

The College of Agriculture of West Virginia University

ITS WORK AND ITS NEEDS

By E. DWIGHT SANDERSON
Dean of the College of Agriculture

Agriculture the Basic Industry

That agriculture is the basic industry and that the prosperity of all classes of our population is bound up with that of the farmer, is now so generally appreciated, that no argument is necessary in support of the statement. The place assigned to agriculture in this meeting of a business men's organization is evidence of the increasing interest you have in the broad subject of agricultural development. I assume that we agree that whatever is reasonable and just for the development of a better agricultural industry should be done both by the State and by corporations and individuals who have intimate business relations with the farmer. Others here present have presented the need for such work far more eloquently than I could hope to do, and I trust that we are agreed that the question is, "What is to be done?"

The State's Agricultural Agents

In the report of your Committee on Agriculture of last year, it was very clearly pointed out that there are three principal agencies recognized by the State for the development of agriculture; the State Board of Agriculture, the Agricultural Experiment Station, and the Agricultural College. The sphere of each of these was also clearly defined and it was urged that the agricultural work should be so arranged that there should be no overlapping of effort upon the part of these agencies, but that each should support the other in its particular field.

The State Board of Agriculture

Briefly stated, the work of the Board of Agriculture is executive or administrative; it enforces the agricultural laws—for

the most part; it may collect statistics of crops; it manages the farmer's institutes; it has charge of whatever is done to attract farmers to the State and to exhibit the agricultural resources of the State. Its work has been hampered by too small appropriations and somewhat indefinite legislation. The farmers of the State recognize the Board of Agriculture as their representatives in the State government, and take a peculiar interest in its work, so that with increased funds it might largely increase its service to them.

The Agricultural Experiment Station

The Agricultural Experiment Station is an institution for research into the problems which confront the farmer in all phases of his many sided business. It is supported almost entirely by funds appropriated by Congress, specifically for research work. The State makes an appropriation for certain police work in connection with the inspection of fertilizers and inspections of nurseries and orchards, but I believe makes no specific appropriation for experiments or research. The laws under which the appropriations for the experiment stations are made specify that they must publish the results of their work in bulletins and reports which are to be given general circulation, but the officials of the United States Department of Agriculture, who have charge of the audit of the station funds, hold that station funds may not be used for educational work or the general demonstration of well known principles of agriculture, even though they may be new or not generally practiced in the locality in which a station is located. Such work must be done with State funds. The experiment station is essentially an organization of scientists for the discovery of new scientific truth as related to agriculture; its charter does not permit it to carry on a propaganda for the general adoption of the results of its work, except as authorized by State appropriations specifically for that purpose. I mention these matters in detail, because the distinction between these different agencies for the betterment of agriculture is seemingly not always clear in the minds of those not associated intimately with their work.

The College of Agriculture

It is my privilege to present for your consideration the work of the last of these three agencies, the College of Agriculture. The college stands particularly for agricultural education, but in the broadest sense of that term. It is the business of the College of Agriculture to educate the men who may come to it

at Morgantown in practical agriculture, but also to do whatever it can to furnish the same type of education to those who are unable to leave the farm, in so far as this is possible.

The work of the agricultural colleges throughout the country is so well known to you that no explanation of the great work they have done during the past twenty years is now necessary. What has been done by the agricultural colleges in other States can be done in West Virginia by adopting the methods which they have proved generally successful and by profiting by their experience.

