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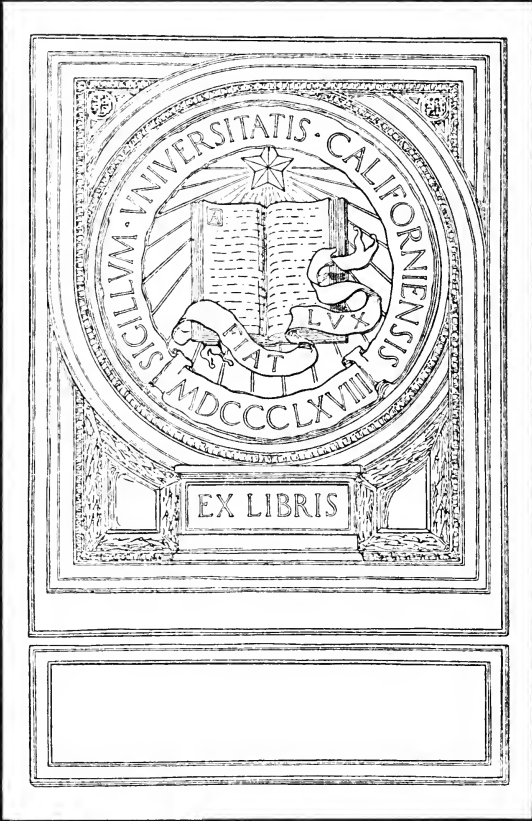


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AN ADDRESS

ON

# NORMAL SCHOOLS OF AGRICULTURE

FOR

FARMERS' INSTITUTE WORKERS.

