The
Agricultural Education
Magazine

May, 1983
Volume 55
Number 11

THEME: Achieving Quality Summer Programs

THE
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MAGAZINE

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ARTICLE SUBMISSION

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Summer Teaching

LARRY E. MILLER, EDITOR
(The Editor is a Professor in the Department of Agricultural Education at The Ohio State University.)

Education is a rather paradoxical profession at times. Educators at all levels advocate how concerned they are with student learning. Yet, we are guided in our thinking by dogma. Anything out of the ordinary automatically draws suspicion. Since the summer program, extended service, does not fit the typical mold of the traditional educational program that is within the ritualistic 180 day school year, it raises a flag as being unusual or unneeded.

Administrative Action

Administrators and other educators, accustomed to the traditional, perceive this unusual program component to cost extra money, require undue paperwork to satisfy the bureaucracy, provide one more detail with which to be concerned, and be of dubious value. When vocational agriculture programs were located in small, single teacher departments emphasizing production agriculture, administrators were responsive to the agriculturalists in the community and little was said.

Today, however, a different environment exists. Few administrators have a background in or an appreciation for agriculture. Few are sensitive to the agricultural base of the community since it may constitute a small proportion of the population to be served in the school district. Few have been educated by their vocational agriculture teachers as to the instruction that occurs during the summer. The board of education they serve may contain a smaller proportion of agriculturalists. They have less time to interact informally with the community to gain an insight into the nature of the vocational agriculture program.

Admittedly, the role of the administrator has changed as well. They have bigger budgets, lots of state and federal reports, personnel problems, bigger districts and added pressure and stress. Few would admit to deliberately interfering with student learning. This is often the result, however.

Consequences for Students

The competencies which many students of agriculture must learn do not lend themselves to the traditional delivery mode of education during an academic year. The learning must occur at the teachable moment, when the situation to develop the vocational knowledge is at hand, and many of these experiences cannot be forced into a regular school year. The reduction or elimination of the summer program directly and definitely affects the learning opportunities of students.

Our Response

Since we have not kept the administration informed of our activities, the usual criticism of the summer program is that teachers of vocational agriculture are not doing their job, teaching during the summer. We should first of all concede that federal and state monies do support our program. The programs are administered locally, however, as they should be. If a teacher is not doing the job, then administrators must also assume a share of the responsibility. Teachers should be expected to perform the duties of their position and administrators should see that they do.

Vocational agriculture professionals must concede there are those among our ranks that do not perform these duties. This minority casts a shadow on all those who conscientiously perform their duties, and a whole lot more. Majorities often suffer the consequences precipitated by a minority. Through peer pressure and state or district supervisors, attention can be focused upon those not performing for local administrative action.

Personnel in vocational agriculture should be conscious of the degree to which we, too, suffer from dogmatism. Given the changes that have occurred in the vocational agriculture program over the past two decades, we need to be willing to look with open minds at our programs. A posture that all vocational agriculture instructors, regardless of taxonomy or option area, must be on twelve month contracts may in itself be antiquated. Can we carefully examine each situation, determine the teacher time needed to adequately conduct the instructional program and sensibly respond to meet those needs?

A Quality Program

This issue addresses what should be done to achieve a summer program of high quality. High quality programs help students learn. The articles describe how we should plan and conduct our programs, how we should inform our publics of our activities, and what we should and should not be doing during the summer. The point is made that we should emphasize a total program and not just belabor the summer segment of our program. From Alaska to Florida, our concerns are voiced as they may impact upon our students. We must continue to persevere and not let our students suffer. In the face of a diminishing number of persons that understand and support our efforts, we must continue with logic, reason and dedication to provide vocational education in agriculture.

THEME

Summer Programs — From Whence Did They Come? Where Should We Go?

By Gary Briers

Editor's Note: Dr. Briers is an Associate Professor in the Department of Agricultural Education at Texas A & M University, College Station, Texas 77843.

Historically, the teacher of vocational agriculture has been the only teacher in the public school systems of our nation to be employed and on the job, for a full, twelve month period. As Arrington suggests in his article, year-round programs in vocational agriculture are necessary because production in agriculture is year-round.

Actually, agricultural activities are highest during the summer months. Not only do the longer, warmer days of summer enhance and, in some crops, even allow growth and production, but also the service function of agribusiness must increase to assist this increased production. All of this simplification of the industry of agriculture is merely to explain the idea of summer work for vocational agriculture teachers. If we do not use the unique nature of agriculture to justify summer employment, then how can we explain the uniqueness of the vocational agriculture teacher?

The Time to Learn

Yes, a laundry list of appropriate summer activities for teachers of vocational agriculture can be developed. But, which of these activities are unique to the teacher of vocational agriculture? Surely, other teachers need vacations, time to clean and repair their teaching stations, to plan lessons, etc. So, again, we are back to the question: Why summer employment for the teacher of vocational agriculture, and **not** for other teachers in the school system? The bottom line points to the natural wonder of agriculture — photosynthesis simply requires sunlight and warmth available in greatest quantities in the summer. No other teacher in the school system — not the English teacher, not the math teacher, not the cosmetology teacher — can identify a natural increase in the activity of their subject matter as a result of summer!

Let us suppose we can convince those who control and affect the "destiny" of the teacher of vocational agriculture of this unique feature of the subject matter of agriculture. As the Hilton article suggests, these people could ask, "So what?" In other words, would not agriculture go on without the vocational agriculture teacher? Would not photosynthesis continue to occur? Yes, of course it will.

Where does that leave the vocational agriculture teacher trying to justify a year-round contract? Ah, we have won the battle if questioners or distracters of our programs will recognize and admit the uniqueness of agriculture. But the war continues. We must explain to our non-believers that teachers of vocational agriculture simply cannot perform their function, to teach agriculture, without summer employment. Again, the job should be easy. Merely pose these questions to those who wonder:

1. When can I teach my students insect and disease control in soybeans?
2. How can I teach my students the pollination of corn and subsequent ear development without summer employment?
3. Where and how can I teach students winter wheat harvest unless I do it in the summer?
4. When do vegetables grow and produce? When must weeds be controlled? When is hay harvested? When is most secondary cultivation performed? When are irrigation pipes moved, or irrigation ditches opened?

Surely a little quiz on agriculture will show that real vocational education in agriculture must include summer teaching.

That brings us to the next step in explaining summer employment of vocational agriculture teachers. This step is the need, the requirement, that teaching be the justification of a summer program. In other words, just because agriculture is most active during the summer does not account alone for summer employment. The teacher of vocational agriculture is employed; whether it is September, March, or July, to teach. Parents and taxpayers should expect no less teaching during June than during January. In fact, as dictated by the nature of agriculture itself, the opportunities for teaching during the summer months are more abundant during August than during October. That is, there is just more agriculture "going on" in the summer than in the winter! The real job of the vocational agriculture teacher, then, is to capitalize on and to use these increased opportunities for teaching.

Capitalizing on Opportunity

The first, most obvious, and most fruitful means of "using" agriculture to increase student learning during the summer is through supervised occupational experience programs. Again, you should refer to the Arrington and Hilton articles for additional information on SOEPs in vocational agriculture. FFA activities such as shows and fairs provide other opportunities for teaching agriculture in the summer. Perhaps less traditional methods of capitalizing on "summer agriculture" need more attention by teachers.

For example, field trips to observe and learn agriculture first-hand should be more easily arranged in the summer than during "school months." Buses should be more easily scheduled, other classes need not be missed, and more agriculture is "occuring" from which to learn. Vocational agriculture teachers should schedule more field days and tours to teach agriculture in the summer. Social activities such as a weiner roast or swimming party could be coupled with the educational mission in order to attract students. Potential and incoming students, parents, administrators, and other adults in agriculture may be involved as well.

Might this idea be carried even further? Summer "classes" for credit in vocational agriculture might be a logical outcome of summer programs. (Some of us remember when some states rewarded vocational agriculture students with one and one-half credits for vocational agriculture. This stemmed from the summer learning, FFA, and SOEP involvement of students.) Classes for summer school students may run eight to ten hours per day. A high school credit could be earned in short order with ten hours of instruction per day!

With increased agricultural activity during the summer months comes an increased need for agricultural mechanics instruction. (See the Darcey article for a specific example). Repair, maintenance, and operation of agricultural machinery becomes more important and more frequent. So, teaching agricultural mechanics could be more valuable and timely during the summer. Again, summer school may be a possibility. The examples could go on and on.

Ornamental horticulture is a more viable industry during the summer months. Forestry activity increases. With increases in basic agricultural production come heightened needs for agricultural supplies and services. And, ultimately, these activities lead to both an increased need and an increased opportunity for teaching vocational agriculture.

The unique aspect of the job of vocational agriculture teachers is their responsibility for teaching practical; applied and, yes, vocational agriculture. The industry of agriculture itself shows some of its components only in the summer. In order to teach these summer-only components, the vocational agriculture teacher must be employed during the summer. Teaching, then, is the ultimate in making the job of the vocational agriculture teacher an accountable one. So, let us go forth when summer rolls around next month and teach our students some agriculture!

Summer affords the opportunity for one-on-one, individualized instruction to occur. (Photograph courtesy of the National FFA Center, Alexandria, Virginia.)

The Cover

Horticulture programs, with their live plants, necessitate an extended service component to maintain viable plants. These plants and facilities are also ideal to continue the teaching function during the summer. (Photograph courtesy of Meg Hopkins, Glen Allen, Virginia.)

BOOK REVIEW

Fundamentals of Entomology by Richard J. Elzinga, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1981, 2nd edition, 422 pp., $19.95.

A well illustrated textbook with 11 chapters. The chapters include: The Anthropod Plan, The Insect Externally, The Insect Internally, Development and Specialization, Ecology, Behavior, From Solitary to Social, Parasitism by Insects, Insects, Plants, and Humans, Classification, and Making an Insect Collection.

Excellent reference for anyone interested in insects. A textbook for college courses. Perhaps the most valuable chapters for a teacher of agriculture would be the last two. Both are clear, concise, and complete.

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THEME

SOE — The Center Of Your Summer Program

By Larry R. Arrington

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Probably no topic has been discussed more widely in recent years than the year-round instructional program. As more and more school districts have come under fiscal constraints, many have looked at the summer program in vocational agriculture as a possible means of reducing costs. Others have questioned the educational value of the summer program. While these problems have been more severe in some states, it is critical that we be concious of the real reason that teachers are employed during the summer. We have a responsibility now, more than at any other time in history, to communicate to administrators, school board members, legislators, and others the importance of the year-round program.

