STORIES IN PICTURES

Serving Individuals With Disabilities

Upcoming Themes

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EDITOR'S COMMENTS

Curriculum update is never done. Just when you think you have positioned your program on the cutting edge, another curriculum emphasis emerges. We have spent the last five or so years making secondary agriculture programs more science based. And despite what the critics might say, in general, significant progress has been made in this area. But change is tough, especially curriculum and program change.

According to a recent report published by the National Center for Educational Statistics, very few teachers implement new ideas and strategies learned in workshops and other in-service programs. Of course, we would like to think that agriculture teachers are the exception. I have worked with several colleagues over the last decade of years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses. This effort has been in partnership with several colleagues over the past five years to assist teachers in implementing innovative agriscience courses.

By contrast, must teacher in-service programs are one-shot efforts, due to restrictions in funding and staffing. Too often in our professional development sessions we violate familiar principles of teaching and learning. We attempt to help teachers learn about new methods and ideas, rather than taking an experiential learning approach. The result for most participants is a non-functional familiarity with the innovation, as opposed to working knowledge.

However, recent teacher in-service activities sponsored by the National Council have been very hands-on oriented. We must strive to continue to offer these kinds of in-service programs to agricultural education professionals. But even this approach is not enough; sustained support for technical assistance must be provided to local teachers. A teacher partner approach to curriculum revision and implementation may make the difference in teacher adoption of curriculum innovations. Teacher partners could be self-initiated or coordinated at the district or state level. With this approach and teacher partners would take professional leave days to travel to their partner’s school and work on implementation plans. The team may also

see a need to visit an expert in the area at a college or university. Without sustained support at the local level from both teacher partners and state-level experts, teachers are likely to never reach the action stage of curriculum change. Teacher partners should be carefully matched. Program improvement goals of the two teachers should be similar with regard to innovation, and personalities should be compatible. Thus, partners may change as various innovations are considered for adoption.

With the many new curriculum materials being developed today, teachers should realize that their individual program cannot give equal focus to all areas of the agricultural industry. However, this does not mean that all areas should not receive some attention in the curriculum. If teachers attempt to add every new curriculum innovation to their program, the result is likely to be a disjointed, uncoordinated, superficial instructional program. By contrast, teachers should provide baseline instruction in all major areas of agriculture, and provide special emphasis, advanced instruction in a few selected areas. Agriscience and agritourism would certainly be an appropriate specialized instructional focus. Agriscience would be another. Most would contend that an in-depth, experiential learning approach to a few areas results in greater learning benefits than an "learn about" approach to many areas. These decisions must be based upon program objectives and student needs. The goal should be to base program decisions on student needs and current trends in agricultural education and the agricultural industry. Teacher expertise and resource limitations cannot be viewed as roadblocks to implementation of innovative curricula, but rather as problems to be solved.

The key to reaching the implementation stage of curriculum innovations is a positive attitude, focus, support, and careful planning. Development and execution of the implementation plan requires the involvement of more professionals, as well as key local groups. Change is tough, but if a carefully developed implementation plan is followed, one step at a time, we can make it happen.

About The Cover

FPA members from Fullerton, California present their marketing plan during the 62nd Annual FPA Convention at the kidenger Building of the Texas A&M University in College Station, Texas. (Photo courtesy of National FFA)
Teaching Agrimarketing

One of the primary goals of agricultural education programs continues to be preparation of secondary and community college students for careers in agriculture. The literature is clear that agriculture holds tremendous career opportunities. Twenty percent of agriculture's work force is employed in some phase of the agricultural industry. According to Joyce Winterton (1992), there are over 2 million job titles in agriculture. However, career opportunities have been changing from production to agribusiness and marketing during the past 30 years, with dramatic shifts noted in the past 10 years. Today, there are seven people working in agribusiness/marketing for every farmer. Beierlein (1980) reported that over 60% of those involved in agriculture are employed in marketing, and that 17% of America's gross national product is generated through agricultural marketing activities. The United States Department of Agriculture (1988) reported that nearly 50% of all new college graduates in agriculture are employed in jobs that are categorized as agricultural sales, marketing, management, or finance. Agricultural production jobs represent less than 5% of the jobs for new agriculture graduates.

Agriculture Curricula Must Reflect Employment Trends

Agricultural employment opportunities have changed for many high school, community and college, and university agriculture graduates. As career/vocational educators who have historically used employment data as a major factor in determining the local agriculture program curriculum, it is logical to assume that curricula in agriculture have changed to reflect agriculture employment trends. Although major changes have been made across the United States in integrating science into agriculture curricula, it is evident from review of agricultural program curricula across the country that little, if any, progress has been made toward inflating agricultural marketing into the core of the curricular offerings in most agriculture programs. This conclusion is alarming when one realizes that more jobs are available in agribusiness than in any other single career area of agriculture.

