I knew I had gained so much that I needed to give something back. My heroes taught me that the profession could remain viable only if the members took an active part. I saw my heroes taking on all the tasks no matter how big or small. All anyone needed to do was ask.

When I started teaching in 1964, agricultural education was wrapped in tradition. Many of the influential people from 1928 were still alive, and their names and accomplishments were still the standard. Expectations were that a young teacher would pay his IVATA dues, attend state meetings, and fill out requests from university agricultural education programs, state department staff members, or professional organization officers just because it had always been so.

Somewhere along the way, tradition took on less importance and what went on in the classroom—the instructional process—became the overriding model for agricultural education. Teachers who were successful in the classroom as well as in leadership events began to come to the forefront. Everyone in Indiana knew Bill McVey was an outstanding leader, now we realize the value of teaching philosophies and methods.

Today I believe the emphasis has changed with a business model being followed. What is important today is the customer. What our students are concerned about. Our customers and educational outcomes are the products. Education professionals spend a great deal of time determining their customers’ needs and polishing their image with the public by writing from statistical and performance-based objectives.

Today, many of my former heroes are no longer actively involved. The strange thing is that there are teachers today doing many of the same things my heroes were doing way back then. Along the way I have come to realize that there are no age limits on role models. To be a role model, regardless of your years of experience, you need to serve your community, teach in the classroom, and be involved in your professional organization. To find role models, all you need to do is observe, ask questions and get involved yourself.

Suddenly, you’ll find you are surrounded by individuals who have outstanding qualities you never realized they possessed.

Where will the next 30 years take agricultural education? No one knows for certain. What I do know is that the future is bright for those who focus their attention straight ahead. You learn from the past, but you succeed in the future. And if you don’t watch out, you might trip over an opportunity.

Answers to this issue’s quiz from page 28:

1. A. USDA officials have stated promoting secondary agricultural education in 1979. By the late 1990s, the number of U.S. students in high school 4-H clubs nearly doubled.
2. B. Dick Grody was hired to be a special assistant to the director of the USDA’s Office of Human Resources.
3. C. The Higher Food Act of 1978 created an agricultural department within the USDA and set a new direction for the development of agricultural education. It also established a new funding mechanism to support agricultural education.
4. D. In 1982, the Secretary of Education, Louis B. Sojourner, appointed a committee to study the future of agricultural education. This committee became the National Agricultural Education Advisory Committee (NAEAC).
5. E. The National Agricultural Education Advisory Committee (NAEAC) was established in 1982 to provide a forum for discussion and policy development related to agricultural education.
Changes in Agricultural Education in Pennsylvania

By Steve Kline
Mr. Kline is an agricultural science teacher at West Snyder High School, Beaver Springs, PA.

S
ince the publication of A Nation at Risk, our nation has been obsessed with educational reform. Evidence of that obsession is observable on every level of the educational bureaucracy—local, state, and national—and in every educational institution, private or public. School reform is on the agenda of most state legislatures and local school boards.

Increasingly, we see teacher in-service programs centered on reforms ranging from outcome-based education to school-to-work initiatives.

The agricultural education community has endured similar reforms. In the 1980s, the National Research Council established the Committee on Agricultural Education in Secondary Schools at the request of the U.S. Secretaries of Agriculture and Education: "to assess the contributions of instruction in agriculture to the maintenance and improvement of U.S. agricultural productivity and economic competitiveness here and abroad." The report of that committee, Understanding Agriculture: New Directions for Education, has fostered change in many agricultural programs. Is change good? It depends on whom you ask. Consider the following:

"Change is good. I changed my school to block scheduling because I thought we needed change. It works well. Student attendance improved and, after our second year, our SAT test scores started to improve. I like change. Maybe after 10 years on block scheduling, I'll change back to the traditional eight-period day just for the sake of change."

The above statement was made by a principal of a south central Pennsylvania high school on September 23, 1997, to a visiting team from my home school district.

My school district is contemplating a move to block scheduling and we were completing yet another round of school visitations prior to voting (January 1998) on block scheduling. This principal firmly believes that change is a good thing.

