Agricultural Education

FARM MECHANICS NUMBER

Practical Farm Mechanics Instruction
In a School “Farm Shop”

“There is no better economy than the economy of adequate training for the pursuits of agriculture, commerce, industry and the home.”
—HERBERT HOOVER.
Agricultural Education

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

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PRESIDENT HERBERT HOOVER

THERE is no little satisfaction in knowing that there is now in the president's chair one who is actively interested in agricultural education.

The new president has publicly espoused our cause on many occasions. For more than seven years he served as a member of the Federal Board for Vocational Education, famously familiar with our problems.

No stronger statements than his have been made regarding the advantages of vocational education. To provide for it, he has said, "is clearly a public responsibility. Not only so, but "education in general and educational training is democracy's most important business." It is as important, he thinks, to train for the commoner wage earning pursuits as to train for the professions.

Educational affairs are going to be taken seriously by our new executive. "Education is our biggest business. It is our only indispensable business. If we batted out our school business for a generation, we would slip back a thousand years in our progress. Our school business is the business—fundamentally—that has made us what we are."

The interest in agriculture and country life is no less keen than his interest in education. Who has stated more satisfactorily than he the goals for which we ourselves are striving: "To establish for our farmers an income equal to those of other occupations; for the farmer's wife the health, comfort and independence of women in other groups; for the farm boys and girls the same opportunities in life as other boys and girls?" As each of us works at his share of the task, he will be cheered by the thought of our chief executive works with us, directing his own vast influence and that of our national government toward the great ends we seek.—H. M. H.

REWARDING OUR LEADERSHIP

Leadership in agricultural education has been an easy role. Particularly in the early days were leaders laboring hard and the rewards few. Some of our first and ablest leaders have already passed on without having received recognition of their work at all commensurate with its merits. May we deal more fairly with those who survive?

With this in view we are inaugurating a series of articles dealing with our current leaders. We hope that they will not only provide memorials in print to their efforts, but that younger men will be tempted, on reading of their careers, to risk the perils and seek the rewards of leadership in our profession.

It is appropriate that we begin this series with the stories of some of the older men in the profession and it is likely that none will question the choice of Rufus W. Stimson of Massachusetts as the subject of the first article. Father of our present system of state training, Mr. Stimson has given us the feature which is most distinctive in our whole program. Unwittingly, for 20 years, he has stood for the best in agricultural education. A man of cultural training, a gentleman and a scholar, he is known primarily for his contribution to the most practical side of a practical subject. Here, indeed, we have the union of the old and the new, the scientific and the practical, the useful and the cultural, which is our best ideal.

Other leaders will be discussed in succeeding issues, and the file is solicited by the editor and the person apparently best fitted to write it is chosen by him. No attempt is being made to arrange these leaders in order of merit. We shall be pleased to receive nominations for this series.—H. M. H.

FARMER TRAINING

Teachers, supervisors, and administrators of vocational education in agriculture need more and more to think, act and speak of the work they are doing in terms of "Farmer Training." A conscious effort should be made both before and on the farm, the pupils and the public the importance of vocational education in agriculture is not general education, but rather is a special type of education organized for a specific purpose. Before much headway can be made it seems that this idea must come to be accepted quite generally. There are some fundamental reasons why such a thing is true.

As long as leaders in vocational education in agriculture are willing to allow the public to believe that the work they are doing is primarily concerned with the general objectives of all education, just so long will the public be interested in seeing the departments function in this general field. They in many instances will come to believe that this is the field in which they should function first, and will resist, at least passively, any efforts for them to do otherwise. On the other hand if these same people are brought to an early realization that they have a special type of education in their schools, but that for a specific purpose and for no other, they are going to expect the attainment of that special objective. It will be much easier to lead such a patronage, not only to expect, but actually to plan and work toward this attainment. Pupils will have as their first thought, "This is a farmer training course." Before the consequence they will be much more certain in what to incorporate into their training programs such activities, experiences, and situations as will lead them to become "well trained farmers." Such is not the case in many instances at the present time. Let's adopt the practice of speaking and teaching in terms of "Farmer training."—R. W. G.
Our Leadership in Agricultural Education

RUFUS W. STIMSON, Pioneer

MASSACHUSETTS in this school year of 1928-29 celebrates the twentieth anniversary of the establishment of vocational education in agriculture in public schools of secondary grade; a program which has been continued by the Massachusetts Education Department since 1908. Certain features of the plan set up at that time have had widespread influence in the nation. One man who was influential in the preliminaries of this campaign has continued in service during the 20 years, contributing ideas and a leadership which is generally recognized throughout the country.

In 1898 Rufus W. Stimson opened at Northampton the first permanent vocational agricultural school of secondary grade in Massachusetts with state approval and support. In 1918 he prepared his book on “Vocational Agricultural Education” for the assistance of the many new instructors of agriculture required under the Smith-Hughes Act. In 1928 he is still in the harness helping others to put across the whole scheme of vocational education but especially the Home Plan of teaching agriculture.

A prophet should not be without honor in his own country and in his own generation. I deem it an honor to be permitted to present this appreciation of a colleague who is entitled to be rated a pioneer in our field of education. It is possible for a biographer, neither his work yet complete, but we must briefly recite certain events of his life. Likewise the story of events leading to 1908.

Biographical Sketch

Rufus Whittaker Stimson was born at Palmer, Mass., February 20, 1868, son of Horace W. and Harriet A. (Hunt) Stimson. Farm reared and educated in the elementary and high schools of Palmer, Married Helen Morris at Boston October 4, 1899. A.B., Harvard University 1885; A.M., 1886; B.D., Yale University 1887. Taught 1887-1901, Connecticut Agricultural College; president of same 1901-1908, Director, Smith’s Agricultural School, Northampton, Mass., 1908-1911. Present Superintendent of Vocational Agricultural Education in Massachusetts Department of Education since August 1, 1911. Associated in survey for Vocational Agriculture in Massachusetts Reporting in 1910; Hampton Institute 1916-1917. Gold medal at Panama Pacific Exposition for the agricultural home project exhibit. Twice chairman college section, Association Land-Grant Colleges before 1908. President, American Association for Advancement of Agricultural Teaching, 1915. Lecturer on vocational education at various summer schools. Author of “Vocational Agricultural Education by Home Projects” and numerous bulletins. Editor, “Agricultural Project Series.” Associate Editor, “Vocational Education Magazine.”

Early Influences

Doubtless if this skeleton of statistics were clothed with the living flesh of real biography, one would readily understand why he became such a champion of vocational education. We are primarily concerned with what he did beginning in 1908 and what came out of it.

The lack of funds, the absence of qualified teachers and the limited available subject matter seem to explain the temporary character of each of the many experiments down to about 1880 when a movement to establish both secondary schools and a college of agriculture promised success. The civil war delayed these plans and the Morrill Act caused the concentration of effort on the organization of the college in 1862-1864. In 1882 provided that “agriculture shall be taught...in all public schools in which the school committee deem it expedient.” Without special funds or advisory assistance from any competent leader, there was an occasional isolated experiment by some high school prior to the revival of interest in more diversified educational opportunity.

From about 1890 to 1910 came a renaissance of interest in industrial education which resembled the movement prior to 1893. Many rural people wanted agricultural education of less than college grade. A commission appointed by Governor Douglas reported in 1900. The commission on industrial education, headed by Professor Paul Hans, reported first in 1898. He worked revised and was taken over by the reorganized board of education, reporting in 1910.

A simultaneous interest in diversification of opportunities in the high schools resulted in local attempts to introduce agriculture and other “practical” subjects. In other parts of the country a similar movement resulted in special distribution of subjects in agriculture on an institutional farm.

Rufus W. Stimson


The Background for His Work

Massachusetts, by reputation conservative, has ever been progressive in educational experiment as well as in industry. The fascination of such a story must be sacrificed in a historical "Who’s Who" of events leading to the denomination in 1908.

In the fifty-fourth report of the Massachusetts Board of Agriculture, (for the year 1906), is a fascinating story of the "Early Agricultural Education in Massachusetts," down to the founding of Massachusetts Agricultural College in 1863. This brief history sketches the attempt to establish real agricultural education beginning with the formation of the Massachusetts Society for Promoting Agriculture on March 7, 1792, an organization whose funds are still used for this definite purpose. With the fifty or more county or sectional agricultural societies which were organized prior to 1850. The repeated efforts were made to establish agricultural schools or departments with varying degrees of success prior to 1863.

Andrew Nichols' proposal in 1820 led to an attempt at Amherst Academy in 1824, a real but short lived experiment at Amherst College in 1838 and 1843 and a permanent Farm and Cheese School on Thompson's Island which opened April 8, 1833, and then as an endowed school continuously followed its vocational objective to this day.