Why has it been difficult for agriculture teachers to ‘soothe’ the curriculum toward agribusiness? (Note: Agrimarketing is defined as the production, distribution, promotion, and pricing of an agricultural product in such a way as to satisfy customers’ needs in a profitable manner.) Many agriculture teachers, by the time they’ve interviewed agriculture students about the importance of agribusiness and marketing experience, will hear responses from the agriculture students. Marketing brings the science component, and science component teachers report that agriculture brings the marketing component, and science component teachers report that agriculture brings the marketing component. Some of the reasons for this are surprising, because we live in a free-enterprise economy and marketing has had to grow with the prosperity of free-enterprise. Beierlein (1988) stated, “Marketing has a vital role in our economy’s success by meeting the conflicting needs of producers and consumers. It does this by helping producers better understand the needs of consumers and producers.” Marketing allows producers to decide what to make and when to produce them. Demand for a greater variety of consumers and higher profits for producers.

Purpose of Agrimarketing

Teaching Agrimarketing is to provide agricultural educators with a clear understanding of the importance of agrimarketing, about how local agriculture programs are teaching agrimarketing, and exciting FFA/agriculture education available, and examples of interaction that industry has developed to assist students in renewing their emphasis on agrimarketing.

What to Teach About Agrimarketing

The literature is rich in information about agricultural marketing. However, a major issue is how to teach about this subject. Our research shows that students need to understand the importance of agribusiness and marketing in the agricultural industry. The major conclusion from this research is that agriculture education programs need to develop new curricula that emphasize the importance of agribusiness and marketing in the agricultural industry. This conclusion is supported by the research conducted by Beierlein (1988), who stated, “Marketing has a vital role in our economy’s success by meeting the conflicting needs of producers and consumers. It does this by helping producers better understand the needs of consumers and producers.” Marketing allows producers to decide what to make and when to produce them. Demand for a greater variety of consumers and higher profits for producers.

Business Structures

Students need a basic understanding of the different business structures and the role of marketing in each. By understanding these concepts, students will begin to understand the different types of businesses and the importance of marketing within each. This understanding will help students make informed decisions about their future careers in agriculture.

Agricultural Commerce

Agricultural commerce is carried out in a competitive world environment. Students will develop an understanding of the competition and how it relates to the marketing process.

Profitability

Profitability is essential to success in agricultural commerce. Students will develop an understanding of the importance of profitability and how it relates to the marketing process.

Risk Management

Risk is a critical component of agricultural commerce. Students will understand the importance of risk management and how it relates to the marketing process.

Marketing Plan

Marketing plan development is an essential component of agricultural commerce. Students will understand the importance of developing a marketing plan and how it relates to the marketing process.

Commodity Marketing Alternatives

Commodity marketing alternatives are important to students and their careers in agriculture. Students will understand the importance of commodity marketing alternatives and how they relate to their future careers in agriculture.

Agritourism

Agritourism is a rapidly growing industry that is becoming more and more popular. Students will understand the importance of agritourism and how it relates to the marketing process.

International Trade

Agricultural commerce is a worldwide endeavor. Students will understand the importance of international trade and how it relates to the marketing process.

Careers in Agriculture

There are many opportunities in agriculture that are not commonly thought of as traditional careers. Students will understand the importance of exploring these careers and the importance of marketing in agriculture.
Why Teach Agrimarketing

Agrimarketing

Agrimarketing is the key to success in today’s world. It is the process of effectively communicating the benefits of agricultural products to consumers. By understanding consumer needs and wants, farmers and producers can effectively market their products, helping to improve their profits and the overall health of the agricultural industry.

Agrimarketing involves various steps, including product development, market research, pricing strategies, and promotion. By effectively communicating the benefits of agricultural products, farmers and producers can attract new customers and increase their market share.

In conclusion, agrimarketing is an essential component of the agricultural industry. By effectively communicating the benefits of agricultural products, farmers and producers can improve their profits and the overall health of the industry.
Agrisales and Marketing

A Day in the Life of Jeff Hamilton - District Sales Manager for Superior Seeds

The 7:00 AM breakfast meeting that he had organized with a small group of targeted fry farmers in the southernmost part of his district was the way to start the day, Jeff figured. Opinion even though it meant leaving home before 6:30 AM, Jeff had learned that early mornings were an excellent way to get his day going. Jeff was doing this mind sharing ideas over ham and eggs at Doris's Coffee Shop. During the breakfast meeting that stretched to nearly two hours. Jeff had accomplished the following: first, he had acquired the following: second, he had insisted that growth and management of the nursery be in the area, their new hybrid was exceeding anything Jeff had ever seen. They had agreed to meet again in a week to discuss the progress of the nursery and beyond. Jeff had spent the morning calling on his farmer's dealers, going over their sales reports and featuring their growing season, and discussing the upcoming grower appreciation day. Being focused, Jeff used his cell phone to call the company agronomist to get more information on the insect problem and left Jeff a detailed message in his regional manager's voice mailbox about the competition's new incentive travel program.

Jeff's lunchroom engagement was with a vice-president of a rural bank. His company has targeted lenders as a key influencing factor for farmers' buying decisions. Jeff was pleased that he had also obtained several leads from the banker about potential customers. Jeff's afternoons were just as busy. He stepped by to check returns at two retail store dealers, and he spent time soothing a disgruntled farmer with a poor corn stand. It took some detective work to trace the problem to an intermitten problem with the farmer's planter.