Unlike the principal in the example above, many of us fear change. I believe that change for the sake of change is not the right answer. I also believe, however, that we need to search for ways to improve our delivery system to allow us to do a better job of teaching. I wholeheartedly agree with L.H. Newcomb (1987) who stated:

"A profession grows or it dies; it changes or it faces atrophy, stagnation and slow demise. These choices are not viable options. The profession must become a holder of experimentation in education, not guardian of the tombs of bygone success."

It is in the spirit of Newcomb's above statement that change was implemented at my high school (West Snyder). This article focuses on changes that my agricultural education program has undergone in the last 10 years to improve its delivery system and make more opportunities available to more students.

The Need for Change

My tenure at West Snyder High School began in 1970. When I joined the program, the majority of the secondary program was my responsibility. The vocational agriculture program that I inherited was successful, ongoing and had a traditional production-oriented focus that offered double-period classes. Approximately one-half of the instructional time was devoted to agricultural mechanics. Since the high school is located in rolling hill country that is approximately 60% forested, I sought program approval from the Pennsylvania Department of Education to add instruction in forestry. The requested approval was subsequently granted.

A federal grant was written in 1973 to obtain equipment for an expanded forestry program. The additional forestry courses completed the curriculum which included dairy, swine, beef, crops, soils and agricultural mechanics instruction in electric arc and gas welding, engine overhaul, basic electricity and wiring, carpentry, and tractor and equipment reconditioning. FFA and PADE were, and still are, integral parts of the program.

The program prospered and our enrollment grew from an average of 55 students to 85 at its peak in 1977. We attributed our increased numbers to our expanded course offerings without realizing that the same enrollment trend were occurring elsewhere across Pennsylvania as well as the United States. During 1977, I petitioned the school board for an additional agriculture teacher. The request was granted and an additional teacher was hired for the 1978 academic year.

Facing Facts

Small but persistent decreases from 1977 until 1986 allowed numbers to fall to 35, the 1970 level. What was needed to stop and reverse this trend? Analyzing the situation as objectively as possible, I reached the following conclusions:

- Enrollment in a traditional, double-period production-oriented program would continue to decline.
- Active participation in FFA, even during the peak of 85 students, was limited to about one-half of that number.
- Students interested in more general agriculture and agricultural mechanics classes were not enrolling because FFA membership was required, i.e. FFA membership was a negative recruitment factor.

Making the Decision

Armed with the above "facts," a decision had to be made as to how best to remedy the enrollment situation. Serious thought was given to making significant changes in agriculture course offerings based on the following specifications:

1. Agriculture enrollment would increase if quality courses were offered on an elective basis.
2. FFA membership would continue to decrease initially, then level off. Our FFA chapter would have to "do more with less" if FFA membership was limited to enrollments in an FFA/PADE elective course. Our FFA chapter would have to become "leaner and meaner" because only those interested in FFA/PADE would enroll.

We decided to "go for it." I rewrote the curriculum and, for the first time, every vocational agriculture course was to be offered on an elective basis. The changes I suggested were approved by our high school principal and 1990-91 was the first year for agriculture electives.

Practical Application of Horticultural Skills is being learned by FFA members by growing geraniums. (Photo courtesy of Steve Kline.)

As predicted, agricultural enrollment numbers increased. Eighty-four different students have enrolled for one, two or three of our single-period, 45-minute classes during the 1997-98 year, a typical enrollment level since 1990-91. Also as predicted, about one-half of our students are not FFA members. Our FFA membership decreased to 42 during the 1996-97 school year. This year, our FFA membership increased to 55 enrollments in FFA 1 (This number is double our usual 15-16 FFA 1 enrollments which I attribute to an aggressive recruitment program in the elementary schools for the last four years. This recruitment program is the basis for my entry in the 1997 NVATA Region VI Harvest of Ideas Contest).

Has the West Snyder FFA Chapter become "leaner and meaner" as a result of the program change implemented in 1990-91? Our chapter has been named Pennsylvania's #1 chapter in the National Chapter Award Program four consecutive years. The chapter has produced five state officers, one national officer candidate, five American FFA Degree recipients, numerous state FFA degree winners and proficiency winners and a state-winning parliamentary procedure team.

Is Change a Good Thing?