DELIVERED BY

PROF. JOHN HAMILTON,

BEFORE THE MEETING OF

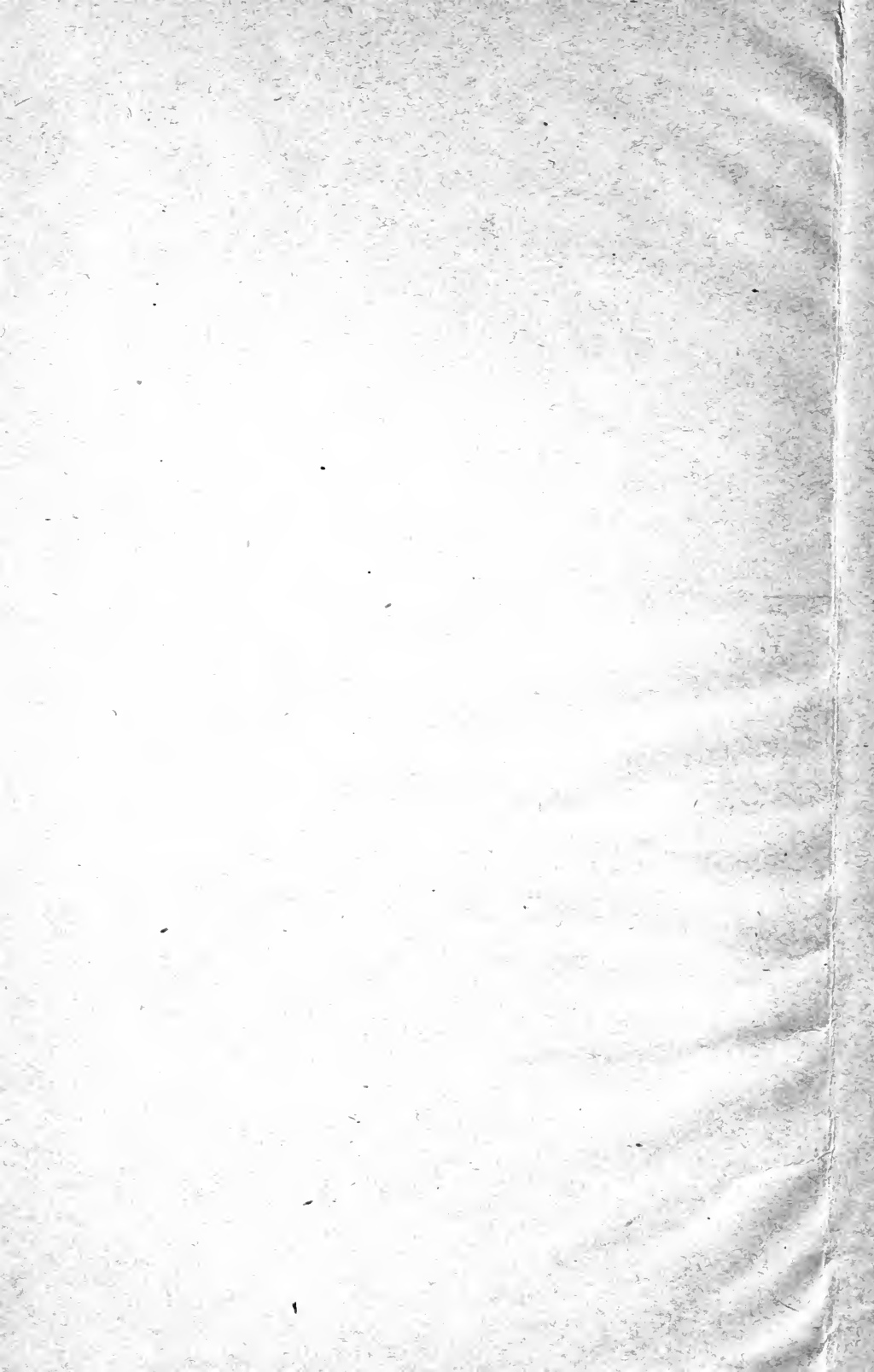
THE PENNSYLVANIA FARMERS' NORMAL INSTITUTE

HELD AT

Bellefonte, Pa., Oct. 11-14, 1904.

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WM. STANLEY RAY,  
STATE PRINTER OF PENNSYLVANIA,  
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## NORMAL SCHOOLS OF AGRICULTURE FOR INSTITUTE WORKERS.

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BY PROF. JOHN HAMILTON, *Farmers' Institute Specialist, Washington, D. C.*

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Farmers' Institute workers, whether they be the managers in charge of the institute organization and responsible for its development and success, or the lecturers or teachers giving instruction in the institute school, occupy an important place in the new agriculture, and are as much a necessity in agricultural education as are machinery and improved animals or plants in modern farm practice. They have come into existence to satisfy a need in farming; the need for reliable and useful information respecting agricultural operations. Every rural community is suffering for lack of this kind of information, whether it be old and highly progressive or new and correspondingly backward. The need is universal; it is urgent, and it is paramount in importance to agriculture.

### SYSTEM OF PUBLIC EDUCATION.

When our system of public education was established it seemed to have been assumed that the adult farmer, by reason of his years, was capable of taking care of himself. That with such instruction as the common school gave, he would be able to understand the forces with which he was to deal sufficiently well to enable him to use them, if not to the best possible advantage, at least skilfully enough to secure a livelihood for himself and family.

So long as soils were new and until their natural supply of immediately available plant food had become exhausted, this theory appeared to be correct. When, however, lands became poor and crops, consequently, began to grow less, and when the best farmers were unable to arrest this decline, it became evident that more was necessary to equip a farmer for his calling than the meager education given in the old-time public school. The days when anybody could farm had departed along with the fertility of the virgin soil that had made such agriculture possible, and the new era—the age of restoration and conservation—was ushered in, in which only the well-informed could hope to succeed.

Even when this became evident, and our fathers undertook to provide relief it did not occur to them that at least partial remedy might have been found in readjusting and improving the curricula of the rural schools, but they left these schools in their old condition and proceeded to establish colleges for the higher education of the sons and daughters of farmers, into which comparatively few could ever hope to enter.

#### FARMERS' INSTITUTES.

The great mass of farmers were unprovided with means of instruction until the farmers' institute was organized about 20 years ago. That it meets a need in agriculture, is shown by the attendance at these meetings last year of about one million farmers, and by the demand that is general in all of the states for a larger number of institutes, and for more and better equipped teachers. All of the states, excepting three, have now adopted a system of farmers' institutes, and in most of them support from the public funds is given in recognition of their educational character and of their great practical value to agriculture. Like every other educational institution, the institute can progress no faster than as teachers are supplied to give instruction, and can rise no higher than as these teachers are qualified for their work.

The farmers' institute is an educational institution, and is dependent directly for its efficiency upon two classes of officers: The managers, who have charge of the organization, and the lecturers, who give instruction.

#### THE INSTITUTE MANAGER.

Unless the managers have, in marked degree, the power of organizing the work upon broad and progressive lines, it will not succeed, and unless they have ideals in agricultural education that are high and far reaching they will be content with inferior teachers and minstrel show entertainments. The need for men of superior qualifications for managers is just now specially important.

The institute movement is in its formative stage, where it needs the most careful planning and direction in order that its organization and scheme of instruction may be perfected. Unless these foundation matters are in capable hands the work will not only not progress but it is sure to rapidly decline. Improvement can only come from careful study of the questions involved in rural education, and by painstaking effort to carry into operation high ideals. Hitherto, there has been but slight opportunity for conference among local managers for determining what are the most efficient methods in institute development, and for settling upon ideals in institute instruction. Those in control of railroads, mills, mines and mercantile



enterprises, find that trained managers are a necessity if their business is to succeed. Formerly, when nothing better was possible, the training came through a long apprenticeship and experience in the practical work of the business. Now it is secured through schools of study, in which principles are taught with sufficient practice to fix the principles well in mind.