When Jeff got home, he sent a weekly call report via email to his regional manager in St. Louis. He faxed his fall sales estimates to the marketing manager in Columbus and made it his son's little league game in time to see him score in the bottom of the third inning. That evening, Jeff updated his customer profiles on his laptop computer and planned the tasks for the next day.

Jeff is an excellent example of today's field marketer. He truly manages a market area, using high-level technology to help farmers solve agronomic problems and improve their economic position. He knows that his job is to be a problem solver, and by doing so, he will sell product. He has been empowered to manage his territory, using a wide range of marketing tools and state-of-the-art electronic devices to communicate with other members of his organization. Jeff is the "point man" on a complex and organized organization to deliver products and services into a highly competitive and complex market.

Note that Jeff's selling skills are not used to push product, but to gather information, customer service, and deal with problems. A strong base of technical skills is complemented by an understanding of the marketing process, Jeff works closely with technical specialists, corporate marketing staff, and managers. He practices keen listening skills to understand his customer's needs and market trends and then to provide critical information to corporate decision makers. He has learned to utilize a wide range of resources to develop programs and approaches to meet the unique needs of his farmers and customers. Jeff is quite typical of today's agronomist. Jeff's role as the "point man" for the corporate marketing effort is a critical role in the company's success. While salespeople work with large corporate organizations that have the resources to make a significant impact on their approach as salespeople working for local farmers, building relationships and providing on-farm visits are critical. A salesperson working for a local feed store must not need to use voice mail or to drive 30 miles before breakfast, but his or her work will not reflect his or her goals or bring them close to the customer. The salesperson is critical in the marketing strategy of multi-agriculture sales whether they are local feed stores or large multinational corporations.

Preparing For A Career in Agrisales

Today's professional agrisalesperson is a far cry different from the "peddler" of by-gone days. To be a successful field marketer, one has to be well grounded in technical agriculture, have a solid understanding of business, and possess solid people and communications skills. This kind of background is in high demand. Jobs for college graduates with this type of training seem to be strong and are likely to remain so for a number of years. A recent study released by the USDA Office of Higher Education (1986) predicted an 18 to 20 percent annual shortfall of qualified marketing, merchandising, and sales personnel through the mid-1990s.

There also seems to be a strong demand for agrisales and service personnel without a four-year university degree. While information on the demand for high school and community college graduates in agricultural sales and management is not readily available, many agricultural businesses regularly lament the lack of qualified sales and service personnel is one of their most significant problems. Their customers grow need for service. Competent, technically qualified professionals demands having the right people in their local agrisalesperson.

Students interested in the sales and marketing field can begin their preparation through a combination of classroom and extra-curricular experiences. Education provides high school agriculture classes is a good place to start. Courses in business and communications are a strong complement. Leadership and communication skill development through clubs and agricultural education activities are extremely valuable. Real-world experience that comes from working with agrisales on a part-time basis is invaluable.

Those students who are interested in marketing—corporate level people who develop the strategies and manage the company resources made available to salespeople, will need either an advanced degree specializing in marketing or several years of successful field marketing experience. Many agribusiness professionals believe it is essential to have successful field marketing experience before one is qualified to move into higher responsibility. The role of these individuals is to work in a setting that builds strong management, communication, and decision-making skills.
Agrimarketing - A Tool Every Agriculture Student Needs

Marketing is a vital component in today's agriculture curriculum. In fact, over 75% of the jobs that our graduates seek are in the area of agricultural sales and service. In order to meet this employment need, we must teach our students the proper method of marketing the products we sell to the consumer. In this process, they will be productive assets to the agricultural industry and society.

Classroom Infusion of Agrimarketing

Teaching the Concepts

The first step is to focus on fundamental marketing concepts. One of the best documents to teach these concepts is, "Marketing: Reaching Today's Consumer," distributed by the Wisconsin Agri-Marketing Board. Throughout this instructional packet, students learn concepts of marketing that include law of supply and demand, marketing costs and margins, and marketing organization. With this knowledge, students are better equipped to make decisions as they begin to understand the forces of the marketplace.

Marketing Options

During the second step, students learn the various options available when marketing a product. This information focuses on product, price, place, and promotion. At Fullerton High School, students learn marketing option through the Agricultural Business Management course. When students enter the course, they are assigned to develop a mock business and present the business to a class of City Councilors for acceptability into the community. During the second semester, the students learn how to keep records using their fictitious business. During the second semester, the business is then used to actually develop a marketing strategy for the given product.

The first marketing option Fullerton students learn to alter is the product. Students create a sample product sold in their business. They design the label and product package. Once the product is marketed, students deliver an oral presentation on which they explain the product's design.

When studying the product, the students identify the specific locations which might be profit for the product to be sold. Once the location is created, each student then researches which product would be the most profitable. In order for the students to base their decisions on transportation cost, space available for display, and consumer make-up of the store. Again, at the conclusion of the research, the students submit an oral report outlining the different selections for product placement and sale for the selection of the desired product.

The next is Price. Of all the options, the most difficult option for the students to grasp. In order to help students understand this concept, they first research the current average market price of their product. Then students must decide if they should be above, below, or at the researched price and outline the justification for the decision.