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AGRICULTURAL EDUCATION

At Northampton, Mass., the bequest of Oliver Smith, who died about 60 years earlier, matured and in 1907 funds became available to establish a school to train agricultural students for other occupations. The trustees in cooperation with the commission previously mentioned, anxious that this school should exemplify the principles set up, sought a director who possessed the qualifications that future steps was set for the pioneer and Rufus W. Stimson was selected for the part. The rest of the story must be told either very briefly or at great length. Opinion on what time duration of agricultural schools elsewhere but in a large measure the school and farm instruction was institutional, influenced probably by what colleges had done. The school found a new trail by establishing a procedure which came to be known as the Home Project Plan of Teaching Agriculture. No one apparently then realized of how far-reaching influence was this single innovation which is generally accepted today in nearly every state and in some foreign countries.

Appointment to State Department

Almost at the outset, Mr. Stimson was called upon to cooperate with the state commission and with the state board of education in the campaign which resulted in the adoption of the work in 1911 and the establishment of vocational education on the present permanent basis. Part time service with the department of education as a special assistant, full time service as “agent,” a title which all supervisors have held until recently. The reorganized board of education in 1909 appointed Mr. David Shedd as state commissioner because of his progressive ideas in education. Charles A. Proser was selected for deputy commissioner in charge of vocational education in January, 1910. Charles R. Allen of “job analysis” fame joined the staff soon. These are names to “conjure with” in vocational education. This group, with others in sympathy with vocational education as we now know it, made co- operation with the new school plan and job analysis a friendly try-out from the start. Nevertheless, even in this favorable setting, real prophetic vision was required to accomplish what soon came of the experiment.

His Influence on Other State Programs

Shortly visitors of note came from everywhere to Massachusetts to study the plan in operation. Mr. Stimson’s method with these visitors, (as well as with Massachusetts men whom he interested), was always to go directly to the schools and then with the principals go to the boys’ projects. The writer remembers one visit among others at his own school when in 1913 with Mr. Stimson and Mr. R. G. Hawkins of New York, Dennis of Pennsylvania, Carris of New York, and William T. Bawden, editor of Vocational Education. After a few questions and a look at the school they required that we take a ride and went out to observe projects, after which we visited other schools. An account of these visits was published by Mr. Bawden in the magazine for November, 1913.

Here we discover another of the activities of Mr. Stimson which was destined to have a wide influence. Mr. Bawden pointed out that Mr. Stimson’s visits were not merely supervisory and inspectional but also furnished guidance and help for the teachers. This soon developed into what is now known as “itinerant teacher-training,” the only officially recognized type of training for agricultural teachers in Massachusetts prior to 1919. In fact this type of training is still depended upon largely in the state for much of that service which elsewhere is conducted at colleges. A supervisor of teacher-training has reported Mr. Stimson of some of this burden but the work goes on much as in the early days. An address by Mr. Stimson before the American Association for the Advancement of Agricultural Teaching in 1918,

"I believe that Mr. Stimson has been the means of saving millions of dollars to this country thru having established and tried out the home project idea before the Smith-Hughes Act was passed. If this method of giving supervised practice had not already been proved to be successful, it is quite likely that many separate vocational schools would have been established having good farms and other expensive equipment. I think we all now see that the establishment of vocational agriculture in a comprehensive high school using the home project for supervised practice is highly successful and that there is nothing better done in a separate school having a school farm."—Professor C. B. Gentry, State Supervisor and Teacher-Trainer, Connecticut.

2. The teacher’s and pupil’s analysis of the job in the project as contrasted with the subject matter outlines.
3. Teaching teachers while they teach.
4. Visiting and studying the work of our teachers in the hope of saving them effort for the purpose of improving one’s own work thereby.

Doubtless the most important, most far-reaching and best known of all these advantages has been of the project for it can be called the “project” or the “enter prise” or by some other name, the psychology of the idea seems to have been accepted as sound. Its great economic importance is often overlooked.

An Estimate of His Contributions

Professor C. B. Gentry, state supervisor in Connecticut, recently said publicly that he believes that Mr. Stimson has been the means of saving millions of dollars to this country thru having established and tried out the home project idea before the Smith-Hughes Act was passed. If this method of giving supervised practice had not already been proved to be successful, it is quite likely that many separate vocational schools would have been established having good farms and other expensive equipment. I think we all now see that the establishment of vocational education in agriculture in a comprehensive high school using the home project for supervised practice is highly successful and that there is nothing better done in a separate school having a school farm. I think also that Mr. Stimson has made another outstanding contribution to vocational education in agriculture in the early introduction of the itinerant teacher-training program. It should be stated that under Mr. Stimson’s leadership the county schools in Massachusetts have been largely on the home project or equivalent employment for the major part of their supervised farm practice. The school farm is used for subsidiary purposes.

Mr. Stimson has used much of concentrating on one improvement, driving it hard and persistently even at the risk of being thought narrow. It was necessary to adhere to certain policies long after he recognized that he was still far from the mark, even against opposition. A summer conference “on wheels” and a subsequent year’s campaign would be focused on this feature rather than a diffusion of effort.

Yet he has gradually conceded points which deserved to be changed. He has always been courteous but without patience with the man who would claim or pretend to be an expert. He has visited nearly every boy every year and his encouragement has been a factor in the relatively large number of successful projects.

While there is much more I could say in elaboration of each of these points, I wish to use the reminder of my space to quote briefly from several of the men who have been directly or indirectly in the development of vocational education, now that many who have been personally acquainted with Mr. Stimson’s work from the early days. As Mr. Carris writes, “It would be easier to write pages than sentences in this case.”

(Continued on page 14)
The Way of Agriculture—Engineered

L. J. FLETCHER

WHAT is agricultural engineering? Engineering may be defined as directing the utilization of formal and natural materials in nature for the benefit of mankind; agricultural engineering is, therefore, the directing of these same forces and materials for the benefit of agriculture. An engineering college has long since been developed for such industries as mining, transportation, communication, and construction. Agriculture, the greatest of the world's industries, was the last to receive the attention of the engineer. Some of the reasons are obvious: the small size of the individual producing unit, the interlocking of a mode of living with the business of farming, the difficulty of extending to agriculture the work of the specialist.

Agricultural engineering is the youngest of the major divisions of the colleges and experiment stations in the United States. Thirteen years ago the division of agricultural engineering was established in this college of agriculture. Professor J. B. Davidson was the first professor of agricultural engineering in the University of California. For four years this new division grew under the diligent and efficient guidance of this recognized leader of his profession. This complete building and its effective program of activities is erected on the sound foundations laid by him. His vision of an engineered agriculture, an agriculture efficient in production and happy with its improved living conditions, was instilled in his students, his associates, all those who knew him. His work will carry on in California.

What is the way of agriculture? Let us look at three pictures: perhaps they will illustrate the way.

First, Mt. Vernon, the home of George Washington. Here we find a true picture of the organization of agriculture 150 years ago. A fine home, the lighted with candles and heated with fireplaces, surrounded by a score of small buildings which housed such activities as cooking, spinning and weaving, soap and candle-making, blacksmithing, carpentry, butchering, shoemaking—the work carried on largely by servants skilled in these various vocations. Here was a complete community making use of a hundred workers, none knowing all of the things necessary for their existence, with the exception of such materials as salt, iron and gunpowder. Over 95 percent of the population of this country at that time were engaged in this kind of agriculture.

The second picture, Old Salem on the banks of the Sangamon River in Illinois, where Lincoln, in 1833, was a partner in a store and later postmaster. The state of Illinois has made a park of this historic and interesting spot. Here as the visitor walks along the single street of the one-time New Salem, he sees restored the evidence of the beginning of industry. A dozen small cabins line the street, here labored the cobbler, next the wheelwright, there the cooper in whose shop Lincoln read at night in front of the large stone fireplace; over there a cabin in which the spinning of wool and weaving of cloth furnished the means for a livelihood. The hatter and the blacksmith were established in their embryo factories, and by the river was the miller. And yet the enterprise which at that time employed the most in labor, in capital, and produced most in wealth, was the farm. This was 90 years ago, when the average man by working hard all day, every day, could care for the crops on 12 acres. He was beginning, however, to exchange his product for the product of the worker in the village.

The third picture is Today. Leaving Old Salem and driving over a concrete road in a "carriage" traveling 40 miles per hour (the speed limit in Illinois), an hour's trip will tell the story. Here is a farm implement factory employing thousands of men, a brick plant, a shoe factory, another establishment which turns out nothing but socks—but many of them; here a small town with a large group of busy buildings into which thousands of carloads of corn enter to come out as starch, corn oil, and corn sugar; a pile of baled straw 50 feet high and covering a block—raw material for the paper boxes used by a large manufacturer of breakfast food. The farms have changed also—machinery, electric service, better homes—(some better than others, for the ability and desires of men will vary). Farming has not stood still in the race toward better room growth of industry. The productivity of the farm worker increased 15 percent in the five-year period, 1917-21, a remarkable record in itself and a real tribute to the ability of the farmer of today, to the new machines of production made available to him, and to the efficiency of the agricultural college.

