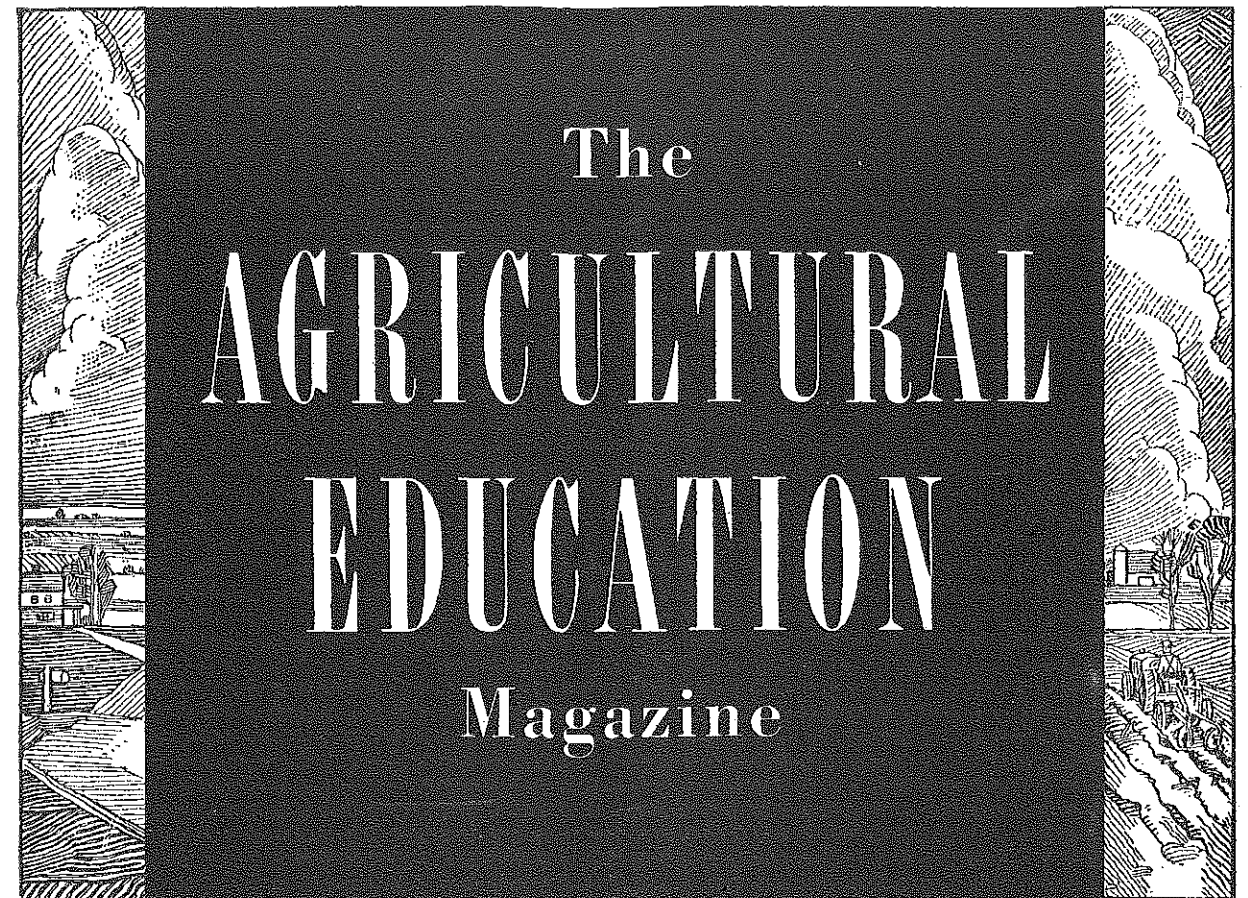


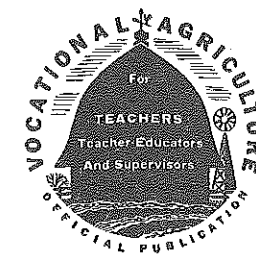
Vol. 14

November, 1941

No. 5



*THERE IS an economic side to democracy as well as a political and social side. Let us recognize that democracy means freedom plus groceries.—R. M. Evans*



# The Agricultural Education Magazine

A monthly magazine for teachers of agriculture. Managed by an editorial board chosen by the Agricultural Section of the American Vocational Association and published at cost by the Meredith Publishing Company at Des Moines, Iowa.

**MANAGING EDITORS**

H. M. Byram, East Lansing, Mich. . . . . Editor  
 Roy A. Olney, Ithaca, N. Y. . . . . Associate Editor  
 F. E. Moore, Des Moines, Iowa. . . . . Consulting Editor  
 W. F. Stewart, Columbus, Ohio. . . . . Business Manager

**SPECIAL EDITORS**

A. M. Field, St. Paul, Minnesota. . . . . Methods  
 A. P. Davidson, Manhattan, Kansas. . . . . Book Reviews  
 A. K. Getman, Albany, New York. . . . . Professional  
 R. W. Gregory, Washington, D. C. . . . . Research  
 C. S. Anderson, State College, Pennsylvania. . . . . Future Farmers of America  
 L. R. Humpherys, Logan, Utah. . . . . Supervised Practice  
 H. H. Gibson, Corvallis, Oregon. . . . . Farm Mechanics  
 Lester B. Pollom, Topeka, Kansas. . . . . Part-Time Schools  
 J. B. McClelland, Ames, Iowa. . . . . Evening Schools  
 O. C. Aderhold, Athens, Georgia. . . . .

**REGIONAL REPRESENTATIVES**

North Atlantic, E. R. Hoskins. . . . . Ithaca, New York  
 Southern, M. D. Mobley. . . . . Atlanta, Georgia  
 Central, G. F. Ekstrom. . . . . St. Paul, Minn.  
 Western, William Kerr. . . . . Boise, Idaho

**EDITING-MANAGING BOARD**

F. E. Armstrong, Hawaii; E. R. Hoskins, New York; M. D. Mobley, Georgia;  
 Roy A. Olney, New York; R. W. Gregory, Washington, D. C.; A. K. Getman,  
 New York; William Kerr, Idaho; W. F. Spanton, Washington, D. C.; F. E. Moore,  
 Iowa; G. F. Ekstrom, Minnesota; W. F. Stewart, Ohio; H. M. Byram, Michigan.

Subscription price, \$1 per year, payable at the office of the Meredith Publishing Company, Des Moines, Iowa. Foreign subscriptions, \$1.25. Single copies, 10 cents. In submitting subscriptions, designate by appropriate symbols new subscribers, renewals, and changes in address. Contributions should be sent to the Special Editors or to the Editor. No advertising is accepted.

Entered as second-class matter, under Act of Congress, March 3, 1879, at the post office, Des Moines, Iowa.

## CONTENTS

A.V.A. Convention Program . . . . .	83
We Turn to the Americas . . . . . Earl N. Bressman . . . . .	84
Book Review . . . . . A. P. Davidson . . . . .	85
The Teacher of Agriculture as a Guidance Worker . . . . . L. R. Humpherys . . . . .	86
South Dakota Ten-Year Club . . . . . H. E. Urton . . . . .	86
Some Marketing Problems in the New York Milkshed . . . . . Owen D. Young . . . . .	87
Making Black-and-White Slides at Minimum Cost . . . . . Irven Hagen . . . . .	88
Creating Student Interest and Responsibility in College Classes . . . . . R. E. Moody . . . . .	89
An Adult Course in Agriculture at a Southern College . . . . . T. M. Cordell . . . . .	90
Concentrating on Farm Planning in Adult Classes . . . . . J. D. Matthews . . . . .	91
Experiences of Men in Becoming Established as Farmers . . . . . W. L. Newport . . . . .	92
A Teacher Looks at Evaluation . . . . . I. L. Brakensiek . . . . .	95
Improving Teachers of Vocational Agriculture in Service . . . . . O. J. Seymour . . . . .	95
Future Farmers of America Officers' Stations . . . . . R. A. Olney . . . . .	96
Co-operative Activities in the North East FFA . . . . . R. A. Fordyce . . . . .	97

## A.V.A. Convention Program

Boston, Massachusetts—December 10-13, 1941

### AGRICULTURAL EDUCATION SECTION

#### TEACHER-TRAINERS AND STATE SUPERVISORS

Wednesday, December 10, 1:30 P. M.

Hotel Bradford

**THEME:** Establishment of Young Men in Farming—an Agricultural Education Problem.

**CHAIRMAN:** H. M. Hamlin, University of Illinois, Urbana, Illinois.

15 Report of the Chairman of the Research Committee, R. M. Stewart, Cornell University, Ithaca, New York.

45 A Composite Review of Economic Factors and Opportunities Involved in the Establishment of Young Men in Farming. Based upon studies by H. G. Kenostriek (1936) of Ohio, J. B. McClelland (1940) of Iowa, and J. W. Hatch (1941) of New York; G. P. Deyoe, Michigan State College, East Lansing, Michigan.

45 A Composite Review of Community and Parental Factors Relating to the Establishment of Young Men in Farming. Based upon Studies by W. G. Crandall (1940) of South Carolina and E. R. Draheim (1941) of South Dakota; J. T. Wheeler, University of Georgia, Athens, Georgia.

30 General Discussion

40 BUSINESS SESSION

Chairman: Fred A. Smith, State Director Vocational Education, Little Rock, Arkansas.

Thursday, December 11, 9:30 A. M.

Hotel Bradford

**CHAIRMAN:** John G. Glavin, State Supervisor of Agricultural Education, Boston, Massachusetts.

30 The Agricultural Education Situation: W. T. Spanton, Chief, Agricultural Education Service, U. S. Office of Education, Washington, D. C.

30 The Long-Time Viewpoint: A. K. Getman, Chief, Agricultural Education, Albany, New York.

30 Organizing Agricultural Education for Maximum Effectiveness: L. R. Humpherys, Professor of Agricultural Education, State College, Logan, Utah.

30 Vocational Agriculture—Future Farmer Activities in Kansas City: L. E. Hawkins, Agricultural Commissioner, Chamber of Commerce, Kansas City, Missouri.

Thursday, December 11,

Agricultural Tours

Friday, December 12, 9:00 A. M.

Hotel Bradford

**CHAIRMAN:** C. B. Gentry, Dean of Faculty and Professor of Education, University of Connecticut, Storrs, Connecticut.

45 The Agricultural Situation in Europe and Its Implications: J. Clyde Marquis, Foreign Agricultural Relations Service, U.S.D.A., Washington, D. C.

45 Agricultural Planning for Defense: Thomas L. Ayers, Southern Division, AAA, U.S.D.A., Washington, D. C.

45 DISCUSSION LEADER: Ralph H. Woods, Director Vocational Education, Frankfort, Kentucky.

Friday, December 12, 1:30 P. M.

Hotel Bradford

**CHAIRMAN:** H. O. Sampson, State Supervisor, New Brunswick, New Jersey.

45 The Agricultural Situation and Out-of-School Farm Youth: R. W. Gregory, Agricultural Education Service, U. S. Office of Education, Washington, D. C.

45 Vocational Agriculture's Responsibility in Defense: D. M. Clements, Agricultural Education Service, U. S. Office of Education, Washington, D. C.

60 Vocational Agriculture and Defense—Panel Discussion by Members of the National Advisory Committee on Agricultural Education. Panel Chairman: L. H. Dennis, A.V.A. Panel Participants: W. R. Ogg, American Farm Bureau; Fred Bronkman, National Grange; Robert Handshin, Farmers Union; Clyde A. Erwin, Commissioner of Education, North Carolina; R. H. Woods, Director, Vocational Education, Kentucky; F. E. Moore, Director, Vocational Education, Iowa.

Saturday, December 13, 9:00 A. M.

Hotel Bradford

**CHAIRMAN:** R. W. Heim, Professor of Agricultural Education, University of Delaware, Newark, Delaware.

Executive Session: Report of Agricultural Education Policy Committee, J. A. McPhee, California, Chairman.

BUSINESS SESSION: Fred A. Smith, Chairman.

### VOCATIONAL AGRICULTURE TEACHERS

Friday, December 12, 1:30 P. M.

Hotel Bradford

**CHAIRMAN:** R. Arthur Lundgren, President, Massachusetts Agricultural Teachers Association.

45 Have We Selected the Right Boys for the State Farmer Degree: W. G. Weiler, Assistant State Supervisor of Agricultural Education, Columbus, Ohio.

30 Discussion

45 Development Programs for Out-of-School Young Men on Farms: Ernest H. Nohle, President, New York Agricultural Teachers Association, Wolcott, New York.

30 Discussion

Get Acquainted Hour: In charge of Massachusetts Agricultural Teachers Association.

Saturday, December 13, 9:00 A. M.

Hotel Bradford

**CHAIRMAN:** George E. Micheal, President, New Jersey Agricultural Teachers Association.

45 Increased Food and Feed Production: Darrell F. Long, Teacher of Agriculture, Woodcrest, Delaware.

60 Farm Machinery Repair and Maintenance: Paul Gilman, Teacher of Agriculture, Thetford, Vermont; Harry Schneiber, Teacher of Agriculture, Belvidere, New Jersey; Arthur Townsend, County Supervisor of Agriculture, Bedford County, Pennsylvania.

60 Discussion

Wednesday, December 10

Dinner and annual meeting of the Editing-Managing Board of *The Agricultural Education Magazine*, 5:30 P. M., Hotel Gardner Grill Room.

Annual conclave and dinner, Alpha Tau Alpha Fraternity, 5:30 P. M., Hotel Bradford.

Thursday, December 11

Ten-Year Teacher-Trainers in Agricultural Education, 7:25 A. M., Hotel Bradford, R. W. Gregory, presiding.

State Supervisors of Agricultural Education, 7:25 A. M., Hotel Bradford, Fred A. Smith, presiding.