The College Course in Agriculture

The College of Agriculture offers several courses to various classes of students at Morgantown, so arranged that anyone who has had a common school education may secure as much agricultural education as he may desire. The four-year college course is of the same grade as those given in the other colleges of the university and leads to the degree of Bachelor of Science in Agriculture. Heretofore, the entrance requirements for this course have been somewhat lower than those of the other colleges, but we expect to make them the same with the beginning of the next school year. The four-year course provides a broad college education in which agriculture is the dominant note. It aims to give the student such a knowledge of the sciences underlying agriculture, that when he goes into professional or practical work, he will, to a large extent, be able to meet and master his own problems. It is often said that the college course leads away from the farm. To a certain extent this is true, but only partly true. We must remember that there is a difference between farming as a trade and the profession of agriculture. To the average man farming is a trade. The expert agriculturist may be a professional man ranking with men in any of the so-called learned professions, for no profession or business can make more practical use of a wider range or deeper study of science, than can agriculture. There is a great demand today for the professional agriculturist. The agricultural colleges, and the rapidly increasing number of agricultural high schools and academies teaching agriculture must have trained instructors; the United States Department of Agriculture and the agricultural experiment stations must have investigators; boards of agriculture, railroads, agricultural newspapers, and many other public enterprises must have men who have been trained in the agricultural colleges. The number of men who will take the college course in agriculture in proportion to the total school population must

always be small, and it is no wonder that among these picked men a large number should become leaders in public work. But most of these men who work on salary for a few years do so merely to acquire sufficient capital to enable them to retire to farm life, for modern farming requires capital, and he who thinks that every young man, upon graduating from an agricultural college, may at once go to farming on his own account, is deeply mistaken. The difficulty today is that so many graduates of our agricultural college find better opportunity and a better income in farm operations than can be offered by our agricultural institutions, that it has become exceedingly difficult to man our colleges and experiment stations with the right kind of men.

There is no reason why the young man who expects to farm should not be as well educated as he who expects to enter the law or medicine; he may use the education to as good advantage and no class of men carry a liberal culture more gracefully than the country gentlemen. For such, is the college course in agriculture.

The School Course in Agriculture

But for every man who goes to college there are a half dozen who never get further than high school, and there are scores who drop out as they near the completion of the common schools. Many of these boys do not go to high school because the usual high school course does not appeal to them. The agricultural high school is undoubtedly the ultimate solution of this problem, and I trust that this Board will give the Dolliver-Davis bill, now before Congress, its careful consideration, as it provides national aid for the maintenance of agricultural high schools throughout the country. Meanwhile the College of Agriculture has the only equipment and staff of instructors for giving a thorough course in agriculture to the West Virginia boys of high school age, and until agricultural high schools are open to them it would seem that they should be given a chance to learn agriculture at the agricultural college. To meet this condition the Regents have recently authorized the establishment of a School of Agriculture at the University, which will commence next fall. This school will be strictly secondary in grade and will take boys over 16 years of age from the common schools. The curriculum will be so arranged that any young man who has had a common school education may come to the school and secure as much agricultural work as he may be able to take. If he is able to stay but a short time, his work will be almost en-

tirely agriculture, particularly along the lines in which he is most interested. If he can stay longer, the course will include English, mathematics, history, and other ordinary high school branches, and if he completes the course, it will fit him for entering the agricultural college. The course will be based upon a term of six months from the third week in September to the first of April, so that the farm boys may be home for spring work, but a spring term will also be offered to those who prefer to remain for a full university year.

These schools of agriculture have been exceedingly popular and successful in other States, and it is evident that they must be when we consider the much larger number of young men who may reasonably be expected to take a high school course than would be able to take a college course. These men need the training of the trade school rather than a professional training in the ordinary sense of those terms. They may be taught the methods of modern agriculture fully as well as in a college course as far as the practice is concerned, but they cannot be taught the why of things as can be done in the college course, and in general they will not be able to command places of as large responsibility as the college trained man. Yet these men who can secure only a high school education will always outnumber the college men at least five to one, and if the agricultural work given them be properly presented it should fit them to become successful practical farmers.

Agricultural Course for Teachers

The College of Agriculture also has a responsibility for the training of teachers of agriculture for our high schools and country schools, particularly the larger consolidated schools which are becoming more and more popular. In our summer schools last summer 160 teachers were enrolled in the classes of agriculture and the number is increasing every year. A special course in agriculture and education for teachers who desire to fit themselves for teaching elementary agriculture will be offered next fall.