Summer Programs Are Needed

The roots of the summer vocational agriculture program can be traced to the act that initiated federal support for vocational agriculture. The Smith-Hughes Act specifically mandated that all students engage in a minimum of six months of supervised farming. It was recognized that supervised farming programs and agricultural production activities continue beyond the normal school year and that teachers should be employed to utilize the opportunities for educational experience available during this time. Therefore, it is easy to see that the real reason we have year-round programs is because production cycles in agriculture are year-round.

SOE at the Center

A review of the many articles written on this topic reveals that numerous summer activities for teachers have been suggested. Suggested appropriate activities have included things such as

- visiting incoming students
- professional improvement
- advisory committee meetings
- FFA meetings and activities
- departmental housekeeping
- program planning
- community service
- adult and young farmer activity
- records and reports
- vacationing

Each of these activities are entirely appropriate and the objective of this article is not to down-play that importance. However, as we look at the year-round program and the real reasons for the summer employment of teachers, it is imperative that the supervised occupational experience programs of students be put at the center of focus. After all, are not teachers hired for the purpose of teaching students? And is not the supervised occupational experience program the center of the instructional program? Therefore, it should also form the basis for the summer portion of the program.

Agricultural production activities reach their peak during the summer. For this reason, activities in productive enterprises and farm placement increase during the summer. Increases in agricultural production activities also result in a need for additional employees in agribusiness. Teachers must be available to supervise these students involved in supervised occupational experience programs during the summer.

A Florida Study

A recent study conducted in Florida (Arrington, 1981) sought to determine if the summer employment of vocational agriculture teachers was related to the scope of supervised occupational programs conducted by students. Supervised occupational experience program scope was derived from a formula that took into consideration income and labor intensity of experience programs. The source of this information was student record books.

Among the findings reported in the study was that length of teacher employment was significantly related to the scope of supervised occupational experience programs. It was also found that length of teacher employment was related to the number of supervisory visits conducted by teachers and their participation with local fairs. These findings would indicate that students who are in programs where teachers are employed beyond the normal school year are receiving more individualized instruction and supervision. The forty-six teachers in this study had averaged two supervisory visits per senior student during the year.

Among the conclusions drawn from the study was that the relationship between supervised occupational experience progam scope and length of teaching contract indicates that school districts desiring more effective supervised occupational experience programs should employ teachers on a year-round basis.

Several state legislatures have recognized the importance of the summer program and its relationship to student experience programs. In Florida, a recent legislative effort by Senator Curtis Peterson has resulted in the adoption of the following amendment to the State Board of Education Rules:

. . . the district shall provide individual instruction and supervision of students for instructional activities during the entire period of the school year beyond one hundred eighty (180) days for any agriculture program that requires an annual production and marketing cycle as specified in the Courses Standards required under Rule 6A-6.571, FAC.

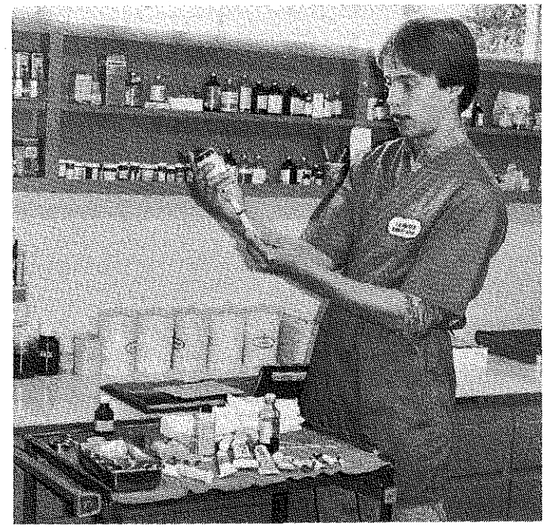
The Challenge Before Us

The importance of accountability in the summer instructional program will increase. The major purpose of the summer program must be instructing students who are enrolled in our programs. If we are to be accountable for our time and activity, this instruction must focus on the supervised occupational experience program and must be as well planned and organized as instruction during the regular school year.

The following are some guidelines which might be used to aid in justifying the importance of the summer program:

1. Involve your advisory committee and school administration in developing the summer program.
2. Submit a written plan and calendar of activities to the principal.
3. Keep the principal and advisory committee informed of the activities that have been accomplished and of any changes in the plans.
4. Request that your principal accompany you on individual project visits.
5. Submit a written report of accomplishments at the end of the summer. This report should include a log of all students contacted.

If your summer program is based primarily on maintaining a school laboratory or developing curriculum materials for the coming year, perhaps you should re-evaluate the purpose of the summer program. Programs that are based on instructing and supervising students enrolled in the program can be easily justified. Start now in developing plans to make the supervised occupational experience program the center of your summer program.



On-site visitations to students placed in agribusiness are often more easily scheduled during regular working hours in the summer. (Photograph courtesy of Richard Hylton, California State Polytechnic University, Pomona, California.)

Reference

Arrington, L.R. Relationship of the Length of Vocational Agriculture Teacher Contract to Supervised Occupational Experience Program Scope and FFA Chapter Activity Level. Doctoral Dissertation, The Ohio State University, 1981.

BOOK REVIEW

Knott's Handbook for Vegetable Growers, by Oscar A. Lorenz and Donald N. Maynard, New York: John Wiley and Sons, Inc., 1980, 2nd ed., 390 pp., $16.50.

This book is designed to be used by commercial growers, farm advisors, students (I would recommend senior high or college level) teachers, and home-gardeners. They will find valuable information within this text.

The handbook contains ten chapters. The first includes statistical information about vegetable production and consumption. The second through the seventh chapters deal with virtually every aspect of vegetable crop production and the cultural practices associated with those crops.

These six chapters contain many useful charts, formulas, guides, and tables that can be used for applications of various insecticides and herbicides, also for seeding and fertilizing rates and production and harvest forecasts. There is information on soils, water, irrigation, vegetable pests and their problems, growth requirements, and transplanting techniques.

Chapter eight pertains to harvesting and storage of vegetables. This chapter contains methods of predicting harvest dates and yield quantities. There is information on cooling and freezing temperatures of most vegetables, and tables that are helpful in estimating storage requirements for various types of vegetables.

Chapter nine contains information on seeds. It includes data on seed production and yields, in addition to specifications on seed storage.

The tenth chapter is the appendix. It includes names and addresses of seed suppliers, a list of periodicals for vegetable growers, weight and measure tables, and conversion charts and factors for metric and U.S. dimensions.

If you do not already have a copy, then you will want to get one. If you have a copy of the 1956 edition of Knott's Handbook for Vegetable Growers, then you will definitely want to get a copy of this updated version. This book should be a valuable reference to all who have an interest in vegetables.

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California State University - Fresno
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THEME

Energize Your Summer With Positive Time Management

Vocational agriculture teachers: check this list!

What do you do during summer employment???

- ☐attend agriculture teacher conference
- ☐participate in professional organization activities
- ☐organize local livestock/crop fairs
- ☐visit students on the farm, job, at home
- ☐advise FFA meetings
- ☐visit students with fair entries
- ☐attend school board meetings
- ☐take inventory of equipment
- ☐order new items
- ☐work on school land laboratory
- ☐recondition laboratory equipment
- ☐visit with community persons
- ☐attend FFA leadership camp
- ☐participate in FFA social events
- ☐organize advisory council meetings
- ☐other _____, _____, and _____!

How long is your list? It can be long and tedious but as you sit back and reflect on the value of the activities, you can see how summertime can be the most valuable experience of your teaching year. But, are you becoming stale or bored? It is possible you are filling your summer with de-energizing activities. If you can develop and maintain a positive attitude and create quality time management you can keep your summers alive, exciting, and valuable to yourself, your students, and the community!

De-energizing Activities

Let us pinpoint six de-energizing activities which may be clouding your path to a successful summer program.

The uncertainty of the program's future: Are you dwelling on the questions of the future and contemplating possible budget cuts and the elimination of your job? You may be hesitant to begin new projects or neglect reorganizing old problems. Some people are also scared to cross the street to eliminate the risk of being hit by a car! Your priorities can be shifted to reduce the time you waste thinking of a situation which may or may not occur.

Us against them: As we live in a competitive society, you may be caught in this trap. It can burn up all your energy to battle an agribusiness establishment, the school board, another agriculture teacher, your friends, or family.

Moans and groans: It is a contagious disease as people thrive on listening to each others' problems. At times it becomes a challenge to out do the other teachers' hard times with your own stories. Such discussions have a de-energizing effect on anything positive you are trying to accomplish.

Procrastination: "Never put off until tomorrow . . ." It takes much energy to procrastinate. First, you will inevitably worry during the procrastination period about all

By Chris Townsend
and Don Meyer
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the work you have postponed. Second, when you finally get around to it, you will have so much work piled up, you can do only a mediocre job.

The good old days: They sure look super in comparison to today's woes, but were the days really that great? Those who spend valuable time reflecting on the past may not be remembering all the facts. It is simple to remember the guilded events forgetting how tough it really was!

Placing the blame: A lot of us feel we must blame someone or something for every event which turns sour. We tend to use a tremendous amount of energy blaming someone else or ourselves for a problem of which there is no blame.

A Positive Focus

Since we all are human, it is probable that we can identify ourselves with a few of the six de-energizing activities. But since you are in control of your situation, the challenge is to refocus all your energies toward the positive aspects of life. With a positive focus, you will find yourself motivated and on your way to a successful summer program!

Merit your work: Regardless of how long you have been an agriculture teacher, find some reason to pat yourself on the back. At times in the summer you are so far removed from the administration, no one ever comes around to thank you for the work you have done reorganizing the shop or keeping your students involved with agricultural events. You must stand back, reflect on the accomplishments, and relish in the fact that you have completed your jobs well.

Others can be a support: Do not let yourself be alone with a problem or situation. Find another agriculture teacher to talk with about areas of concern with your summer program. Sometimes just verbalizing an idea will help you initiate the necessary action toward successful completion. Trying to hold all your summer quandries inside will lead to less productivity and possibly ulcers.