## We Turn to the Americas

DR. EARL N. BRESSMAN, Assistant Director,  
Office of Foreign Agriculture Relations, U. S. Department of Agriculture

**F**EW are the isolationists, however extreme, who assert today that the United States can live alone—cut off from social and business relations with the rest of the world—and still maintain the living standard that is essential to the way of life we prize so highly.

The precise extent to which our country is self-containing is considerably more than an academic question these days. World trade is utterly disrupted. Some countries have been cut off from their normal commerce by occupation; others, by the world-wide shipping shortage. There are many students of commerce who believe that the days of free and easy trade among nations are gone forever.

Under these circumstances, it certainly behooves the United States to take stock of its own resources, to acknowledge its dependence on imports, and to take steps to safeguard its sources of supply as the scramble for "spheres of influence" envelops more and more of the world. The only alternative to that enlightened course, it appears, is a resigned shrinking within its shell and acceptance of a reduced standard of living—an alternative that few residents of the United States can endorse.

### Essential Agricultural Imports

Let us see what these essential imports are and what the war has done to the supply situation. Several of them are minerals used in building our cities and our machines, but among them are many agricultural products, constituents of the food we eat and the clothing we wear. Lack of them would touch virtually every resident of this country. They are, almost without exception, crops that require tropical soil, temperature, and moisture conditions, for virtually every other type of climate is found within our own borders.

First and foremost on the list, perhaps, is rubber—magic product of a native Brazilian tree that has revolutionized the world's history in not much over a century since its commercial value was discovered. The United States is far and away the world's largest consumer, its great manufacturing industries using more than 50 percent of all the rubber produced in the world. Principal source is the Middle East, where 97 percent of the rubber is produced.

The United States is a nation of coffee drinkers, and it is the world's biggest coffee market, consuming well over half of the world's annual crop. The chief supplying nation is another Western Hemisphere power, Brazil, which grows around three-fourths of the coffee used in the entire world. Cacao, the source of chocolate, furnishes our second most im-

portant agricultural product. Most of it is imported from the west coast of Africa.

The United States must import a number of industrial and vegetable oils, such as tung, babassu, oiticica and cohune, all of which have special uses in paints, varnishes, and wax polishes. We depend for quinine on the tropical cinchona plant; for tapioca starch on the tropical root crop known variously as manioc root, mandioca or cassava; for rope and basket fibers on such plants as abaca, henequen, and sisal; for one of



Earl N. Bressman

our most powerful insecticides on the root of a tropical plant called derris or barbasco. The tropical raw material kapok resembles cork and has similar uses. Our diet is enriched by a variety of imported tropical fruits, herbs, and nuts that cannot be produced successfully in our own temperate and subtropical areas.

### Most Imports From Outside the Americas

There are more than 100 similar products, but the above list takes in most of the major agricultural imports for which the United States is accustomed to depend on the warm regions of the globe. With the exception of coffee, the majority of our imports of every one of these products has in the past come from Asia, Africa, and other regions outside the Americas. We do an annual business of some 450 million dollars in raw materials with these non-American tropical lands.

Why do we buy these products from the eastern tropics when right next door,

are lush tropical regions as fertile and productive as any on the globe? Well, that is a long story and it varies somewhat with individual products. Sometimes it has resulted from dependence on wild plants when cultivated plantings were more productive; sometimes from failure to improve natural varieties thru plant culture; sometimes to a combination of both with other factors.

It all adds up to failure on the part of the Western Hemisphere to realize the part that agricultural co-operation could play in inter-American solidarity. But that isn't the important thing today. The important thing is that something can be done and is being done to correct the situation.

The soil and climate of many of the American Republics are ideally suited to production of every one of the tropical crops mentioned. A great many of them (rubber, cacao, and cinchona, for instance) are native American plants that were transplanted to the East after the Western Hemisphere was discovered. If their production can be developed on a commercial scale in Latin America, there is not a one but that can be imported into the United States with advantage to both buyer and seller.

### The Drive for Greater Inter-American Co-operation

This development is precisely what the United States Department of Agriculture and various agencies associated with it are striving to do in their drive for greater inter-American agricultural co-operation.

A degree of immediate co-operation has, of course, been forced on the Americas by the war, with its closing of European markets and supply sources. No longer, for instance, do we obtain wine from France, fancy cheeses from the Netherlands, or specialty meats from Denmark. In every case, Latin America has stepped into the breach with similar products—with its famous wines, excellent cheeses, and highly regarded meat products for instance. Not only are these products filling emergency needs, but they are winning a place with United States consumers that may make them difficult for the former sources to dislodge.

But, in addition to this immediate trade, largely in specialty products that do not bulk large in world commerce, there is a long-term program, which is just now well under way.

As has already been noted, rubber stands high among the agricultural imports of the United States, and it is toward safeguarding our supply of this essential material that a great part of the agricultural effort of the Hemisphere

### Plans for Development of Rubber Supply

By act of Congress in the summer of 1940, a half million dollars was appropriated to undertake development of sources of rubber supply in the Western Hemisphere. This was no mere suggestion that experimental work be undertaken. The appropriation act was regarded by the Department of Agriculture as a mandate to move immediately toward commercial production of rubber. No time was lost in proceeding toward this end. Within 30 days after the money was available, U. S. scientists were en route to Central and South America to undertake the necessary surveys.

Four parties of rubber plantation experts conducted intensive surveys in 14 Latin American countries where prospects for rubber production were considered most promising. Budwood and budded stumps of high-yielding rubber trees have been shipped from the Philippines to Honduras and Haiti where large multiplication stations have been established, from which the increase will be distributed to other American Republics.

National nurseries have been established in 12 of the countries. Research on rubber plant diseases and other problems has been begun in Costa Rica, and research is intensively under way in co-operation with the governments of Brazil, Costa Rica, Haiti, Mexico, and Peru.

In 1939, Latin America exported only 17,000 long tons of rubber, most of which came from Brazil. There would appear to be no reason why that volume cannot be increased greatly within a very few years. As a preliminary step, there are millions of rubber seedlings growing in Latin America that were not there a year ago.

The rubber program is Exhibit A in any discussion of inter-American agricultural co-operation, but it does not stand alone. Because for many years the agricultural development of Latin America has been neglected, a necessary preliminary step toward a well-rounded program has been compilation of general economic information on which long-range developments could be based. To obtain this, it has been necessary to make exploratory surveys of the areas to be developed.

These surveys have been completed in Ecuador, Paraguay, Haiti, Colombia, and Cuba. One is in progress in Mexico and another will begin in September in Peru. Arrangements are in progress for surveys in other Latin American Republics as well. Each survey is financed by the government of the country concerned, to which a confidential report is made. On it is based future agricultural development of the country. In Cuba, for instance, particular attention was given to the development of irrigation, the production of non-competitive export crops and subsistence crops, and the establishment of a system of rural rehabilitation to provide for destitute farmers and unemployed farm labor. In each case, the survey party has stressed the particular problems of the country under consideration.

### Co-operation in Haiti

Developments in Haiti since a survey

indicate what may be done concretely on the basis of these reports. Among the Haitian projects found desirable and practicable were the development of rubber production, an increase in banana plantings, the planting of oil-bearing crops, spices, drug plants, food plants, and fiber plants and the improvement of cacao production.

In not much over six months since those findings were reported, the U. S. and Haitian governments have reached an agreement for a long-time program of co-operation toward these objectives. A development corporation has been formed by the Haitian government, and already the work of establishing two government-owned plantations for experimental work is under way. All the employees will be Haitians with the exception of U. S. technicians employed for supervision. Actual production of new crops will be on the small, individually owned farms that make up Haiti's agricultural pattern. The prospect is that Haiti's great dependence on one crop—coffee—will be relieved and that the Republic's economy and its economic relations with the United States will be revolutionized to the advantage of both countries.

### Dealing With Exportable Surpluses

With the exception of coffee, all the products we have been talking about are produced in deficit in the Americas as a whole, leaving the Western Hemisphere on an import basis. There are a number of others which the Hemisphere produces in surplus, and these involve altogether different problems of inter-American co-operation.

Argentina and the United States, for instance, are the world's largest producers of corn, and both have large exportable surpluses. Argentina and Uruguay share with the United States leading world positions in the production of cattle, beef products, hides, sheep, and flaxseed. South America produces lots of wheat and cotton that compete on world markets with U. S. surpluses. Coffee is an American surplus product, with several Latin American countries selling to the United States and elsewhere throughout the world.

Considerable progress has already been made in solving these problems relating to Hemisphere surpluses. Latin American coffee-producing nations divide the U. S. market under the inter-American coffee agreement. An inter-American cotton advisory committee has been established to study cotton-marketing problems. Discussions looking toward a corn agreement between the United States and Argentina, have been undertaken. Joint use of laboratory facilities in an attempt to find new industrial uses for agricultural surpluses is planned. It is a broad field and a difficult one in which to make progress, particularly with normal export markets closed by the war. World economic disruption, however, has only served to point up the vital importance of inter-American co-operation in this field, and has spurred the effort of the collaborators, who are able to report real progress, as this summary indicates.

### Trends in Trade Among American Republics

Of course, agricultural co-operation,

has to be related to the whole picture of trade among the American republics. Since 1938, there has been a steady increase in two-way trade between this country and our neighboring republics. Our exports to the 20 other American republics amounted to approximately 490 million dollars in 1938, 563 million dollars in 1939, and 719 million dollars in 1940. Our imports from Latin America increased from 447 million dollars in 1938 to 496 million dollars in 1939 and 593 million dollars in 1940.

This increase is gratifying, but from the point of view of the other Americas, it isn't so healthy a situation as it might appear. Note that in each of those years United States sales to them exceeded our purchases from them. This has resulted in a serious drain on their finances—so serious a drain that in many cases they have been forced to institute import controls to preserve their financial stability, thus tending to check trade expansion and economic harmony at a time when such developments are so essential to Hemisphere unity.

In other words, the United States needs to buy more from the other American Republics than it sells to them, and these complementary products—rubber, cacao, cinchona, carnauba wax, and a hundred-and-one others—seem to offer the greatest potentialities in this direction.

If we succeed in transforming this adverse balance of inter-American trade into a balance that favors our southern neighbors, we will have accomplished a great deal. As already pointed out, we will have safeguarded our sources of many products that are essential to maintenance of our standard of living. We will have increased the purchasing power of the Latin American Republics, thus making them better customers for our own goods. Moreover, we will have helped to raise the living standards of the people of Latin America, making them healthier, happier, and more self-reliant.

Adding it all up, the entire program of inter-American agricultural co-operation will stand as a demonstration of good faith backed up by concrete economic co-operation that will immeasurably strengthen the ties that unite the countries of the Western Hemisphere. In this turbulent day, and probably for many years to come, that stands as a paramount goal of the United States and its people.

### Book Review

*380 Things to Make for Farm and Home*, Glen C. Cook, 325 pp., illustrated, published by The Interstate Printers & Publishers, list price \$2.50. A compilation of plans and bills of material selected from materials published by agricultural and engineering experiment stations from coast to coast, and of plans and bills of material gathered from high-school shop instructors. This text should prove helpful to teachers of vocational agriculture in the area of farm-mechanics instruction, and should be of value to teachers in the field of general shop. Farmers, county agricultural agents, teachers in agricultural engineering departments, and others interested in shop activities will welcome this practical collection of plans and

## The Teacher of Agriculture as a Guidance Worker

L. R. HUMPHERYS, Teacher Education,  
Logan, Utah

THERE is every reason to believe that in the years ahead much more emphasis will be given to vocational guidance in programs of vocational education. From one point of view proper vocational guidance is possibly more important than the training, because if the individual is directed into the proper sphere, he is bound sooner or later to find himself and give expression to his abilities; whereas, if the individual pursues a field

problems and to lay them on the shoulders of others. This attitude only delays the solution of the problem and makes for maladjustment and unsatisfactory conditions in the rural community. The rural community suffers in the final analysis.

The teacher of agriculture, then, is the logical man to concern himself with a program of vocational guidance. His training and experience must reach into



Horace Gunn, a senior in agricultural education at the Utah State College, advising a freshman in his many problems in answering the questions: When? Where? and Who?

in which he has limited ability or in which there is limited opportunity, he is truly maladjusted.

The need for vocational guidance is very much intensified because of the present defense-training program and the prospect of war. Vocational guidance will be even more important in the reconstruction period which is surely to follow our present emergency. With two out of every four farm boys leaving the farm, it is very important for agriculture and society as a whole to have the right two boys remain on the farm.

### Who Can Best Counsel Farm Youth?

Who is to counsel young men in the farm areas in the readjustment emergency ahead of us? There is only one answer to this question. The teacher of agriculture must play a major roll in this guidance service. He, probably more than any other teacher in the rural high school, is in a position to practice vocational guidance. He it is who must be concerned not merely with the business of farming, but he must be vitally concerned with the selection of men in the several fields of human endeavor.

There has been a disposition among some teachers of agriculture, supervisors, and teacher-trainers to push

the field of vocational opportunities and vocational choice. This all means that in the program for educating teachers of agriculture, the candidate must have not only a theoretical background in the field of individual differences, occupational opportunity, and placement; he must have some participating experience, such that when he assumes the responsibility of directing the farm boys in a local community, he can give proper attention to the ever-present problem of vocational adjustment.