Short Winter Courses

In addition to the regular courses mentioned above, a most popular feature of the agricultural work at the University is the short winter courses. This year there will be four short courses, in corn growing and general agriculture, in fruit growing, in home dairying, and a short course in domestic science for women, which will last from January 4th to the 20th. These courses are designed to give practical instruction in the

best methods to busy farmers who can not leave home for a longer time. They are for old men and young men. The instruction is given partly by experts from outside the college faculty, men who have had a large practical experience in the subjects upon which they lecture so that they can get close to their students. The afternoons are spent in practice work in the actual learning of how to do by doing. Grafting, pruning, spraying, packing apples, judging corn, mixing fertilizers, testing milk, making butter, are examples of the work done in the afternoons. The practice is not sufficient to train an expert, but it is sufficient to show the man the right method, and if he has any gumption he can make himself perfect by practice and study at home.

The Teaching Must Be Practical

It is self evident that if this instruction in agriculture is to be of any value it must be practical. One of the most common objections to the work of the agricultural colleges is that it is not practical, and we confess that the criticism is not always without considerable foundation in fact. The farmer is often the first to criticise the work of the college as unpractical, yet he is also often the last man to realize that to make the work practical requires considerable outlay in hard cash for proper equipment, and that it is impossible to so manage the equipment of an agricultural college which is designed for instruction, that it will pay a profit as does the ordinary farm designed solely for commercial purposes.

Equipment Necessary to Teach Agriculture

Agriculture cannot be taught solely out of books, nor by word of mouth by even the wisest of farmers. We have no sympathy with those who deery "book farming." There is no more reason why a farmer may not be benefited by properly constructed books concerning his business, as much as a man may in any other line, and if a student is to study agriculture, he certainly must have books. One of the greatest handicaps in teaching agriculture up to this time has been the paucity of properly constructed text books, such as are now being published. But one cannot learn out of any book how to make good butter. He may learn the principles and methods, but to learn how, he must do the work. Nor can he learn how to prune a tree by looking at pictures of trees properly pruned. Every tree is different and he must do the pruning before he will learn how. And so we might enumerate almost all the common operations of farming, including the feeding of cattle, the

judging of live stock and grains, the care of farm machinery, drainage, spraying, all phases of dairying and many others, all of which must be learned by practice. It is evident, therefore, that an agricultural college, to do any effective work, must have not only suitable class rooms and laboratories, but it must have barns, live stock, orchards, gardens, and fields, where the student can see farm operations carried on in a practical manner and can engage in them.

A Suitable Building Needed

At the present time most of the College of Agriculture is housed in four dark, damp, basement rooms of the oldest building on the campus. The rooms and equipment are utterly inadequate for any effective instruction. More equipment is being secured, but it cannot be housed or used to advantage in the rooms now available. Appreciating these conditions, the Regents and the Board of Control will ask the coming Legislature for funds with which to build a modern building for the College of Agriculture. No one thing will do more for the cause of agricultural education in West Virginia than the erection of such a building.

The Obligation of the State to the Federal Government

Furthermore, the State of West Virginia owes a debt to the National Government in connection with the funds which the Federal Government has given the University for education in agriculture and mechanic arts. The original land grant of 1861, upon which the University was originally founded, was specifically for education in agriculture and the mechanic arts, and yet I am informed that practically no instruction in agriculture was given prior to 1890. In 1890 the second Morrill Act was passed which now gives the University \$20,000 a year, and in 1906 the Nelson Act was passed which will give it another \$20,000 a year after next July. Since 1890, the University has received over \$400,000 from the Federal Government for education in agriculture and the mechanic arts. The equipment and faculty of the engineering college is a credit to the State, but in agriculture, we find but four instructors and equipment worth not over \$500.00 at most. Therefore, I say, the State is in debt to the National Government in having failed to make adequate provision for agricultural education with the funds furnished it. Had it not been for these funds it would have been impossible to have maintained the University without much larger State appropriations.