Finally, the students determine methods of developing a sale and explain when this method of price reduction would be appropriate. The information gathered regarding price is summarized in a written report and submitted to the instructor.

Visits to the market provide students with an agriculture-observe and critique professional retail displays. Students learn marketing option through the Agricultural Business Management course. When students enter the course, they are assigned to develop a mock business and present the business to a class of City Councilors for acceptability into the community. During the second semester, the students learn how to keep records using their fictitious business. During the second semester, the business is then used to actually develop a marketing strategy for the given product.

Through this rewarding learning experience, students understand their options as they begin to develop an entire marketing plan. Textbooks that have been invaluable in teaching specific marketing techniques include the Wisconsin Agri-Marketing Board curriculum, Marketing Plan Process Instructional Packet, John Deeke's Farm and Ranch Business Management text, and Sanjun and Little's Visual Merchandising text.

The Market Plan

The final step in putting the package together is for students to develop their own market plan. Each student is provided materials from the Market Plan Project Instructional Packet and they are required to develop a plan for their chosen product.

We begin with a market analysis. Students develop a survey which they believe will describe the buyer, the competition, their own product, and possible trends. The survey should be no more than one page, and the questions should be answered in two to four minutes. Once developed, the students conduct the survey. In addition, the students obtain information on competitors. Students request that they obtain brochures on each of the primary competitors. Finally, using business magazines and newspapers, the students must predict what they believe will be future sales trends of the product. Once all of this information is gathered, students develop a one to two page description of the market and present their findings to the class.

The next step is for each student to develop a business proposition. Through this activity, the student will provide an overview of what they believe can be altered in order to better market their product. I stress to the students that their proposition cannot only be a change in promotion, but rather they must focus on product, price, and place as well. This component of their plan should begin with their assumptions - what conclusions they can draw from the market analysis. In addition, the business proposition must focus on which consumers they are going to target and what measure they are going to take to increase the customer base. The conclusion of the business proposition is the statement of specific, measurable objectives. Again, the business proposition is written up in a one page report.

The class then works on the action plan. Students specifically describe what they are going to do in order to accomplish the objectives which they laid out in the business proposition. In addition, they describe specifically what they are going to complete in order to alter the product, price, place, and promotion. This is the most difficult step in developing the market plan. The students must combine many thought processes and complex concepts in order to develop a realistic plan. As a teacher, I emphasize to the students that if they keep it simple (one or two changes), they can create.
Spring celebration, selected homes in the community open up their landscaped yards for viewing by the participants. Fullerton agriculture students are not only serve as a selected site, student leaders coordinate the Open House festivities and identify the opportunity to market the produce. In addition to the 12 landscape designed and installed by agriculture students, floriculture students coordinate a fresh flower show that includes over 60 arrangements, bouquets, and corsages. FFA agriculture students conduct tours of the farm, organize a petting zoo for children, and coordinate group demonstrations. Furthermore, in agriculture fair with over 30 projects on display in a 100-foot display at the agriculture fair, having students capitalize on their marketing knowledge, Fullerton Beautiful has bountiful and tremendous community marketing success.

Each Fullerton FFA officer assists in businesses which then become part of our Adopt-a-Business program. The 

With a doubt, at the completion of the course each student has mastered the concepts and can repeat the marketing process.

**FFA/SAE and Agrimarketing**

Agrimarketing is an essential component to every successful agriculture program. At Fullerton agriculture, agrimarketing has gone beyond the traditional fund-raising activities and thank you letters from buyers. Current projects that the elected officers and leaders incorporated into their curricula include: beginning an annual newspaper, Fullerton Beautiful, Adopt-a-Business, and Farm Tours.

Each year the second year agriculture class, as part of a communication/leadership unit, selects stories, writes articles, and edits the publication. The 20-page newspaper is then distributed to school officials, advisory board members, State Department of Education officials, teacher education, business, local businesses, and parents. As a direct result of the Fullerton Times, the community and state is made aware of the accomplishments of the chapter on the local, regional, state, and national levels. In addition, due to the fact that the publication is student generated, the document helps to enlighten readers as to the abilities of the students in the program and is a great tool in the marketing process.

Each Palm Sunday the City of Fullerton hosts Fullerton Beautiful. During this annual spring celebration, selected homes in the community open up their landscaped yards for viewing by the participants. Fullerton agriculture students not only serve as a selected site, student leaders coordinate the Open House festivities, and identify the opportunity to market the produce. In addition to the 12 landscape-designed and installed by agriculture students, floriculture students coordinate a fresh flower show that includes over 60 arrangements, bouquets, and corsages. FHS agriculture students conduct tours of the farm, organize a petting zoo for children, and coordinate group demonstrations. Furthermore, in agriculture fair with over 30 projects on display in a 100-foot display at the agriculture fair, having students capitalize on their marketing knowledge, Fullerton Beautiful has bountiful and tremendous community marketing success.

Each Fullerton FFA officer assists in businesses which then become part of our Adopt-a-Business program. The...individual within the business is invested in a major FFA function. In addition, we said that the Fullerton Times, is a totally free and information bulletin throughout the year to keep them abreast of activities in the Fullerton High School agriculture program. These businesses and women offering the individuals who purchase student products and provide employment opportunities. Though this program, we are marketing the students of the FFA and the projects, and we are working towards building a bridge that links the FFA chapter and the community.