A method for the training of efficient managers is a much needed addition to the institutes. These managers are responsible for the form of organization of their local meetings; for the proper advertising of their institutes; the formation of committees; for the preparation of the course of study or program that is to be presented; for the selecting of teachers, the number of sessions, the localities in which institutes are to be held, and substantially for the whole work of organizing and conducting the school. If the series of meetings are a failure the local managers, first of all, are held responsible. If they succeed, it is largely due to the efforts that they put forth.

Success from the managers standpoint at present consists in a full house made up of agricultural people, an interesting and instructive program, and a corps of capable teachers. Success in the future will require much more than this. When the county institute is so organized as to meet each month and have auxiliaries in every township and community, which likewise hold stated meetings; when it will own a farm, stock-breeding barns, plant-improvement plots, and demonstrate the value of methods by practical tests, and when lecturers will be employed by the year, at least one for each county in a state, the position of the institute manager will be wholly different from what it is to-day. He will be a paid official and will need a kind of training that the average manager does not possess; a kind of equipment that can only come from the study of science and from experience in work of experimentation as it is now being conducted by the best agricultural experiment stations of the country. The local manager is destined to be the most important factor in the institute work in the future—a superior man, thoroughly educated and trained.

The line of development in institutes is even now in the direction that I have indicated, and it is likely to be on us as a living question before we are prepared, unless we begin now to educate men for the new duties which the developed system will impose. We are now but in the kindergarten stage of the institute idea in education. The increasing needs of men will demand that it be perfected, and its progress toward this perfection can only be by adding to its power to impart valuable information and by extending it so as to be in some form or other within the reach of every citizen every day in the year; in other words, to make it highly educational and constantly and universally useful. To hasten that day, training schools for institute managers are a necessity.

## THE INSTITUTE TEACHERS.

The other class of workers upon whom the institute is dependent for efficiency is, as has been stated, the force of teachers. Unless this is efficient the institute is a failure, no matter how carefully it has been organized, or how well attended, or how judiciously the topics to be treated have been chosen. The teacher is the life of any school; more than the text-books or buildings or equipment, necessary as these are. If he is uninteresting or otherwise incapable, all of the trouble and expense previously incurred is wasted effort and money; like a great manufactory, equipped with intricate and costly machinery, suited to the production of beautiful and perfect fabrics, but rendered worse than useless by reason of its being manned by unskilled or careless workmen.

Institute instruction is a new profession scarcely 20 years of age in the oldest states. It began in weakness but has grown until now it requires strong men to teach institute audiences. Many who were acceptable lecturers 20 years ago are not now asked to teach. They have failed to keep abreast of the advance of science and their advice is no longer sought. Many also who have succeeded admirably with classes of students in college or university work and whose capability, so far as learning is concerned, is admitted, find themselves altogether unfit to give instruction to audiences of farming people. This work is a profession difficult in the extreme and requires peculiar training and special personal qualities and experience to properly perform. The audiences are composed of all classes, both men and women, boys and girls, the scholarly professional man and the illiterate. The meeting is voluntary; all are free to come or go at will. There are those who are deeply interested in the subjects on the program, and others who care nothing for the topics, a mixed audience, with varied interests and occupations, to be held from 30 minutes to an hour, and given valuable instruction in a way to interest and receive the attention of the thoughtless to the end; all to be accomplished without the loss of dignity by the lecturer and without catering to any popular prejudice that may prevail. To those who think this easy the answer is, attempt it and discover for yourself. To do such work well requires a high order of attainment and the men who completely and conspicuously succeed are few.

Nevertheless, if the institute is to fulfill its mission as a teacher of agricultural truth and is to take its proper place among the educational institutions of the time, it must be equipped in a great degree with precisely such a force. All who undertake to teach in this school of applied science must possess in more than ordinary degree the qualifications that distinguish these superior men. More-

over, if the institutes are to be extended until they reach the many millions who need their help, the force of teachers will have to be increased twenty or even fifty-fold.

#### SUPPLYING INSTRUCTORS.

The important and difficult question that now confronts the friends of institute work is, How can the supply of capable institute instructors be increased?