Students Will Not Attend a Poorly Equipped College

There seems to be a tendency in some quarters to excuse this lack of support of the College of Agriculture on the ground that there have been no students and that the demand for instruction would not justify the outlay for proper equipment and instruction. This argument reminds one of the country store keeper who never has any more goods on his shelves than he is sure of selling within next month or two, and when he is unable to meet the wants of a would-be customer, advises him that he can order the goods for him. You merchants know how much business such a man will ever develop. The purchaser goes to the city where he can buy his goods. So will the West Virginia boy who desires an agricultural education if it is not furnished in his own State. The States on all sides of us have first-class colleges of agriculture, and our men would flock to them were it not for the distance and for the tuition fees which are charged students from outside States. I venture the assertion that there is not an agricultural college in the country which, without equipment or facilities for proper instruction, has ever crowded its class rooms and then secured funds on account of the evident demand for the work. Education follows the laws of supply and demand as does business, but the educational institution which gets the students is the one which "has the goods" and is ready to "deliver them," and not the one which will order them on request.

Gentlemen, we expect the cordial and active support of this influential organization in securing needed funds for the erection and equipment of a building for the College of Agriculture. The State will never make an investment which will pay her better dividends.

The Duty of the State to Educate Men on the Farm

But the College is not confining its work within the walls of the University at Morgantown. It endeavors to extend agricultural education to everyone in the State who desires it. Our educational system is supposedly a democratic one, but as a matter of fact it is only slowly emancipating itself from the aristocratic basis upon which it was founded. The people are now demanding that education not only be free to all, but that it be adapted to meet the needs of all classes and that it must be so organized that all who wish to better themselves may have opportunity to do so. The State undertakes to support public education because it is essential that the citizens of a demo-

cratic government be intelligent, and because better training of its citizens results in the general welfare. Is there any reason then why the State should confine its efforts to educating the few men who may be able to take a high school or college education? Are not the thousands of men and women who are doing the world's work on the farm, in the shop, and in the home, as worthy of education by the State—providing that they wish to secure better education and will seriously endeavor to make use of opportunities offered them—as those who have the means and time to take a higher education? There can be but one answer, if our premises are correct, and this answer is being made by the wide-awake universities and school men throughout the country through the organized university or agricultural extension work. This work is all founded upon the principle that a just system of public education should make it possible for people with limited means and opportunity to acquire knowledge and training in so far as they are capable of it. Many a young man who might be benefited by a college education is compelled to remain at home or to go into business or manufacturing because of lack of money or home responsibilities. Why should his further education be prevented, if he is willing to work for it, when his more fortunate classmate who has the money and the leisure goes off to college, often to but idle away four years which might be better spent? And many a middle aged man, who had meagre educational opportunities as a boy or who grew up before the modern methods of agricultural education existed, now wishes to learn the whys and wherefores of his farm operations. Why should he not be given the opportunity? Will not his increased efficiency benefit the State as much as that of any other citizen whom the State educates?

The Work of Agricultural Extension

It is for these people and upon this basis that we have organized our agricultural extension work. In order to meet the needs of these large classes of our agricultural population we hold that whatever methods are necessary to truly educate them are justifiable and expedient. A one-week school may be the best means, or it may be desirable to hire an expert apple packer and have him assemble the fruit growers in a community and instruct them in the art of packing. The dominant idea is to reach the people who need agricultural education most with the sort of work that most nearly meets their need.

The One Week Movable School of Agriculture

The one-week agricultural school is one of the most popular means of extension work, and has now become a legally recognized feature of the agricultural educational work of the State in Ohio, Iowa and Missouri. Several of these one-week schools have been held in West Virginia during the past two years, and they are becoming increasingly popular. At the present time the demand for them during the present season promises to be greater than we can meet. These schools are conducted at the county seat or most accessible town. Upon the petition of 25 citizens—in other states 50 are required—who agree to attend the school and to pay a registration fee of one dollar, we arrange to hold a week school in that community at the most feasible time. Some particular branch of agriculture in which the community is most interested is made the dominant idea of the week's work, such as fruit growing, dairying, beef cattle, corn growing, truck gardening, or what not. Two competent instructors are sent, with sometimes a third or fourth where local conditions warrant, and regular classes are held for three hours every morning. The afternoons are spent in practice work appertaining to the subject under consideration, as in stock judging, corn judging, milk testing, butter making, spraying or pruning trees, or similar work in which the students learn the actual methods by practice. It is obviously impossible to train a man in a week, but they may be headed in the right direction, and very often that is all that is necessary to divert a man from the way that leads down to failure, into the trail that leads upward to success. Our greatest difficulty in operating these schools at the present time is that we have so few college instructors that their time is entirely taken up with classes which they are unable to leave for this sort of work, and it is exceedingly difficult to pick up qualified men for a week or two. We should either have more men connected with the college, so that some of them can do this work, or we should make definite arrangements with competent men to employ them for these schools during a certain season of the year. Obviously this work is not self-supporting and requires some money to finance it properly.