A popular diversion today is the comparing of agriculture with what is termed "industry," usually to the disparagement of agriculture. This is largely owing to the fact that the statistics quoted for agriculture are most often the average, that is, average cost, average yield, etc., while industry is largely known by the records of its most successful example. The viewer who endeavors to excel the average speed of his classmates will never make the track team. To win he must excel the best.

The average yield of cotton in Texas is 135 pounds per acre, the average cost of production 21.4 cents per pound. Yet 22 farmers in Texas raised an average of 1,241 pounds per acre at a cost of 4.7 cents per pound. Examples of a similar nature exist for all crops and all sections of the country. Efficient farming today demands and is receiving the same intelligent management as is efficient industry. The very men who are making low cost records in producing cotton, sugar cane, peanuts, corn, wheat, or fruit, are in every case creating and maintaining our prosperous industries; in fact, the chances are that if these managers exchanged places some of agriculture's advisers might learn what it is to battle with such unruly variables as rainfall, temperature, winds, heat, bugs, and the consequent effect on the surplus and price.

Some blame the engineer for the present surplus problem. They say we are suffering because the farmer's ability to produce is increasing faster than the nation's ability to consume. "Scientific agriculture is the salvation of the individual and the ulcer of the mind." is a statement made in a recent book on the agricultural situation. However, the reader may look up another treatise and read that "a surplus is a necessity and constitutes the difference between barbarism and civilization." Statistics are marshalled into books by authors who strive to make us think that the not distant future the people of this country will be starved because of our inability to produce enough food; while others from the same statistics and with equal gravity aver that our farmers could produce over three times our present quantity of farm products.
without an increase in acreage, thus completely ruining themselves! This is America, where to hurt an economist is to benefit it. According to Mr. Thorpe in *Nation's Business*, 2,000 ice producers faced the entry of electrical refrigeration. Did they quit? No! They studied their own industry and, by hard work, they stopped peddling ice and began to merchandise it—they increased their business 7 percent in 1927, with a still larger increase last year. Silk has not succumbed. We rayonize photographs to radios. Montana, one of the first states to feel the crash of a hurt agriculture, is now one of the most consistent white spots on the business map, demonstrating to the world profitable methods of growing wheat.

Many agricultural writers are alarmed at our decreasing consumption of food per capita—point out that "all departments of human expenditure, except the department of food," have developed infinite extensibility except the department of food. But remember that agriculture furnishes the material not only for food but for clothing and shelter as well. As we increase the buying power of this nation—the greatest group on the face of the earth, spending each year an amount equal to three times the value of the exports of all the countries of the world—we increase our ability to buy more shelter and more clothing. Science is opening the way toward a vast utilization of agricultural products for "non-stomach" uses. In 1921, 9,000,000 pounds of rayon were manufactured from cellulose—a material formerly thrown away that grows. This year 95,000,000 pounds of rayon will be made from cellulose secured from cotton linters, wood pulp, peanut shells and corn stalks. Professor O. R. Sweeney of Iowa State College, states, "Over 300 compounds have already been produced in our laboratory from agricultural wastes and every one of these materials has commercial possibilities." These products range from wallboard and paper to solvents and cloth.

Results of Machine Farming

Machine methods of production have not ruined our agriculture. We should rather credit farm machinery with reducing the expenditure of manual labor on our farms, with shortening the working days, with increasing the production per worker. Progress consists in continuously solving the problems of today which arise out of the solution of the problems of yesterday. To solve a problem the first step is to know it.

Large farming is in the air. The question is not whether we want the large farm but rather, what are we going to do with it? How will we direct its development?

This is an age of specialization. Other industries employing the specialist have prospered. As now commonly organized agriculture cannot most effectively employ high-powered trained men. The average farm unit is too small to bear the cost. However, the large farm is unusually attractive to the trained man. Because of valuable experience gained during recent years more large farms are succeeding. The tendency of all successful industry is to expand—to increase the size of the project.

With the increase in the size and variety of labor saving farm machines the short annual period of use of these machines on the smaller farm becomes an increasingly serious problem. For example, the load factor, that is, the percentage of annual full-load use of all power units employed, is about 45% percent on farms in the United States. Manufacturing industries enjoy a load-factor of over 14 percent. Were it possible to secure this load-factor in agriculture, the present 50,000,000 primary horsepower employed on farms could be reduced to less than 20,000,000. Some well-managed electric utilities are now securing load-factors of over 50 to 60 percent. Agriculture can hardly hope for such high utilization; but considerable improvement is feasible.

The most recent mechanical development in agriculture is the perfecting of field and belt machinery for use with the tractor. The movement for large farming is available.

Related Problems

One of the present problems of agriculture is that of paying too much for credit. In general, money at comparatively low interest rates is available in this country for safe investments. If the present high credit charges are justified, how can the risk be removed so that agriculture may enjoy low money rates comparable with other industries?

The immigration policy, which keeps out of the country large numbers of people who would be content to use hand equipment in agricultural production, is making necessary the use of machines for multiplying the effort of the farm worker.

Our government has evidenced a real desire to aid agriculture—the large, well organized farming project should be able to realize the benefits of these relief measures.

To offset this picture of an industrialized agriculture, we have the desire of many to combine the advantages of rural life with an occupation. The farmer is largely independent in his everyday affairs. He is assured of a home and a child, and is usually protected from the anxieties of the industrial life. However, no matter how enjoyable are the possibilities of rural life, there is required a certain profit or income from which may be provided those things which are now provided in the city, particularly in the modern home. There are those who maintain that many of our agricultural workers would be far happier and able to live under much better conditions if they were working for others rather than attempting to run their own machines. However, defining the requirements for happiness of others is a rather dangerous undertaking.

California leads the nation in the engineering of her agriculture. She leads in the amount of power used per acre of improved land, and in income per farm worker. The amount of electricity used on the farms and in the farm homes is far in excess of that used in any other state; over 800,000,000,000 kilowatt hours. This is sufficient electric energy to operate two 50-watt electric lamps for four hours every night in the year in every farm home in the United States. Sixty electric sawmills are illuminated by electricity; in 48,000 electric iron are employed; electric washing machines lighten the labor in 25,000 homes, while 25,000 clean the floors with vacuum cleaners.

California has contributed much in the development of farm machinery. The combined harvester, which has revolutionized the grain farming industry in the great Middle West, was conceived, built and operated in this state 40 years ago. California originated the tractor-type truck and many of the more efficient machines used in irrigation, in tillage, and in the processing of fruit.

You have in California an agricultural engineering division as part of your college of agriculture, which is clearly second to none in any other state. The results of the research work carried on in this division have materially influenced such matters as the protection of farm machinery from dust and other causes of wear. It would be difficult to estimate the dollars and cents saving to farmers of this state as well as to all of California from this one outstanding example of well-conducted investigation.

Other projects have included the more efficient utilization of electricity on California farms, the improvement of equipment, better design and utilization of many types of harvesting machinery, and the improvement of farm structures, particularly those employed in the poultry and dairy industries. The encouragement of the use of a simple type of septic tank has resulted in improved sanitary conditions in our rural communities.

Instructed Given

Thousands of California people have received instruction in the proper selection, use and care of all types of farm equipment in the regular courses here at the university farm, and as in many extension courses and meetings conducted by the agricultural engineers of the university. Citizens of other states and other nations are privileged to learn agriculture—engineered—the way toward profitable production and comfortable homes.

So may this new agricultural engineering building, beautiful in its design for service, provide a fitting workshop for men destined to contribute much toward the solution of the complex problems of the agriculture of this state, the nation, the world.

The Emmett, Idaho, high school has recently completed a four weeks auto mechanics course. Sixty-three students were enrolled in the day classes and 20 in the night classes. The latter was composed largely of farmers and farm fathers. As many as 9 automobiles and a tractor were on the floor at one time undergoing repairs under the direction of an expert mechanic.
The Place of Farm Mechanics in the Vocational Agriculture Program

G. A. SCHMIDT,
Professor Agricultural Education, Colorado Agricultural College.

There are five reasons why I believe that farm shop work and other forms of farm mechanics should be an integral part of all vocational agricultural training courses.

The first reason for making training in farm mechanics a part of the vocational agriculture course is that such training meets real vocational needs. The typical farmer is not only a producer of agricultural products but he is also an unskilled mechanic and some of his success as a farmer is dependent upon his mechanical abilities.

The major construction and repair work arising on farms will not generally be done by the farmer but by capable mechanics. However, simple construction jobs such as building a haystack or a poultry house; overhauling jobs such as overhauling an engine or a binder; and repair, adjustment and replacement jobs such as repairing harness or hay rope, adjusting parts of a binder and replacing worn parts of farm machinery and equipment are jobs that will be done by the farmers. In fact, hundreds of different kinds of simple construction, repair, replacement and overhauling jobs arise on all farms which the farmer engages in and developing the abilities of farm boys to intelligently and efficiently engage in these activities is meeting real vocational needs of these boys.