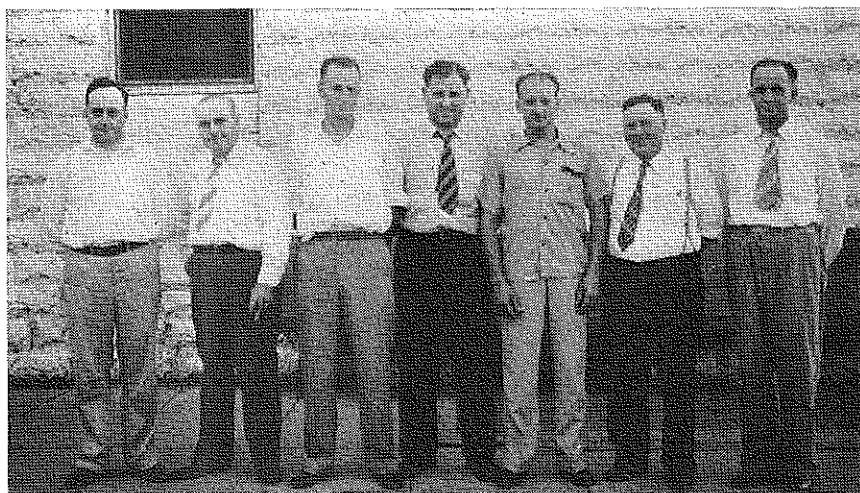
### Participating Experiences in Guidance

Realizing the need for participating experience in guidance for trainees, we have set up a practice at the Utah State Agricultural College which gives some promise of better preparing the new teacher to handle this problem in the rural high school. To each senior in college preparing to teach vocational agriculture is assigned a freshman boy who has expressed a desire to prepare for teaching vocational agriculture. The senior co-operates with the teacher-trainer in a definite program of guidance. The seniors in agricultural education meet all of the freshman group at intervals to discuss problems that are common to all. Each freshman gets acquainted with his big brother. The senior visits the freshman at his home, talks with him concerning his problems, assists him in his registration, checks with him on his extra-curricular activities, and in other ways assists this young man in becoming orientated in college and in a program for training for a vocation. In short, he practices vocational guidance.

During these two years, this experiment has proved very valuable. It has had a tendency to assist the freshman boy in orientation and adjusting himself in what is probably the most crucial point in his life. Moreover, it has given

(Continued on page 98)

## South Dakota Ten-Year Club



At the 1941 annual summer conference of teachers of vocational agriculture in South Dakota a Ten-Year Club was formed, and the members presented with honor keys by the association of teachers of agriculture. The names of the members who have served as teachers of agriculture for ten or more years are, reading from left to right: H. E. Urton, Pierre; E. J. Daniel, Brookings; C. M. Cuihane, Waverly; B. T. Nelson, Volga; Lloyd Haisch, Milbank; William Jackson, Leola; and Arlington Eddy, Brookings. R. V. Diggins, Redfield, H. J. McKnight, Webster, and J. E. Kotas, Clark, were not present at the time

## Some Marketing Problems in the New York Milkshed

OWEN D. YOUNG



Owen D. Young

ALTHO I was born on a dairy farm and have run one for over 40 years, let me say I have learned more in the last eight weeks about prices and costs of milk than in all the years before. Some things I knew before. One was that a dairy farm was allergic to red ink. The red was always coming off the barns and going on the balance sheet. Well, I was feeling pretty low because I knew my grandfather was saying, "That boy sure is a failure; he can't keep his farms up and he can't make money on his cows."

Then I learned something from the experts at Cornell—Spencer, Cunningham, and Misner, and there are not any smarter ones anywhere. They said that none of you farmers had received enough for your milk to cover your costs since 1930. So I felt better. I wasn't any more of a dub as a farmer than the rest of you. Your grandfathers probably weren't very proud of you either.

SO I thought we had better set ourselves right with the old gentlemen by getting a better price for our milk. Everybody else seemed to be doing pretty well these days except us dairy farmers. So I asked the fellows who are running your producer organizations to come to Van Hornesville and talk it over: the Dairy Farmers' Union, the Eastern Producers, the Associated Independents, the Metropolitan Bargaining Agency, and the Dairyman's League. They came, and let me tell you they know the milk business. I used to think that the distributors had all the sharp pencil points but now I know better.

I said, "Why don't you ask the secretary of agriculture to give you more money for your milk?" Each said he had asked but there was so much noise in the department that the secretary could not hear. So I said, "Why don't you all shout together?" So they did. Then Governor Lehman joined in the shout too, and the secretary of agriculture said, "I can hear you." Whereupon the boys set up a three-stand chorus; one in Brooklyn, one in Watertown, and one in Albany, telling how dry they were, with an ever-rising crescendo on \$3 a hundred. This \$3 the Dairy Farmers' Union had already trade-marked.

Well, on the 29th of August, the secretary told us we could have only half a cent a quart because it was dry in other places too and the Government needed a lot of milk for the army and the lease-lend overseas. I asked how much a half-cent raise meant to the farmer and the department experts said perhaps \$2.70 a hundred, or a little more for the rest of the year. But I said the Cornell fellows proved that it cost us \$3 a hundred to

then that the secretary might listen again if costs kept rising.

So the producer boys got together in Van Hornesville and agreed that if the dairy farmers of this milkshed approved, they would take the half cent and immediately file a request for a new hearing; that if then they did not get cost for their milk they would somehow take their business back into their own hands. All the producer organizations have agreed to this program except that the Dairy Farmers' Union said they did not think a new hearing would do any good anyway, so why ask for one. This reflected their own despondency and despair. They were careful to say that it did not mean disunity.

This article, prepared by Mr. Owen D. Young, appeared first as a radio address over station WGY at Schenectady, N. Y. Mr. Young, who writes that he is more of a returned farmer than a retired industrialist, is rendering a leadership of estimable value to the dairy farmers of the northeast in their struggle for a living price for milk. The statement will be of special interest to teachers and students of agriculture because Mr. Young brings to the subject a balanced judgment born of national confidence among urban and rural people alike.—A.K.G.

LET no one think my recital flippant. The truth is that I feel so deeply the injustice to the dairy farmer that I do not trust myself to speak too seriously lest my bitterness appear, and bitterness has never done anybody any good. Only a firm and serious determination to correct this situation by unified action of all dairy farmers in this milkshed can get us a price for our milk adequate to cover our costs.

The secretary of agriculture found that our fluid price should be increased only to \$3.11 a hundred. Commissioner Noyes has just found, after a hearing in the Buffalo area, that their fluid price should be increased to \$3.40 a hundred. The drought was certainly worse in the northern counties of this milkshed than on the Niagara frontier. I have good reason to think that Commissioner Noyes urged the secretary of agriculture to increase our fluid price to \$3.40 or at least to \$3.35. The commissioner's voice too, was drowned out by the din in the countless bureaus of the Department of Agriculture. Such is the humiliated position of the great State of New York in which are located most of the farmers and all the consumers of this great milkshed.

I CAN not believe that we have yet received the last word of the Department of Agriculture on all the prices which affect the blend. After all, it is the blend price which the farmers receive. It is that price in which we are primarily interested. The blend depends not only upon the price of fluid milk but of products manufactured from the surplus.

The secretary of agriculture is charged with the responsibility of purchasing such products for government defense needs and our lease-lend shipments abroad. Shortages in the lease-lend

Only yesterday I read that the milk ration for the coming winter in England will be a pint a day for children under six, half a pint a day for children over six, with little or none for adults. And my daughter has shown me a letter from a young mother in China who says that a pound of evaporated milk for her baby costs \$100 in Chinese money. This is about \$5 per pound in U. S. currency. So long as these conditions obtain in countries to which we have pledged all aid short of war it is silly to talk about a surplus production in the United States.

THE secretary of agriculture has recognized this and has asked for increased production as our contribution to defense. I said in my testimony, and I repeat now, that when large industrial units are asked by the government to produce for defense, they are not asked to do so at a loss. Why should the dairy farmers be asked to do so? The record shows that the farmers of this milkshed are not getting their costs based on anything like a fair labor return. I am sure that the secretary of agriculture will not ask the dairy farmers to increase their milk production for defense at less than cost. I have great confidence in him. He has sympathy with and understanding of the farmers' problems. He is the guardian in the Federal Government of the farmers' interest.

Let us not be too impatient. Let us say that we are only at the end of the first inning.

Professor Misner of Cornell said at the recent hearings that when a man is five feet under water he can be raised two feet and still find it difficult to breathe. We have now been raised about two feet and we would like to serve notice on the authorities and the public that we can't function very well as a producer of milk, or a consumer of other goods, or a citizen of the community until our head is really above water.

I think we must accept the new price on the referendum. I would rather be within three feet of the surface than five feet down. But under such conditions, no one can expect us not to make a further struggle, and if need be, a desperate one, to get to the surface. Let no one say that because we take the new price we are stopped from raising the question again promptly, or that we have agreed to supply milk at an inadequate price for any particular period of time.

THE task is now up to your producing organizations to formulate plans. They are acting together. They are led by able men. They have only one aim now; that is to get you a fair price. The task is up to you as farmers to support their plans. Let your support be unanimous. We can not afford the luxury of dissensions until we cover our costs. Such is my appeal. I must not make an appeal unless at the same time I volunteer in your service. That I now do. And I will continue so long as the returns of the dairy farmer are out of balance with the earnings of other groups in the nation and so long as the farmers act together.

The country will rise no higher than the aspirations of the people who live there, and the problems must be solved in such a way that they will meet the conditions as they exist on the spot.

A. M. FIELD

# Methods

## Making Black-and-White Slides at Minimum Cost

IRVEN HAGEN, Instructor, Walsh County Agricultural & Training School, Park River, North Dakota

**M**OST instructors of vocational agriculture realize the importance of visual aids in teaching, not only all-day classes, but also young-farmer and adult classes. Many men in the field are now using and have used the photographic slide as a visual aid. Many more would like to use this teaching device but find the cost prohibitive. During the past the 3½ x 4½-inch slide was commonly used, but the expense involved in making these did not warrant extensive use of this material.

Later on the film strip has proved to be a very inexpensive method of supplementing the study material in agriculture and other subjects. Thru the U. S. Department of Agriculture and other sources a large number of excellent film strips on many subjects can be bought or rented. The main objection to the film strip seems to be that many of the frames in very good strips do not apply to every farming locality. This, of course, applies only to some subjects.

Some instructors have made up their own film strips either from original photographs and charts or have used a camera which is specifically adapted for this type of work. Both methods involve a higher cost than many schools can afford.

### Film Slides Now Popular

Recently the 2 x 2-inch slide has replaced many of the larger slides and the film strips for a number of reasons. (1) Many teachers now own 35 mm. cameras, and this size is ideal for the making of 2 x 2-inch slides. (2) The cost of taking pictures can be held to a minimum. (3) The natural-color film is becoming very popular, and these shots are returned in 2 x 2-inch slides ready to project. (4) Black-and-white slides can be made very cheaply from 35 mm. negatives.

It is not the aim of the writer to go into detail on photographic technique because there are on the market numerous books and publications describing every branch of photography and the photographic process, but rather to describe a simple and very inexpensive method of making 2 x 2-inch black-and-white slides to be used in teaching. The writer does not lay claim to any best method but the method described has worked out very well and has given excellent results.

For a beginning a 35 mm. camera is probably one of the best investments an instructor can make. The make or model is mostly a matter of personal preference. To buy one to fit the budget seems to be the best advice to anyone in the market for a camera. It is a good idea to have a spare lens and a spare film magazine should you have them. In holding the two

film will soon pay for the investment.

At present there are many types of film on the market. Here again one should use the film best suited for the conditions. A fast film would naturally be better for inside work than a slow film, but for summer, outside work the slow film is better because the resulting negative will show less "graininess" on enlarging with projection.

### Making the Positive

In making a 2 x 2-inch black-and-white slide a positive is necessary. In regular photography the negative is printed on sensitized paper, and the resulting picture is a black-and-white picture which is termed a positive. In making a positive from a 35 mm. negative a good, sharp negative should be used for obvious reasons. Positive film for making these slides can be purchased from many sources and at different prices. The writer has used positive film which cost but 1 cent per foot with very good results. Equipment for the printing of these black-and-white slides need be nothing more than two pieces of glass about eight inches in length, and hinged on one side with Scotch, or adhesive tape. This device is shown in the accompanying illustration.

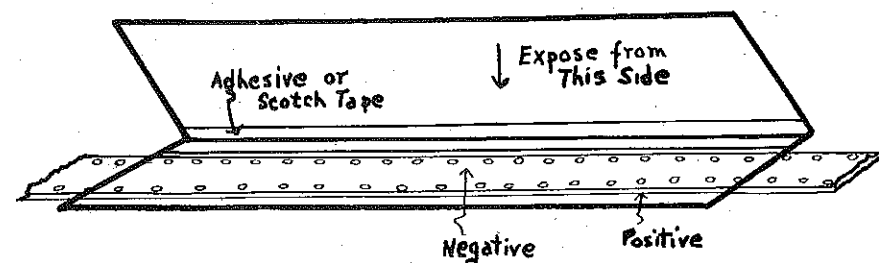


Figure 1—Glass printing frame for making positives from 35 mm. negatives

In printing, from three to five frames can be exposed at one time. If, for example, there are one or two frames which one does not care to make into slides between two which are to be used, it is better not to cut these out, since 35mm. film is easier to handle in lengths 12 to 18 inches in length and the waste of film for a few unwanted frames is practically negligible.

The printing process, with the two pieces of glass hinged with tape is simple. A strip of positive film the same length as the frames to be printed is placed between the two glass plates with the emulsion side up, and under the negative which is placed on top of the positive. One should be sure the negative and positive are placed evenly, one above the other. In holding the two

exposed to the light and printed. In determining the correct exposure a series of tests should be made with small pieces of positive film. By exposing these for different periods of time the correct exposure can be determined. This, of course, will vary with the size of electric light bulb used. If the developed positive is too black, the film has been over-exposed. If the image is too faint the exposure was insufficient.

After exposure the film must be developed. This can be done in an ordinary drinking glass. Development, rinsing, and the first five minutes of fixing should be done in total darkness. As to the type of developer, the writer has used a number with success, and the best is probably the high-contrast developers designed for this purpose. Any good developer, however, will do the job. By using an ordinary water glass the amount used can be greatly reduced. A glass seems to be best because the film will curl and the solution in the glass is deep enough to cover the entire film. Care should be taken, however, to see that the film does not stick together so that even development is obtained.