Time for recreation: Plan a vacation and take it! Leave work at work! Without a definite and organized time table for summer it is easy to fall into the trap of never really finishing the day. Many teachers find themsleves never separating work from home. During the day, you may also find the need to schedule breaks from the tasks at hand. Variety on the job is interesting, helps the day pass more quickly, and revitalizes you to be more productive in work activities. As an important part of your summer, recreation or leisure time can boost your morale and enhance your work success.

Importance of work: Your job is important no matter what cog you are in the wheel of the school. If you do not realize how important you are, imagine the system without your input or help. When a teacher begins the day, he or she can either look on the day as "just another" or reflect on the accomplishments he/she will add to the goals of the students. If you do not believe you are important, no one else will either.

Visualizing a better world: Negatively, we can look at today and groan about all the problems and dilemmas of school systems, but why waste the time? Concentrate your thoughts and discussions with the agricultural community on the positive aspects of today's society, agricultural advances, and accomplishments of the schools. For example, our students have more opportunities today for education than ever before. The system of vocational education allows students to become proficient in skills that can ultimately lead to jobs! Strike up a conversation this summer about the good things in agriculture; brag a little about the innovations of the FFA which add to the educational soundness of our programs. It makes the time enjoyable for you and those around you.

Take small steps: As most summer activities are monumental in the initial stages, take small steps and break the task into manageable parts. If you reward yourself for each successful step, the succeeding steps do not seem so massive and unconquerable.

Encounter problems: Confront difficult situations head-on when they occur. Obviously you have found out by now that by ignoring a problem it does not become solved or go away. This positive activity of encountering your problems may seem easy to avoid but sincere confrontations will eliminate tail spins and unnecessary worry.

Motivate yourself to a successful summer by decreasing your de-energizing activities and incorporating a positive focus on the tasks at hand.

Time Management Tips for Summer Programs

1. Pre-plan and organize your summer weekly or bi-weekly and slip a note into your administrator's mailbox with your tentative schedule.

2. Account for your summer work by reporting, at month's end, your mileage and activities. This task can be hastened if you use a calendar format and keep it up-to-date daily.

3. Avoid confrontations with your administration by keeping them informed in advance of your plans.

4. Set up a calendar at the beginning of the summer with all the "have-to" jobs listed. Do not get caught with 3 weeks of jobs and only 1 week left before the start of school.

5. Set real goals. What do you want to accomplish this summer? Write these goals down and then work toward their completion.

6. Allocate 3 days for supplies and equipment tasks. Use local sources so you know today's prices and can eliminate time delays changing purchase orders. Day 1: price local suppliers; day 2: pick up supplies; day 3: install the equipment in the laboratory.

7. Take the vacation to which you are entitled.

8. Build flexibility into your schedule. If you must visit a student on a Sunday evening, for example, use Monday afternoon as an exchange "week-end day."

9. Have students give you their summer schedule. Are they working away from home; when are their vacations? Knowing this information will help you schedule visitations accurately and reduce wasted time on the road.

Planning Revitalizes

Most agriculture teachers have time management hints they have incorporated into their summer routine. Be friendly with your neighboring teachers and share your ideas; you will receive many ideas in exchange. By creating an effective summer program, you can accomplish many tasks which are impossible as soon as the students return to school and you may notice an exciting summer can revitalize your own attitude about the approaching fall term in school.

THEME

Using Summers to Prepare Instructional Aids

By Chester Darcey
Editor's Note: Mr. Darcey is an Assistant Professor in Agricultural Engineering at Texas A & M University, College Station, Texas 77843.

Teachers of vocational agriculture historically have been confronted with the problem of not having enough time during the school year to perform their teaching and advising function. They have, however, always performed admirably in a job where endurance, skills, and dedication are a necessity. Since time is a premium commodity to the vocational agriculture teacher, many things must be done during the summer months. This is the time when lesson plans are revised and updated, courses restructured, visitations are made, and much needed work on shop and facilities is undertaken. Although even the summer months are busy for the teacher, this is the best period to make improvements in the physical facilities used in their instructional program.

Teaching aids are an indispensable part of any teaching program and summers are time when these aids may be planned and constructed. These aids are probably the one best way to achieve accellerated understanding by students of operations and principles which may be somewhat technical in nature. Instructors of agricultural mechanics and tractor mechanics programs should consider including in their summer programs time for the construction of aids to increase the effectiveness of instruction.

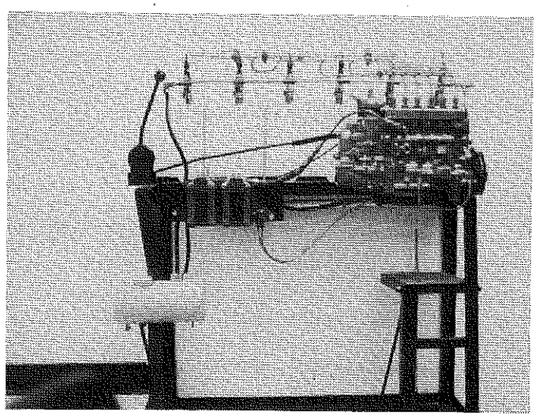
A Diesel Example

A worthwhile teaching aid for general agricultural mechanics or tractor mechanics is one that we at Texas A&M conceived to help with the instruction in the area of diesel injection systems. We felt that a well constructed unit that contained all the components of an actual system and that was workable would be an invaluable aid in teaching. We also felt that this would lead, in many cases, to a more complete understanding by our students of the components and principles of operation of a diesel injection system.

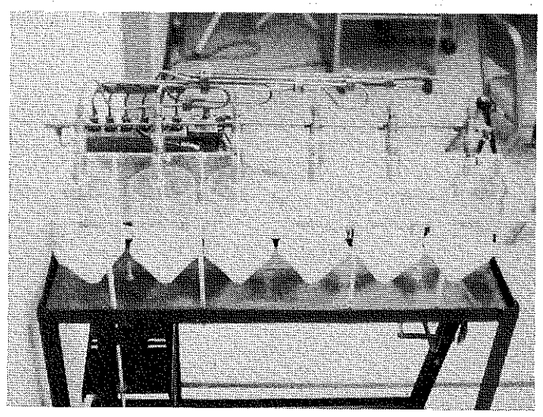
Our unit is built around a John Deere injection system taken from an 8630 series tractor. This equipment; which includes pumps, lines, filters and injectors; are the major components of the unit, and are items which would be expensive to buy. However, we have found that most dealers and industry representatives are receptive to donating these items to schools for teaching/instruction purposes. Our components were donated by Deere & Co. for this purpose. This is the only way that this unit can be built for a price which is within reach of most schools.

Although this stand is built using Deere components, it would be very easy to change the basic plan using any manufacturer's components and it would not matter whether the set up was a 3, 4 or 6 cylinder. Since our unit is a 6 cylinder, a three or four cylinder unit could be put together for less money than what our figures indicate. The total cost of our unit less injection components was $173.07. Again, a small unit would require less money to build.

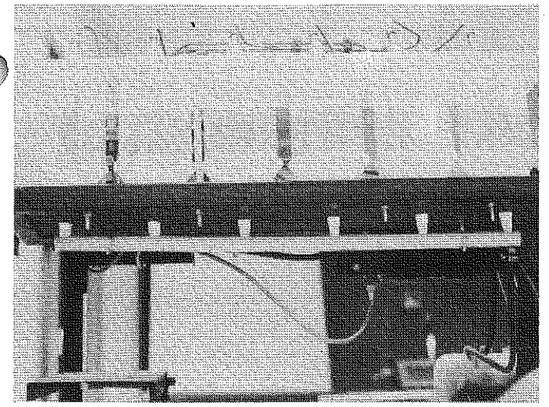
Visual Diesel Injection Stand



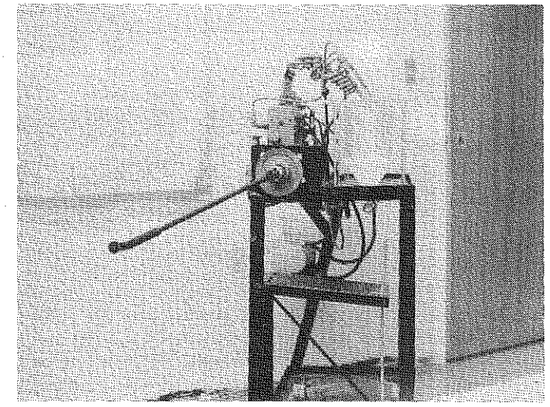
View of Complete Unit
All components are positioned exactly as they would be on an actual tractor set up.



Collectors of injected fuel from nozzles are constructed of plexiglass cylinders with a plexiglass top cover. Nozzle action can be observed easily as injection takes place.



View showing return line made of ¾" PVC. Collection funnels are cemented in holes in pvc and return line is angled slightly toward tank to allow for return by gravity flow.



This view shows the manual drive for unit which was constructed using ½" drive, 18" breakover handle & socket on pulley nut — Note: Adjustable mounting pad for motor is in place for motor driving of the unit.

Constructing the Unit

As may be noted by referring to the pictures, the unit was put together keeping all components as they would be positioned on a tractor. The injectors are placed in plexiglass cylinders where actual operation of the nozzles may be viewed. A small reservoir was added to accommodate the diesel fuel and also a common return line from the injectors back to the tank. This will circulate the fuel and eliminate refilling the system on a continuous basis. The injection and return is accomplished by the 5 inch plexiglass cylinders with plastic funnels cemented to the bottoms. The fuel injected runs through the funnels of each cylinder, and into a ¾ inch PVC pipe which is cemented to each of the funnel ends to provide a common return of injected fuel to the tank.

We have rigged our unit to operate by hand, using a lever to turn the pump causing injection. However, the unit may also be set up to operate from an electric motor or a gear motor. For those who have these motors lying around, this would add a nice touch to the injection unit. It would be especially effective to run the unit at low speeds and even have a variable speed motor. We feel that to be effective a motor should be used that would turn the pump at speeds of 50-150 rpm. At faster speeds, the effectiveness of individual nozzles injecting may be lost.

The following is a list of materials and prices which we encountered building our unit. These may be adjusted, however, depending on what material is on hand in the shop, and price differences due to variations from area to area.