The second reason for making farm mechanics a part of all vocational agriculture courses is because of the ever-increasing need for such training. The need for instruction in farm mechanics is gradually increasing on all farms as tractors, auto trucks, automobiles, water and sewage systems, lighting plants and numerous other mechanical appliances and equipment are being used on the farm and in the farm home. There is no doubt but what the use of all kinds of labor-saving devices will increasingly find a place on all farms and the proper choice, use and care of these devices requires training.

The third reason for making training (Continued on page 12)

California’s Summer Short Course Program for Farm Mechanics Teachers

H. M. SKIDMORE,
Supervisor of Classes for Teachers of Agriculture, University of California.

The division of vocational education of the University of California, and the division of agricultural engineering, college of agriculture, in cooperation with the state department of education, succeeded more fully in satisfying the needs of those who attended the special short courses last summer than has been done heretofore. It seems likely that others may be interested in the set-up used.

A background of our present situation is necessary for complete understanding: The first state plan issued in 1917, and the succeeding ones, stipulated that for each year of agriculture offered in the high school departments of the state, a year of farm mechanics instruction must be given. These requirements necessitated the employment of a special teacher of farm mechanics in practically every high school department organized.

This created such a demand for teachers of farm mechanics that, in view of the lack of training facilities in that field, it was necessary to employ many as teachers of farm mechanics who were not familiar with the mechanical problems of the farm.

Inasmuch as the division of agricultural engineering was located at the university farm, Davis, and the courses for training teachers of agriculture were offered at Berkeley, a satisfactory program of resident training for teachers of farm mechanics has not been developed, therefore, the training given was necessarily in the nature of summer session work for up-grading purposes.

The 1928 summer short courses were organized as follows:

1. In order that the men might receive the definite instruction needed, rather than that dictated by university requirements, the courses were set up to run a term of four weeks without college credit, and were designated as special short courses. This fact also permitted the charging of a very nominal fee instead of that usually charged for regular summer sessions. The work done (Continued on page 9)
CUTTING THE COST OF FARM MECHANICS INSTRUCTION

By S. S. Sutherland, Assistant Agricultural Engineer, University of Kansas

TO FINANCE a farm shop program in most of our western states, and in many sections of the middle west, the farmer must think of the mechanic much as he does of the financial genius. His problem, in brief, is to initiate and maintain the highest grade of instruction with the least possible cost to the community, and in many cases to make the farm shop a tool for attending to getting something for next to nothing.

It is for the farm mechanics teacher who has to secure the maximum results with the least expense that the following suggestions are given:

First, cut construction projects in woodwork to the absolute minimum. This type of shop work costs money—more money than it is worth to the farm boy. Someone, either the school, the student, or the farmer has to pay out cash every time you start work on any construction project in woodwork, and any such project can be replaced by instruction that will better fit farm boys for farm work.

Second, eliminate woodwork entirely from our shop courses we would actually be doing a better job of teaching farm mechanics than we are doing now with the type of woodwork most of us teach. A study of the situation is the proof. The following statement is quoted verbatim from "A Study of the Farm Mechanics Courses in the Vocational Agricultural High Schools in Kansas" by Lester B. Pollock, state supervisor of agricultural education:

"A study of cost-account records of farms in central and eastern Kansas indicates that less than 1% of the time devoted to farm mechanics on such farms is devoted to constructive carpentry.

"Prof. M. A. Sharp of Iowa State College, in a study made last year to determine what, parents of boys in Smith-Hughes agriculture classes wanted their sons taught in farm shop work, found that 60% wanted to be taught cement work, 25% woodwork projects in importance among all types of farm shop work, and furniture construction and repair projects in fourth place.

"Can we blame a community, or the school board who represents them, for refusing us additional funds for tools and material when we use them to teach the least important types of shop work and ignore types that every practical farmer knows are important?

"Second, eliminate all "exercises." We can cut down costs for most construction projects without using school funds, but material for exercises comes directly from our own store. Aside from the financial standpoint, the exercise is a poor teaching device where actual projects are available, and at best is only a substitute. Even college shop instructors are trying to eliminate that type of instruction from their classes.

"Third, replace exercises and construction projects with repair jobs. It is obvious that if we ever try to build a bird house box than it does to build one, while the skills you wish to teach may be developed in the former as readily as in the latter. The farm shops on the best farms in your community are repair shops, the school shop should be one also.
Securing Orders for Farm Mechanics Projects

G. C. COOK
Assistant State Supervisor of Agricultural Education, Fargo, North Dakota
(Formerly Instructor at Falls City, Nebraska)

N O DOUBT vocational agriculture instructors often wonder how to obtain orders for desirable farm mechanics projects. It is very probable that they would like to have the class make some individual hog houses, hay racks, wagon boxes, etc., but the boys say, "We have plenty such projects at home—we don't need any more." Other instructors may have had the class construct such projects but were unable to sell them, hence they let the class construct anything they can get.

In my experience as a vocational agriculture instructor, I found that if the farm mechanics work were going to be a success and if we were going to sell the work to the community, our work would have to meet certain standards:

1. The project must be built to meet the needs of the owner.
2. Good materials as well as the proper materials must be used.
3. We must demand good workmanship in every detail.
4. The project must be built for strength and durability.
5. It must be well finished.
6. It must be practical.
7. It must be advertised.

I planned to use every opportunity to advertise our farm mechanics work. In the beginning, articles explaining the work were given in the local papers. We also got the lumberman to cooperate in building some practical projects such as hog feeders, scoup endgates, individual hog houses, etc. He furnished the materials, the class constructed the projects and placed them in front of his business where everyone could see them. In order that one might know who constructed the projects, stencils were obtained and the name of the department and the school were painted on each.

As soon as the community found out the type of work done they began soliciting our department to build such projects for them. Several exhibits including woodwork, forge work, motors, rope work, soldering, etc., were shown at the local fair and also at the high school on special occasions.

Evening schools worked very helpful in obtaining orders. Each year at the close of our evening schools we planned one "big get together" where everyone came into our high school for a program. We always planned to have a very complete show exhibit.

This last year we had an 8x12-foot Nebraska-type brooder house, one individual hog house completed (showing the construction and framework), one hay rack, one ear trailer, two hog feeders, and several chicken feeders along with exhibits of forgew work, motors, rope work, etc. The year our high school was completed, we had a "high school night" when everyone could visit each department. We used the opportunity and had each boy in the department doing something in some phase of our work. In the shop, boys were actually doing forge work, soldering, harness work, rope work, valve grinding, constructing and repairing woodworking, etc.

We always made a special effort to have everything built in a practical yet modern way, durable and well finished (painted); very few varnished projects were shown.

The results were amazing. We received so many orders for shop work that it was necessary to tell the people that so much work was promised that we would probably be unable to fill their orders but we would do our best.

Over a carload of lumber was used during the year by a class of 31 boys meeting two days a week for 155 minutes each day.

The shop was self-supporting as a small fee (after the first year when the work was advertised), was charged for each project made for people other than the students. One dollar was charged for making each individual hog house or hay rack, $2 for each wagon box, $3 for each brooder house ($100 chicken capacity), $1 for grinding valves on a 4-cylinder engine, etc.

All shop tools were kept replaced and all other current expenses were paid for in this way. Some money orders in the treasury and this was used to send the livestock judging team to the annual high school judging contest.

California's Summer Short Course Program for Farm Mechanics

Teachers

(Continued from Page 7)

was acceptable to the state department of education for renewal of credentials, which indicates the cooperation from that direction.

The majority of the men are fairly good mechanics. Their greatest short-coming is a lack of knowledge of what to teach and how to organize for effective teaching. Therefore, a special instructor in methods of organizing and teaching farm mechanics was brought on to handle that phase of the work.

One-half of each day was given over to methods work and the other half to technical subject matter. The class met at 8:00 and left at 3:30.

The shop work was organized under four heads, all to run concurrently: (a) General farm mechanics including forging, sheet metal work, some rope and leather work; (b) farm structure and motor power, including gas engines and tractors; (c) farm machinery and pumps.

These courses were organized on the basis of weekly units so that a student could earn a certificate of completion in the manufacture of the four fields. For instance, he might take one week in each of the four fields, or he might elect to continue for four weeks in any one field. Transfers from one field to another were permitted only at the beginning of each week.

5. The instruction was made as nearly individual as feasible with the teaching stuff available, thus rendering it possible for each individual to get approximately what he needed to round out his own training and to prepare him to handle those enterprises involved in his own local set-up.

Fifty teachers were in attendance, with experience ranging from none at all to those having taught longest in the state. These 50 men, with hardly an exception, were thoroughly pleased with what they were able to get during that four-weeks' period. Their comments have been unusually favorable and there is ample evidence to show that many improved practices have resulted.

It appears that two or three things were responsible for the apparent complete success of this special short course:

1. The absolute and whole-hearted spirit of cooperation on the part of the agricultural engineering staff, as evidenced by their willingness to lay aside their problems for the time being and devote their entire attention to this group of men on the campus.

2. A man in charge of the methods work in whom the men had confidence and who had something very definite to give them which they could see would improve their teaching. Mr. W. A. Ross, state supervisor of Wyoming, measured up to these specifications to a most satisfactory degree.