Ample time should be allowed for development so that a good contrast slide will result. After the film is developed it should be washed thoroly and fixed in acid hypo. Drinking glasses can be used for the hypo also, but a good supply of running water should be used to wash the film after the fixing bath. The fixing bath should be allotted about 15 minutes to do a thoro job. After the thoro wash in clean water the film should be dried in a dust-free atmosphere. A good plan before drying is to wipe the film with a

sponge to prevent water marks.

### Mounting

After the film is thoroly dried it is ready to mount. Here again a great deal of money can be spent in buying ready-made mounts. These mounts are indispensable for Kodachrome and other natural-color shots, and can and should be used for some black-and-white shots which may be quite valuable. Film in projection is often scratched, particularly the natural-color film and, therefore, should be mounted between glass. The cost of these mountings will vary from three to four cents per slide. For home-made, black-and-white-slides, however, which are so simple and inexpensive to make, the slide itself is not valuable

To mount such a slide in an inexpensive way the writer has used ordinary cardboard, or commonly called Bristol board and an office paper stapler. The illustration also shows the size of the opening and the placing of the staples. In cutting out the openings in the slide a die can be made from a piece of iron and sharpened on all four edges. The entire opening can then be cut out with a few good blows with a hammer on a die after placing the cardboard on a hardwood block. The writer has used such a die which was made by a boy in the farm shop with very good success.

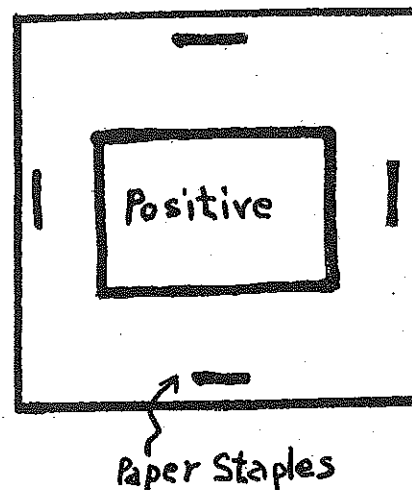


Figure 2—Slide mount made by stapling two cardboard cutouts together

In mounting the slide the printed positive is cut into frames and each frame mounted between two of the cardboard pieces which have been cut out. One should be sure that the frame is centered properly so that the sprocket holes do not show after the two pieces are stapled together. If the slide is removed at any time one can place a staple on the top or bottom side and one end only. This will permit removal of the film, and will allow another frame to be inserted.

### Cost of Making Film Slides

The cardboard used in making the slides should have sufficient stiffness so that the slide will not bend when placed in the projector. The question which many instructors have asked about making slides is the matter of cost. One frame is approximately 1½ inches in length. This will mean that on one foot of positive film seven or eight frames can be printed. The cardboard mount need not be purchased, but even if it is bought a large size sheet can be had for 10c. The cost of the chemicals is very small. A 25c can of developer will process dozens of slides and the hypo can be purchased for 15c a box which will likewise fix a large number of slides.

It would be rather difficult to estimate the cost of these slides but a safe figure would be less than one cent per slide. By making one's own slides the cost of slides in teaching is minimized and vitalized, as all the material made in this way will be of local interest. The writer has used these slides in supervised farm practice work with freshmen with very good results. A series of slides showing the students' projects has

## Creating Student Interest and Responsibility in College Classes

R. E. MOODY, State Teachers College, Platteville, Wisconsin

**A**T THE teachers college at Platteville, experimental work is being done in improving the college teaching in applied agriculture. Toward this end special work has been carried on in the course in poultry husbandry for the past three years.

Briefly, the plan used is as follows: The students enrolled in the course in poultry husbandry assume complete responsibility for the college poultry plant for one year, and for all phases of its operation including the feeding, the sanitation, the incubation, brooding and rearing, and the purchasing of feed and supplies, as well as the marketing of the poultry and eggs.

The students in agriculture take poultry husbandry during the spring semester of their second year and the fall semester of their third year. This enables a greater range in planning, since in the spring the students can determine the desired number and age of pullets for fall and winter production by the size and date of hatch.

### Nature of the Term Problem

The class at the beginning of each semester assumes the following financial obligations:

1. Interest at four percent on present value of plant, including flock.
2. Depreciation of plant at current rates.
3. Insurance on buildings and contents.
4. Current expenses for feed, fuel for brooder stoves, light, water, labor, and other supplies.
5. Depreciation and interest on the adult flock (inventoried at an arbitrary price at the beginning and end of each semester).
6. Eggs and feed inventoried at market price.

At the end of the semester profits and losses are determined for the period. The students, each of whom has pre-

viously completed a course in farm records, keep individual records of all transactions incurred during the semester.

All the planning and work is done by the students. The instructor gives advice but not orders. The class elects a chairman and several subchairmen. During the spring semester each of the subchairmen is responsible for supervision of one of the following: incubation, brooding, feeding of the adult flock, sanitation, and marketing. During the fall semester only three subchairmen are elected. The class is divided into approximately equal groups and each group is placed under one of the subchairmen. The groups rotate so that each student has an opportunity to gain experience in all types of work. In the interest of efficiency the group subchairmen do not rotate but hold their positions thruout the semester unless removed by the class for cause. A subchairman is responsible for the duties of the group under him. If a member shows continued laxity and irresponsibility in doing the work assigned him by his subchairman he can be dropped from the course upon the recommendation of his group and a vote of the majority of the class.

### How Classes Are Conducted

Two credits are given in this course. Each week the class meets in two one-hour recitation periods and one, two-hour laboratory period. The first twenty minutes of the recitation periods are available to the class for such business as may need attention. The general chairman, or some one appointed by him, takes charge. A secretary elected by the class keeps the minutes. All purchases and sales incurred since the previous meeting are presented. Feeding rations and practices, marketing problems, disciplinary difficulties, and other

(Continued on page 98)

getting first-year students interested in a supervised farm practice program. Another very good use for this type of material is the copying of material such as charts, maps, and printed material from books and bulletins. Permission to do this should be secured, however, as much of this material is protected by the copyright law.

A discussion of 2 x 2-inch slides would not be complete without mentioning the value of natural-color material. To the amateur who is interested in visual material the natural-color film is the answer to a long-felt need in photography. Such natural-color slides will cost considerably more, (about 12½c per shot without glass mounting) but for real beauty and for slides of crops, crop diseases, flowers, landscaping, and anything which has plenty of color, it has no equal.

For project pictures, pictures of groups, and for illustrating good farming

very satisfactory, and will result in a considerable saving. Another saving for the 35 mm. camera user is the cheapness of bulk film, which will cut the film cost to the point where anyone can afford to have a large number of pictures, and later make them into black-and-white slides.

The following list of photographic supply companies may help in obtaining the necessary supplies. This list is by no means complete.

Eastman Kodak Company, Rochester, New York  
Bass Camera Company, 179 W. Madison St., Chicago, Illinois  
Agfa Ansco, Binghamton, New York  
Save Money Film, Dept. B7424 Sunset Blvd., Hollywood, Calif.  
Hollywood 35-mm. Film Company, Box 2550, Hollywood, Calif.  
Pacific Coast Film Company, 1510 N. Sierra Bonita, Hollywood, Calif.  
National Film Company, Dept. P. 8750 Olympic, Los Angeles, Calif.  
Camera Equipment Company, 1600 Broadway, New York City  
Miniature Film Supply Company, 130 West 46th St., New York City  
Bass Camera Company, Dept. P. 120 N. Wood

# J. B. McCLELLAND **Farmer Classes** O. C. ADERHOLD

## An Adult Course in Agriculture at a Southern College

T. M. CORDELL, Director of Adult Education, Abraham Baldwin Agricultural College, Tifton, Georgia

"I WOULD have paid fifty dollars for this course if I had known it was going to be like this." "The session this morning has been worth a hundred dollars to me." "I had no idea all of this was available here in south Georgia." These and many other similar remarks have been made by farmers attending short courses in agriculture at the Abraham Baldwin Agricultural College, located at Tifton, Georgia. Since the college is located adjacent to the Georgia Coastal Plain Experiment Station, where farmers may see at first-hand tests and demonstrations of various practices, the authorities of the institution decided that great service could be rendered to farmers living in the southern half of the state by offering short, intensive courses on various farm enterprises. A large business firm was approached and it agreed to pay for the room and board of farmers while in attendance at the courses. The only expense to the farmer is his transportation to the college and back home when the course is over.



T. M. Cordell

The foregoing events took place in June, 1940. At that time I was a teacher of vocational agriculture in south Georgia in Brooks County. On August 1, I came to the Abraham Baldwin Agricultural College as director of adult education. I am still working under the general supervision of the Division of Vocational Education of the state, since funds for my salary come to the college from this source. I am, however, employed by the Abraham Baldwin Agricultural College and am devoting my full time to adult work of less than college grade—that is, college credit is not given for the work, and entrance to courses is not based on college entrance requirements.

I have a number of duties, some of which may be enumerated as follows: (1) to arrange the schedule of courses, (2) to work up the teaching material, (3) to secure a suitable faculty to help teach each course, (4) to arrange for rooms and meals for those attending, and (5) to recruit students for courses. I try to secure the best qualified man in the state for teaching each particular job of each course.

### How Members of Classes Are Selected

Farmers are recruited for enrollment

### Typical Course Schedule

The following is a typical day's schedule at one of these courses: the morning session runs from nine o'clock to twelve o'clock. Half of this time is spent inside, discussing group experiences and experimental data, and the other half in the field seeing the experiments that have been discussed. The afternoon period extends from one o'clock to four o'clock. It is divided the same as the morning period. Following this is an hour of recreation led by Geo. P. Donaldson, recreational leader of the college. After the evening meal, the group meets again in the classroom to see motion picture films pertaining to the enterprise that is being studied.

Records show that 84 different counties have been represented at these courses. Some of the counties from which farmers come are as far as 250 miles from the college.

Space will not permit a review of all the courses, so as an example one on "Beef Cattle and Hogs" is given below. This course was held February 11-14, 1941. There were 52 farmers present. A survey showed these farmers owned 7,000 hogs and 3,930 beef cattle.

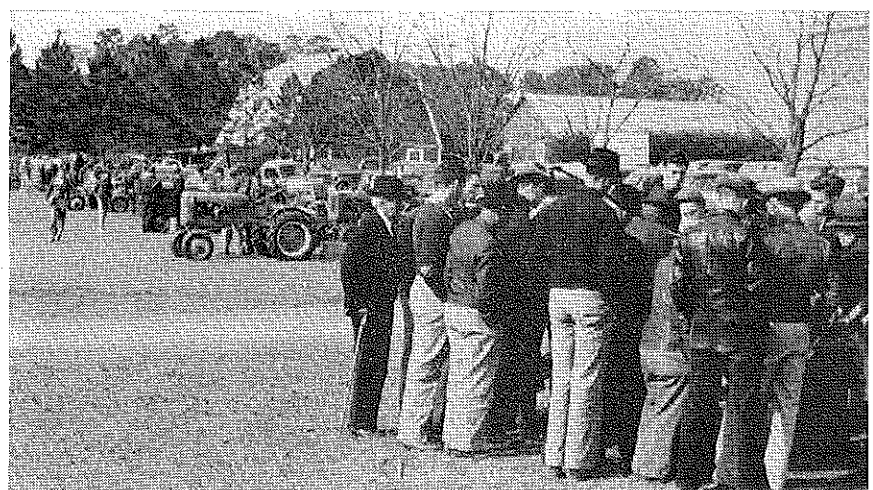
The first morning was devoted to the present situation of beef cattle and hogs, the economic outlook, and the setting up of the requirements of a good beef-cattle-hog farmer. In the afternoon the group visited a near-by, typical beef-cattle-hog farm, and studied every phase of the farm organization.

The next morning the good and bad points of this farm were discussed by the

The Division of Vocational Education of the Georgia State Department of Education and the Abraham Baldwin Junior College at Tifton, Georgia, have developed a co-operative adult-education program that possesses some unique features. It is not a regular, college short course for farmers, neither is it a regular evening class. The special adult teacher devotes himself to organizing the group, planning the instruction, and following up the instruction. The technical staffs of the college and experiment stations give most of the instruction.

The Abraham Baldwin College has as its primary purpose the education of farmers and farm women. It is a terminal college, and therefore emphasizes in its regular program of instruction the practical farm problems of the area. Many members of the adult group are former students of the college who are now farming.—O.C.A.

al agriculture, county agents, and Farm Security Administration supervisors. The course is explained to these workers and they are asked to nominate two of their leading farmers who are interested in the enterprise in which instruction will be given. After this has been done, I write the nominated farmers, explain the course, and extend to them an invitation to attend the course. Mr. George H. King, President of Abraham Baldwin Agricultural College, is very much interested in adult education, and has been of great assistance in carrying out the duties assigned.



Adult-farmer class studying the care of tractors at Abraham Baldwin Agricultural College

To date 10 short courses have been held. Each course is worked out so that it can be covered in the shortest practical time. An effort is made not to have more than 50 people enrolled in any one course. This, however, cannot be strictly adhered to because of the varying percentages of farmers who are nominated that actually attend. If there are many more than 50 the class is divided into

group, and suggestions were made for improving the farm. The study of the farm was made in order that it might be used as a basis for each farmer to use in making practical application to his own farm. In the remainder of the course every practice that was discussed was applied to the farm that was studied at the beginning. After this, each individual decided how the various prac-

## Concentrating on Farm Planning in Adult Classes

J. D. MATTHEWS, Teacher, Luverne, Alabama

SETTING up adult-farmer classes on a farm-planning basis is a procedure many of the more experienced teachers of agriculture in Alabama had theorized about for several years, but few had actually attempted such a setup until this year. In previous years, adult-farmer classes were taught on a unit basis or on a farm-management basis.

