

Vocational Agriculture Is Growing in Value

R. W. Cline

"The program of agricultural education in public schools, when properly organized under the direction of an effective teacher, makes significant contributions to both the vocational and general educational needs of the pupils enrolled."

This statement was used as the initial conclusion by Joe P. Bail who listed guiding principles and recommendations from the findings of his

(Continued from Previous Page)

sources of this material (corn oil or safflower oil) increases egg size. It has, therefore, been suggested that the lower linoleic acid content of the grain sorghums would tend to reduce egg size as a result of inadequate amounts of linoleic acid.

There are a number of other factors known to be involved in the control of egg size. Most important among these is probably dietary protein level. With variability encountered in the protein content of the grain sorghums, experimental work must involve careful control and measurement of dietary protein content in order to arrive at a true estimate of the value of the grain sorghums in relation to corn.

U of A Experiments

The Poultry Science Department of The University of Arizona has been conducting studies on the use of grain sorghum in the diets of laying hens. One study involved the feeding of diets which contained 14.5% protein with energy levels of 960 Calories P.E./lb. using either 65% corn or 62% grain sorghum as the grain component. The linoleic acid content of the corn diet was 1.71% while that of grain sorghum was 1.58%. The protein content of each diet was determined every time the diets were mixed.

Birds were fed the experimental diets for a period of 44 weeks. The corn diets supported a production rate of 67.8% as compared with 67.3% obtained with the feeding of

recent study entitled "Agricultural Education at the High School Level in Arizona."

Why Study Was Made

This research was timed to provide working information for further de-

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the grain sorghum diet. Egg size was not significantly different. Pounds of feed required to produce a dozen eggs was slightly better for the grain sorghum diet.

The grain sorghum used in this experiment was a mixture of a number of varieties obtained from a commercial feed mill and would approximate the grain component present in commercially-produced feeds. These data suggest that no detrimental effects should be expected from the use of grain sorghums in the diet of laying hens when thought is given to the protein content of the grain, and feeds are formulated with consideration for the differences in amino acid composition between corn and grain sorghum.

Additional studies with several varieties of grain sorghum will be undertaken.

Now We Use Computers

Poultry feed formulation has become an increasingly important problem. Evaluation must be made of a large number of nutrients which are required by poultry in addition to the ingredients available as economic sources of these nutrients.

The use of computers for least-cost-formulation of feeds has become widespread in the U.S. The effective use of such systems is vitally dependent upon accurate knowledge not only of the nutrient composition of feedstuffs but on the degree of utilization of the feedstuff by poultry. For this reason, studies of the type cited above continue to become increasingly essential for improvement of poultry production efficiency.

Mystery Picture

Answer

That mystery picture on Page 11 is really simple to figure out — if you turn it upside down. Then you get a steer's eye view of the curving loading ramp at the large new T & C Feedyards up in Pinal County.

development of occupational training in agriculture under provisions of the federal Vocational Education Act of 1963.

Purpose of the study was to develop a list of valid guidelines for use in modifying and improving programs of agricultural education to serve the needs of high school youths. Attempts were made to find answers to such questions as (1) What are the strong and weak points of present programs? (2) What groups of students are not being served by present programs? (3) What additional groups of students may profit from instruction in agriculture? (4) What special programs may be developed to serve potential drop-outs and other disadvantaged youths? (5) What contributions, if any, can agricultural instruction make to the general educational development of high school students?

Aided by Committee

The study was conducted cooperatively by the Agricultural Education Department of The University of Arizona and the Arizona Department of Vocational Education, under direction of a 15-member advisory committee of leaders in agriculture and education. Lynn Sharp of Mesa served as chairman of the committee. Others are J. R. Cullison, Carlos H. Moore, Warren R. Langfitt, James J. Malloy and E. L. Wilson of Phoenix; F. J. Benedict and Gordon G. Hall of Tempe; R. Clair Decker of Tolleson; Loren H. Curtis of Casa Grande; Emil M. Rovey of Glendale; Drs. Harold E. Myers, Darrel S. Metcalfe, R. W. Cline and B. P. Carden of Tucson.

Data used in the study were obtained by conferences, interviews and questionnaire, involving 276 selected individuals who were acquainted with high school departments of vocational agriculture in Arizona. Those supplying factual information and opinions included school administrators, teachers of vocational agriculture, guidance counselors, school board members,

(Continued on Next Page)

parents of agriculture students, former students of agriculture and others. Information obtained from the printed questionnaires was supplemented by personal interviews with representatives from the above groups in 14 of the 35 Arizona high school communities that offer instruction in vocational agriculture.

Findings of the study consisted mainly of the reactions and comments of the respondents to 31 statements pertaining to proposed changes or modifications in programs of instruction in agriculture. These statements concerned three major phases of the program, namely, courses to be offered, occupational experience for students and the role of the Future Farmers of America.