3. A feeling of need on the part of the group of teachers in attendance, which would lead them to work whole-heartedly for the time being.

The 1928 special short course for farm mechanics teachers possessed all of these elements to a degree that it would be hard to duplicate.

An Unusual Farm Mechanics Enterprise

Hauhtorne, Texas, School broom factory

The Hawthorne school is located in a rural community which has much manufacturing. The corn used in the manufacture of the brooms was raised by the boys and made into brooms at the school as a part of their farm mechanics work.—W. F. Rudd, Instructor.
Successful Teachers of Vocational Agriculture

By ARETAS W. NOLAN, University of Illinois

THE Case Method has been successfully employed in the training of professional workers in many different fields. The writer has used this method with gratifying success in the training of teachers of vocational agriculture. With the approval of the editor of Agricultural Education, Mr. Embser, the writer has devoted a year to the case work in vocational agriculture. A study of these cases should be of practical value and inspirational challenge to prospective teachers as well as to those already in the service.

CASE NUMBER I

1. Personal Facts and General Information

Mr. Jerome Embser, formerly of Newton, Illinois, is the first man I shall introduce in this case study. He was graduated from the University of Illinois, with 21 credit hours of professional training in education. His principal character qualities will be referred to later.

The first work Mr. E. did upon coming into the community was to visit all the projects of the boys in vocational agriculture. These visits were made with Mr. G. B. Sunderland, former teacher of vocational agriculture, then acting principal of the Newton Community High School. The success of Mr. Embser is due in large measure to the splendid department which Mr. Sunderland had built up, and to the efficient support he has given the department as principal of the school.

2. School Methods

At the beginning of each school year the teacher of agriculture makes a yearly plan of the subject-matter and the extra curricular activities he intends to follow. Naturally he varies at times from his original plan, but the main he succeeds in carrying out his plans.

Subject-matter for the courses offered in this department are chosen largely on the seasonal and operational basis following the job analysis plan of procedure. Liberal use of reference books and bulletins is practiced. The Lippincott Enterprise series are used as textbooks. Several types of lesson plans are used by Mr. Embser. One he calls his own consists of Title or Lesson Unit, Aim and Questions.

The following example is submitted:

**Job 8: Securing Baby Chicks**

1. **Aim**: To teach farmers to select the best stock when setting eggs or buying chicks.
2. To teach when to buy chicks or set eggs.

**II. Local Conditions**: A large number of farmers still raise chicks with the hens.

Some farmers buy baby chicks from commercial hatcheries.

3. Some farmers set their own eggs in commercial hatcheries, and brood the chicks in a brooder.

4. A few buy mature pullets.

5. Problems and Questions: Which is the most economical way of raising baby chicks, setting eggs under hens, or in a commercial incubator, or buying mature pullets?

2. What is the approximate cost of producing a pullet?

3. What precautions must be taken in setting the eggs and handling them before setting?

4. Percentage of hatch farmers here usually obtain?

5. Precautions to take in running an incubator.

**IV. References**: 1. H. C. Bullein—Farm Poultry.

Mr. Embser supervising the dumping of one of the sixty-three cars of limestone brought into his community.


Occasionally the teacher uses the whole 90-minute class period for recitation and discussion. At times he divides the class into groups for supervised study, assigning to each group a special topic for report to the whole class. Some of the periods are used for laboratory work. The method of procedure depends upon the character of the job and the circumstances. Mr. E. never fails to give the class the actual job to do, if it is at all possible. His motto is, "To learn by doing." There is an excellent supply of reference books and bulletins for use in supervised study. The bulletins are all numbered and filed in classes. For example: Dairy—frong 1-400, Poultry, 100-200, Feeds, 300-400 is Care and Management, etc. A list of the bulletins is posted to the door of the bulletin case, with name and number.

**III. Project, Field and Community Activities**

Twelve-three farm projects were underway in the last year: 10 poultry, 2 sow and litter, 5 corn, 2 soybean, 2 red clover, 3 alfalfa, and 1 potato. The teacher averaged at least one supervisory visit to each project every 10 days. The stage and conditions of the project, and the needs of the boy were factors determining the frequency of farm visits.

During the past summer the teacher of agriculture devoted the major portion of his time, in addition to project visits, to the handling of limestone and the harvesting of sweet clover. There were shipped into the community last year 65 cars of limestone, 35 tons of sweet clover which were dumped along the right of way, within a few miles of where it was to be used. One hundred sixty acres of sweet clover were harvested by the teacher and his agricultural students.

There is a seed house on the school grounds, making possible much valuable community service, and a source of revenue for the active agricultural club of the school. The seed house equipment consists of a scarifier worth about $50 with a capacity of two bushels an hour; a clipper cleaner and sorter worth about $700, for all kinds of seeds; a seed treating box worth about $15, and elevators and motors worth about $250.

The agricultural club receives for scarifying and cleaning sweet clover seed, 75 cents a bushel; all other seeds are cleaned at a price ranging from 5 cents to 20 cents, according to the amount of time required to do the work. The club receives 5 cents a bushel for treating seed, and the farmers furnish the material for treating if they can, usually however, the club furnishes the material and charges for the actual cost.

Last year, 1927-28, the boys cleaned and scarified about 150 tons of sweet clover seed; cleaned and treated 125 bushels of wheat; cleaned 75 bushels of oats; graded and treated 90 bushels of corn; cleaned 40 bushels of beans, 30 bushels of red-terminer oats, and 45 bushels of white clover. The funds collected by the club in this way are used to pay for the labor, and actual expense of doing the work. Members of

(Continued on page 15)
The South's New Master Teacher

By F. T. MITCHELL, Assistant Supervisor, Arkansas

FRED A. SMITH, vocational agriculture instructor at Dardanelle, Arkansas, has been selected as the Master Vocational Agriculture Teacher of the Southern States. Each state selects its own master teacher, prepares a brief showing the achievements of the teacher and submits it to the Southern Regional Agent for Vocational Agriculture at Washington, D. C. The factors considered in the selection are such as enrollment, supervised practice program in operation, methods of instruction, classroom equipment and group leadership activities.

Consideration of enrollment Mr. Smith has the greatest number ever reached by a vocational agriculture instructor in Arkansas. There are 76 high school boys and 119 adult farmers enrolled. Mr. Smith has an assistant teacher of vocational agriculture and a full-time stenographer. Both groups carry on supervised practice programs and are regularly visited by the instructor. These adult farmers all come from the trade territory of Dardanelle and have studied such unit courses as dairying, poultry production, fruit and vegetable growing. These classes have been responsible for the increase in dairy development around Dardanelle. During the year just closed, the project labor income of these students in Mr. Smith’s classes has amounted to nearly $40,000.

During the three years that Mr. Smith has been at Dardanelle his slogan has been “Cow, sow and hen.” Attention to these phases, mixed with sensible diversified farming, has brought both interest and prosperity. Mr. Smith has been responsible for the location of a community hatchery at Dardanelle, and under his direction the farmers’ income from poultry has increased from $21,500 in 1926 to $48,650 in 1928.

The dairy development around Dardanelle under the leadership of Mr. Smith has been nothing short of phenomenal. During the past three years 756 grade and purebred Jerseys have been imported. Farmers have been urged to “grow” into the dairy business by providing pastures and growing feed. Fifteen ball blocks have been organized and a purebred bull from a high producing dam has been bought for each block.

In due time the bulls will be rotated among these blocks. The income from cream checks alone in the Dardanelle trade territory was increased from $42,500 in 1926 to $72,540 in 1928. The first dairy show ever held in Arkansas was conducted by Mr. Smith at Dardanelle last July with 233 animals exhibited. The Dardanelle Chamber of Commerce offered liberal prizes and paid mileage on every animal exhibited, the total mileage amounting to $600.

In addition, the Dardanelle trade territory boasts of 300 acres of improved pasture, 240 acres of strawberries, 96 acres of apples, 110 acres of peaches, 16 acres of grapes, all of which has been the result of organized instruction given to adult farmers by Mr. Smith.

As an evidence of the fine cooperative spirit between the business men of Dardanelle and farmers of the Dardanelle trade territory, an educational tour was made of the dairy sections of Northwest Arkansas and Southwest Missouri covering 700 miles. The business men of Dardanelle furnished cars and living expenses for the farmers, and the farmers bought gas and oil for the cars.

Mr. Smith is a native of Arkansas, a graduate of the University of Arkansas, class of 1925, and has taught vocational agriculture for 3½ years at Dardanelle.

As a reward for this signal honor that has come to Mr. Smith, the Chilean Nitrate of Soda Educational Bureau has awarded him a handsome gold watch, and will also take him as their guest on an educational tour to New Orleans, to the American Farmers’ Convention at Houston, and to the Rio Grande Valley and Old Mexico.