Plexiglass tubing — 5" x 1/8" — 5 ft.	$ 57.11
Miscellaneous items — fittings, metal, etc.	46.54
Motor drive pulley	2.09
Copper tubing — 5/16" — 4 ft.	1.49
PVC pipe and funnels — ¾" pipe, 6 funnels	6.14
Plexiglass top piece — 3/8" thick	10.70
Angle iron for frame — 1½" x 1½" x 1/8" — 40 ft.	19.00
Casters — 4	30.00
	$173.07

Donated Items:
1 — Robert Bosch, P series, fuel injection pump
6 — Robert Bosch, KDE1 21 mm, nozzles
1 — John Deere fuel line set for 6619 engine
1 — Robert Bosch, FP/K22P, fuel supply pump
1 — Fuel filter assembly — John Deere 8630

We also recommend that you involve your students in the construction of this instructional aid. Thus, not only are you preparing for classes in the fall, but also your students can learn much about the diesel fuel injection system and its operation. You may be able to have a kind of "open house" after completing the aid in which you incorporate an FFA meeting with an agricultural mechanics theme. Invite those people who donated materials to observe those students helping in the construction as they demonstrate its operation to the FFA chapter. Do not forget to involve the administration and local press in the unveiling. Finally, you may want to schedule an adult farmer's meeting to concentrate on this area of instruction.

Yes, teachers of vocational agriculture are busy. With this alway being the case, they must make the most out of their summer schedule. Preparation of materials, student involvement; and, most of all, teaching can be incorporated into agricultural mechanics activities during the summer. Nothing less can or should be expected of you, the ever resourceful teacher of vocational agriculture.

Summer Programs In Vocational Agriculture: The Administrators' View

What will you be doing this summer? Is this a question that your administrator will be asking you soon? Will it be a question of business or just a curious comment concerning your well being? Will you be working for the school district or more importantly for students in a continuous 12 month contract with summer employment or will you be at home painting your house?

Do you have an answer for your administrator? Have you talked with your administrator lately about what you, the vocational agriculture teacher, are planning as a summer program? Do you have any basis to support your discussion, to report your proposed activities, any records? Can you explain the importance of your summer program to your students, and to the total vocational agriulture program? Do you know how your administrator views your summer activities, the summer program?

Have you ever involved an administrator in your summer activities? Have you ever invited an administrator on an SOE visit, to a county judging contest, to a regional activity, to an FFA or vocational agriculture teachers' meeting? Have you ever discussed summer program activities with your fellow vocational agriculture teachers? What are they doing; what are their views? Do you know how your administrator sees the summer program activities in which you are involved?

Viewing Two States

While these are not the questions asked the 160 plus administrators and teachers in parallel Iowa (1979) and Pennsylvania (1981) studies, these are the obvious questions that you must ask in a self-analysis of your summer program. But, how did administrators view the summer program of their vocational agriculture teachers in Iowa and Pennsylvania?

First, let me ease your apprehensions by saying, that of the 160 plus administrators questioned, there were none expressing a totally negative attitude toward the summer program. In fact, a summation of data indicated a rather favorable administrator response to summer programs with a 12.2 score on a 16 point scale. This may be interpreted as a rather strong agreement that quality summer programs are considered important by administrators. The responses by administrators indicate their feelings to 63 summer program activities in eight summer program activity categories. Additional information concerning the administrators' response to the eight identified summer program categories is shown in Figure 1.

Immediately, it may be noticed that administrators feel that the SOE and FFA activities are the basis for a successful summer program. Administrators feel teachers should be working with students on an individual basis to assist with SOE and FFA activities. These SOE activities would include visiting and evaluating student SOE projects, providing individualized student instruction relative to the students' SOE program, assisting students in selecting crops and livestock, developing work experience stations with students and employers and supervising student projects. The FFA activities deemed important appeared to add continuity to the FFA program of work and included holding regular summer FFA meetings, working with FFA committees and supervision of FFA recreational and educational activities.

By James Hilton
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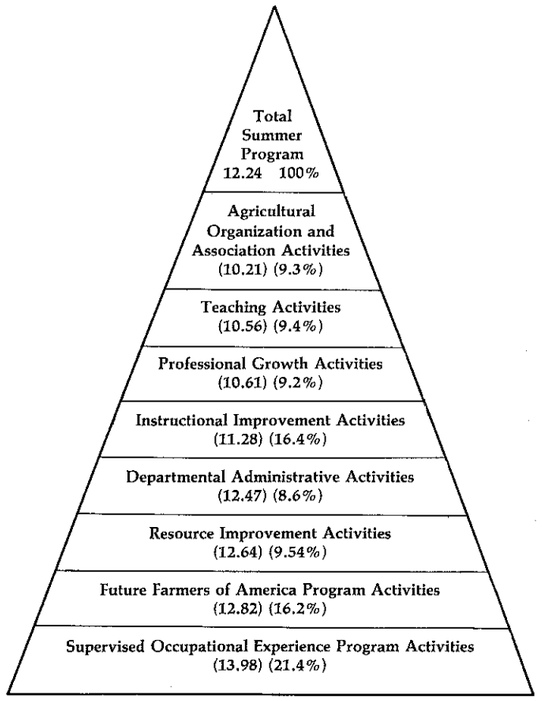

Figure 1. Summer Program Pyramid

a) Administrators mean response to the program category based upon the 16 point scale.

b) Administrators allocation of teacher time as a percentage of 55 proposed working days.

The remaining categories and activities were mainly considered to be supportive in maintaining a continuous on-going program and included: scheduling of regular office hours and meeting with administrators; preparation of teaching aids for classroom and laboratory use and revision of curriculum; assisting in agriculture field days and working with local or county fair groups.

The repair of instructional tools and equipment and the inventory and maintenance of laboratory supplies were considered viable summer program activities as were the supervision of demonstration plots involving new agriculture practice and the conduct of adult/young farmer classes. Administrators believed the attendance at professional education inservice workshops and the participation in state and regional professional meetings were acceptable summer program activities. While the evidence shows support for summer program activities at the local level, with emphasis on SOE and FFA programs; the administrators, when asked to divide the agriculture teachers time among the eight categories, showed little change in their attitudes. In fact, their allocation of time to the program categories paralleled their attitude responses as shown in Figure 1. A correlation of the summer program category scores and the allocation of time figures indicated a consistent and parallel response from the administrators except in the instructional improvement category which gained a slightly higher percentage of the time allocation.

Needed Communications

When asked some demographic questions concerning the vocational agriculture program, administrator responses indicated a definite lack of communication between the vocational agriculture teacher and the administrator. When asked questions that would indicate some involvement with the summer program, administrators indicated that few had ever been on an SOE visit, with less than 10 per cent actually accompanying the agriculture teacher. Many indicated a desire to visit a student's SOE project. When questioned as to how often the agriculture teacher would or should see or report to the administrator during the summer, the responses ranged from not at all (10%) to every day (22.4%) with an average of 12 visits over the summer.

In addition, 42 percent of the administrators did not require any formal report of the agriculture teachers' summer activities and 10 per cent required a report as part of an annual summary. This indicates a lack of communication between the agriculture teacher and the administrators. Let us face the real problem, it is your responsibility to get on the ball and promote and communicate your program to your administrator.

What are the keys to a successful summer program in vocational agriculture? From the administrators viewpoint, it must be a vocational agriculture teacher committed to a high quality program of student involvement in SOE and FFA activities and a teacher able to communicate the significance of the SOE and FFA programs to the quality of a total vocational agriculture program.

Vocational Agriculture Under The Midnight Sun

Agriculture in Alaska? You bet your best bull! In fact, agriculture began in the "Land of the Midnight Sun" even before our great nation achieved independence. In recent years development of a stable agriculture industry has received emphasis on a state-wide basis because the perpetuation of economic stability may depend on intelligent management of renewable resources (as opposed to the current rapid utilization of nonrenewable resources). Within the last decade, vocational agriculture has evolved, paradoxically, both as a product of and a force behind the expansion of that Alaskan agriculture industry.

Long, cold winters in Alaska usurp a major portion of each school year. Extreme weather severely limits the use of outdoor, hands-on experiences as a practical instructional tool. Thus, although short and intensive, the summer becomes an invaluable extension of the school year. Vocational agriculture teachers have utilized the Alaskan summer to provide many opportunities for their students to gain the outdoor, hands-on experiences otherwise obtainable during the winter.

By Carla Kirts
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Utilizing Fairs

Participation in fairs is a traditional summer activity. Palmer and Fairbanks host state fairs, while other communities such as Delta Junction and Ninilchik hold local "county" fairs. In this way, some students have the opportunity to become involved in more than one fair. Showing animals is a main attraction. Concepts and skills discussed and practiced in the classroom during the school year are

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"put to the test". Each steer, pig, sheep, goat, rabbit and chicken represents the degree to which each student was able to apply those concepts and skills. In addition, students have the opportunity to receive recognition for producing a quality product.

Showing animals is not, and should not be, the only event in which vocational agriculture students take part at a fair. For example, several FFA chapters co-sponsor Old MacDonald's Barn. It is designed as a petting barn so the younger generation may become acquainted with common farm animals. This year plans are in the works for a new star attraction, a reindeer.

In addition, a tractor safety contest sponsored by the FFA is gaining in popularity as the hazards inherent in farm machinery operations have become an unfortunate reality in recent months. Promoting the public's awareness and understanding of the goals and objectives of vocational agriculture programs is achieved by encouraging students to enter projects such as agriculturally related arts and crafts into competition. No doubt, the greased pig contest sponsored by the FFA is also a big attention getter.

For one teacher, the state fair becomes the first lesson in vocational agriculture for new students. In the spring, new enrollees for the following fall are identified. The teacher contacts, and often visits, each of the prospective students, explains the vocational agriculture program, and seeks their commitment to become involved in the upcoming fair. This innovative approach has several advantages. First, both the student and the parents are impressed with the teacher's enthusiasm and dedication. In addition, the new student is involved immediately in the program, a summer is not wasted, and the new student is not a stranger in the vocational agriculture classroom on the first day of schoool.

SOEP

Many of the animals shown at the fair are products of supervised occupational experience programs (SOEP) which have required several months of work. In some areas of the state, particularly the bush communities, the SOEP is completed as a shorter, more intensive summer activity such as gardening. Many villages embark upon a community-wide gardening project each year to provide residents with a local supply of fresh produce. Students utilizing community gardens as an SOEP are not only applying principles of plant science, but are also assuming an active role as a contributor to the welfare of the community, an ideology held in high esteem in native cultures.