Farm Tours in a program that has been implemented on many different levels, is a result of the urbanization in Southern California. One of our most popular programs is Preschool Tours. During National FFA week, over 700 preschool and elementary school children visit the farm and participate in various lessons presented by agriculture teachers. In addition, in an effort to enhance high school students’ communication skills, provide opportunities for many high school students in regards to the world of agriculture. Furthermore, Fullerton High School has established weekly farm sales in which farm products, eggs as well as farm products, are available for purchase. Through the farm sales and sales, students at Fullerton High School have been able to effectively market the program and its projects.

Through the marketing of FFA and SAEC, Fullerton High School has been able to address the local community about healthful eating at the agriculture facility. As a result, the community gains an appreciation in agriculture education, as students demonstrate their eating tools.

**Summary**

**Successful integration of agrimarketing (continued on page 20).**
The Agricultural Sales Contest helps students...

Kentucky FFA members present their marketing plan in National FFA competition.

A Modified Version of the Presque Isle Marketing Plan

"SALMON: From Tank to Table"

Analysis of Market: Several options for utilizing the aquaculture laboratory existed, including selling fish wholesale at retail, stocking private and public bodies of water, raising tropical fish, and mining bait fish. Retail sales of Atlantic salmon were selected because of the ease of sales and licensing, reduced transportation, and a high demand.

Business Proposition: We propose to raise Atlantic Salmon to a size of five to seven pounds. We plan to sell fish once per week. Several measures are in place for the installation of our marketing plan. The school has provided the space to conduct our production and business. The continued support of the administration is necessary for the success of our plan. We have taken steps to meet governmental regulations concerning the production and sale of fish.

Action Plan: To achieve our goal of letting the customers select their fish, we designed our production room to facilitate customers coming through without disturbing the fish or our equipment. The sales room is next to this room, where we will prepare the fish, wrap it in a butcher paper, and collect cash from the customers. We will also get a tour of a novel aquaculture operation that connects the community to the school program.

Projected Budget: We are basing our budget on an expected yield of 200 pounds per tank per year for a total of 1,000 pounds. Feed costs are based on 2.5 pounds of feed per pound. Our total equipment cost is depreciated using straight-line depreciation over a seven-year period.

Evaluation: To evaluate the success of our marketing plan, we will look at each step of our marketing strategy as we proceed. We will keep track of our sales and their frequency, the costs involved in raising the fish, and the price received for the fresh fish. We will also maintain contact with area grocery stores to ensure that we maintain a competitive price. At the end of each quarter, we will assess our sales and expenses to check that we are operating a profitable business. If we are not, we will look at ways to change our business to operate with a margin of profit.
Economics Program Challenges Students

Every year more and more teachers and students from across the U.S. and Canada are discovering a new and exciting way to teach and learn economics. It's called Commodity Challenge.

Commodity Challenge is a program designed to give students a well-rounded background in economics, using world events and the commodity markets as educational tools. By researching a commodity of their choice through a series of activities, students develop a strong working knowledge of supply, demand, and price discovery in a fun, practical way.

Sponsored by the Chicago Board of Trade, Commodity Challenge has been nationally recognized by the National Council on Economic Education, National Council for the Social Studies, National FFA Foundation, and the Canadian Foundation for Economics Education as an exciting educational program.

More than 600 schools throughout the U.S. and Canada participate in Commodity Challenge each year. What is interesting about Commodity Challenge is it encourages teacher flexibility. Teachers have done everything from presenting the material in their classes to establishing clubs or assigning the project as an independent study, since the material is self-explanatory.

Students who do an outstanding job completing Commodity Challenge have an opportunity to receive several awards, including U.S. savings bonds and a three-day, educational and cultural trip to Chicago. The all-expense-paid trip (continued on page 20)
Teaching Agriscience

Fullerton High School taught agriscience many years before I started my teaching career. However, it was not until 1985 that the teachers began labeling their curricula "agriculture," as a result of this labeling and curriculum restructuring process, the program has received cross credit for life and physical sciences, as well as university elective credit. Fullerton High School is not alone in its relentless drive to incorporate science into the agriculture classroom. Schools throughout California and across the nation have begun their agriscience journey. However, many are still in the assistance getting started and developing techniques which will work best in their classes.

The following laboratory exercise has been successfully utilized at Fullerton High School and is one of the introductory labs which can teach students relevant agricultural concepts and scientific skills.

Nutrients in Food/Feeds

Most agriculture instructors teach a unit on feeds and feeding. During this unit we explain to students the types of feed we should feed to our animals, of what the feed is composed, and how the animal breaks down the feed in its digestive system. In the following laboratory exercise, the students will learn the composition of the feed in this simple, thought-provoking lesson.

Purpose

An industry, agricultural scientists perform nutrient analysis on new feeds to determine the nutritional value of the feed. In this experiment, students will perform similar chemical analysis on feed samples in order to identify the nutrients contained in each sample. During the lab, students will be testing for water, sugar, starch, fat, and protein.