Last year a group of 20 men got together during summer school and mapped out procedures to teach adult-farmer classes on a farm-planning basis. Such problems as the following were listed for consideration to assist the farmer in planning his farm:

- 1. Low Farm Income
- 2. Food and Feed Needs for the Farm
- 3. Poor Soils
- 4. Terracing
- 5. Water Disposal Areas
- 6. Rotation System
- 7. Pastures
- 8. Woodlots
- 9. Cover Crops
- 10. New Cash Crops

### Methods of Determining Problems

I decided that I would start with what I considered a few of the most important

problems. I asked myself this question, "What is the most important problem confronting farmers in my community?" The first and foremost was farm income. In teaching this lesson, one main objective was used: to show the men the importance of planning. Factors such as low yields per acre in this county were compared with other sections and counties. The place of cotton, items for sale, home needs, and livestock requirements were discussed. The main objective of these discussions was, "What can I do on my farm?"

### Procedure in Teaching

One farmer who lived near the center where the class was held was designated as having the farm that was best known to all the class. A soil map of his farm was made and placed on the wall so that all could see it. This was used as a lesson whereby others might follow a similar plan on their own farms. It was also used as a basis to teach kudzu, rotation systems, livestock requirements, terracing, pasture work, and food and feed requirements. Much interest was shown, and many visits have been made with the farmers to work out the plans.

where grades of beef were examined and discussed. While at the packing plant the group made a study of the loss in hogs caused by internal parasites. The study of parasites was taken up later on in the program.

### SUMMARY OF SHORT COURSES HELD TO DATE

Name of Course	Date Held	Enrollment	Counties Represented	Acres of Land Represented
Crops and Cropping Practices	June 9-14	33	17	9,900
Beef Cattle and Hogs	Aug. 26-31	65	23	25,375
Crops and Cropping Practices	Sept. 2-6	17	9	5,100
Forestry and Gum Farming	Oct. 21-26	16	9	23,250
Care and Operation of Tractors	Dec. 2-6	125	40	74,650
Beef Cattle and Hogs	Feb. 11-14	52	34	56,818
Rural Leadership (Rural Ministers)	Mar. 10-14	47	30	
Poultry	April 7-8	108	25	7,560
Dairying	May 20-21	23	14	4,404
Totals		587	242	265,509

During the afternoon of the second day, feeding beef cattle was discussed, and a field trip was made to the dry-lot feeding test, where steers were being fed different fattening rations. From here

The next morning there was a discussion on new pasture grasses, and what farmers might expect from these grasses in the future. This was followed by a discussion on upland and lowland pas-

### Results Obtained on the Selected Farm

A few of the major improvements made and those that are to be made on the farm worked on by the class would include:

1. *Soil situation*: soil map made of farm, showing simple rotation systems, soil types, slopes, crop recommendations on all land, erosion, and production of ample food and feeds. The needs were determined and checked by members of the class.

2. *Pasture improvement*: A seed patch has been set in pasture, and lime and phosphate added to three acres of the 10 in pasture. One acre of new pasture has been made.

3. *Water disposal*: The water disposal was planned and listed on the map. Five acres were fixed this year.

4. *Soil improvement*: Plans called for 10 acres of kudzu. The farmer set five acres this year. He has been digging 12 acres of peanuts. This is changed to 12 additional acres of hogged peanuts. Ten acres of land were terraced. Two acres of permanent hay besides kudzu were planted this year, with more to follow next year.

5. *Rotation system*: Each field has a definite rotation system worked out. This was rather difficult because some of the land was fenced, and some 20 acres were not. Plans were worked out to get all of the land fenced and cross-fenced.

6. *Woods improvement*: Eighteen acres marked for cutting for firewood and market.

7. *Raising farm income*: Addition of 20 more hogs to the farm will allow the farmer to market about 45 head a year. Disposing of one of the four mules, and working the same amount with three head and a small tractor, re-distributed the labor.

Much time was spent with each man on his farm discussing items to be taken up in the adult class. It was found after the class was about over that probably too many practices were given to the farmers during one year. Five or six good practices, well planned and carried out, would probably be better than trying to get too many carried out each year.

### Practices Carried Out by the Group

Suppose we look at the record of a few of the things accomplished so far by this evening school of 23 men. In doing so, keep in mind that this community has had three bad crop years and is small and scattered.

1. Twelve farm maps have been made by members.

2. Fifty thousand kudzu crowns have been set on 80 acres.

3. Seventeen farmers have improved pasture on 175 acres.

4. Fifteen farmers have terraced 200 acres.

5. Twenty farmers have selected water-disposal area.

6. Twenty farmers know their food and feed requirements, and are planting according to needs. Livestock increase to be added or adjusted as food and feed is produced on all farms.

7. Twenty farmers have made improvements of a miscellaneous nature such as wood marking and developing wild-life areas.

# Studies and Investigations

C. S. ANDERSON

## Experiences of Men in Becoming Established as Farmers\*

W. LESLIE NEWPORT, Teacher, Hamilton, Illinois

BECAUSE of the difficulty which farmers are finding in getting farms to rent, the difficulty which young men have in starting to farm and in finding suitable occupations, and because of the increasing interest which is being shown by many men connected



W. L. Newport

with agricultural education, the writer made a study during the spring and summer of 1940 of the experience of 100 farmers, giving special emphasis not only to their preparation and beginning in farming but to the progress made after starting to farm, especially from the economic point of view.

The purposes of the study were:

- (1) To determine the present status of farmers who have been farming for 20 years or less in a contiguous area,
- (2) To determine some of the factors which have had an effect upon the establishment of these men in the business of farming,
- (3) To determine the trends in these factors over a 20-year period, and
- (4) To secure information which will be of value to other young men wishing to farm.

### Source of Data

The information was secured thru personal interviews with 100 men who have been farming 20 years or less, and who are now living within the equivalent of two townships in West Central Hancock, Illinois. No attempt was made to select any particular class of men for this study. This group includes nearly all of the men of less than 21 years of experience in farming, and who are now living within the given area. It represents the cross section of the younger one-half of the farmers in this area.

The information secured from each of the men includes some of the factors related to their training, social experience, family relationship, occupational record, and financial experience. Although all of the information secured in this study might not be typical of all communities, yet there are certain facts and trends shown, and suggestions made for studies which could be undertaken in each community to be valuable information to any teacher in planning a program of work in the training and establishing of young men in farming.

Establishment in farming is not a sudden but a gradual process, beginning

responsibility of a farm and increases or becomes more secure with each dollar of saving and investment and with each year of experience. With the increasing need and demand for more adult education, teachers of agriculture need more information about young men after they leave high school and as they go thru the process of becoming established in the occupation of farming.

Of the 100 men interviewed, 20 started to farm during the first five-year period 1920-24, 24 started during the 1925-29 period, 25 started during the 1930-34 period and 31 started during the 1935-39 period. If we may assume that approximately the same number started to farm during each of the five-year periods, then 24 men who started to farm during this period have left the farming occupation. About 80 percent of this territory studied represents the approximate area from which students attend the Hamilton High School, and as 31 men have started to farm in this area during the past five years, there is an opportunity for only five young men per year to enter the farming occupation in the territory served by this high school. This may be one explanation for the comparatively large percentage of agriculturally trained high-school graduates who go into other occupations.

### Age and Marital Status of Farmers Interviewed

The average age of the 100 men at the time this study was made was 34 years. The average age at which they started to farm was 24 years. The average number of years spent on a farm before starting to farm was 22. An average of seven years elapsed between the time of leaving school and starting to farm. Eighty-eight percent of the men interviewed were married. Eleven of the 12 unmarried men started to farm during the past 10 years. The average number of children per married family was 1.8, with a range of from an average of 2.2 children in the families of the men starting to farm in the first five-year period to an average of 1.3 children in the families of the married men starting during the last five-year period. Twenty-six were married before they started to farm, 26 at about the same time they started to farm, and 36 were married after they started to farm. There has been an increasing tendency to be married before starting to farm.

### Family Relationships

Ninety-three percent of these farmers were born on farms and 99 percent lived

longer before starting to farm. Ninety-four percent of the fathers of the men interviewed were farmers. The average number of boys in the families of these fathers was 2.4, while the average number of girls was 1.9. Of the 239 boys in these families, 73 percent are now farming, while only 42 percent of the girls in the families, or the sisters of the men interviewed, are now living on farms.

A direct relationship was found between the proportion of those of the family who enter farming and their success in accumulating wealth as a result of farming. The 33 who made the greatest saving also had the greatest proportion of brothers and sisters in the occupation of farming.

### Formal Training of Farmers

The formal training of the men included in this study is confined mainly to elementary and high-school education. Four had less than an eighth-grade education, 30 completed not over the eighth grade, 23 had some high-school training but were not graduated, while 46 were graduated from high school. The eighth-grade and high-school graduation were the most common ending points of the formal education of these farmers. Twenty-seven quit school at the completion of the eighth grade and 31 quit formal education after being graduated from high school. The average of the highest grade in the elementary and high school attended by those entering the farming occupation in each of the five-year periods was 9.8 for those starting to farm in 1920-24; 9.6 for those starting in 1925-29; 10.3 for those starting in 1930-34; 10.8 for those starting in 1935-39; and an average for all of 10.2.

Nineteen had high-school courses in vocational agriculture ranging from one to four years. All but one of these started to farm within the past 10 years. Twenty-one had attended an agricultural part-time or evening school regularly for from one to four years, two years being the most common number having attended.

Fifteen attended a college or university, a total of 27 years, with only two completing a four-year course. Five attended an agricultural college and the remaining 10 attended a liberal arts, normal, or business college.

### Occupational Record

A study of the occupational record of the 100 men showed three rather distinct types of occupation followed before starting to farm, with four types of farming arrangements after starting to farm. Sixty-five percent worked at home after leaving school for an average period of 5.6 years, beginning at an average age of 16.8. Thirty percent worked as hired hands an average of 5.5 years, beginning at an average age of 20. Twenty-eight percent worked at some occupation other than farming for a period of 6.33 years, starting at an average age of 21.3

At the time of or after starting to farm, 21 percent farmed in partnership with someone else an average of 6.1 years, starting at an average age of 22. Eighty-nine percent had rented all of the land operated for an average of 8.1 years, starting in this farming arrangement at the average age of 25. Nine owned part and rented a part of the land operated for an average period of seven years, and had started at the age of 31. Fifteen percent had owned all of the land operated during an average period of 4.5 years, having started this complete ownership of land operated at an average age of 33.5.

During the five-year period of 1935-39 the farm youths studied have shown a greater tendency to enter the farming occupation after having first tried some occupation other than farming. When these farmers were ranked upon the basis of the average annual increase in net worth, after the economic advantage or disadvantage of the period in which each individual started to farm had been excluded, working as a hired hand seemed to be the best type of experience to prepare a young man for farming. Working at home had no advantage over either of the other two types of work.

A considerable part of this study was devoted to the economic aspect of the establishment of these men in farming. An attempt was made to determine the financial status of men at the time they started to farm, the trends in the financial status, and the investments made at the start of farming thru the 20-year period. Comparisons were also made between the beginning net-worth statement and the net-worth statement of each farmer as of March 1, 1940, to determine trends in investments thru various periods.

Only three of the 100 farmers owned land at the time of starting to farm, so that most of the figures given here are for their investments exclusive of land. The average of the total assets of the 100 men, exclusive of land, was \$990, their liabilities, \$197, and their net worth, \$793. In addition to these investments many had arrangements for the use of equipment belonging to others.

Figure 1 shows the trend in starting assets of farmers as averaged for each of the five-year periods, in comparison with trends in prices received and prices paid by farmers during the same periods.

The trend in the amount of total assets at the start of farming follows price levels rather closely over the 20-year period. The relative amount of livestock and equipment combined tends to remain comparatively constant, the change in value being mostly due to price changes.

Two other facts are outstanding in this chart, especially with respect to the younger group of farmers who started to farm during the period of 1935-39. First, the proportion of the beginning assets invested in all livestock, feed, and grain is much less; and the proportion invested in tractors and equipment is much greater than for those who started in any of the previous periods. Second, the amount of indebtedness of this younger group at the beginning of their farming was much higher than that of any other former group, being 38 percent of their total assets. The amount of their net worth was less than that of any other group, including those who started

Price index  
1910-14 = 100

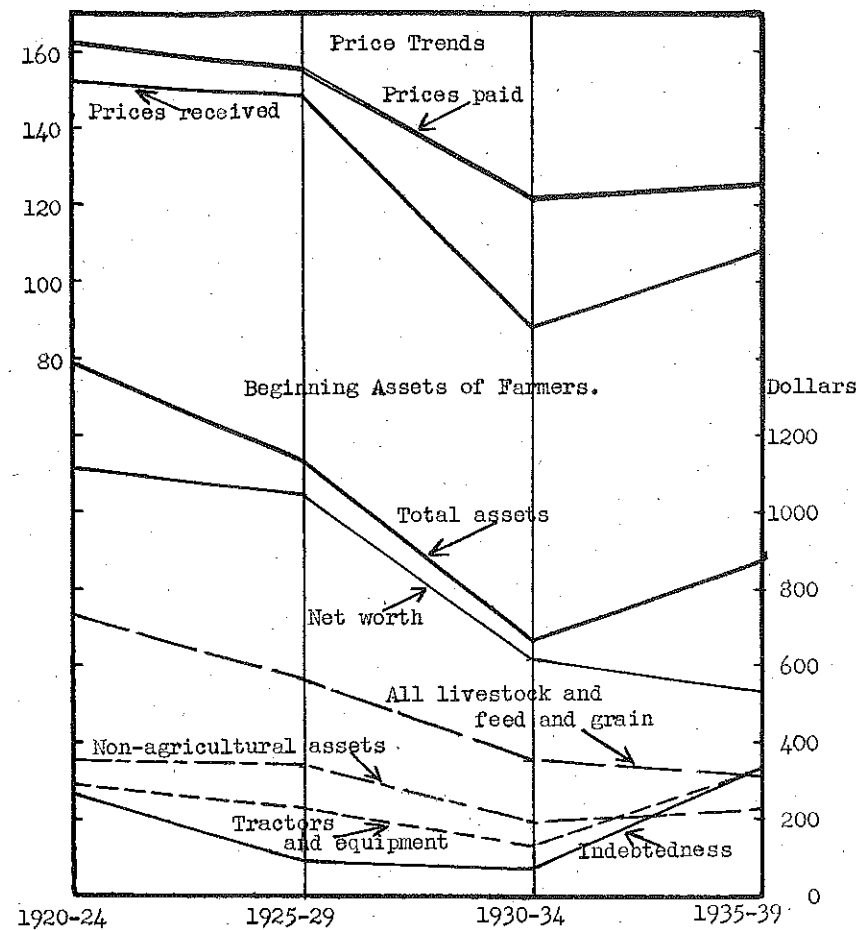


Figure 1—Trend in prices received and paid by farmers and starting assets of farmers interviewed, averaged for five-year periods

The principle source of capital used in starting to farm was savings from labor, which was used by 74 percent of the men, averaging \$764 each, and accounting for about one-half of all of the capital actually owned by the men interviewed. Indebtedness, or borrowed capital, ranked second in importance, having been used by 32 of the 100 men, and accounting for nearly one-fourth of the total capital used. Twelve men received gifts or inheritance averaging \$1890 each. Nine had no capital at all but took over the management of an equipped farm belonging to someone else, usually retiring parents, on the share basis. Other sources of capital were: a share in the income from the farm while working at home; raising some livestock while working at home; wife's savings; and high-school agriculture projects.