On the Seward Peninsula, range management and animal science can be applied to the various aspects of reindeer herding and management. In the Interior, agronomic enterprises such as barley production and oat hay production are common. Production of vegetables such as lettuce and potatoes is accomplished in the Mat-Su Valley. In any case, teachers make every effort to visit students during the summer to evaluate progress on the SOEP.

FFA

Special projects are also a part of summer activities. For example, several schools participate in BOAC projects. This year, one school will be landscaping and renovating an already existing community park, while another, having entered into an agreement with the local department of parks and recreation, will design landscape and construct a new park "from ground up". Livestock fitting and showing clinics, farm and tractor safety programs, and activities. One FFA chapter by Bristol Bay has a commercial fishing permit; thus, fishing excursions are utilized as yet another example of extending the vocational agriculture program far beyond the classroom.

As usual, no summer is complete without recreation. FFA chapters engage in a variety of activities ranging from softball tournaments with the local FFA Alumni to canoeing and hiking excursions. Chapter meetings and officer workshops, interwoven with such recreational activities, prepare new officers and members for the upcoming school year.

Agency Involvement

Cooperating with business and agencies is an essential component of every effective vocational agriculture program. As a case in point, the Alaska Department of Fish and Game (ADF&G) has provided students in the Fairbanks area with an outdoor laboratory. During the summer, students will produce hay, much of which will be used for student's livestock projects. Besides these intensive agronomic experiences, ADF&G is interested in helping the students perform wildlife habitat studies and gain first-hand experience in wildlife management during other times of the year. Hopefully, this cooperative agreement will have somewhat of a windfall profit effect, providing convincing evidence to the local school district administration that the purchase of agricultural machinery and equipment is a feasible and practical asset to the program.

Extended Contracts

At this point, the value which Alaskan vocational agriculture teachers place on extending the academic year into the summer should be obvious; yet, to further illustrate, consider the following: none of these teachers has a twelve month contract! In fact, while some have extended contracts of 10-20 days, others are employed only for nine months. This speaks well of their commitment to their students and to their profession. If these are examples of their activities under the midnight sun (without pay), it makes one wonder to what lengths they would go to make their programs more effective (when they are paid) by the daytime light of the moon.

ARTICLE

Summer Horticulture Programs: What Our Clients Think

By Larae Watkins

Editor's Note: Ms. Watkins is a graduate student, and former Ohio high school teacher of Vocational Horticulture, in the Department of Agricultural Education at The Ohio State University, Columbus, Ohio 43210.

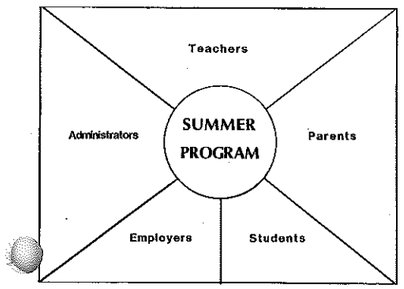
Summer programs, extended service, summer contract: call it what you will, the portion of the vocational agriculture program which takes place during the summer has become a hot topic in some school districts. Many administrators with budgets to balance question its importance and many educators find themselves defending the necessity of a summer program.

Many researchers have studied what educators think about summer programs, their content and their importance, and while educators' views are important, there are other groups of people with a stake in the summer program who have received little attention. Knowing how the students, their parents, industry employers and administrators view the vocational agriculture summer program can help educators strengthen their case for summer programs, or at the very least, point to areas which need some attention.

Looking at Ohio

The focus of this investigation was on high school vocational horticulture programs in Ohio. Vocational horticulture students, parents, horticulture industry employers and school administrators from 20 of 66 high school horticulture programs during the 1980-81 school year were surveyed.

Each group was asked to respond to statements about summer programs in horticulture, and to rank a list of summer program benefits. The participants' answers were analyzed. The information from this analysis provided some interesting insights into students, parents, employers and school administrators perceptions of horticulture summer programs.



Many clientele groups have opinions important to the Ohio vocational horticulture program.

What Students See

Students, the group which should most directly be affected by summer programs, responded that the summer program is an important part of the vocational horticulture program and that summer program experiences will help them be more successful in a job. Students indicated that their teachers were working with students, the school and the community during the summer; the school supported the teacher's summer program; and cooperation existed between their employer and their teacher.

On specific parts of the summer program, however, students responses indicated some weak areas within the summer program. Students reported they had little input in outlining their summer experiences. Teachers did not visit them often enough at their summer job placement, the students said, and teachers provided little help and support during their summer placement. This response gains more significance when coupled with the way students ranked the benefits of the summer program; moral support and encouragement was ranked as the number one benefit they expected.

Another rather conspicuous response by the students was that the continuation of the FFA program was definitely the least important benefit of the summer program.

Perceptions of Parents

Parents, too, indicated that the summer program is important to the vocational horticulture program and to the success of their student in a job. Their other responses paralleled the students' with two notable exceptions. Parents believed that teacher visits to their student at a summer job were frequent enough, and that their student did receive help and support from the teacher during these visits.

Parents echoed the students in their ranking of summer program benefits. Moral support and encouragement ranked on top, and the continuation of the FFA program a conspicuously distant last.

Parents did, however, sound a very encouraging note; they responded that the extended service contract should be continued even if federal/state monies are withdrawn.

Employers' Views

Employers' responses showed that they believe the summer program in vocational horticulture is a necessity. Summer experiences contribute to the occupational success of the student and many of the experiences are impossible to gain at other times during the year, employers indicated. They also responded that they work with the teacher to provide students with valuable summer experiences, and teacher visits to on-the-job students were beneficial to the student but might not be frequent enough.

Employers extended their support of the summer program to their wallets. They joined the parents in responding that the extended service contract should be continued even if federal/state monies are withdrawn.

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Summary: What Our Clients Think

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Employers, understandably, ranked help in dealing with job related problems as the most important benefit students receive from the existance of a summer program. The least important benefit again was the continuation of the FFA program.

Opinions of Administrators

As a group, administrators responded that the summer program had many benefits for the students; however, administrators had wider differences in their responses than any other group. Teachers should be primarily working with students, including orienting prospective students; and working with employers during the summer, administrators responded.

They also indicated that teachers should let their administrators know about their summer plans, and that the manner in which extended service time is spend should not be left entirely up to the teacher. In addition, administrators responded that extended service should be continued even if state/federal monies are withdrawn.

When ranking the benefits of a summer program, administrators placed one-to-one instruction as the number one benefit. Moral support and encouragement ranked lowest (compare this with a first place ranking by students and parents).

Many horticulture activities are at their peak during the summer for the consumer, and student and the teacher. (Photograph courtesy of Malcolm Graham, Vocational Horticulture Instructor, Calhoun Area Vocational Center, Battle Creek, Michigan.)

The continuation of the FFA program, ranked as least important in the other three groups, was moved up only slightly by the administrators; they ranked it next to lowest.

Implications

While reinforcing the importance of the summer program to the total vocational horticulture program, this survey pointed out several areas which improvements either in the summer program or the perceptions of the summer program need to be made. Knowledge of the summer vocational agriculture program, the summer FFA program and the teacher's responsibilities seemed to be lacking in the groups studied.

Communication lines need to be opened and kept open between students, parents, employers and administrators so that there is no misunderstanding as to what is to be happening during the summer. Teachers should be more attentive to on-the-job students, more communicative with employers and more sensitive to the perceptions of administrators.

The discrepency between students and employers on job related issues illustrates the need for workable cooperative training agreements and plans, and their proper use. Also, the consistent ranking of the continuation of the FFA program as the least important benefit of the summer program raises questions as to the perceived value of FFA and its summer program to vocational horticulture, which should be investigated further.

As many actors will tell you, you have to know your audience. Vocational agriculture teachers must know how their programs are perceived in order to make sure that their program meets the needs of the students and the industry. The study only scratched the surface of summer programs in vocational horticulture, and provides few answers. It does, however, give the vocational horticulture instructor some direction as to how to better the summer program, and provides insight into just what others are thinking.

BOOK REVIEW

HORTICULTURE SCIENCE by Jules Janick. San Francisco: W.H. Freeman and Company, 1979, Third Edition, 608 pages, $19.25.

This book provides up-dated information not contained in the second edition. Graphs, tables, and new innovations and techniques in horticulture are included in this third edition. This book is divided into three major parts: 1) The Biology of Horticulture, 2) Technology in Horticulture; 3) The Horticulture Industry.

The preface contains a brief history of horticulture and the impact of horticulture on society. Horticulture is viewed as an important aspect of agricultural production in the United States.

Part one, comprised of five chapters, discusses the science of horticulture as related to the classification, structure, growth, and development of horticulture plants.

Part two is composed of six chapters concerned with controlling plant environment, directing plant growth, biological competition, mechanisms of propagation, plant improvement, and marketing horticultural plants.

Part three deals with the industry of horticulture. Horticulture geography, production systems, crops, and aethetics of horticulture are discussed in the remaining four chapters. Special characteristics and problems involved in the horticulture industry are discussed. The book concludes with a discussion of the aesthetic value of horticulture.

HORTICULTURE SCIENCE contains 421 illustrations. This book would be a valuable teacher reference and useful to advanced high school students as a science reference.

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ARTICLE

Public Relations Assists in Achieving A Quality Summer Program

BY DWIGHT PAULETTE
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Public relations involves understanding and motivating groups of people. One of the reasons agricultural educators need to understand public relations is to secure mutual understanding and good will among school patrons. Without this, programs lose much of their effectiveness. A quality public relations component should be part of a vocational agriculture program and should never be used to deceive the public. A good program of instruction must be the basis of any public relations effort.

This article focuses on community understanding in summer educational activities. The following areas of public relations are included: media relations, program relations, administrative relations, professional relations, and informal relations. If these relationships are constantly nurtured, especially during the summer, vocational agriculture program growth should be enhanced, student recruitment will be improved, public support will increase, and cooperation within the school system will grow.

Media Relations

The promotion of local vocational agriculture programs is enhanced greatly because of the availability of local newspapers, radio and television. But, that availability would be limited without cooperation from editors and station managers.