Correspondence and Reading Courses

During recent years the commercial correspondence schools have done an immense amount of good for ambitious young men, whose educational opportunities have been limited. Incidentally these institutions have made fortunes out of the business. Is it not a reflection on our system of public educa-

tion that these young men who are evidently most anxious to improve themselves, must do so at their own expense, and for the enrichment of private institutions, while others with more means, and who often are not as appreciative of their advantages, are provided with free education in colleges and universities by the State? There seems to be no reason why, if education by correspondence or through reading courses is successful and meets a popular need, it should not be carried on by our State institutions who have the best trained men in the country for supervising it. This has been done in several States with marked success, and thousands upon thousands of farmers have been benefited by them at small cost. Correspondence, or reading courses in agriculture, should be arranged for our farmers and another course should be arranged for aiding and training the teachers of our country schools who are compelled by the State law to teach agriculture, but many of whom are pathetically lacking in knowledge of the subject. Large numbers of them would welcome such a correspondence course. As yet we have attempted nothing along this line, though every few mails brings an application for such work. Some years ago the college had some such work, but the funds were insufficient for carrying it on successfully, and it was abandoned. The college stands ready to take up this work just as soon as it can have men and funds sufficient to start it successfully. Until then we shall recognize the need and endeavor to secure a more general appreciation of the value and necessity of such work.

Helping the Country School Teacher

I have mentioned the teaching of agriculture in the schools. This is to be the foundation of our agricultural education in the future. You are doubtless aware that the vast majority of our youth never get farther than the common schools, and a very large proportion never have over five or six years of schooling. Most of these boys will probably never become leaders, though we always bow to the man who has struggled to eminence with the handicap of a poor education, but they will make up a very large part of our farming population. If they are to receive any agricultural training while young, it must, therefore, be given them in the common schools. We need not enter into any argument as to the wisdom of teaching agriculture in the upper grades of the common schools as it is required by State law. We may, however, meet the champion of the three R's by suggesting that reading does the farmer very important for successful farming, may be taught in the sixth,

seventh and eighth grades by an interested teacher with but little equipment, and will impress themselves upon a boy of that age as will be impossible when he becomes older. Evidently the need is for teachers who appreciate the necessity of this work, are in sympathy with country life, and who have had some training in the elements of agriculture. Our Agricultural College and Normal Schools are doing their best to meet this demand in training the teachers who come to them, but only a small fraction of the country school teachers enter their walls. To help the teacher in the country schools we are just issuing the first number of West Virginia Agriculture, which furnishes the teachers with simple lessons in agriculture with suggestions as to how they should be taught. This will be issued every month during the school year, and the teachers are encouraged to correspond with us concerning methods and problems. As far as possible our instructors attend the teachers' institutes and give instructions there, but the demand for this work is much greater than we are able to meet. It is our earnest hope that before long we may be able to employ a professor of agricultural education who may devote practically his whole time to this school work.

Boys' Corn Club Contests

In connection with our work for the teachers we are starting a campaign among the boys to interest them in better corn. We shall endeavor to secure the co-operation of the county school superintendents and with them to organize the boys in all the leading corn-growing counties into boys' county corn clubs. The boys in each club will compete at a county contest for the best ten ears and the best ear grown in the county of both yellow and white dent corn, and the winners of the county contest will then compete at a State show for the State championship. Such contests have aroused intense enthusiasm among the boys of other States and in several of our own counties, and have given the agricultural work of the school a practical bearing which has added zest to it. Furthermore, there are few fathers who like to see their boys beating them at raising corn, as has been done time and time again, throughout the country, and the result is a very general awakening of interest in corn culture and a general advance in methods and an increased yield. Incidentally, let me suggest that a suitable cup or trophy offered by the State Board of Trade for the boy raising the best ten ears of corn in the State, to be won twice before being retained as the permanent property of the winner,

would be a most fitting evidence of the real interest of this Board of Trade in the "back to the farm" movement.