Materials

Safety Equipment - goggles and a lab coat

Agricultural Products - whole milk, alfalfa, corn, barley, oats, sweet feed, and brown beans

Science Equipment - hot plate, large beaker, test tubes, test tube holder, test tube rack, and a crucible

Chemicals - Benedict's solution, Lugol's iodine, and Biuret reagent

Procedure

Caution: Put on safety goggles and gloves. Leave them on for the entire investigation.

Helpful Hint: It works best if you prepare a feed so that the chemicals react with the feed mixture and develop color instead of sitting a little longer until a color change is noticed.

For Best Results: Divide your students into groups of four people and have each group set up with enough materials so that the groups do not have to leave the lab in order to conduct all five tests.

1. Test for Water

Place a feed sample in the crucible. Add water, stir, and heat the crucible until a residue remains. Add a solution of 5% sodium nitrate to the crucible. If a color change occurs, the sample does not possess water. Complete this test with six samples.

2. Test for Sugar

Add 5 ml (10 drops) of Benedict's solution to a test tube containing a feed sample. Heat gently in a boiling water bath. The solution will turn green in a few minutes, depending on the amount of sugar present. Complete this test with six samples.

3. Test for Starch

Place a drop of Lugol's iodine in a test tube. The test tube will turn blue-black in color. Complete this test with six samples.

4. Test for Fat

Rub a sample of fat or bread into a test tube containing a feed sample. A color change from pink to purple indicates the presence of protein. Complete this test with six samples.

5. Test for Protein

Add 2-3 drops of Biuret reagent to a test tube containing a feed sample. A color change from pink to purple indicates the presence of protein. Complete this test with six samples.

Observations

As the students are completing this lab, the instructor will document each test result.

(Continued on page 20)

FFA Advisement

What If I Don't Know.....

The owl is a time-honored emblem of knowledge and wisdom. I hope that my advice will always be based on true knowledge and ripened with wisdom.

These familiar words of the FFA Open Ceremony are well known to the thousands of agricultural educators and FFA advisors who work with FFA members across the country.

But let us pause for a moment and examine the thoughts of individuals who, in writing the opening ceremony, used the word knowledge in the response of the FFA advisor. Certainly, one can only imagine the array of opinions that may be offered on what is meant to have knowledge as an FFA advisor. No matter what the opinion, an FFA advisor should recognize a certain degree of self-responsibility and accountability in acquiring knowledge about FFA and FFA programs. The knowledge sought will then enable FFA advisors to provide for achievement with students, communicate a purpose for the local program, and establish a supportive relationship with the communities they serve.

So what responsibility for acquiring FFA knowledge does an FFA advisor possess? The responsibility is unlimited! How often as advisors have we experienced our own colleagues simply say, "I didn't know when the awards were due," or "No one told me the rules had changed," or "How was I supposed to know what the contest started," or "How can we compete against your chapter when you always win?" Again, the all-too-familiar questions relate right back to the individual accountability of the FFA advisor seeking and acquiring knowledge and being well-informed about the FFA and its many diverse program offerings. Yes, it is a fact that those FFA advisors serving in leadership roles and making decisions about FFA programs have a responsibility to inform and share knowledge to their peers regarding due dates, changes in contest and award programs, new programs, and expectations or qualifications for "winning" in FFA. The ultimate responsibility, however, still lies with the individual FFA advisor being accountable to acquire the appropriate knowledge and seek the answers to the aforementioned familiar responses and questions, rather than shift the blame or claim they didn't know.

Student achievement, recognition, and success in the FFA bear a direct relationship with the FFA knowledge of the advisor. So where or how does an advisor acquire new or beginning advisor, acquire FFA knowledge? Agricultural educators must start by reviewing their own personal philosophy of FFA and accepting that FFA is a part of the classroom instruction in order to teach/adviser students about FFA activities and programs. Agricultural educators and FFA advisors cannot honestly respond, "my students never win." If they don't accept FFA as an integral component of the instructional program, even though some students are not interested in FFA. Agricultural educators/FFA advisors must start by believing that it is important to teach and share their knowledge of FFA opportunities as a part of the classroom instruction. After all, what responsibility do FFA advisors have to acquire FFA knowledge if they do believe (they) mistrust and share the knowledge and opportunities of the FFA as a part of classroom instruction?

But back to the question—how does an FFA advisor acquire knowledge about the FFA and its programs, changes in a contest, and expectations for students to win? They must read, attend workshops, conventions, and FFA meetings above the local level; make phone calls to other advisors and FFA district, state, and national officials; and ask questions! Then comes the "What's it?" "What if I don't know who to call?" Call a nearby FFA advisor and ask questions! Call your supervising teacher or teacher educator at the university and ask questions! Call your State FFA Office and ask questions! What if I don't know...? ASK QUESTIONS!