We tend to second-guess our ability to adapt to changes such as those mentioned above. Change is never as comfortable as the status quo, but we really only have two choices. We can change our programs to meet the needs of our clientele or we can go out of business. I chose to change. How about you?
Some educators criticize secondary agricultural programs for being too narrow in focus and applying their ideas to the problem will make for change.

To cope with this phenomenon, agricultural educators have to be prepared more than ever to be change agents and have the capabilities to use the inevitable change to their advantage rather than take the pessimism "If it ain't broke, don't fix it."

We have been going to our professional meetings on the national and regional level for most of our professional lives. We bring together all our colleagues under the umbrella of agricultural education. We listen to motivational speakers, research presentations, and do seminars to update our minds as to what is happening in agricultural education. But, we are only as effective as our students and if we are not effective in the classroom, then we have a problem.

The most prevalent positive view of participants in agricultural education is not about the academic or vocational subject matter of agricultural education, but about the impact or difference agricultural education has made in the affective, rather than the cognitive domain, of the students.

To be sure, agricultural education has changed significantly, but the question remains "How has agricultural education changed?"

If the overall objective of secondary education is to prepare youth for their role in society and if one can assume that this objective is never completely met, that is, there will always be room for improvement, then it is inevitable that the new educators coming into the profession attempt to improve the situation they have inherited. They attempt to improve the situation by applying new methods. These new methods lead to change in how programs are delivered. The same is true in the classroom, is not to say that all of the changes have improved secondary education, however, sim-

6. The most prevalent positive view of participants in agricultural education is not about the academic or vocational subject matter of agricultural education, but about the impact or difference agricultural education has made in the affective, rather than the cognitive domain, of participants.

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stability. Some of the most essential, from our viewpoint are:

• The close relationship between theory and practice. Whether taught in a classroom or laboratory or on a farm or in an agricultural business, agricultural education students have the opportunity to relate theory to practice in a meaningful, hands-on, integrated approach.

• The use of consulting committees for program planning and evaluation. Quality programs are developed and maintained by the involvement and support of community members.

• The close involvement with parents. By working with students over a period of several years, agricultural teachers get to know the students and parents well. Parental or guardian support and involvement are important in providing quality experiences for the students, making educational and career plans, and making experience-based learning a success.

• Quality facilities. Modern and well-equipped classrooms, greenhouses, laboratories and equipment attract students, involve students in the learning process, and make agricultural education a pleasant place for students to learn.

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Students learn all aspects of an agricultural business by pressing older every fall on a press purchased by the FFA through an agriculture loan. Profits from the sale of older help fund ongoing FFA activities. (Photo courtesy of Michael P. Skogs)
Transitions in Texas: Are We Pushing or Pulling the Rope?

By Craig Edwards and August Wunderlich

Mr. Edwards is a former agriculture teacher at Klein Oak High School and a lecturer of agricultural education. Texas A&M University, College Station, and Mr. Wunderlich is an agriculture instructor at Klein Oak High School.

From Whence We Came...

Winston Churchill once said, "The longer you look back, the farther you can look forward." (Hayward, 1997, pg. 9). If reflection is the wellspring of perspective, then it can yield insight, understanding and synthesis. An appreciation of where we have been does indeed aid us in defining where we are, and perhaps, where it is we are going. The following is a Texas perspective of the significant changes made in secondary-level agricultural education during the 1980s and '90s. The major strands of change involve those made in curricula, programs, teachers, SAEPS, the FFA program and selected thoughts about the future.

Curricula, Courses and Conflicts

As the 1980s dawned, Texas instructors were teaching a very traditional, production-driven model of vocational agricultural education. A yearlong, sequential format of Vo-Ag I, II, III, and IV was predominant. An assessment of cooperative part-time training and pre-employment labs. This production-oriented approach was "a mile wide and an inch deep," with attempts made to deepen it on a unit-by-unit basis each academic year.

Class sizes were often small. Multi-teacher departments with fewer than 100 students were common. A minimum of 20 production agriculture students would provide a school district with state funding for one foundation production unit (teacher). Another 30 students would support funding for a second production unit, and only 20 if it was a combination unit, and so forth. Obviously, this student-to-teacher ratio and inherent funding scheme were quite favorable.