Showing the Farmer by Co-operative Demonstrations

One other method of extension work remains to be considered, for in many respects it is the most important. I refer to the demonstration work which aims to educate the farmer by actual demonstrations of better farm methods. A surprisingly large proportion of our population hail "from Missouri." Bulletins, agricultural newspapers and lectures are good, but do not always excite the farmer to adopt the methods advocated. But if you go on to a man's place and spray his fruit trees or potatoes, or, better, have him do it under your direction, and have him keep account of the cost and then note the results and profits, he is not converted against his will, but by his own experience, and in such a manner that if he have any ambition whatever, he will continue the spraying in the future. This same method of teaching by demonstrations may be applied in many ways according to the crops and needs of the community. The growing of cotton and corn throughout the South is being revolutionized by the demonstration work of the United States Department of Agriculture under the able leadership of Dr. S. A. Knapp, in co-operation with the State experiment stations and departments of agriculture, and the planters in Texas have found that not only can they grow cotton in spite of the boll weevil, but that there is more money in a better rotation of crops and that alfalfa and hogs form a combination which enriches farm and owner at the same time. Millions of dollars have been spent by the United States Department of Agriculture and the state experiment stations in discovering new scientific facts which are of immense practical value to agriculture. But if they are not used, of what value are they? It is safe to say that our agricultural production might readily be doubled next year if every farmer was to make use of the best information now available which might be applicable to his local problems, and the actual records of many farmers show that the production might not only be doubled but trebled over large sections of the country. Think what this means, when the agricultural products of the United States are now worth nearly \$9,000,000,000 a year. There is no more certain method of securing the adoption of the results of all this research by the average farmer than to demonstrate their practicability to him on his own farm or by means of a demonstration for a community. Thus we have demonstration orchards, demonstration plots of all sorts of crops, cow test associations,

demonstrations in fruit packing, and in all sorts of farm operations. The practicability of the method is so evident that it needs no argument in its support, other than the immense advances which have been made over large sections where it has been generally employed. The only prime requisite for its success is that the demonstration work must be carried on by practical men who are masters of their particular line of agriculture and must be so simple and so well arranged that the results are self evident and cannot be disputed.

No state in the Union offers better opportunity for a general increase in production through the demonstration of better methods than West Virginia. Its farmers are appreciative, wide awake, and eager to learn. They are anxious that such work be done, but they are proverbially weak in the power of organization to make their wants known in such a way as to command legislation and appropriations for it.

Demonstration Work Should Be Done By the College of Agriculture

This demonstration must be done under the supervision of practical experts, not merely experts in the theory, but men who have done and know how to do things as they should be. They are the sort of men whom we must have at the head of the departments of our College of Agriculture. With an organization carrying on various lines of extension work, they may supervise this demonstration work, which should be carried on by assistants. This is the manner in which such work is being done in almost all of the States where it is being attempted. Up to this time what demonstration work that has been done in West Virginia has been carried on by the Experiment Station, but I am assured by its director that the station has made demonstrations merely to meet a popular demand, and that they do not consider it within the sphere of the station as a matter of experiment or research, and will gladly see it pushed more vigorously by the extension department of the college. The college stands ready to undertake this work, providing we have the funds and men, but as with the one-week schools, our instructing force is so limited that we have too few men for the classes at Morgantown and we cannot leave them to undertake more work throughout the State.

You will pardon me for going into detail in pointing out the situation as regards agricultural education in West Virginia as it appears to me after only two months study, but it is only

fair to state that the problem here is very similar to that presented in many other States with which I am familiar, and that my knowledge of the situation here has been gleaned from many men of many minds throughout the State.

The need and the opportunity are both apparent. Will you do your part toward seeing that both are properly met?