Advising members of the FFA begins with the FFA advisor. Accepting the responsibility and accountability to be well informed, competent, and knowledgeable about the FFA and FFA program offerings is the job of the FFA advisor. Developing knowledge and understanding of FFA programs, as well as students on an individual basis, will enable the advisor to match FFA opportunities with students and help them recognize areas where they may achieve and be successful. Successful FFA advisors provide guidance to students that is"based on true knowledge and ripened with wisdom."
Economics Program... (continued from page 17)

is reserved for students and their teachers submitting the top projects in a state-wide competition. During their stay in Chicago, state winners see the markets in action, attend classroom sessions on commodity markets, and see several Chicago sights. One of the highlights of the trip that students enjoy the most is standing in the trading pit on the exchange floor with Chicago Board of Trade members.

David Roehl of Saint Maria Goretti High School, Hagerstown, Maryland, was one of 45 state winners who attended the 1993 Commodity Challenge award program, held last June 27-30. In his words, "This project taught me a lot about the law of supply and demand. I got to see it in action rather than just reading about it in a book."

To Get Involved

This year's Commodity Challenge program is well underway with 48 states and two participating. While this year's enrollment period is closed, there's always the 1993-94 school year.

To join the challenge, the Chicago Board of Trade requires teachers to register each student who wants to participate in Commodity Challenge. The annual registration fee per student. Once students are registered, the Chicago Board of Trade sends the teachers the necessary materials and information on Commodity Challenge, including a test for each student registered. Teachers also receive an informational guide giving them all kinds of ideas and suggestions for the program. If you'd like to find out how your own students can participate, call Richard Jones, Chicago Board of Trade senior marketing manager, at 312-208-7206.

In addition to Commodity Challenge, the Chicago Board of Trade has a variety of other materials explaining how the futures market works. For those interested in learning more about the agricultural markets, call the Chicago Board of Trade at 312-208-3556 and ask for the agricultural publications catalog.

Teaching Agriscience (continued from page 19)

exercise, have them record the readings for each test sample. The simplest method for recouping their observations would be to have them develop a chart in which the readings are listed along the left column and the tests are labeled along the top. Then, as the students complete the laboratory, they should answer "yes" or "no" to determine if the nutrient existed within the feed sample.

Conclusions

The students need to explain "the so what" to the laboratory during the discussion of the conclusions. Some questions that should be asked in this section include:
1. Why would agriculturists want to know what nutrients exist in each feed?
2. How could agriculutrists use the information wisely?
3. Of the feeds tested, which would you consider the most nutritious and why?
4. If you were going to design your diet again, what additional information would you consider valuable in determining a balanced diet for your livestock?

Summary

The agriscience journey can be summed up with rewards for the student, the instructor, and the program. Students gain an awareness of the scientific role in agriculture, while instructors can strengthen their role in a program meeting educational requirements.

Agrisales and Marketing (continued from page 29)

Agriscience skills. It has become a true problem solving profession, utilizing complex technology and people skills. There are excellent opportunities for those who prepare themselves with the proper academic and real-world experience.

References


Selected Activities to Internationalize Agricultural Education Programs

Role of the AERA

Awards program for student involvement in international programs.

Student exchanges.

Work experience opportunities.

Help establish/increase youth organization in other countries.

Youth leadership camps in other countries.

Role of Teachers

Awards program for teacher's efforts in internationalization of program.

Teacher exchanges.

Role of Teacher Educators Curriculum development at undergraduate level with emphasis on international agriculture. Teacher educator exchanges. Teacher educator internships. Teacher teach international seminars. Assist in developing teacher education in agriculture. Collaborate in conducting research on agricultural education in other countries.

Role of Young Farmer Organizations Farmer to farmer exchanges. Work experience programs. Farmer leadership development programs in international seminars.

Role of Postsecondary Student Organizations Awards program for involvement in international efforts. Exchange programs. Work experience opportunities.


Role of FFA/Agricultural Education Alumni Exchange programs. Sponsoring FFA international efforts of students. Provide awards for international efforts of students/teachers. Sponsor travel seminars for alumni.

Role of the Council Foster internationalization of all segments of agricultural education in U.S.A. Sponsor periodic international conference on agricultural education. Formulate policy to inflow a global perspective into all programmatic efforts. Communicate and coordinate efforts to internationalize all programs through task forces. Initiate and support Task Force to conduct international education network with other organizations to encourage education by taking part of international education programs.

Role of the FFA Foundation Seek appropriate funding to support internationalization efforts. Sell the concept of international education to potential sponsors. Develop linkages with international development agencies. Foster development of programs that have international perspectives and outcomes.

Summary No other programmatic effort has as great potential to revitalize and build enthusiasm for agricultural education than the focus of internationalization of all activities in the program. There is a tremendous international frontier for development of programs modeled on agricultural education/FFA in support of U.S.A. To be prepared for development and expansion for this frontier, we must devise a systematic approach in which each of our organizations contributes. The opportunity is here, the opportunity is here, we must act now. What are you going to do to internationalize your part of the situation?

Teaching Agrimarketing (continued from page 5) dent on maximizing its productivity of human resources. Students will understand how human relations can impact the success of the business and career advancement of employees.