Yearly Activities of a Junior Farmers Organization

By LEROY CLEMENTS, Vocational Agriculture Instructor, Beatrice, Nebraska

ONE of the most helpful enterprises any vocational agriculture department can attempt is the starting of a Junior Farmers’ Organization. It will not only be a great benefit to the boys themselves, but also to the school and the community.

The Junior Farmers’ Organization of the Beatrice high school is composed of members and alumni of the vocational agriculture department. Officers were elected at the first meeting which was held in January, 1928. Since that time regular monthly meetings have been held as regularly as well as while school was in session.

A constitution was drawn up and adopted, and a program of work was outlined for the year. This program in clude a plan for each meeting and a special committee for working out each program. In this way each member knew in advance when he was to work on a committee and what kind of a program he was to prepare.

Much interest was aroused during the winter meetings by organizing basketball teams in the different classes, as well as an alumni team. Whenever a game was scheduled between the vocational agriculture department and the vocational agriculture alumni, a large crowd was present at the meeting.

We have been especially fortunate in obtaining speakers and entertainers who are specialists from the College of Agriculture. They have willingly donated their services. Among those with whom we have had the privilege of becoming acquainted are Mr. C. A. Fulmer, state director of vocational education; Mr. J. H. Pearson, supervisor of Smith-Hughes agriculture; Mr. H. E. Bradford, principal of the Lincoln school of agriculture; Professor Homer Swenk, state entomologist; Professor W. J. Loeid of the University of Nebraska animal husbandry department; Mr. Ray Magnusen, a senior in the agricultural college, and others of equal importance.

We are trying as one of our objectives to be of service to the community in a number of different ways. One method is by holding open meetings to which farmers and other business men are invited. One of our most successful open meetings was held in the late winter when Professor Swenk, state entomologist, gave a very interesting illustrated lecture on “Insects in Relation to Agriculture.” This lecture appealed to the adults and brought to their attention in a vivid way the worthwhileness of our organization.

At a later meeting the organization gave an entertainment for the members of the Chamber of Commerce, Rotary Club, Kiwanis, and Farm Women’s Club. A large playlet entitled “The Trial of the Soil Robber” was presented by the boys. A large number of men enjoyed the program.

To show their appreciation, the Kiwanis club later invited all of the Smith-Hughes boys of Gage county to be present at a noonday luncheon with them. Seventy-five boys from the four Gage county schools enjoyed a good time and a splendid talk by Mr. O. H. Liebers.
Building Correct Attitudes

GEORGE BUTLER, Caesar Rodney School, Camden-Wyoming, Delaware

CAPITAL, ambition, health, judgment, and correct attitudes are necessary for success in farming. The agricultural teacher spends much time developing correct attitudes. Sometimes using a circuitous route to gain the desired result. We all suffer at times from the illusion of the near, in other cases we are better suited to some other place or some other work, we crave new experiences. It is not surprising therefore to hear a boy say, "I'll not be a farmer." Twenty years later with opportunity gone, he may realize his lack of vision. Vocational agriculture is the first attempt, on a large scale to train our youth countrywide while in high school. But our efforts will amount to little unless we can develop enough perspective to enable the boy to realize the likelihood of failure in a city. The word failure is used to mean a lack of satisfaction in pleasure and material gain. What are the chances of success or failure? A certain large insurance company presents data to prove that every hundred healthy young men at 25 years of age will, 40 years later on at age 65, be distributed as follows: 5 rich, 5 self-supporting, 36 dead and 34 depending on charity or relatives. So much for the material side of life. In the city people are sorted very closely and one becomes conscious of the intense struggle for existence, which reduces the pleasure; the movies lose their luster; in the end city life becomes monotonous. Of course, it does little good to present these facts forcibly to boys because each would imagine himself to be in the well-to-do group, for whom life apparently grants much compensation. Therefore, we must approach the matter from another point of view. Since likes and dislikes largely govern our lives, we must induce the boy to like country life and prefer it to city life.

It is a well known fact that rotation of crops tends to correct unfavorable chemical conditions in the soil. It is also well known that friction will cause various substances to become charged with static electricity, frequently causing damage, unless grounded. In a similar way, the boy needs something to neutralize the unhomelike effects of too much monotonous labor. Some unadulterated pleasure from the boy's points of view should be provided.

A great biological phenomenon is found in the fact that assimilation of food creates energy that is used in the pursuit of happiness. Everyone has observed the countless hours children and young people will spend at games. Again natural curiosity causes an individual to explore his environment. These facts seem commonplace yet social instincts and the desire to explore, can, if directed, be used in developing an agricultural department.

In present-day agriculture, subject matter, the very important, is not the only consideration in teaching. The agricultural teacher, who is vitally interested in his boys will soon discover that they wish to share their pleasures, organize their social activities. In spite of all discouragements, a club will survive if one does not expect too much of it. If a club is started a name will be needed. What is more desirable than to choose one that crystallizes out of the group's experience? In the writer's opinion, the name of Saddle and Grate Club at Camden, Delaware, on annual trip

Saddle and Grate Club of Camden, Delaware, on annual trip

The Place of Farm Mechanics in the Vocational Agriculture Program

(Continued from page 7)

in farm mechanics an essential part of all vocational agriculture courses is because such training adds to the management efficiency on farms. The cost of machinery and equipment on a strictly up-to-date farm represents quite an investment. It takes a trained judgment to choose and buy what one needs to get the best for his money. Development of ability of farm boys to efficiently choose and buy is an important factor in efficient farm management. Then, too, there occurs on all farms, a wealth of opportunity on which no field work can be done. Farm repair and overhauling jobs enable the farmer to make profitable use of this time and also that of his hired men. To

munity the boys ride horseback as a diversion in spite of the fact that all their families own cars. Their natural love of the woods made it possible to organize camping trips. From these two activities we made our name, Saddle and Grate Club. Every summer for a week we cook our meals over a grate, which cost 20 cents at a junk shop.

Horseback Camping Trips

Most of our camping trips are not taken on horseback, the short trips are taken that way. But our work and activities, planned for, lended for, and looked forward to by every member of the class is made possible, through the courtesy of the school board, who permit the use of a school bus. We drive only in the forenoon, camp in the open, camp near some swimming place, which must have the added attraction of being near a town booting merchants.

The social activities of the club are not confined exclusively to the boys. In the fall and winter, evening stag parties, consisting mostly of table games, have been extremely enjoyed by the club members in their various homes every two weeks on Friday evenings. The monthly meeting serves refreshments. Much to my surprise the refreshments have always been a very minor detail in these gatherings. The boys have seemed to crave the companionship of each other and thoroughly enjoy it. The idea I have tried to promote is, simple pleasure such as they are able. Instead of people getting together to try to create a set organization top-heavy with form.

The reason I know these recreational activities of my boys have created correct attitudes is that their physical appearance improves, their proficiency falls to zero, their conversation as soon as they are rested a little, always turns to their farm activities.

Lastly, farm shop work is a big factor in convincing farmers that vocational agriculture is worthwhile. Farmers take pride in the construction, repair and improvement of farm buildings, and the non-farm boys are finding the work interesting. They have come to the realization that their physical appearance improves, their proficiency falls to zero, their conversation as soon as they are rested a little, always turns to their farm activities.

In a vocational agricultural training program where the boys are given $20 a month for useful farm employment, the boys are found to do the actual farm work. To convince the farmer that the boys have not been overused. The boys are given a chance to do the work, and they will do the work. The farmer should be convinced of the fact that the boys have not been overused. The boys are given a chance to do the work, and they will do the work.
Greetings From Minnesota

A. M. FIELD
Professor of Agricultural Education, University of Minnesota

ALL those interested in agricultural education in the secondary schools of Minnesota are pleased at the opportunity of having a position devoted primarily to the problems of teaching agriculture to rural boys and girls. We pledge our support to this new enterprise and shall be ready at all times to make whatever contributions we can to assure its success.

In Minnesota approximately 28 percent of the people who are engaged in gainful employment are working in one or more of the many farming occupations. No further argument should be necessary in order to point out the importance of providing suitable educational facilities for those who are to enter upon the work of the farm. In Minnesota an attempt is made to reach the various farm groups thru the following school activities:

1. All-day instruction in the high schools.
2. Part-time instruction in connection with the high school program.
3. Evening school instruction in connection with the high school program.
4. Instruction in agriculture in the upper grades of the rural schools or in the upper grades of city schools where a department of agriculture is maintained.

5. Four state schools of agriculture where courses for the instruction in agriculture of less than college grade are maintained.
6. Cooperation in the state program for boys' and girls' club work.
7. Cooperation in the state program for extension work.

Thru the above educational activities it is possible for all the farm folks to have provided for their instruction in agriculture appropriate to their needs. The part-time and evening school work are provided at a time when the work on the home farm demands the least time. In subsequent issues of this publication each of the various types of work attempted in Minnesota will be described in greater detail than is possible in the space allotment for any one issue.

For the school year 1928-29 there are 57 high school departments where agriculture is taught on a vocational basis. Each of these schools receive state and federal aid to the extent of three-fourths of the cost of the department of agriculture. In addition to the 57 departments there are 16 high schools where a department of agriculture is maintained on a state-aided basis. This makes a total of 73 high schools where agriculture is taught by a well qualified teacher of agriculture.