As part of a quality summer program, the teacher of vocational agriculture should take the time with local editors and station managers. The purpose of the contact might be to express appreciation for support during the previous year, to invite the editor to special vocational agriculture functions, and to explain the purpose of vocational agriculture and/or to discuss local program plans for the new school year.

Assuming that this meeting is successful, the appreciation meeting will pave the way for increased cooperation in the future. This personal contact should make editors and managers more sensitive to information on summer activities the teacher provides them.

Media relations may also be enhanced by inviting editors and managers to participate in special functions, and by supplying them with continuous news information. In addition, letters of information and letters of appreciation develop and maintain strong relations. Adults and FFA members may also aid in creating positive editor/manager attitudes.

By incorporating the above suggestions with other ideas, media relations will be a strong part of any quality summer public relations program.

Program Relations

Another part of the vocational agricultural program which should be included in a quality summer program is the one that is a direct part of the program. This public is made up of present and prospective vocational agriculture students, present and prospective adult students, parents, and employers of vocational agriculture students.

Although contact is maintained with these groups throughout the school year, a break in communications during the summer could cause a breakdown in the total program. Continuity should be maintained throughout the year, and a quality summer program will insure proper relations during those "non-school" months.

In some cases, supervisory visits can double as public relations visits to parents and employers. If this is the case, then a specific agenda should be discussed during the visit. Whatever the nature of the visit or setting, the most important thing is not to lose contact. Specific time allotments should be scheduled just as with any business meeting.

When making SOE visits, the teacher should include vocational agriculture students, FFA members, adult students, parents, and employers in supervisory situations. Many times we think of such a visit as one between the student and the teacher, but a meaningful visit should include all those involved in SOEP.

Although these meetings should always be scheduled activities, the summer provides more quality time and even time for the teacher and students to visit with prospective students, both youth and adults. The summer also allows more time for the teacher to take part in actual job activities with the students. In many cases, the actual sharing of these experiences assist in forming lasting relationships. The student can also help the teacher meet other members of the community. This informal contact is a very valuable part of the local public relations effort and should not be overlooked during the summer.

Summer also allows teacher contact with present and prospective employers. This contact provides a sound base for employer involvement throughout the school year and adds to total program stability.

Administrative Relations

One of the key individuals to any program is the administrator. One of the keys to a quality summer vocational agriculture program is keeping the administration informed of summer activities. It should be of high priority for the teacher to give the principal, assist-

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Public Relations Assists In Achieving A Quality Summer Program

(Continued from Page 17)

ant principal, vocational director, and superintendent a calendar of summer activities. This should be done at the beginning of summer and appropriately updated. This simple act may be one of the most important activities of the summer and cannot be overrated.

When the calendar is delivered to the administration, the teacher can improve relations with the administration by taking the time to explain the calendar and the importance of a summer program. To further strengthen relations, teachers should always notify the main office whenever they leave school during the work day.

Another way of increasing positive administrative relations is by inviting administrators to accompany the teacher on supervisory visits during the summer. Not only will this involve the administration in the program, but it will create a stronger professional image of the teacher in the eyes of the administrator.

The key point to the above discussion is that the administration should be involved in a quality summer program of vocational agriculture. Teachers should use the public relations approach which is appropriate for their situation. The main point is to keep the administration involved and informed.

Professional Relations

Just as administrators are involved in quality programs, so are vocational agriculture teachers involved in many summer activities. With involvement comes public relations opportunities. Public relations activities may be practiced through teachers' professional involvement. Teachers' personal involvement may include the areas of: instructional improvement, agricultural agencies and organizations, agricultural business and industry, civic clubs, and professional teaching associations.

Teachers should use their summer wisely by selecting several community, agricultural and professional education activities to attend. If possible, they should be involved in selecting projects of these organizations. These activities might include breed association field days, agricultural equipment demonstrations and civic group meetings.

Other activities may involve the local agricultural professionals from the areas of: SCS, ASCS, FmHA, Farm Credit/PCA, Cooperative Extension and the Division of Forestry. Within the vocational agriculture profession, public relations should be practiced at summer gatherings: the state teachers' conference, technical update workshops, the state FFA convention, and state FFA leadership and recreational camps.

The local teacher should never forget that we depend very much on other agencies, as well as, our fellow vocational agriculture teachers, supervisors, and teacher educators. Good relations within our profession and related professions are essential.

Informal Relations

Informal relations applies to all vocational agriculture publics, and allows the teacher to spread good public relations while maintaining high visibility in the community. When teachers are ordering or picking up supplies, they should not be in a hurry, but take time to talk with the manager and other employees. That personal contact might raise the teacher to the top of the customer list which will reduce future problems, increase cooperation, insure better deals, and enhance quicker service.

The teacher should also spend some "unhurried" time when visiting a student or when the teacher is on the way home from work. It never hurts to stop and say hello to Mr. Jones, Mrs. Smith or little Johnny. The word spreads and this certainly strengthens any program.

Sometimes it is good to stop in at the local store for a few minutes just to say "hello." Be careful not to stay too long or the people will think you have nothing to do. But, the news of a friendly, hard working vocational agriculture teacher can hardly spread faster than from the country store.

These are just a few examples of how to informally promote vocational agriculture. Really, any time is a good time for informal public relations.

Quality PR Appeals

Vocational agriculture has many publics. They are very different and a quality public relations program will appeal to all of them. However, a good public relations effort will be based on a sound instructional program, with both continuing throughout the year. The teacher should allot the appropriate amount of time to both during the summer. If this is done, a quality summer public relations program will lead to good relations throughout the year, and a quality summer program will be achieved.

BOOK REVIEW

PLANT PROPAGATION AND CULTIVATION, by William A. Hutchinson. Westport, Conn.: AVI Publishing Co., Inc., 1980, 271 pp., $18.00

This text-manual was written for a one-semester course at the college level. It can serve as an excellent reference for the high school or junior college teacher in horticulture or botany.

The first five chapters deal with plant structure and organs, their function, uses, and taxonomy. Chapters 6, 7, and 8 stress floral form, floral taxonomy, floral usage, floral design and sexual reproduction in plants. A listing of seed sources is also given. The importance of soils, soil fertility, and potting mixes is emphasized in Chapters 9 and 10. A detailed calendar for planning yard and garden activities is given in Chapter 12. Chapter 13 discusses plant growth regulating compounds while Chapter 14 concerns pest controls.

Plants that reproduce by seedless means are taught in Chapter 15, and excellent drawings are used in the chapter that related methods of grafting and layerage. The basics of landscaping are introduced in Chapter 16. A series of tables provides information on the many plant materials used in landscapes. The last chapter covers container gardening with the major emphasis on the Oriental art of bonsai.

Each chapter contains excellent and simple activities as well as review questions.

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ARTICLE

Summer — The Time To Strengthen Your Public Relations Program

BY PAUL VAUGHN AND DAN WARE
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One of the most neglected parts of a summer vocational agriculture program is the part which deals with public relations. This is despite the fact that summer is an ideal time for vocational agriculture teachers to bolster this aspect of their program. One reason it is so neglected is because many teachers hold the view that there just is not much going on during the summer and therefore not much to publicize.

What a critical error! That viewpoint, if projected to the local citizenry, can only lead to one conclusion: the agriculture teacher does not do anything in the summer. Everyone in the local community should realize that summer is one of the busiest times of the year for the vocational agriculture teacher. The responsibility for letting them know about it rests with you.

How does one go about strengthening the public relations program in the summer? By doing several common sense thing which inform people about your vocational agriculture program. It is impossible to list them all, but we think the following represent the most common things intelligent teachers can do to ensure that their program is receiving the attention that it deserves.

Inform the Administrator

The summer is an ideal time to sit down and talk with your school principal and superintendent. School is out, and they are no longer faced with the everyday crunch of disciplining students, arranging for sports events, etc., and should have more time to meet with you.

Arrange for at least one meeting (early in the summer) primarily for the purpose of letting your administrator know what your plans are for the upcoming months. A written plan of your activities is extremely helpful in this regard, and all FFA meetings and activities should be noted at this time in order to ensure that they are placed on the school calendar.

It may be possible that your administrators will indicate they are not concerned about what you are going to do, but let them know anyway! Ask them for suggestions as to what they feel the vocational agriculture program should be accomplishing during the summer. At the end of the meeting, the administration should know that you have a job to do during the summer and you have the plans for doing it.

Many vocational agriculture teachers try to get their administrator(s) to go on several SOEP visits during the summer. This is an excellent idea. Again, the summer is ideal as the administrator will have a much more flexible schedule and will probably enjoy the opportunity to get out of the office.

During the visit, an opportunity is provided to relate some of the accomplishments of students in the program and to point out the value (and necessity) of SOEP's. We cannot overemphasize the tremendous return (in term of good public relations) that can be gained by this activity. The few hours you spend with your administrators will pay many dividends in the future.

Community Visibility

There are a number of indoor jobs that the vocational agriculture teacher must take care of during the summer. Inventorying supplies and equipment, watering plants, cleaning the shop, and preparing instructional materials all are worthwhile and necessary activities to conduct during the summer. However, make sure that you are not spending all your time in the office or laboratory. A considerable portion of your time should be spent visiting students, parents and prospective students. It is not a bad idea to stop by the local coffee shop on occasions to talk with some of the local people and discuss the vocational agriculture program.

Summer is an excellent time to meet with employers to discuss the possibility of hiring student for work experience programs. This time of year is also a good time to drop by the county extension office to discuss new developments in the field and to coordinate various programs. Remember that the idea is not just to be seen, but to be seen doing your job. You do not have to tell people what you are doing, if they can see what you are doing.

Facilty Use

Many successful production agriculture and agricultural mechanics teachers have reserved periods of time during the summer where individuals in the community can utilize some of the facilities of the program. One individual with whom we are familiar has a shop day once a week where students (and parents) can bring in equipment to be repaired or reconditioned, and individualized instruction can be provided. Other activities might include demonstration plots on the land laboratory or in the greenhouse. The community could be invited in to view the results and discuss the various techniques which are being utilized.

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Summer — The Time To Strengthen Your Public Relations Program

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While there are some inherent problems with such activities, they are extremely worthwhile in terms of public relations. Always be sure to gain the approval for any such activity with your administrator beforehand as there may be school regulations which prohibit them.