The passage of state legislation that stressed assessment and accountability did much to change the landscape of education in Texas, not the least of which were alterations to vocational education, now known as career and technology education, and vocational agricultural education, now emphasizing agronomic science and technology. The most fundamental curricular shift was to offer courses on a semester basis.

Although not forsaking the generation motivation of agricultural education, acceptation emphasis is now focused on preparation for multifaceted agriculturally related career pathways. A premium is placed on those skills that are highly transferable across all domains. In the late 1980s following implementation of this format, class sizes mushroomed, often exceeding 30 students. On the positive side, this enrollment spike was exciting and beneficial. Less positive are the concerns that have arisen regarding classroom management, student discipline, laboratory safety and a host of other issues. Currently, course offerings include those of an introductory nature, sequenced pathway-specific courses, pre-employment labs, work-based learning, and opportunities for individual study. Differential courses now number near 50. As a result, variety and opportunity for specialization in agricultural subject matter is no longer a problem, beyond the limitations of facilities, resources, and most importantly, teacher expertise.

Today's Customer

The flexibility of semester courses, as opposed to the year-long format, permits more students to enroll in more courses. Statewide, for the 1996-97 school year more than 100,000 students enrolled for one or more agricultural science and technology courses (K. Eshey, personnel communication, August 11, 1997). In some school districts, this trend has intensified with the advent of alternative scheduling patterns, such as the AV block and, in some cases, a trimester system. Yet, the implementation of more rigorous graduation standards, as recent as the 1995-96 school year, contributed to a slowing of the abrupt, precious schedule space once reserved for electives. Obviously, this drives the need for more creative and flexible scheduling patterns if agriscience is to keep its place at the table of high school course offerings.

Depending on one's perspective, the advent of semesterization has presented Texas agriscience programs with special challenges and unique opportunities. Many of the students attracted by the flexibility are more diverse or "non-traditional." Frequently, high school juniors and even some sophomores are taking their first agriscience course without the benefit of introductory-level work. Granted, some school districts have implemented specific career pathway prerequisite courses. But many of them are only recommendations and are often unenforced. In addition, there is an "in-and-out" syndrome develops, which often presents special problems at the classroom level and to the overall program.

The upshot is that many of these students do "buy in" to the program remain enrolled, and become a part of the year's core student body. More pragmatically, state funding for career and technology is now weighted at 1.57 level per student, as opposed to 1.00 for regular education courses. Therefore, more students mean more money. There is at least one caveat to the aforementioned funding. These funds are earmarked for career and technology education in general, and not specifically the program responsible for their generation.

Teachers Are Changing

As a parallel to increased student diversity, Texas agriscience teachers are becoming more diverse. This is especially true regarding gender. A recent survey by the Department of Agricultural Education at Texas A&M University revealed that 36% of the first- and second-year teachers for school years 1995-96 and 1996-97 were female (Briens, Edwards, Herring and Shinn, 1997).

Changes in the Texas State Teachers' Retirement System, specifically, "the rule of 85," means that at 55 years of age and 30 years of teaching experience a teacher is eligible for a 100% retirement benefit. Hence, speculation is that the average age of a Texas agriscience teacher is becoming younger, and their average length of tenure, shorter. The consequences of this trend may only be starting to surface.

Through the lens of a jaundiced eye, meaning "experienced or seasoned," teachers appear to more and more "experienced" teachers are doing less and less. Or, at least having less success in motivating students to participate in many of the more traditional Career Development Events (CDEs), especially certain Leadership Development Events (LDEs). Challenge this contention if you wish. We have no empirical evidence to support it. But, a "hit-and-purse" survey of most FFA events in Texas, with some exceptions, will produce a similar conclusion. Whether this is a result of the "gays" teachers may have endured during their agriscience student/FFA member career, lack of student/member experience, a deficit in their pre-service training, or merely their own unique world view of work, we can only conjecture. It may well be an issue of meaninglessness or felt need on the part of the student, and/or that of the beginning teacher. If that is the case, then obviously the issue of relevance should be evaluated.