The Need for More Departments

Minnesota has 255 high schools and 370 consolidated schools where agriculture could be taught to the farm boys and girls who plan to engage in farming as a life occupation. The 73 departments now maintained represent less than 12 percent of the possible number of departments that could be provided. It is estimated that there are 128,000 farmers in Minnesota. If we assume that each farmer remains in the active work of the farm for 20 years, we have an army of 9,400 young men entering the occupation each year. During the present school year approximately 3,000 young people are enrolled for instruction in agriculture. If 75 percent of these people enter upon the work of the farm there still remains about 5,000 young men who enter upon the occupation of farming in Minnesota each year without special preparation. The program for vocational agriculture in agriculture should make it possible for all these young men to receive instruction and guidance in the theory and practice of the occupation they are to follow as a means of earning a livelihood.

Vocational Agriculture at the California State Fair

THOSE who would like to secure an enlarged vision of the place of the schools in a state fair, would do well to examine the recently published annual report of the public school premium offerings of the California state fair, to be held at Sacramento August 31 to September 9, 1929.

There are 72 pages in this booklet which emphasizes above all the vocational phases of public school work. The premium lists for vocational agriculture alone cover 15 pages. The total value of the livestock, poultry, and dairy exhibits totaling $425 are to be given the 10 schools providing the best general exhibits. Prizes amounting to $280 are to be given the 8 vocational agricultural departments with the best books. Two thousand six hundred sixty-eight dollars and fifty cents will be distributed in prizes for project exhibits to students in good standing in the Federation of California Junior Aggies.

The prizes for individual project exhibits are divided as follows:

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\text{Crop} & \quad \text{Farm mechanics} & \quad \text{Science} & \quad \text{Livestock} & \quad \text{Poultry} & \quad \text{Dairy} & \quad \text{Library} & \quad \text{Cooking} & \quad \text{Conservation and water} & \quad \text{Sleep} & \quad \text{Project record books} \\
\$261.00 & \quad \$182.00 & \quad \$115.50 & \quad \$98.00 & \quad \$86.00 & \quad \$86.00 & \quad \$33.00 & \quad \$188.00 & \quad \$125.00 & \quad \$261.00 & \quad \$108.90
\end{align*}
\]

Livestock and dairy products judging contests are held in connection with the fair, for which appropriate trophies and ribbons are provided.

A state fair camp, known as Camp Lillard, has been held each year since 1924 and will be continued in 1929. The camp is a three-day affair, run along semi-military lines. It is limited to agricultural students who, thru meritorious achievement, have been chosen to represent their schools. Not more than four students are allowed for each teacher attending camp and no student is allowed to attend camp more than one year. Students admitted to the camp must meet the requirements of the Federation of California Junior Aggies. Competitive activities are carried out at the camp for which trophies, medals and ribbons are provided.

Yearly Activities of a Junior Farmers' Organization (Continued from page 11)

secretary of the Nebraska Dairy Development Society.

The meetings during the summer have been as well attended and perhaps more interesting than those of the school year. The first meeting of the year was held at the home farm of our president, Rolland Mudge. Professor Lofeld, who has charge of the hog feeding experiments at the college of agriculture, gave a very interesting talk on "Hog Feeding Problems." The boys were free to ask questions, they obtained much information which has helped them in their hog feeding work.

In July we had a picnic at the home of one of our members. A twilight baseball game between the department and the alumni boys was followed by a big pie supper in the woods. The business meeting was held around a council fire prepared by the committee.

Perhaps the outstanding meeting of the year was held in August, when prospective agricultural students were invited. Seventy farm boys were present.

Over half of these were prospective students for the department. These boys were royally entertained by Roy Magnuson, with his banjo, humorous readings and impersonations. Refreshments were served and the boys left with a kindly feeling toward the agricultural department, leaving a rich field from which the instructor may draw his next year's class. The organization will have a membership committee working at school during registration to get acquainted with the new farm boys and help them to enroll in the agricultural department.

In order to vary the programs somewhat and to give the boys a chance to develop all sides of their nature, a social evening was held for the last summer meeting. Most of the boys pledged themselves to take a girl friend to a party held at the farm home of our president. Undoubtedly this party will be remembered with joy for years to come by these farm boys and girls. After a short business meeting, numerous lawn party games were played. After refreshments were served the girl had pledged loyalty to the farm boys of Beatrice high school, all departed sorry that the party was over, but more anxious than ever for the full school term.

One of the major activities of the organization is the sponsoring of the Gage county junior fair. A junior fair board was selected and is holding summer meetings to plan for the fair. Junior superintendents were elected by the boys for each department. The entire bulk of the work and responsibility rests upon the shoulders of these young men, some of whom we hope will be the master farmers of the future.
Our New Reviewing Editor

DR. F. W. LATHROP, of the department of agricultural education of the University of Minnesota, has consented to attempt the difficult task of reviewing the books and other publications in our field for Agricultural Education.

This is an important assignment. It will test his tolerance and the patience with his task. It will also test the patience and the demand of those who are interested in the work. It will stimulate the production of publications which we greatly need, and reward those who produce them.

He has been authorized to be really critical in his comments. Indiscriminate praise of everything that comes out gets us nowhere.

Dr. Lathrop has had special qualifications for this position. Brought up in the eastern states, he has since had many years of experience in the West. He did his graduate work as a member of the New York Rural Survey Commission in 1925. He has been a leader in the agricultural section of the American Vocational Association since that committee was established.

Our readers can assist Dr. Lathrop in his difficult task by sending him copies of books, bulletins, pamphlets, and publications of general interest to the profession. Publishers are requested to supply him with their current publications in agricultural education.

Some Recent Publications


Each state should have such a complete and careful record of the teaching of farm work that all education borders find not only facts, the lessons of experience are brought out.

One cannot help but feel that most states have learned the same lesson. We note the struggle with "book agriculture" in the elementary school, the rapid turnover of teachers of agriculture, the long continued effort to have projects completed, to mention only a few.

In some respects the problems of Mississippi have been unusual. We get some interesting sidelights on the Minimum Financial Goal. The problem seems to be more pressing in this state than in some others. There is a good summary of the survey of vocational agriculture as contained in the O'Shea report (Public Education in Mississippi).

This volume closes somewhat like a school survey, i.e., with a series of recommendations. Some of these do not seem to follow from the previous discussion. The final impression is that vocational agriculture in Mississippi has no firm foundation. Those interested in the administration of vocational agriculture will find this study enlightening and valuable.


This book has the subtitle, "A Source Book in General Agriculture." A textbook for teachers in rural schools, seventh and eighth grades of elementary graded schools, junior high school, and first years of four-year high schools.

The crop and animal enterprises are sub-divided into problems. It cannot be expected that this enormous field will be completely covered in one volume but the subject matter is remarkably well selected. The presentation and illustration are good.

Each enterprise is introduced by a consideration of conditions in the vicinity of the school giving a psychological approach. Thereafter the organization has resemblance to the traditional textbook organization.

The book would be more helpful to teachers if the problems were stated in such a way as to appeal to pupils. For example, under corn, Problem VII, "What is the Composition of a Heart of Corn?" is not a real problem to a seventh grade boy in its present form.

An excellent list of bibliographic references follows each enterprise. The author has honestly stated the limitations of the work. It is unfortunate that bulletins go out of print as some of these have.

This book leaves the impression that it has resulted from a long and successful trend of experience. Herein lies much of its value.


Vocational agriculture receives very good treatment at the hands of the West Virginia Survey Commission, which has a particularly fine report showing grades of thirty-three pages of the report are devoted to agricultural education.

The recommendations of the commission are of particular interest. That the work in vocational agriculture be expanded so that every farm boy in the state having a farm or having a farm which he wishes to farm if he so desires.

That the state provide for intelligent vocational choice be provided through study and participation in the state leadership program of agriculture, the selection of the state leadership program is an indication of the fact that the state leadership program is designed to the training of the state leadership program of agriculture.

That the state pay three-fourths of the local leaders' salaries, the local community one-fourth, the state pay one per cent of the present pupils are farm boys and one per cent of the present pupils are farm boys.

That the provision be made through state assistance for the continued service of a superior service in one subject. This would do much to decrease the turnover and loss of teachers.

That provisions be made for state assistance for the teaching of agriculture so as to provide a three-year course for teachers with a scientific basis for location of departments, work of teaching, would develop a three-year course in agriculture.

That a specific state appropriation be made for vocational agriculture in order to carry out the above recommendations.

A mass of usable data is provided with respect to the vocational agriculture situation in the state. Striking features of the findings are:

1. Only 8.8 per cent of the teachers teach from one to three classes other than vocational agriculture. The average number of classes per teacher in vocational agriculture decreased from 48 percent in 1917-18 to 4.5 percent in 1928-29. Eighty-five of the teachers in 1917 taught only one class in agriculture. This number has decreased to 11 in 1928-29.