Including the three men who owned land at the beginning of their farming period, 20 had purchased land and 10 had inherited land up to the time this study was made. Of these 20, 10 had received some financial assistance, mainly by inheritance, so that only 10 had acquired land without any financial assistance other than their farming business.

### Present Financial Status

The financial status of the 100 farmers at the time this study was made is summarized in Table 1.

A comparison of the average net worth of the groups of men starting to

with their net-worth statements when they started to farm, reveals several things which may be of interest to those concerned with the progress of the establishment of men in farming.

1. A large proportion of the investment of these young farmers was in tractors and equipment, and the amount so invested was not greatly different from that of older farmers.

2. Investments in productive livestock were increased more gradually than investments in equipment thru the first 20 years of farming operations.

3. Investments in non-agricultural assets and land from the proceeds of the farming business were not made to any great extent until after other operating capital had been fairly adequately supplied. The 20 men who had purchased land had been farming for an average of 10 years before making such purchases. It should also be kept in mind that 10 of these 20 men received financial help to the average amount of \$1,538 each during their farming period, which probably helped them to buy land at an earlier date than would otherwise have been possible.

4. The thirty-one farmers who started to farm during the last five-year period, from 1935 to 1939, had made an average annual saving or increase in net worth, exclusive of gifts or inheritance, of \$339. These men had the advantage of at least four good crop years and fairly good prices. The second most prosperous group were those who started to farm in the 1930-34 period and who, although they had farmed thru several years of

TABLE 1. AVERAGE NET WORTH OF FARMERS MARCH 1, 1940, AND INCREASE IN NET WORTH DURING THE FARMING PERIOD.

	Period in which men started to farm				Total
	1920-24	1925-29	1930-34	1935-39	
Number in group	20	24	25	31	100
Land	\$3550.	\$1850.	\$1096.	\$ 866.	\$1696.
All Livestock, Feed, & Grain	1890 767	1659 838	963 736	774 611	1257 728
Non-Agricultural Assets	1279	891	488	502	782
Total Assets	\$7486.	\$5239.	\$3283.	\$2753.	\$4463.
Liabilities	2050	542	225	576	775
Net Worth	5436	4697	3058	2176	3688
Income received from other source during the farming period	965	1226	586	596	819
Net worth less income from other sources	4471	3471	2472	1580	2869
Increase in net worth due to farming	3356	2097	1892	984	1949
Average annual increase in net worth due to farming	182	167	246	339	243

low beginning prices with which to buy their original equipment. The least prosperous group were those who started to farm just preceding the depression period. These results emphasize the importance of the well-established economic principle that it is much better to start into any business when prices are low or on the upward trend.

It was found that the trend in the average annual increase in net worth of these men followed very closely the average of the net receipts per acre over a comparable period on accounting farms in the Woodford County, Illinois, area, the only such area in Illinois in which sufficient farm records could be found extending thru this whole 20-year period. Altho such things as sickness, the standard of living, and many other factors may affect the savings of any one individual, yet for any group the average annual increase in net worth is a fairly satisfactory measure of the ability and success of men in becoming more securely established in farming.

#### Methods of Starting to Farm

The methods of starting to farm, the number who used that method, and the average annual increase in net worth of the individual in each group are as follows:

1. Living on a farm operated exclusively by the individual		
a. After working at home	(25)	\$217
b. After working as a hired hand	(14)	284
c. After working at some occupation other than farming	(15)	263
2. Renting land while living at home	(11)	251
3. In partnership with parents or other parties	(24)	249
4. Taking over the farm where the parents leave off	(11)	209

The general methods of financing the starting of farming operations, the number using each method, and the average annual increase in net worth of each group while farming is as follows:

1. Livestock and equipment all owned by the individual with some indebtedness	(30)	\$300
2. All equipment and livestock furnished by some other party	(47)	294

livestock owned by the individual	(12)	225
4. Livestock and equipment all owned by the individual without indebtedness	(22)	166
5. All equipment and livestock on a share basis	(8)	133
6. Equipment owned by the individual with livestock in partnership with some other party	(1)	74

Those farmers who had rented a farm and lived on it at the beginning of their farming period usually owned their own equipment and livestock. In general, those who had been working at home before starting to farm had their livestock and equipment fully paid for. Most of those who had been working as hired hands and at other occupations used some borrowed capital to finance the beginning of farming. Those who rented land while living at home generally had all or a part of the equipment furnished by someone else, usually by their fathers. The livestock and equipment were furnished by someone else in 20 cases out of 35 who had started to farm either in partnership or by taking over the farm where the parents quit.

There are other factors beside a person's own ability which may affect his savings or increase in net worth, such as sickness, loss by fire, and standard of living. However, for a larger group of farmers, savings or increase in net worth is very closely related to the net profit made from farming.

There is one thing which average annual increase in net worth does measure when applied to larger groups, the progress made over a given period as a result of the individual's own effort toward building up capital to be used in establishing the individual more securely.

A comparison of 18 men who had some vocational agriculture in high school with 38 who had had no high-school agriculture showed that the average starting age of those who had studied agriculture was six years younger than those who had no high-school agriculture. All of these men started to farm during the past 10 years. Furthermore, the 18 who had high-school agriculture had an average annual increase in net worth of \$50

no high-school agriculture, but who were of the same average starting age.

In comparing the 33 men who made the greatest average, annual increase in net worth with the 33 who made the smallest increase, the "higher increase" group was found to be farming 70 more acres each, to have spent one year less between leaving school and starting to farm, to have had nearly one year more public-school education and three times as much college education, and to have used less capital of their own and more borrowed capital.

A negative correlation exists between the amount of gifts received before or at the time the young men started to farm and the average, annual increase in net worth during the farming period. A positive correlation exists between the amount of gifts or inheritance received during the farming period and the increase in the net worth exclusive of the gifts themselves. The results of this study indicate that working at home without any responsibility is of little value to a young man as a preparation for the occupation of farming, but that proper supervision from some older person, combined with actual farming responsibility, is of much value to the young man.

Those who wish to become established in farming need financial assistance from someone, either in the form of loans or in the furnishing of the use of livestock and equipment. Savings from labor, and indebtedness are the two most important sources of capital at the beginning of the farming period.

SOME general recommendations might be made, based upon the findings of this study and the opinion of farmers given during the personal interviews.

1. Those who are interested in any way in the development of the American farm youth and their placement in agricultural occupations should give more attention to the youth's family relationships, his development and further training from the time he leaves school until he is fairly well established in farming, and his financial needs and methods of meeting these needs.

2. Those who are planning to enter farming as an occupation should:

- Get as much formal education as possible; at least a completion of high school, including a vocational agriculture course.
- Be sure that they have a definite interest in farming.
- Get as much broad experience as possible by working for good farmers and trying new improved practices on whatever crops or livestock may be under their management at home.
- Develop the philosophy that even tho they may have a good way to do something, there may be a better way.
- Earn and save as much capital as possible, and develop a good credit rating in the form of collateral and a good reputation.
- Not wait too long to start to farm, as the average, annual saving of young men before they start to farm is less than that of farmers after they start.
- Be prepared from the standpoint of training, breadth of experience, and attitude toward problems of farming.

\*This article is based upon data secured and prepared for a Master's Thesis under the direction of

## A Teacher Looks at Evaluation

I. L. BRAKENSIEK, Teacher of Agriculture, Quincy, Illinois

PROBABLY most teachers of vocational agriculture have been interested in the journalistic debate on evaluation recently engaged in by Dr. Hamlin and Dr. Fife.\* It is also probably true that some of them regard the whole matter as a "tempest in a teapot." It is always interesting to speculate, experiment, and study these issues. One phase I like to speculate about in the whole controversy is this: Will the processes apply thruout the whole picture? To illustrate: the evaluating processes are being applied with "great glee and gusto" to local communities, local schools, local departments, local programs of work, local teachers, and local students. Would the same enthusiasm be exhibited if the process were applied to state supervisory staffs and their programs, to state teacher-education departments, including research specialists, to regional agents and their programs, and to the program procedures and results of the national office?

This question is not raised to embarrass anyone but to point out the implications of the whole problem of evaluation. As teachers dealing with boys we are all too concerned with the techniques used and too little concerned with the finished product. Developing farmers who can make money and conserve resources, and who are good citizens and participants in the improvement of home, family, and community is our task. We all know that the technique that works with one student, one class, one community, or one state may be a failure with another student, another class, another community, or another state. Therefore, the use of techniques, or ways and means, as evaluative criteria will not work if one is teaching individuals, classes, communities, or states instead of teaching subject matter. Only in the measuring of results do we have valid evaluating criteria. Here we are faced with something that can not be measured easily or quickly, but here is the true essence of evaluation of education.

LET us come back to my original question. Will the techniques being advocated apply from the top to the bottom of the whole agricultural education picture? Will teacher-trainers prefer to be checked on the procedures they are using instead of the teacher they are developing? Will state departments continue to evaluate their state programs on visits made to schools, suggestions made, money earned from productive projects, etc., or would they prefer to be evaluated on the more intangible, but nevertheless more real results which the teachers and people of the state have a right to expect. To carry this point further: would these two state agencies welcome a committee of teachers of agriculture appointed by the teachers, as an evaluating agency for their work? If such a committee were operating, what type of evaluative criteria would the agencies being evaluated prefer? Would it be one which checks results or one which checks techniques? Would the agencies

about the type of criteria being used, the use made of them, the way the measures are applied, and the thousand and one other details involved?

THE answer to these questions would probably be that they would welcome evaluation, but would want to know more about the whole program before submitting to the operation. In other words, these agencies would resent a committee of teachers announcing that they were going to evaluate the state department and the teacher-training department of the state. The same questions could be asked and answered about the regions and the national office.

Evaluation, to be effective, must be of the type which comes from below as well as from above; those being evaluated must be active participants in the preparing, administering, interpreting, and applying of the findings. This is only a fundamental of good teaching. We expect the use of democratic procedures in our dealings with individual pupils so we must use the same technique from the top to the bottom if we are to expect results.

It seems that the best way to settle the whole debate would be for everyone to ask himself: "How do I want my work evaluated?" If he will answer this question honestly and then apply the same principles to his evaluation of the work of others the problem will be settled wisely and well.

As a teacher of vocational agriculture I want my work evaluated on the basis of the students I have had in my classes. Are they good citizens, do they accept their community responsibilities, do they use improved farm practices, are they open-minded about new ideas, are they getting started in farming, and do they solve problems wisely?

How do you want your program evaluated?

\*These articles were carried in the May, July, and August numbers. In connection with the first article by Dr. Hamlin, an invitation was extended to readers to express themselves on the questions raised.—Ed.

## Improving Teachers of Vocational Agriculture in Service

O. J. SEYMOUR, District Supervisor, Arkadelphia, Arkansas

TEACHERS of the Southwest Arkansas District and their district supervisor, feeling the need for more effective methods in teaching all-day classes, for additional aids in shop instruction, and for a professional library for teachers of the district, agreed to co-operate in providing these helps.

The results accomplished over a period of about two years are:

- Every in-service teacher has been supplied with a complete set of mimeographed lesson plans on 20 farm enterprises.
- Forty-five blueprints of suitable and worthwhile shop projects have been prepared and distributed to all teachers.
- A circulating, professional library of 26 volumes has been purchased and

These services were provided at a cost of \$3 per teacher, raised by a voluntary contribution.

#### Lesson Plans

A study was made by the district supervisor of 92 course calendars in use in 37 schools to determine what enterprises were most frequently taught in the district.

Other information secured was the average number of jobs taught under each enterprise, the average number of times each job was taught, and the average number of days spent on each job and each enterprise. This information was used as a basis for determining those enterprises upon which plans would be prepared, and to guide teachers in preparing these plans.

A suitable reference book was selected by the teachers for each enterprise, and it was recommended that each school library have at least one copy of the book recommended for every two boys of a class studying a particular enterprise. The plans were built around material contained in these reference books and in U.S.D.A. bulletins, extension circulars, and other publications.

The job-analysis method was used in preparing these plans and the teaching outline of a teacher-trainer was followed in developing the plans.