One might casually say, "Well, they are not on the same contract status as their older peers." This is not necessarily the case. The survey cited earlier found that 83% of those responding held contracts of eleven months (205 days) or greater. Interestingly, the missing month (or less, July) is when the Texas State FFA Convention is held, and its attendance level is not declining. Might it be these teachers are doing wonderful things in their school and communities that do not generate the professional notoriety associated with competitive, above-the-local-level success? This may be the case. If so, they are to be commended and our profession needs to keep a better system for recognizing their efforts. If a less positive supposition has greater validity, then it, too, should be addressed. At any rate, not knowing the answers to these questions indicates a need for research so that we can make informed decisions.

Out-of-the-Box SAEPS

The days of agriscience student conducting a production-oriented animal or plant enterprise are history. SAEP requirements still exist for agriscience courses, excluding the introductory one. The focus of this requirement has as its backbone a systematic method for ensuring all students gain some modicum of outside-of-class, hands-on, learning experiences (a requirement in agriscience course(s) in which they are enrolled). Consistent with tradition, the overarching objective remains an opportune, or greater enrichment, enhancement and extension of the agriscience curriculum.

Unlike the former system, the method for keeping score no longer just counts and cent counts; but, a point system that governs, regulates and quantities activities (Supervised Agricultural Experience Program Guidebook for Students and Agriculture, 1989). There are several ways for reaching this destination. The major ones are entrepreneurship, activities (both suggested and instructor developed), and the beyond the traditional live...
They have attempted to create a package of reasons for membership (benefits, if you will) that are attractive and meaningful to today’s youth. Many advisors realize that the survival of their local FFA program is linked to creating and nurturing a core group of agricultural science students (FFA members). These students will be “there” every year, if not every session. This has become increasingly difficult, due to the constant reduction in elective space being driven by heightened graduation requirements. As is often the case, the best and brightest students are those most affected. The more creative advisors continue to cast their nets about, ever so widely. They attempt to fashion and customize opportunities that provide motivation for the transient students to become FFA members, develop a spirit of ownership in the FFA chapter, and build a sense of inclusion.

Assuming the objective of FFA membership has been reached and the student is inclined to participate, often another battle rages in his head. The question of academic eligibility, namely, the famous or infamous “no pass, no play” rule that first appeared in 1984 and was revised in 1995. This legislative mandate requires that for a student to be eligible to participate in any curricular activity, he/she must earn passing grades for all course work each grading period. In Texas, most FFA functions, especially those above the school/chapter level, classify as extra-curricular. The period of inability to participate is three weeks. Reimbursement is possible, assuming the student is passing all courses, at mid-six weeks. We shall not dwell upon the philosophical inappropriateness (that underlies this system) its efficacy, or lack thereof. Let it suffice to say that upon implementation of its consequences, both intended and unintended, were of great magnitude and remain so today.

The waves of educational reforms that washed over Texas in the mid-1980s also brought a massive reduction in force of the Texas Education Agency (TEA) field staff. Specifically, for secondary-level agriculture education, this means the loss of all 10 field-based consultant positions (area supervisors). Additionally, there was a loss of numerous support staff positions, both in the field and at the state administrative level. A large proportion of these individuals’ effort centered toward the planning, supervision and implementation of district, area and state-level FFA activities.

When these highly essential positions vanished, in what seemed like the blinking of an eye, a gaping organizational chasm was created. Initially, this void was filled by area-level presidents/coordinators (who were still full-time, practicing agriculture teachers), other assorted appointees, and the remaining state staff. These groups shoulder often Herculean tasks and responsibilities, for which they have and probably will never receive proper compensation and gratitude. Even today, this model continues to be refined.

**As our curriculum advances (i.e., biotechnology, agricultural electronics, and global biosecurity and environmental sustainability, etc.) and our technology becomes more powerful (i.e., the Internet, GPS, positioning systems, robotics, etc.), there is an increasing demand for higher levels of teacher expertise. What limits on both time and resources for acquiring pre-service and in-service education, the ‘teacher as facilitator’ of the learning process is becoming nothing but a reality. Simply put, there is just too much to know. Therefore, being able to facilitate environments that permit the learner to maximize self-directed behaviors, must become the norm. This presents special challenges to all teachers, and, for the novice they are often magnified. One remedy emerging in Texas is a structured mentoring program aimed at beginning agriculture teachers. A pilot for this effort, to include over 10 inmates, is being supported by the Texas FFA Foundation. The Foundation is also attempting to fill the administration gap created by the State Education Agency reductions in force.