Publicize FFA Activities

There are a number of activities in which you and your chapter might participate during the summer and they should be publicized. Summer camp, the state convention, leadership conferences and recreational activities are examples of such activities. Make sure your chapter reporter continues his/her work through the summer by submitting articles and taking pictures at various events. You will find that this is a good time of year to get articles published primarily because you will no longer be competing with other school organizations in the community for newspaper space. The same is true in terms of other media such as radio and television. People should know that the FFA chapter is busy during the summer.

Evaluation

Take time to get feedback from your local administration and people in the community. List the summer program as an item on your agenda for an advisory council meeting. You will find that people will not hesitate to tell you if you have done an adequate job in publicizing your summer activities. Perhaps the best way to tell if you are doing your public relations job is to evaluate the questions that people ask you after the summer is over. If most people ask "What did you do during the summer?" then you have not done it adequately. It's when they say "I did not really realize that you do so much during the summer!" that you know you have accomplished your goal.

ARTICLE

Eliminate Your Summer Program

By Lawrence B. Everett

Editor's Note: Dr. Everett is a recent graduate of Iowa State University in Agricultural Education and is currently serving at Whiteman Air Force Base. He taught vocational agriculture for five years at Columbus Junction, Iowa.

Summer programs have long been the subject of discussion between vocational agriculture instructors, administrators, and others. Research has also reported perceptions of summer programs by administrators and vocational agriculture instructors (Holmes 1979, Hilton 1979).

The academic year program and the summer program seem to be treated as separate components of the vocational agriculture curriculum. This has been a factor in causing some administrators to consider the summer program less important (Marvin, 1981). A commitment needs to be made for the development of a total year-around program of vocational agriculture. Let us examine the merits of the year-around program and the need to eliminate the summer program concept.

Essential Components

There are four key components to an effective vocational agriculture program. They are day classes, supervised occupational experience (SOE) programs, the Future Farmers of America (FFA), and adult/young adult programs. The analogy of a four cylinder engine can represent a vocational agriculture program. Each cylinder of this engine will represent one of the key components.

As our program operates and completes the cycles of operation each component will create a positive driving force. If our engine is operating efficiently and in correct proportion, the result will be a vocational agriculture program which operates smoothly and at peak performance. However, if one or more program components gets an unproportionate share of resources the result is rough operation and a noticeable lack of power.

Is your program a powerful, finely-tuned engine or do some of your cylinders cut out during certain times of the year? Do you teach day classes only during one part of the year? Are all or most of the SOE visits made during the summer months? Do FFA activities take priority over all other program components during certain times? If your answer is yes to any of these questions, then your program is out of balance and may need to be overhauled.

Peak Learning Season

Prior to overhaul a good mechanic will "trouble shoot" an engine to determine exactly where problem areas are located. Part of your advisory council's responsibilities should include "trouble shooting" your vocational agriculture program. Advisory council members should be selected with a wide diversity of interests and experiences which will uniformly represent your community. Phipps (1980) pointed out the importance of an advisory council when he stated:

"A local advisory council should be provided for agricultural education, not because it is required for federal funding for vocational education in agriculture, but because it is essential for the effective operation of the education program in agriculture."

Each of the four program components of the vocational agriculture program must be carefully inspected and evaluated to determine the contribution to the total program. Remain objective during the inspection process. Your goal should be program evaluation and improvement, not program justification or a cover-up of former "sins". In order to be most effective, a set of goals based on student needs must be established. If these goals are to be met, each of the four program components must operate efficiently and effectively throughout the program year. After this initial inspection, it is necessary to determine how these components will mesh together into a total program operation.

Agriculture is a year-around industry. Agricultural operations and areas of emphasis are constantly changing as the growing cycles are completed and renewed. Just as timing is critical to engine operation, the timing of our vocational agriculture program is essential for peak performance. When discussing year-around instruction, Horner (1979) stated:

". . . many problems in agricultural production, processing, and distribution, which are to be taught in a vocational setting, are most pronounced during summer months. They cannot be recreated during the academic year. Local plant and insect problems, crop and livestock pests and diseases, mechanics, weather damage, and markets cannot be compressed into the school calendar."

Scheduling Learning Activities

Many of the current program deficiencies could be solved by scheduling each of the program components on a 12 month basis. Currently the peak labor demands in agriculture are during the spring and fall months. It would seem there is no real reason for not scheduling day classes during the summer months (Frederick, 1981).

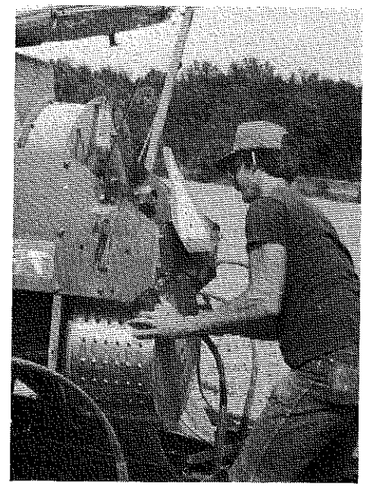
Class scheduling during summer months would allow much greater flexibility than scheduling during the academic year. Classes one morning per week would allow an in-depth look at topics or areas of interest. Field trips and other instructional methods would lend themselves to this type of scheduling.

Young/adult adult programs could be scheduled on a year-around basis for maximum educational gain. Demonstrations for minimizing harvest losses will be most beneficial just prior to harvest season. Tax or estate planning meetings should be scheduled to meet before the next business year. Plan for unexpected events. Allow time for current concerns, or if necessary, add a meeting to deal with crop damage, insect control, or other areas of immediate need.

Schedule SOE visits throughout the year. Problem areas or areas of need occur year-around, not just during summer months. The total number of students in the program multiplied by the desired number of visits per student divided by 12 will equal the number of SOE visits you should be making each month. If desired, a weekly schedule of SOE visits could also be prepared.

The primary purpose of the Future Farmers of America is the development of agriculture leadership, cooperation and citizenship. Each of our high school students should have the opportunity to participate in the FFA meetings and other activities should be scheduled to allow maximum student participation. Provide opportunities for students to participate in a variety of activities while providing challenges as they develop skills in leadership, citizenship, and cooperation.

Linking these program components together into a workable program is necessary. Each cylinder is necessary for smooth operation; however, other parts are essential for engine operation. Our vocational agriculture programs must be transformed into a workable unit before any meaningful instruction can occur. Program development can be completed in four steps:



Some technical skills are best taught in the summer when the actual, real-life operation is occurring. (Photograph courtesy of Chuck Wiseman, Big Walnut High School, Sunbury, Ohio.)

1. Establish program goals and objectives.
2. Develop a calendarized plan.
3. Select teaching methods.
4. Evaluate program success.

Establish Objectives

Program goals and objectives based on student needs should be established with the aid of your advisory committee. These goals and objectives form the link that connects each of our program components into a smoothly operating program. Simply state what you want to accomplish, and outline skills the students should develop. Avoid "flowery" language and items that cannot be measured. Each of the vocational agriculture program components (day classes, SOE, FFA, and young/adult farmers programs) should contribute toward fulfillment of vocational agriculture program goals and objectives. Federal and state guidelines will be helpful in developing goals and objectives but do not be afraid to incorporate school and community needs into your local vocational agriculture program.

Calendarize the Plan

A calendarized plan is like the timing chain of an engine controlling the position, sequencing, and timing of all components insuring maximum power. Prepare an outline on a calendarized basis for your total program and include course topics, tests, activities, meetings, SOE visits, conferences, contests, vacation periods, etc. Critically evaluate your plan. Are all four key components represented throughout the year? Are certin time periods overloaded?

If you can, reorganize events into a less demanding time period only if program goals and objectives are not sacrificed. If program reorganization is impossible, eliminate those items contributing the least to program goals or objectives. Be especially critical of items involving or benefiting a small number of persons. Continue this process of evaluation, reorganization, and elimination until you have a workable program.

Methods Selected

Select appropriate teaching methods. A spark directed to the wrong cylinder may cause a backfire

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Eliminate Your Summer Program

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you have not anticipated. As a vocational agriculture instructor you have many opportunities to utilize many teaching methods. Do not get stuck in a rut, be creative! The possibilities are limited only by your imagination and enthusiasm. Use methods and techniques you have not used before. For example, have your students teach part of a unit of have them record their experiences as they role play the life of a newborn pig. Involve students in meaningful hands-on activities and experiences.

Evaluate

Evaluate your program's success. An engine design may look good on paper, but if it does not run, the design is useless. Again, involve your advisory council. Look back at your program goals and objectives. Did you meet your objectives? Are goals and objectives still valid or should they be modified? Program evaluation is essential because it determines how much "power" your vocational agriculture "engine" will produce.

Emphasize Year-Round Programs

A four-stroke cycle engine must complete four distinct steps before completing one cycle. These steps are: intake, compression, power and exhaust. As vocational agriculture instructors we provide all the raw materials to fuel the program. If we provide quality fuel (facilities, texts, experiences, learning environment, etc.) our vocational agriculture programs will have the potential for maximum power (benefit to students).

One of the most frustrating tasks any teacher has is deciding what to teach, and how best to teach it. Time and other pressures dictate the precise educational mix for program performance. If we have completed the preliminary steps successfully, the rapidly expanding enthusiasm, knowledge, and skills will provide the impetus to drive our programs toward established goals and objectives. Let us eliminate the summer program concept and develop effective year-around programs of vocational agriculture to meet the needs of our students.

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ARTICLE

Visit Prospective Students

A key part of any well planned summer program is the schedule of project and home visitations. As you develop your goals, objectives, and schedule of summer activities, do not overlook the "new blood" about to be infused into your introductory classes next September.

Strategy

Initially you must determine who those new students are. The three major resources for accomplishing this include fall rosters of class enrollments, counselors, and students already in your program. Once you have the newcomers identified, state your intention to visit them in your summer program plans and plan to visit 100 percent of those new students. To keep track of your success in fulfilling this goal, post a list in your office of all new students' names, leaving a section on the list next to each name to record the date of your visit.

BY GARY VARRELLA

Editor's Note: Mr. Varella is a former Vocational Agriculture Instructor at Petaluma, California; and is currently an Associate in the Agricultural Education Unit, and graduate student in the Masters of Education program at the University of California-Davis, Davis, California 95616.

If your program is located in a large community, it may be wise to post a map with pins identifying the location of each new student. As you plan your SOE visits, look for new students along the route of travel so you can more effectively manage your time by increasing the number of students per trip. The initial two or three hours you spend mapping out this part of your strategy will save many hours during the duration of the summer.