Thirty-seven teachers volunteered to help prepare these plans. In most cases two teachers worked on the same enterprise, which they selected. Each teacher prepared plans on only three or four jobs.

#### Blueprints

Teachers of the district were asked to prepare drawings of suitable and worthwhile shop projects. The district supervisor was asked to prepare additional drawings. Forty-five of these drawings covering a wide range of projects were selected for blueprinting. A project for making these blueprints was approved by the district NYA office. A youth worker was trained to make the tracings and to operate the blueprint machine.

Actual cost to teachers of agriculture for blueprint paper and chemicals was about one-half cent per print.

#### Circulating Library

The district supervisor was authorized to spend the money left, after cost of lesson plans and blueprints was paid, for books for a professional library. Twenty-six books were purchased and several were donated by individual teachers and the supervisor. Some books were purchased dealing with each of the following subjects: vocational guidance, methods of instruction, FFA activities, and economics.

The library was established in the office of the district supervisor. In most cases the books are distributed at teachers' conferences and collected at subsequent conferences. Some books are handled thru the mail. The greatest problem encountered so far has been keeping the books circulating.

The lesson plans and blueprints have been very helpful to teachers in their instructional work and the library has furnished reading material of a professional nature which would not have been



# Future Farmers of America

L. R. HUMPHERYS

## Future Farmers of America Officers' Stations

ROY A. OLNEY, Teacher Education, Ithaca, New York

TO ADD a distinctive touch to the meetings of your Future Farmer of America chapter meeting and add to the attractiveness of the chapter room, this FFA officer's station will be of great value. It may become a part of the chapter equipment and has been designed for convenience in storing when not in use, and for transporting whenever necessary.

Each station may be used either by placing it on a table or standing it on the floor. This is made possible by the use of the two separate pieces of pipe either singly or in combination.

The construction of the station may be done easily by the average pupil in vocational agriculture, as little more than a general familiarity with the fundamental principles of carpentry and pipe-fitting is required. It is suggested that the wooden portion of the station be made of basswood, gumwood, or whitewood as these woods are easily worked and do not tend to warp as readily as white pine. It is good practice to take special precautions against warping if white pine must be used.

A complete set of six FFA stations can be made from the following amounts of wood and hardware:

1 bd.	$\frac{3}{4}$ "x11 $\frac{1}{2}$ "x6'
1 bd.	$\frac{3}{4}$ "x9 $\frac{1}{2}$ "x14'
18 ft.	1" pipe (may be used pipe)
6	1" couplings
12	1" floor flanges
84	1 $\frac{1}{2}$ " no. 10 F.H.B. wood screws
36	$\frac{3}{4}$ " no. 10 F.H.B. wood screws
24	1" chair glides
12	4d finishing nails
$\frac{1}{2}$ pint	Dark blue 4-hour enamel
$\frac{1}{2}$ pint	Orange 4-hour enamel or bronze aluminum paint

Dimensions and bill of material for one station

(Numbers on Figure 1 correspond with those in parenthesis in the bill of material)

All measurements are given in inches:

1	$\frac{3}{4}$ "x11 $\frac{1}{2}$ "x11 $\frac{1}{2}$ "
1	$\frac{3}{4}$ "x9 $\frac{1}{2}$ "x9 $\frac{1}{2}$ "
1	$\frac{3}{4}$ "x7 $\frac{1}{2}$ "x7 $\frac{1}{2}$ "
1	$\frac{3}{4}$ "x9 $\frac{1}{2}$ "x11 $\frac{1}{2}$ "
2	$\frac{3}{4}$ "x11 $\frac{1}{2}$ "
1	$\frac{1}{4}$ "x11 $\frac{1}{2}$ "x12
2	3 $\frac{1}{2}$ " iron floor flanges
1	1x24 pipe
1	1x12 pipe
1	1" pipe coupling
14	1 $\frac{1}{2}$ " No. 10 wood screws
6	$\frac{3}{4}$ " No. 10 wood screws
4	chair glides, 1"
12	finishing nails, 4d
1	$\frac{1}{2}$ pint dark blue 4-hour enamel

### Procedure for Building

#### A. Cutting Stock

(Numbers on Figure 1, correspond with those in parentheses in the following text and in the bill of material.)

1. First, lay out all pieces needed on the boards to eliminate waste. Be sure to save strip left after laying out pieces (3) which will be used for top reinforcements (5).
2. Cut and plane all pieces to proper finished dimensions and sandpaper, if necessary.
3. Cut pipe to dimensions with hack saw or pipe cutter.
4. Cut threads on both ends of each piece of pipe. Turn pipe-cutting die until it begins to emerge from end of the die. This will provide sufficient threads but not enough to show when pipe is assembled.
5. Cutting out shield. A master pattern for a full-size shield may be obtained by writing the author.

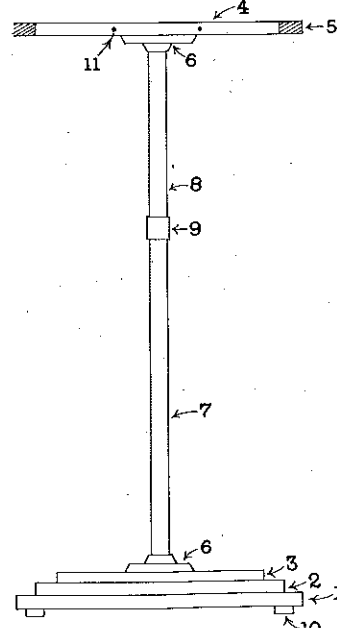


Fig. 1. Diagram of Officer's Station

- (1) base of pedestal
- (2) base of pedestal
- (3) base of pedestal
- (4) top of station
- (5) top reinforcements plywood shield
- (6) connect base and top to pipe
- (7) thread on both ends
- (8) thread on both ends
- (9) thread on both ends to assemble base
- (10) chair glides

Cut out the letters from the pattern. Then after the shield has been cut from the plywood, the letter can be traced onto it for painting. By using the pattern all shields and letters will be uniform. The shield may be made from one-quarter-inch plywood, preferably fir, because it is easier to cut with a coping or compass saw. (Designs other than the shield may be used.) The two holes at the top of the shield are for hanging it on two nails (11) which have been driven into the top piece (5).

#### B. Assembling:

1. The base of the station is assembled by using eight 1 $\frac{1}{2}$ " No. 10 flat-head wood screws as follows: Bore holes in each corner of pieces (2) and (1), two inches from the outside edges of each piece. Countersink the holes so pieces will fit tightly together. Fasten piece (2) to (3) and piece (1) to (2) in that order. (It is wise when assembling these pieces to have the grain of each piece running at right angles to the other; by so doing, there is less possibility of the pedestal warping out of shape.)
2. To prevent the top from warping, and also to give a more finished appearance, assemble pieces (4) and (5) as shown in Figure 1, with three 1 $\frac{1}{2}$ " No. 10 flat-head screws, countersunk and covered with putty before painting. If (4) is warped, it may be straightened by placing on the end of a bench and forced flat by either a D-type clamp or a cabinet maker's clamp.

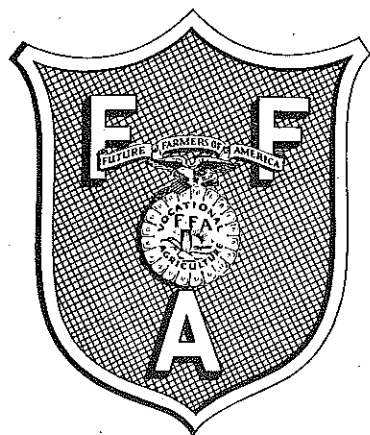


Fig. 2. Diagram of FFA Shield

Care should be taken, however, that pressure is applied evenly to prevent piece (4) from splitting.

3. Fasten the floor flanges with  $\frac{3}{4}$ " No. 10 flat-head wood screws in the center, on the undersides of the top (4), and on upper side of the base (3).
4. Attach chair glides (10), one at each corner on the base (1) of the pedestal. These should be placed one inch in from each edge. An easy

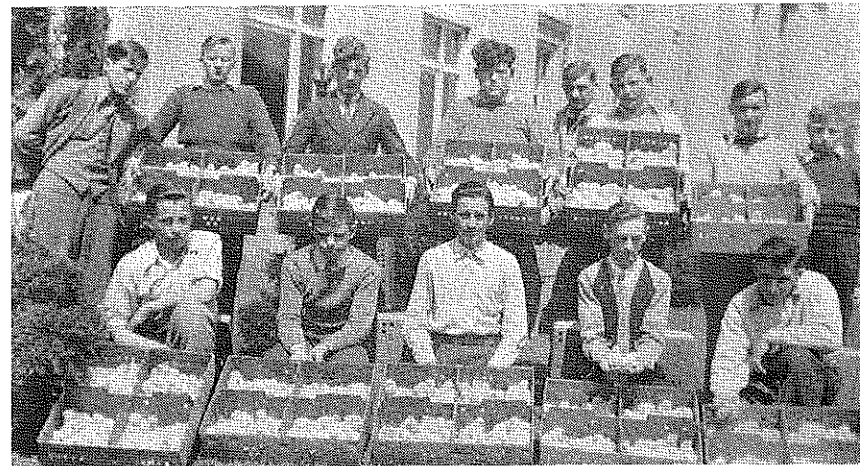
## Co-operative Activity in the North East FFA

R. A. FORDYCE, Agricultural Supervisor,  
North East, Pa.

CO-OPERATIVE activity in our FFA Chapter has been along two main lines: the class project which we have conducted continuously for the past 11 years, and the co-operative or group buying. We have been buying co-operatively for three years. Chicks constitute the bulk of our purchases altho potatoes, garden seeds, and bee supplies are also bought.

Our chapter handled approximately 10,000 chicks in each of the years 1939 and 1940. In 1941 we purchased 18,570 chicks for \$1713.15; three brooders, \$47.39; bee supplies, \$70.80; and 2900 pounds of certified seed potatoes, \$48.43. The business totaled \$1879.70; the profit to the FFA was \$105.62; and the saving to the buyer was approximately \$102.67.

More than half of the chicks sold (9850) went to five high-school graduates, former FFA members. Four of these boys have won their state FFA



A poultry co-operative, buying the spring baby chicks, North East High School, Pennsylvania

degrees, and two of them have recently been elected to the American Farmer degree.

The greatest benefit of this co-operative buying is that we get a better grade of chicks than many of the buyers had purchased before and we get them nearer home, thus encouraging improvement work among our Pennsylvania hatcherymen.

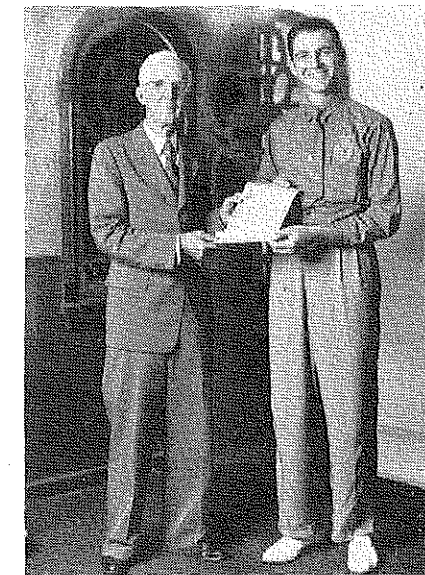
place pedestal bottom-side-up with piece (1) flat on an anvil and then proceed to drive the glides with a hammer. These glides will insure against rocking due to any slight warp which may be left in the base of the pedestal.

5. Using a fine grade of sandpaper, smooth off any rough spots. Care should be taken here that the edges are not rounded in this operation. Placing the sandpaper on a flat block of wood is a very desirable method. It should be remembered in the sanding operation to go only with the grain of the wood. Do not

## Florida Sets Mark for Nation

THE delegates in attendance at the Thirteenth Annual Convention of the Florida State Convention of Future Farmers of America set the pace for the nation when they voted to purchase a \$1,000 National Defense Savings Bond. Mr. Claude Jones, newly elected State FFA President, journeyed to Tallahassee where he discharged his responsibility and purchased a \$1,000 National Defense Savings Bond from George E. Lewis, President of the Florida Bankers Association.

D. Harold Prichard, National President of the Future Farmers of America, was a guest of the Florida Association during its State Convention in Gainesville, Florida, June 17, 18, and 19, 1941. He gave an inspiring talk to the boys on "The Place of the Future Farmers in the National Defense Program." The boys promptly demonstrated their interest by investing association funds in a Defense Savings Bond and by setting up a goal in the 1941-42 State Program of Work for each FFA chapter in the state to purchase at least one \$25 National Defense Savings Bond.



George E. Lewis, President of the Florida Bankers Association, delivers a \$1,000 National Defense Savings Bond to Claude Jones of Pahokee, President of the Florida Future Farmers of America

companion picture shows one shipment purchased co-operatively.

In addition to buying we have aided six boys in selling their chicks by locating a market and furnishing the FFA truck to transport the chickens to market. The FFA chapter has aided seven boys in financing their poultry projects this year. At the present time we have \$134.50 loaned to boys to finance their projects. The chapter voted at a business meeting to have each boy making a loan give a note endorsed by his parent, guardian, or other responsible person. Some of the benefits of these activities are:

1. Boys obtain better quality products—chicks, seed potatoes, garden seeds.
2. There is a saving to the buyer.
3. The boys are given training in business methods.
4. Excellent training is provided for the treasurer in keeping records, paying bills, and handling money efficiently.
5. School boys and out-of-school boys are kept in closer touch, thus enabling the school to be of benefit to the boys in other ways.

Our chapter believes in co-operatives. In the language of another, "Co-operation, not strife, is the law of life."

produce little fine scratches which will give the finished work a rough appearance.

6. Assemble the pipe by turning coupling (9) tightly onto one end of (7). The coupling is never removed from the end of the long piece of pipe. The short piece of pipe is removable to allow for compact storage.