Infusing Agrimarketing into the Curriculum In order for agriculture teachers to make immediate advances in reorienting the secondary agriculture curriculum toward agrimarketing, an infusion of agrimarketing learning outcomes into all courses and at all grade levels must occur. For example, rather than teaching about the various breeds of beef in your ninth or tenth grade introductory courses, begin by studying where the beef is produced in the world and what consumer demands are today. You may find that you have less time to study specific breeds, but that the breeds of beef studied reflect consumer and world market demands. Students need to be introduced to agrimarketing concepts in all introductory courses to inform them about career opportunities and motivate them to get involved in advanced courses that stress agrimarketing. Also, teachers have three new FFA activities that can be used as tools to provide unique learning opportunities in sales, commodity marketing, and market planning. In addition, students can pursue supervised agricultural experiences in a variety of areas that will prepare them for careers in agrimarketing.

Examples of job titles in agrimarketing include: Account Executive Accounting Manager Agronomist Assistant Manager Banker Commodity Broker Auditor Consumer Information Manager Business Manager Export Sales Manager Credit Analyst Food Broker Customer Service Manager Grain Merchandiser

Economist Forest Products Mechanic Insurance Agent Market Analyst Financial Analyst Food Service Manager Marketing Manager Human Resource Development Manager Purchasing Manager Policy Analyst Real Estate Broker Retail Manager Sales Representative Wholesale Manager Technical Service Representative Government Program Manager

Teachers Hold the Key For agrimarketing to be infused into the curriculum, teachers must act as change agents in the process. This will require that model programs be established, such as the East Magnes High School for Agricultural and Environmental Sciences in Kansas City, Missouri. More importantly, all agriculture teachers must commit themselves to this challenge. States will need to provide opportunities for teacher in-service training courses and internships with industry. Also, professional teacher education will need to test curricula to ensure that appropriate academic preparation and experiences are included in teacher training programs. The result of these efforts will be students who are prepared to meet the challenges that careers in agrimarketing hold for them and the increased ability of American agriculture to compete in the world marketplace.


Coming In May...

Laboratory Facility Improvement
- Facility remodeling
- Technology transfer
- Planning for change
- Agriscience facilities

Feature Column
- Research on teaching

Agrimarketing-A Tool Every... (continued from page 12)

the classroom and FFA/SAE are essential for any progressive agriculture program. Through classroom instruction, students gain an appreciation for the necessity of marketing their products, whether it be a consumable good or themselves. In addition, the desire to incorporate marketing strategies moves beyond the classroom and quickly becomes an important consideration for FFA and SAE programs.

References
Agricultural Education's Role in Protecting Our Environment *

In the past decade a small, yet vocal minority has begun to make the public aware of the extent of the damage that has been done to our environment. With the dawn of the industrial age, the emphasis in all types of production was placed on maximizing output while minimizing input, and little thought was given to its impact on the environment. This ideology has carried over into production agriculture as well, and now the public is sending up a cry of protest. The environment must be preserved for future generations, and the public believes that current farming practices are not meeting this need.

This presents agricultural educators with a dual role in protecting our environment. Our first challenge is to teach farmers and farm operators about environmentally sound farming methods. This could range from using simple modification in traditional production practices to utilizing sustainable agriculture techniques. Producers must understand how they are harming the environment, if they are to prevent future damage to it. Our second challenge lies in educating the public about the conservation techniques that are currently being used by farmers to protect the environment. This will provide more public support for the farming industry, and in turn, make it easier for agriculturalists to employ environmentally sound practices.

Environmental problems attributed to agriculture include surface and groundwater pollution by agricultural chemicals, soil erosion, and antibiotic and pesticide residues in foods, among others. Most of these problems can be significantly reduced by alternative agricultural practices. For example, the relatively simple technique of rotating crops on a particular field can reduce the amount of nitrogen that must be applied to that field. This, in turn, reduces the amount of nitrogen that will move into groundwater and streams, and it also decreases water pollution. By teaching agriculturalists the benefits of techniques like crop rotation, integrated pest management, soil conservation, and improved animal production systems, we can begin to reduce the farmer's dependence on chemicals and also reduce the damage done to our environment.

Agricultural educators must also teach the public about environmentally sound practices that are currently being used, because agricultural illiteracy is the industry's greatest enemy. A small, yet vocal segment of the population is using incomplete and unsubstantiated points of information to sway the general public against farming and farming practices. As agricultural educators, it is our responsibility to fill in the missing information and further explain the current agricultural practices in use. Agriculturalists are often portrayed as environmental enemies, when in truth, the agriculturalist must preserve the environment in order to preserve their way of life. It is often the consumer market demand which pressures agriculturalists to produce products that require the use of environmentally unfriendly practices. For example, the consumer demand for unblemished fruit has lead to increased applications of pesticides and fungicides in fruit production. By informing the public about sound environmental practices in use and giving them less idealistic expectations for agricultural products, we can enhance the relationship between the agriculturalist and the environment.

Agricultural educators must play a dual role in protecting the environment if it is to be preserved for future generations. First, we must teach future agriculturalists that environmentally sound farming practices actually do work. Secondly, we must teach the public to have realistic expectations about both agricultural practices and products. Perhaps by working together the agriculturalist, agricultural educator, and public can start an agricultural revolution centered around preserving the environment for future generations.

* Heather Peters is an undergraduate student in agricultural education at Penn State. Her essay received top honors in the Alpha Tau Alpha National Essay Contest held this past November.