What To Do When You Visit

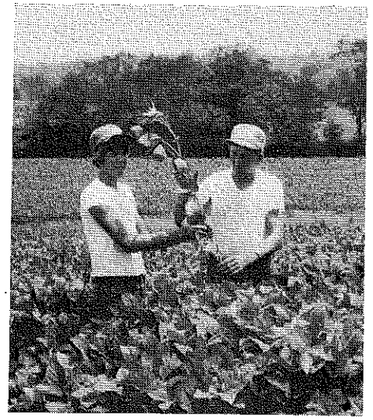
Develop a packet of information to give to the new students and their parents. Included in the packet should be a copy of the vocational agriculture course listings; a copy of the previous year's FFA Program of Activities; an outline including a description and background on the FFA, and SOEP; and a discussion of how the classroom, FFA, and SOE fit into the vocational approach of teaching agriculture; a copy of the FFA Handbook; a brochure about your chapter; and listings and descriptions of other germane activities.

Schedule your visit when at least one parent is home and plan to stay no more than 30 minutes; do not wear out your welcome. Parents are pleased to have teachers take an interest in their children. Particularly, parents unfamiliar with the "vocational agricultural approach" are very surprised and excited to find an instructor who will make house calls. In that brief visit, your goal should be to increase the student's and parents' awareness of the role of vocational agriculture in preparing young people for the world of work.

As a follow up, if you are on the way to make a project visit near a new student's home, invite him or her *and* his or her parent to accompany you. This provides an excellent opportunity for you to effectively show them one important facet of vocational agriculture firsthand. End on a positive note with a brief letter thanking them for their time and interest, and include a special invitation from your FFA president to join the local chapter.

As A Final Follow-up

Have an incoming freshman ice cream social, inviting students and parents. If you have a relatively small chapter, it might be an activity in which all active members and parents could be included. Be certain that all of your officers are in attendance and are in official dress. Have the FFA officers convene a special meeting whose sole purpose is to welcome the new agriculture students. Include a representative from your high school administration in your invitations and remember to introduce him or her.



Showing an interest in prospective students and parents can greatly enhance public relations for the vocational agriculture department. Photograph courtesy of Rodney Wallbrown, Mason County Vocational Center, Pt. Pleasant, West Virginia.)

Results

In one eight hour day, you should be able to make your list, map your attack, write up the discussion of the FFA, SOE, etc., and reproduce it. Your chapter officers should help develop the brochure. (Try to make the brochure one that can be used for at least two years in a variety of service options). The social may be your new officer team's first activity. Help them plan for it during summer officer training.

Developing a comprehensive plan to visit all new students at their homes has two major benefits: (1) an agriculture program relies heavily on its community ties; taking the time to meet those new young people and their parents will augment your community support; (2) the time spent planning in June and visiting during the summer months will allow your new students to be far ahead in effectively arranging the balance of their high school years to obtain a useful education.

That enthusiastic, well-informed group of new young people walking through the door the first day of the Fall Semester will make all the time and effort expended worthwhile.

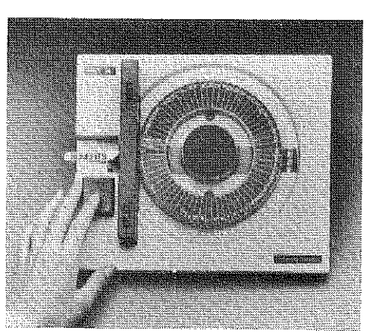
TEACHING TIPS

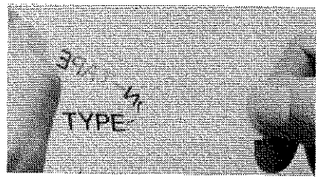
Lettering System Available

Kroy Inc., inventors of the patented Type-on-Tape office lettering process, have unveiled a new addition to their line of visual communications products, the Kroy 24® desktop lettering system. Like Kroy's other systems, the Kroy 24 desktop lettering system produces automatically spaced and aligned type on adhesive-backed tape at the push of a button. Kroy® lettering gives a "finished" professional look to memos, fliers, proposals, overhead transparencies; every kind of business communication.

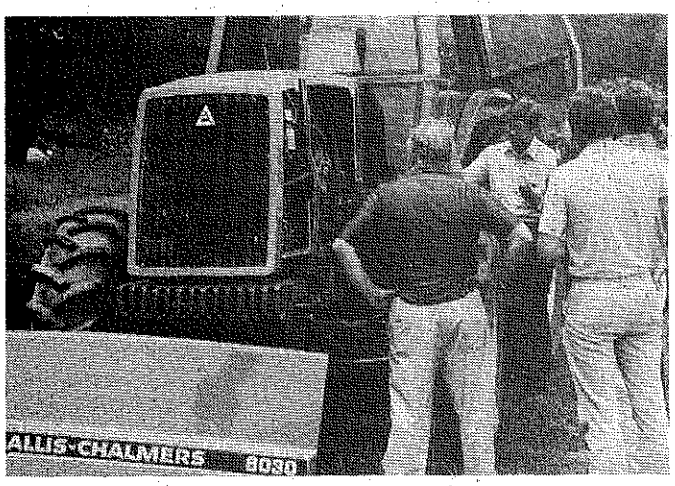
The significant new features of the Kroy 24 system are its compact 10-½" x 10" size and a self-loading cartridge that eliminates ribbon and tape threading. The Kroy 24 system uses interchangeable typediscs to create lettering in a variety of typefaces and point sizes ranging from 8 pt. (approximately 1/8") to 24 pt. (approximately 1/4").

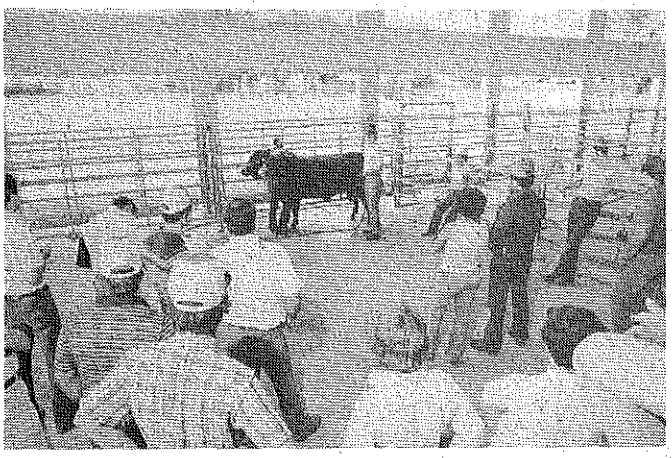
Robert G. Crain, Kroy's Vice President of Marketing, Center Division, expressed confidence about the new lettering system. "We've always had a unique and valuable product in our Type-on-Tape lettering. The challenge was to develop a lettering system affordable for even the smallest office. This is the system the marketplace demanded. Compact, affordable and equipped with our new self-loading supply cartridge, the Kroy® desktop lettering system is a product we're proud to put our name on." The Kroy 24 desktop lettering system is available through Kroy representatives located throughout North America.

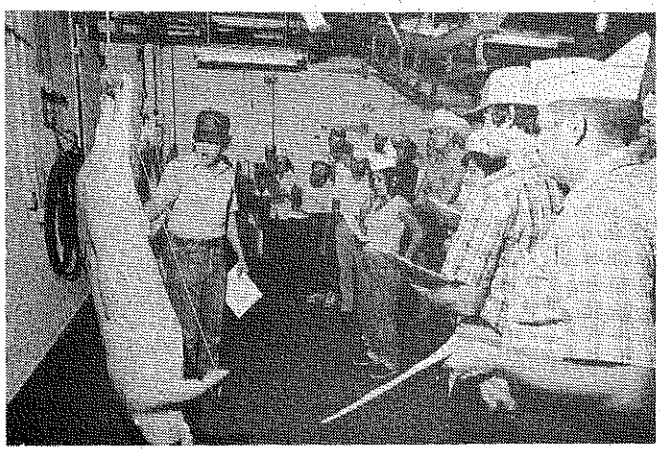


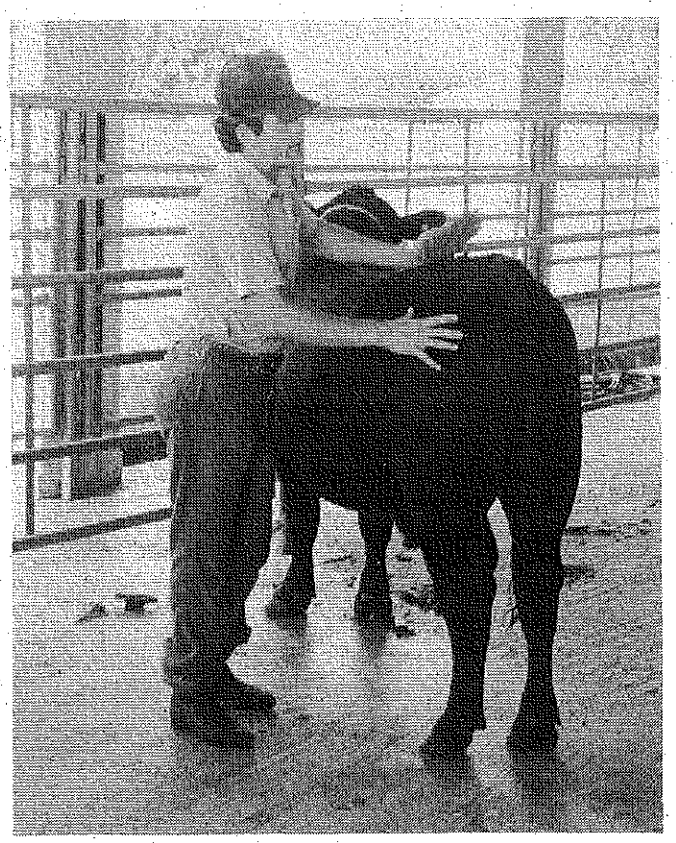


Stories in Pictures









Teachers can improve their own technical competence through workshops and courses which are often available in the summer. (Photographs courtesy of the Department of Agricultural and Extension Education, University of Florida, Gainesville, Florida; and Dr. Stanley R. Burke, Department of Agricultural Education, The Ohio State University, Columbus, Ohio.)