7. Screw a short and long piece of pipe together and attach the top and base of the station by screwing the ends of the pipe into the floor flanges for making a station to be used on the floor. By using

station may be used on a table or desk.

#### C. Painting:

1. Apply a coat of flat white paint to all wooden parts.
2. After it has dried thoroly it may be touched up very lightly with a very fine sandpaper to remove any rough surfaces that might have been overlooked.
3. Apply a coat of four-hour, dark blue enamel to all flat surfaces, all pieces of pipe, and floor flanges. Care should be taken that the paint does not run over the edges. Allow this paint to dry.

orange enamel or bronze aluminum paint.

5. Repeat steps 3 and 4 if a better finish is desired.
6. The shield should be given two coats of each color, first blue, and then the letters painted with orange or bronze. Allow each coat to dry before attempting to apply the next coat.
7. Other color combinations may be used as desired.
8. To complete the shield, place a standard size FFA emblem in the center by moistening the glue on the back and pressing it into place.

It has been planned, and is a good idea, to build a suitable storage box for the stations and other FFA equipment.

\*Note—Designed and built for the Cornell Collegiate Chapter, under the direction of the writer, by Harold E. Virkler, 1940 student trainee.

## Southern College

(Continued from page 91)

tures. After this, the group went to see different pasture plots, upland and lowland, and visited a one-, two-, three-, and ten-year old permanent pasture.

The afternoon of the fourth and last day was begun by a discussion on diseases of beef cattle and hogs led by Dr. J. H. Staples. This was followed by a discussion on internal parasites. The last problem for study was marketing. The course was then summarized, and the farmers were given a statement of practical practices carried on at the college and experiment station in beef cattle and hog production.

At the close of each course, all farmers who have attended four-fifths of the time are given certificates. Each certificate gives the name of the course, date held, and reads as follows: "As a reward for participation in an agricultural short course conducted by Abraham Baldwin College and sponsored by Sears, Roebuck and Company, for activity in studying experimental data, and for making plans for putting into practice on the home farm those fundamentals decided upon in class this certificate is awarded to. . . ." The name of the farmer is then written in, also the county in which he lives. It is then signed by the president of the college and a representative of Sears, Roebuck and Company.

### Rural Ministers Go to School

The short course for rural ministers was given in order to help these men better understand the problems of the people with whom they work. In this course the mornings were spent by having leaders of different agricultural agencies discuss the work they were doing, and how they and rural ministers could better work together to serve rural people. Thirteen rural problems such as low income and poor housing were drawn up by the group the first afternoon and the remaining afternoons, with the exception of time devoted to recreation, were spent discussing these problems.

Each night was spent in discussing different agricultural enterprises, and in studying educational motion pictures concerning ministerial work after the first

night's program that the films shown were the first talking pictures he had ever seen. This group was genuinely interested and was a fine group with which to work. I am sure that since this course was held there have been some agricultural sermons preached. This course is to become an important annual event.

Quite a few farmers have attended these courses who went to school here years ago, when the institution was operated as a district secondary agricultural school. Some of them wanted to stay in the same room in the dormitory they once occupied. I have had a few farmers tell me that it was their first time to stay away from home at night in 25 years.

### Courses Now a Permanent Feature

These courses were started on an experimental basis, to be continued if they were successful. They have worked out better than anyone thought, and are now on a permanent basis. There has been a growing interest on the part of farmers and the general public. The newspapers have been a big help in getting the work before the people. Some farmers have attended as many as three of the different courses held to date.

In the future there will be more courses planned to include farm women. There were 91 farm women present at the poultry course, and more would have come if we could have taken them. They were a very interested, alert group and wanted more courses planned in order that they might attend. Short courses are now a permanent part of the work at this college. Wholehearted co-operation has been received from professional workers, the financial sponsor, the Division of Vocational Education of the state, and the Board of Regents of the University System of Georgia. The Board of Regents has pledged itself to the policy of service on the part of the units of the system to people in every walk of life. Since Abraham Baldwin is an agricultural college, this means that the college here tries to reach in south Georgia the lives of every farmer and farm woman in an effort to bring about a higher level of living thru improved practices.

## Teacher of Agriculture As Guidance Worker

(Continued from page 86)

these cadet teachers an opportunity to see the problems of guidance from a new angle. This procedure does not in the least depreciate the value or the responsibility of the teacher-trainer as a lower-division adviser. It supplements his work and constitutes one of the best training devices that we have had thus far in our institution.

This procedure will be continued with a view of determining its merit as a worthy guidance practice.

In rural occupations there is nothing more or debasing. It leads a man forth among scenes of natural grandeur and beauty.

## College Classes

(Continued from page 89)

questions of policy are considered and acted upon by the class.

During the balance of the hour the instructor is in charge and discusses the more technical, together with the practical problems of poultry husbandry. Reading assignments are made from the text and source material. As far as possible the subject is chosen to correlate with the seasonal problems facing the class such as care of the breeders at the start of the spring semester, followed by the subject of incubation.

The laboratory periods are under the direction of the instructor, altho the work is generally placed in charge of the subchairmen who excuse the students of their group when work has been completed. The instructor takes direct charge when such skills as caponizing, culling, delousing, candling, and vaccinating are introduced.

### Co-operative Evaluation of Learning

At the end of each semester the students grade each member of their respective group. If the project shows a profit a top grade of "A" can be voted, if a loss, "C" is the top grade. The instructor retains the privilege of cutting the voted grade by an additional 10 points for unsatisfactory classroom work.

This method has been used for three years. Each succeeding year the activity of the class has shown marked improvement, as measured in terms of the responsibility and enthusiasm of the students and the care and attention which the flock received. This is due in part to improved controls developed with each ensuing class, and perhaps to an even greater degree to the development of custom and tradition.

The rules under which the class will operate are set forth in writing, and each member is provided with a copy at the first meeting. The controls are carried out by the class itself. The members direct the work and mete out the rewards and punishment. The aim has been to give the students full opportunity for self-discipline and the development of initiative, as well as ample material with which to work and gain experience. Advice is given when the instructor feels that improvement or change in practices would be beneficial. The only coercive control possible is that which affects ten percent of the grade based entirely on classroom work. In case of a dispute arising between the class and the instructor the question is submitted to a group of three senior students chosen by the class. Their decision is final.

Instructors faced with different conditions might find it advisable to alter the approach in many respects. Altho college teachers may find it even harder than teachers in the secondary schools to break away from the traditional lecture-testing type of instruction, from my experience it is well worth the effort. Certainly the student with a definite responsibility to the project assumes a more mature attitude toward his work.

1. The poultry plant has facilities for 400 laying hens, with incubator and brooding equipment for the chicks and growing stock. It is used for educational, and not experimental purposes.
2. This is done because of the difficulty of determining

# VOCATIONAL AGRICULTURE EDUCATION DIRECTORY\*

## OFFICE OF EDUCATION, WASHINGTON, D. C.

John W. Studebaker—U. S. Commissioner of Education  
 J. C. Wright—Ass't Commissioner for Vocational Education—W. T. Spanton—Chief, Agricultural Education

Regional Agents C. H. Lane—North Atlantic J. H. Pearson—North Central  
 D. M. Clements—Southern W. P. Beard—Pacific  
 W. N. Elam—Special Groups

Specialists F. W. Lathrop—Research W. A. Ross—Subject Matter  
 H. B. Swanson—Teacher-Training R. W. Gregory—Part-Time and Evening  
 E. J. Johnson

## STATE SUPERVISORS—TEACHER-TRAINERS\*

s—supervisor t—teacher-trainer cs—colored supervisor ct—colored teacher-trainer

<b>ALABAMA</b> s—R. E. Cammack, Montgomery t—S. L. Chestnut, Auburn ct—Arthur Floyd, Tuskegee	<b>LOUISIANA</b> s—S. M. Jackson, Baton Rouge t—Roy L. Davenport, University ct—Matthew J. Clark, Scotlandville	<b>OKLAHOMA</b> s—J. B. Perky, Stillwater t—D. C. McIntosh, Stillwater cs—t—D. C. Jones, Langston
<b>ARIZONA</b> s—A. G. Snyder, Phoenix t—R. W. Chino, Tucson	<b>MAINE</b> s—t—H. S. Hill, Orono	<b>OREGON</b> s—E. R. Cooley, Salem t—H. H. Gibson, Corvallis
<b>ARKANSAS</b> s—H. L. Coehran, Little Rock t—Keith L. Holloway, Fayetteville ct—C. S. Woodward, Pine Bluff	<b>MARYLAND</b> s—t—H. F. Cotterman, College Park ct—J. A. Oliver, Princess Anne	<b>PENNSYLVANIA</b> s—H. C. Fetterolf, Harrisburg t—H. S. Brunner, State College
<b>CALIFORNIA</b> s—J. A. McPhee, San Luis Obispo t—S. S. Sutherland, Davis t—B. J. McMahon, San Luis Obispo	<b>MASSACHUSETTS</b> s—John G. Glavin, Boston t—F. E. Heald, Amherst	<b>PUERTO RICO</b> s—Nicholas Mondez, San Juan t—Lorenzo Garcia Fernandez, San Juan
<b>COLORADO</b> s—L. R. Davies, Denver t—G. A. Schmidt, Fort Collins	<b>MICHIGAN</b> s—Harry Nesman, Lansing t—H. M. Byram, East Lansing	<b>RHODE ISLAND</b> s—G. H. Baldwin, Providence t—E. L. Austin, Kingston
<b>CONNECTICUT</b> s—R. L. Hahn, Hartford t—C. B. Gentry, Storrs	<b>MINNESOTA</b> s—Leo Knuti, St. Paul t—A. M. Field, St. Paul	<b>SOUTH CAROLINA</b> s—Verd Peterson, Columbia t—W. G. Crandall, Clemson College ct—J. P. Burgess, Orangeburg (e)
<b>DELAWARE</b> s—W. L. Mowlds, Dover t—R. W. Heim, Newark	<b>MISSISSIPPI</b> s—A. P. Fotherer, Jackson t—V. G. Martin, State College ct—W. A. Flowers, Alcorn	<b>SOUTH DAKOTA</b> s—H. E. Urton, Pierre t—R. R. Bently, Brookings
<b>FLORIDA</b> s—J. F. Williams, Jr., Tallahassee t—E. W. Garris, Gainesville ct—L. A. Marshall, Tallahassee	<b>MISSOURI</b> s—J. L. Perrin, Jefferson City t—Sherman Dickinson, Columbia	<b>TENNESSEE</b> s—G. E. Freeman, Nashville t—N. E. Fitzgerald, Knoxville ct—W. S. Davis, Nashville
<b>GEORGIA</b> s—L. M. Sheffer, Athens t—J. T. Wheeler, Athens ct—Alva Tabor, Industrial College	<b>MONTANA</b> s—A. W. Johnson, Bozeman t—R. H. Palmer, Bozeman	<b>TEXAS</b> s—Robert A. Manire, Austin t—E. R. Alexander, College Station t—J. L. Moses, Huntsville t—S. V. Burke, Kingsville t—Ray Chappelle, Lubbock ct—E. M. Norris, Prairie View
<b>HAWAII</b> s—W. W. Beers, Honolulu t—F. E. Armstrong, Honolulu	<b>NEBRASKA</b> s—L. D. Clements, Lincoln t—H. E. Bradford, Lincoln	<b>UTAH</b> s—Mark Nichols, Salt Lake City t—L. R. Humpherys, Logan
<b>IDaho</b> s—Wm. Kerr, Boise t—H. E. Lattig, Moscow	<b>NEVADA</b> s—R. B. Jeppson, Carson City t—W. C. Higgins, Reno	<b>VERMONT</b> s—t—W. H. Martin, Burlington
<b>ILLINOIS</b> s—J. E. Hill, Springfield t—A. W. Nolan, Urbana	<b>NEW HAMPSHIRE</b> s—t—E. H. Little, Concord	<b>VIRGINIA</b> s—W. S. Newman, Richmond t—H. W. Sanders, Blacksburg ct—G. W. Owens, Ettrick
<b>INDIANA</b> s—Z. M. Smith, Lafayette t—B. C. Lawson, Lafayette	<b>NEW JERSEY</b> s—t—H. O. Sampson, New Brunswick	<b>WASHINGTON</b> s—J. A. Guitteau, Olympia t—Everett Webb, Pullman
<b>IOWA</b> s—H. T. Hall, Des Moines t—J. B. McClelland, Ames	<b>NEW MEXICO</b> s—Frank Wimberly, State College t—H. M. Gardner, State College	<b>WEST VIRGINIA</b> s—John M. Lowe, Charleston t—D. W. Parsons, Morgantown
<b>KANSAS</b> s—L. B. Pollom, Topeka t—C. V. Williams, Manhattan	<b>NEW YORK</b> s—A. K. Getman, Albany t—R. M. Stewart, Ithaca	<b>WISCONSIN</b> s—L. M. Sasman, Madison t—J. A. James, Madison t—F. T. Ulrich, Platteville t—J. M. May, River Falls
<b>KENTUCKY</b> s—R. H. Woods, Frankfort t—Carsie Hammonds, Lexington ct—J. J. Mark, Frankfort	<b>NORTH CAROLINA</b> s—Roy H. Thomas, Raleigh t—L. E. Cook, Raleigh ct—S. B. Simmons, Greensboro	<b>WYOMING</b> s—Sam Hitebeck, Cheyenne t—L. S. Crawford, Laramie
	<b>NORTH DAKOTA</b> s—t—E. L. De Alton, Fargo	
	<b>OHIO</b> s—R. A. Howard, Columbus t—W. F. Stewart, Columbus	

\*See complete directory of state directors; state and assistant state supervisors; regional or district supervisors; colored supervisors; teacher-trainers; intendant teacher-trainers; research workers in teacher-training; supervising teachers; and colored teacher-trainers in the December, 1939, issue (separate insert).