Rufus W. Stimson, Pioneer

(Continued from page 4)

Dr. David S. Stimson, Teachers College, Columbia University, was commissioner of education in Massachusetts from 1909 to 1916, says:

"Very early in my experience in Massachusetts I became familiar with the splendid work in the Connecticut school system, prepared by Mr. John V. Ankeny, West Virginia state supervisor of agricultural education.—H. M. H.

Rufus W. Stimson, Pioneer

(Continued from page 4)

Mr. Layton S. Hawkins, now of the Roseman Corporation in New York City, was state supervisor of agriculture from 1911 to 1917 and was the first assistant director for agricultural education for the Federal Board for Vocational Education. He writes as follows:

"I first came in contact with Mr. Stimson when he was appointed by the state of Connecticut to the state board of vocational education in 1909. He was one of the first state supervisors of vocational education in the United States and was at the present time the only one of this type in the state. His work in the state project work in agriculture was in its initial stages. It seemed to me to have developed tremendous potentialities and as a result of his study of his plan we developed a modified plan for the state. It is, I feel, a pleasure to acknowledge Mr. Stimson's contribution to the development of the agricultural education program in the state.

"It is only fair to say that later on, in connection with my work for the Federal Board for Vocational Education, he has only given much thought to the same idea was disseminated throughout the United States, and is at the present time the only one with the same idea being carried on in less than one state. He is in the United States, as a practical matter, as a result of his study of his plan we developed a modified plan for the state. It is, I feel, a pleasure to acknowledge Mr. Stimson's contribution to the development of the agricultural education program in the state.

"To Dr. R. W. Stimson is one of the pioneers in agricultural education in the United States. Many of us have looked to him for the development of the agricultural education programs in the various states. Dr. Stimson has made a distinct contribution to the educational and educational life of rural America.

Professor Paul H. Hanus of Harvard University who was chairman of the committee on extension industrial education, wrote in 1915:

"Massachusetts has been fortunate in having the service which Mr. Stimson has rendered. His development of the project method, for instance, was the first to be carried out in rural communities, as contrasted with the "subject" method, has been much to be desired. His work in this field is, of course, a builder of agricultural education in other states and countries, and if we have been able to render any aid to Mr. Stimson, we have rendered the aid to the cause which he represents to the people of America.

Dr. Lyman Abbott, editor of the "Massachusetts Outlook," after a visit to Massachusetts, said:

"It is a great thing to visit the two-barn/~ plant and see the work of what appears to be the most successful organization of its kind. It is a pleasure to see the work being done in putting together the home work project method developed."

Professor Paul H. Hanus also adds that Mr. Stimson was a leader in the use of the home project method, which was the basis for the work done in the home and the school work.

The Wisconsin and Minnesota educational leaders, Mr. Stimson was a leader in the use of the home project method, which was the basis for the work done in the home and the school work.
AGRICULTURAL EDUCATION

It is impossible in this limited space to give all the favorable comments or to develop further the interesting story of a career.

(From an article by F. E. Held, Amherst, Massachusetts, January 24, 1929.)

Successful Teachers of Vocational Agriculture

(Continued from page 19)

Mr. C. H. Lane, chief of agricultural education service for the Federal Board for Vocational Education, writes:

"I have always thought of Mr. Rufus W. Stimson as the doyen of agricultural education in Massachusetts, as the most outstanding leader in the country with respect to the teaching of vocational agriculture. Mr. Stimson long ago took the position that genuine vocational instruction centered in the home practical and experiences of the individual. He never allowed his group instruction to be based upon the material routine of the program of the boy on his home farm..."

Professor George A. Works, dean of the graduate library school at the University of Chicago, who was until recently head of the department of rural education at Cornell University, writes:

"It is nearly 15 years since I first became well acquainted with Mr. Stimson. The occasion was a week with him visiting his work. At that time I was much impressed with the sincerity of his acquaintance with the work of each school and with the efforts of each pupil. My frequent contacts with him since then have served only to strengthen this first impression. My own opinion is that the proper study of agriculture in Massachusetts and in the country as a whole is under a heavy obligation to the work of Mr. Stimson. He is to be congratulated for this by all those who value the work that was under his supervision as well as to the soundly when broad problems of policy arise."

Mr. Charles A. Prosser, director of the Western Farm and Forest Students' Association, in his recent study, the Agricultural Education Act, writes the following:

"The movement for efficient training in agriculture in secondary grade has received considerable attention in recent years. ... The early days, he conceived the project method as the basic work. All experience proves that the habits of observation and the ability to follow such interests for which he was naturally inclined, to think in connection with that practice."

Mr. Emberg may be regarded as keenly as Roseau or John Dewey and proceeded to apply the principle of agriculture. If one of the best known and most comprehensive in the state, and thusof the training, the cooperation between farm and school and the policies necessary to carry it out. Massachusetts owes much to him, but so does the rest of this country."
Five Years of Expansion Ahead

By PAUL W. CHAPMAN, Georgia

The George-Reed bill is a law. It was passed by the House of Representatives on January 28, and signed by the president about a week later. For the next school year $500,000 will be available to the states. The next year the available funds will be increased by a like sum, making $1,000,000. Other like increases will be made until in 1934 the maximum of $2,500,000 will be reached.

One-half of this money is available for agriculture. One-half for home economics.

For agriculture the money is distributed on the basis of farm population; for home economics on the basis of rural population.

This is the first real federal money home economies has ever had. Thirty-four states get more money under this act than they receive under the Smith-Hughes Act. It will make possible a very great expansion in the home economies program—especially in the rural high schools.

The money for agriculture will, as based on previous growth, make it possible in five years to add from 1,000 to 5,000 schools to the list teaching vocational agriculture. The actual number will be determined by the policies set up by the states for using this money, and by the state appropriations that are made to supplement the funds under the George-Reed Act.

This act, as most teachers of vocational agriculture know, takes its name from Senator Walter George of Georgia, and Daniel A. Reed, Dunkirk, New York. Mr. Reed is chairman of the committee on education in the House of Representatives. The bill was originally introduced in the House by Dr. Frank H. Monieges of Pennsylvania. To take care of changes in the wording of the act, as changed by the Federal Board for Vocational Education, at the suggestion of Secretary Jarvie, the bill was reported out of the committee on education as a committee measure under the name of the chairman.

This law will greatly stimulate the development of vocational agriculture.

It does not provide all the funds asked for—but as Judge Tarver of Georgia said on the floor of the House, "half loaf is better than no bread."

The thing for vocational agriculture workers to do is to plan a five-year period of expansion—using all the fund this bill provides. If we do good work the future will take care of itself. There is no reason to worry because we didn't get the $8,000,000 we needed.

Now that it's all over, after the American Vocational Association fought for more than a year to pass this measure, we can look back and see where we stand.

The most important thing we have is that we have friends. All over the country they came to our aid. Let them know for what they did for us.

In closing I cannot help but say in passing the passage of this bill was brought about by the everlasting effort of people everywhere who have consecrated their lives to the task of getting an even break for the farm boys and girls of this nation. We were told that this bill could pass. We can do anything that's right we work hard enough. May that always be the spirit of vocational agriculture.

A New Opportunity for Farm Boys

By DR. C. H. LANE,
Chief, Agricultural Education Service, Federal Board for Vocational Education

The passage by Congress of the George-Reed Bill is a large factor in establishing public Vocational Education in Agriculture in the minds of our people as a great national undertaking in which the states cooperate to provide something of fundamental importance for the welfare of the more than 29,000,000 people who live on the land.

Vocational agriculture is becoming the great constructive tool of modern rural civilization. A quarter of a century ago agricultural instructional in the public school was but of small importance in the life of the state; today its proper importance in the life of the state is becoming the prime essential to a balanced education for those who live in the open country. In this 25 years agriculture in the schools has been transformed from a little agricultural science of a textbook character into a great state and national undertaking for the preservation and advancement of the intelligence of the rural people and the promotion of the welfare of the nation.

The George-Reed Bill means an added opportunity for farm boys and girls. So, in the words of Walter Malone:

Wail not for precious chances passed away,
Weep not for golden chances on the way,
Each night I burn the records of the day,
At sunset every soul is born again.

Allotment to States for Agricultural Education Under the George-Reed Act

<table>
<thead>
<tr>
<th>STATE</th>
<th>Annual Increase of Federal Funds Available Under the George-Reed Act in Year 1934</th>
<th>Maximum Federal Funds Available Under the George-Reed Act</th>
<th>STATE</th>
<th>Annual Increase of Federal Funds Available Under the George-Reed Act in Year 1934</th>
<th>Maximum Federal Funds Available Under the George-Reed Act</th>
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</table>

TOTAL FOR ALL STATES: $250,000

$1,250,000

Note: The sums set forth are not absolutely accurate for the reason that when they were prepared by the Federal Board for Vocational Education the George-Reed Bill did not provide funds for Hawaii, consequently each allotment will be slightly reduced.