Tallies 11 Answers

From the data gathered, and consultation with members of the advisory committee and other lay and professional leaders, Dr. Bail developed the following 11 conclusions: (1) High school course requirements should permit any interested pupil to enroll in agricultural courses regardless of sex or place of residence (farm, village, town, or city); (2) The high school course in agriculture should meet the needs of those who plan to enter any occupation in agriculture, but also those who plan to pursue post-high school education in agriculture; (3) Beginning courses in agriculture should include basic principles of science related to agriculture, and provide opportunity to explore career possibilities in the field;

(4) Additional course content and titles (advanced high school and post-high school) should be based upon the abilities needed by workers in groups of related occupations in agriculture; (5) Occupational experience in agriculture is highly desirable as part of a program of agricultural instruction at the high school level; (6) Occupational experience may be provided on the home farm or ranch, on other farms or ranches, or in other agricultural business and/or industry related to the pupil's occupational goal;

(7) Provision for occupational experience is a joint responsibility of the pupil, his parent and/or employer, and the school; (8) The occupational experiences should be under the supervision of the teacher of agriculture and be of such scope and duration as to provide competencies needed by beginning workers in the occu-

RODEOS BIG BUSINESS

This being the time of year to think of such things, let's talk about the big business of rodeos, which grew out of chance meetings of vaqueros many years ago, on the trail or at the shipping point. Cowboys would brag, and there'd be events and betting to decide which was the best rider or roper . . . and so the rodeo began.

Well, last year there were 582 accredited rodeos in the U. S. and Canada, and they attracted 9,400,000 spectators and 90 million viewers and paid out \$3,511,247 in prize money.

And in the eyes of many it is now one of the few honest sports left, for the simple reason that a horse — unlike a man — can't be bribed to do less than his best.

pation; (9) Membership in the Future Farmers of America should be open to any pupil enrolled in agriculture;

(10) Pupil activities in FFA should be limited to those which contribute to the educational objectives of the instructional program in agriculture; (11) Major emphasis in FFA should center upon development of desirable personal and social abilities of the individual, including traits of leadership.

Results In Recommendations

As an outgrowth of these conclusions, Dr. Bail and the advisory committee make the following recommendations: (1) Continue efforts to provide teachers of agriculture with suggested course guides and units of instruction. Specifically, it is recommended that course guides for Agricultural Mechanics I and II be developed, if this is accepted as a regular offering; (2) Make changes in the proposed horticulture course guide based upon experiences of teachers and administrators; (3) Develop a list of guidelines for establishing and operating school land laboratories, and establish **pilot** land laboratories which can be evaluated in terms of their contribution to the educational program.

(4) Review policies and practices regarding state-wide judging contests. Continuously review contests to reflect the subject matter taught in the local school programs in agriculture. Urge teachers to enter only those contests which are a part of the instructional program in their schools; (5) Review and evaluate FFA activities on the local and state level on the basis of teacher and pupil time involved in relation to educational outcomes;

(6) Urge each teacher of agriculture to evaluate his use of professional time during the summer months. Establish policies on the local level regarding maximum days away from the school and community, including professional improvement activities, FFA,

etc.; (7) Continue efforts to make the agricultural program a "part" of the local school system, with the teacher of agriculture, the FFA organization, and all other aspects of the program subject to local school policies and regulations. It is suggested that policy statements regarding the department of agriculture be developed as part of annual and long-range programs;

(8) Continue to urge each department to organize and use an advisory committee; (9) Keep school administrators informed of developments in agricultural programs, both local and state-wide; (10) Make certain that guidance counselors are well informed concerning the program and the students enrolled. Keep the needs of students **foremost**; (11) Explore possibility of joint programs with other vocational education fields, particularly business and distributive education;

(12) Continue to offer in-service training programs in the emerging areas of course content, to provide teachers with needed competencies. Recognize the need for more specialized training at the undergraduate level for those who plan to teach in specialized areas, (13) Establish an advisory committee for agricultural education at the state level to help guide the future development and expansion of the program, (14) Continue to expand the program of systematic evaluation of the educational outcomes of instructional programs. Revise the present list of evaluative criteria to reflect new objectives and standards.

The report on the study also included recommended lists of course titles in agriculture for (1) small (less than 200 enrollment) high schools, (2) medium size (up to 500 enrollment) schools, (3) large rural, urban or suburban schools and (4) large city schools.

Results of the Study

Some items among recommendations in the study, which are already under way are (1) Development of guides for special unit courses such as, the Economics of Agriculture, Animal and Plant Science and Agricultural Mechanics I; (2) Evaluation and further development of horticulture courses and facilities and (3) Modification of the curriculum for teachers to provide more specialization in selected areas of agriculture.

The findings of this study will continue to exert an influence upon programs of agricultural education at state and local levels in the years ahead.