Furthermore, the role of agriculture and technology in our schools may be joined for unparalleled excitement and achievement. The sense of career, the aura of science, namely, as the hub for a scheme of truly integrated education, what may prove to be a model for this effort is the A&M Science Academy, launched this fall at A&M Consolidated High School in College Station, Texas (S.R. Johnson, personal communication, August 11, 1997). This program involves a cohort of ninth grade agriculture students who will be the beneficiaries of curriculum designed and instruction delivered via the collaborative efforts of an agriculture teacher, an English teacher and a science teacher. Curricula integration, interdisciplinary team teaching, teaching through modules, sharing facilities—these and other innovations may just be the beginning. This could, in fact, represent a paradigm shift relative to scheduling conflicts. In the future, agriscience might be the solution, instead of a herefore scheduling conflict and an obstacle. Perhaps it may become an exemplary model for bringing context to the learning process. It also speaks to the need for redefining and reconfiguring facilities to meet these demands. Changes that include biotech labs, natural resource technology, computer assisted-drilling tools, computer labs with Internet access, agriscience land laboratories with experimental and demonstration themes, and a host of other (many yet to be envisioned) advances in infrastructure.

What happens to the student leadership development dimension, a.k.a. the FFA, of agriscience education? Decline, diminish, disappear; anything, but? Those demands and challenges will most assuredly place an even greater premium on leadership training and development. The packaging may change (i.e., FASTA, Future Agricultural Scientists and Technologists of America), but the essential products of communications skills, analysis and decision making, collaboration, teamwork and service...will always be in demand. Paramount will be opportunities for accommodating greater diversity and building more and stronger partnerships. Demographic trends for our state, and we suspect nationally, do not merely foretell this; they demand it.

Great challenges one and all, but more importantly, great opportunities. As Churchill reminded us, we must periodically glimpse backward if we are to clearly see forward. May our field of vision, in both directions, be true.

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"The Techno Owl"

By Daniel Foster, Jack F. Elliot, Cynthia Blackey, Stacey Rich and Curt Bertelson

Mr. Foster is an agricultural education and agricultural technology management student, and Dr. Elliot is an associate professor of agricultural education, University of Arizona, Tucson. Ms. Blackey is an agricultural English teacher, Mr. Rich is an agriscience instructor, and Mr. Bertelson is an agriculture instructor, Flowing Wells High School, Tucson.

We hate changes have taken place in agricultural education that affect the profession more drastically than technology. This, at least, was the conclusion of the joint authors in this article. Read this from the eyes of an aspiring agricultural teacher who has experienced two of the finest agricultural educators in the business as well as an excellent agricultural English teacher. The article blends the sage advice of several "techno owls" into a challenge for the future.

animal being produced over and over, our product consistency problems would disappear—but not about some hard livestock judging classes!

Now think about the Internet: in the blink of an eye you can buy chocolates futures from Australia and sell your April calves to Japan. Remember that educational tool we call the FFA? An organization not to be left behind, www.ffa.org, will take you to the FFA home page so you can check out what's happening in the blue and gold world right in your own living room! Internet expands our communications abilities ten fold. In fact, while preparing this manuscript, I contacted universities from across the nation using electronic mail.

In his State of the Union address, President Clinton said, "We live in the age of possibility. A hundred years ago we fired from farm to factory. Now we move to the age of technology, information and global competition." (1996).

The idea of "possibility" demands that America's agricultural education system provide individuals who have the skills, abilities and desire to lead us to success. The responsibility of recruiting and preparing these future leaders falls to our agricultural educators. When asked to identify the greatest challenge facing agricultural educators, Dale Crabtree, teacher services specialist with the National FFA Organization, responded, "I believe that the biggest challenges lie within the ability of our teachers to stay industry current. If agricultural education is not delivered at the level it should be, (challenging students to the maximum) students will not be ready to compete in the real world. We must not only be concerned with agriculture in and around our surrounding communities, but on a national and world scale as well."

As science and technology competencies become more important for students, our teachers continue to redirect their methods of teaching. "The responsibility of recruiting and preparing these future leaders falls to our agricultural educators."

"Teachers must not only teach about technology, they must also use technology in their teaching."

Shhhh...do you hear it? Is it the wind? The wind of change? I believe it is the sound of beating wings, the wings of techno owls headed toward the future.

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Reflections On Our Dynamic Field

By Les Purcella

Mr. Purcella is an agriculture instructor at Goddard High School, Roswell, NH.

I recently returned from attending my 23rd annual state agricultural educators’ conference. While driving home, I began to think about the changes, not only in our conference content, but also in the field of agricultural education during my career as an agriculture teacher.

When trying to remember that first day in the classroom, I recalled two things. 1) I thought I was extremely knowledgeable in the field of agriculture and ready to teach, and 2) I had much more hate than I do now. At the end of day one, I realized I had a lot to learn and that scratching your head excessively accelerates hair loss.

On a more serious note, the changes in education during the last 20+ years are mind-boggling. If we could turn back the clock or glance into a crystal ball, what we considered teaching technology in 1975 is antiquated today. There’s no doubt that the technological changes in our society have far surpassed what we could have predicted 10 to 20 years ago.

In the program where I began teaching, my classroom technology consisted of a filmstrip projector and a manual typewriter. Our agricultural mechanics program was well equipped with numerous hand tools, one pedestal grinder and four-stick electrode welding machines. Not a bad facility for a first-year teacher in the fall of 1973! I could never have dreamed of the technology that is in use in our local program today. I can recall when we purchased our first computer for the agriculture department—it seemed that we were at a technological high point that couldn’t and shouldn’t be surpassed. Grants for software were to follow, and we were in the computer business. After numerous computer classes, I began to realize that this was just the tip of the iceberg. We were far cry from the technology used in our classrooms today.

Our agriculture faculty now has three computers, a DTN satellite system, Channel 1, two television, and a VCR. The Internet is now available for student use. One of the opportunities discussed at our state agriculture educators’ conference was preparing agricultural education for the year 2020. I find it difficult to conceive what the technology of the 21st century will bring to the classroom.

Technological changes have not been limited to the classroom. The agricultural mechanics program has evolved to include plasma cutting, and MIG and TIG welding instructors. These areas were unheard of during my college preparation, yet it is common technology in our programs today. The program at Goddard High School now includes greenhouse and meats cutting laboratory. The content areas associated with these facilities were unknown to me as I prepared for employment in the mid-1970s. These areas of instruction have carried over to new student SAF options. Students are now placed in training positions or have developed entrepreneurship programs in areas that didn’t exist just a few short years ago.

This era of change has also been seen in the participation in our local FFA chapter. As with all FFA programs, the number of farm and ranch students dwindle even as enrollment and FFA membership skyrocket. Fewer and fewer students raise livestock and participate in the “stock show” program, while we see increased interest elsewhere. The changes in CDEs have caused teachers and students to learn new skills while exploring new areas of instruction. Years ago, CDEs were basically unchanged, but updates and new content areas have made them more challenging and relevant than ever before. These events draw more interest in and participation by our local chapter members than any other activity.

Other areas where our local programs have changed are in methods of instruction and curriculum content. When I began teaching, my content was the good old genetics and production agriculture curriculum. A great deal of emphasis was placed on animal science and plant science, and let’s not forget that at least a third of our time would be spent working in the shop on students’ individual projects. I still remember a couple of close calls teaching the vocational agriculture students to drive a tractor. Times have certainly changed—I haven’t had anyone learn to drive tractors in class in many years. Our curriculum now includes such topics as wildlife science, environmental science, animal rights, communication skills and on and on. These are certainly content areas I never dreamed of when my teaching career began. Partners in education and school-to-work initiatives are now common methods of supporting education. Not only has the curriculum changed, but my teaching methods have also evolved. I can remember the last time I had to use a chalkboard or to jot down notes about FFA meetings, field trips or something of that nature.

In our current era, video teleconferencing, visual aids and hands-on instruction have become my primary teaching methods, as my personal style of instruction has developed through years of trial-and-error experimentation.

Not only has technology changed over the past 25 years, but I believe that agriculture students have changed, too. In an environment where young people are exposed to technology from a very early age, it has definitely changed their attitudes. In years past, many students participated in vocational activities for the rewards; the trips in particular were a big incentive. In our increasingly mobile society, I don’t think we can rely on that sales pitch as we once did. I believe we have to work harder today to motivate young people to become active in the FFA. Changes in the competitive areas and the development of new FFA activities and curriculums have aided in this never-ending task.

Many students today possess a great deal of ability; they just have to be pushed a little harder to utilize it and use it for their own benefit through such things as CDEs and other vocational areas. The ability is there, we just have to find creative ways to awaken it. I believe, in my opinion, is our most difficult task as educators. As a young teacher I felt FFAs primary objective was to aid in career preparation. Now, as a more experienced veteran, I think FFAs goal is still career preparation, but it’s also a way to guide young people away from the pitfalls and negatives in our society today. The evolution of our organization must continue into the future, just as it has in the past.

Agriculture teachers experience more highs and lows with young people than anyone else in education. I’ve certainly experienced my share of both extremes of the emotional scale, but I wouldn’t trade the experience for anything. As we look toward agricultural education in the year 2020, I’m looking forward to being there. The past will be unforeseen obstacles and challenges before us. We must be flexible, daring and willing to change. Only then can we hope to maintain the success that we now enjoy.
What Do You Know About the USDA and Agricultural Education?

By Gary E. Moore

Dr. Moore is a professor of agricultural and extension education, North Carolina State University, Raleigh, and is historian for the American Association for Agricultural Education.

During the past couple of years there has been some discussion about whether or not agricultural education would be better served if our federal leadership was housed in the United States Department of Agriculture (USDA) rather than the U.S. Department of Education. What many folks do not realize is that the USDA actively provided leadership to secondary agricultural education during its formative years. This quiz looks at the early relationship between USDA and secondary agricultural education. If you can answer half of the questions, consider yourself an expert on agricultural education history.

1. Officials in the USDA first started to actively promote agricultural education below the collegiate level in what year?
   A. 1893
   B. 1901
   C. 1906
   D. 1914

2. The first federal official who had primary responsibilities for secondary agricultural education was hired by the USDA in 1904. His name was:
   A. A.C. True
   B. Dick Crosby
   C. H.L. Lane
   D. Charles Prosser

3. According to USDA officials, the legislative mandate for their secondary agricultural education work was the:
   A. Morrill Act of 1862.
   B. Morrill Act of 1890.
   C. Hatch Act of 1887.
   D. Smith-Lever Act of 1914.

4. In 1906, USDA officials were successful in their efforts to get a “Department of Rural and Agricultural Education” created within the:
   A. Farm Bureau
   B. U.S. Department of Education
   C. Progressive Farmer
   D. National Education Association

5. The USDA established a Division of Agricultural Education within the Office of Experiment Stations in 1906. Employees in this division:
   A. Prepared slides, bulletins and charts for use by agriculture teachers.
   B. Maintained a card index of all agricultural teachers in the country.
   C. Visited schools and educational meetings to develop agricultural education programs.
   D. All of the above

6. In 1913, the USDA Agricultural Education Division started something that still exists today. This is:
   A. Regional conferences for agricultural educators.
   B. The Agricultural Education Magazine.
   C. The National Vocational Agriculture Teachers Association.
   D. The Agriculture in the Classroom program.

7. Starting in January of 1915, the USDA published a monthly magazine titled:
   A. County Agent and Agriculture Teacher
   B. Agricultural Education Monthly
   C. The Agricultural Education Magazine
   D. Agricultural Education Today

8. Due largely to the work of the USDA, agricultural education was taught in numerous schools prior to the passage of the Smith-Hughes Act. In 1916, two years before the passage of the Smith-Hughes Act, agricultural education was being taught in how many public schools?
   A. 576
   B. 1,310
   C. 2,981
   D. 3,624

9. After passage of the Smith-Hughes Act a number of USDA employees were transferred to the Federal Board for Vocational Education to continue their work with agricultural education. One of these individuals later became the first national advisor of the FFA. This person was:
   A. H.O. Sargent
   B. J.C. Wright
   C. C.H. Lane
   D. J.A. Linke

10. After passage of the Smith-Hughes Act in 1917, the USDA:
    A. Shut down their secondary agricultural education operations.
    B. Continued their support of secondary agricultural education programs until 1929 because they wanted to ensure that secondary agricultural education would develop and grow.

The answers to this quiz are located on page 15 of this issue.