Hitherto, State directors have depended upon picked-up help for lecture service; upon the agricultural colleges and experiment stations for expert scientists to teach the science of agriculture, and upon such successful practical farmers as can be induced to leave their work and take a place upon the force for giving instruction respecting the practical operations of the farm. The rapidly expanding work of the agricultural colleges and of the experiment stations is each year making it more and more difficult for members of the teaching and experiment station force to be spared from their duties at these institutions. Unless these colleges and stations employ a special force of experts to represent them in the farmers' institutes, the time will soon come when very few of their number will be in the institute field. Even now, many directors are dependent almost entirely upon laymen for service as institute instructors, with the prospect that, unless something of the kind suggested is done, of being wholly deprived of college and station help.

For the year ending June 30, 1903, the colleges and stations of the United States furnished 196 members of their staffs for the institute work out of a total of 924 lecturers on the force. These lecturers contributed 1,666 days of time out of a total of 4,880 days of institutes reported, being 20 per cent. of the lecture force, and showing that they were present at 30 per cent. of the institutes held. In 13 states and territories the entire institute work was performed by the agricultural college and station men, and in five others more than half of the force was made up of college and station officials. It is evident that unless some means are devised for aiding the colleges and stations in these states, that very soon the institute work must be abandoned and what has been gained at so much cost and effort will be lost.

#### SOURCES OF SUPPLY.

There are three possible sources of supply for the institute lecture force. The first is from the faculties of the agricultural colleges and the staffs at the agricultural experiment stations. The supply from these sources, as the colleges and stations are at present or-

ganized, cannot be materially increased and is likely to diminish each year, as these institutions expand their work. The second is, for these institutions to employ a special force of experts who shall be field men, who shall represent them in the institute work, and also be itinerant instructors in agriculture in the intervals between the regular periods of institute service. Such a force could be indefinitely increased, according to the appropriation that could be secured for meeting their salaries and expenses. Such action on the part of these institutions would be most advantageous to them and be of great assistance to the institute work.

The third method for enlarging the force of teachers, is, for the State directors to search out capable farmers who have succeeded along at least one line of agriculture, and train them for institute teaching work. The supply of such men ought to increase each year as better methods of agriculture become known and practiced and as the colleges send out graduates to take up agricultural pursuits. Most of these men have had excellent training along practical lines which fits them for institute work as no mere theoretical knowledge possibly could. They lack, however, an important qualification which every capable teacher of agriculture must possess; the ability to give the reason or explanation of results so as to get at the principles that control and affect the result. They also need to know and to use the exact methods in experimentation and interpretation of the results that the skilled investigator employs. They must acquire the scientific method, so as to be able to present in a convincing way the principles that they advocate. They must adopt the method that takes nothing for granted in an experiment; that leaves no gaps unaccounted for, and no parts unexplained.

#### INSTRUCTING THE LECTURERS.

Some institute directors have come to see that something must be done to insure that their lay teachers are informed in regard to the present status of knowledge respecting their specialities, so that there may be no conflict in teaching among the members of the force. With this in mind, the director of one state—New York—has been assembling for a few days each year his entire lecture force at the State Experiment Station and at the Agricultural College to receive instruction. Last year this course was extended to cover two weeks, during which expert teachers of agriculture science gave lecturers upon their several specialities for the benefit of the institute lecture force. Other states have been doing similar work.

These courses of lectures were designed for the lecturers now composing the institute crops. However valuable such a course so given may be to the existing force of teachers, it will not meet the needs of

the work unless it brings into the service others who are needed and who might become, if trained, valuable additions to the institute. The school that is to meet the needs of the institute work must go further than provide for the giving of a few days instruction to the lecturers now at work. It must reach out to the many successful and intelligent farmers of the country who, if discovered and given proper opportunities, would soon equal if not surpass those now teaching in institutes. The problem is not merely how to increase the efficiency of the present workers, although that is very important, but to discover some practical and effective means for permanently and rapidly increasing the number.

#### EFFECT UPON PRODUCT.

If a sufficient force of teachers of agriculture were at work constantly in each state instructing farmers and demonstrating the value of new crops and new methods, the production of the country would speedily be greatly increased.

Five dollars added to the value of each dairy cow would increase the wealth of the farmers of the United States over ninety millions of dollars (\$90,563,535).

Two dollars added to the value of each of all other cattle would increase it by over one hundred million dollars (\$102,652,102) more.

Ten dollars to each horse would increase their income by over two hundred and thirteen million of dollars (\$213,168,880).

Thirty eggs added to the annual production of a hen, whose average yearly output is now but 66, when it might be 200, would add over \$64,000,000 (\$64,706,669).

One pound to each chicken at ten cents per pound would amount to over \$23,000,000 (\$23,359,808).

One-fourth increase to the present product of fruit would amount to over \$19,000,000 (\$19,118,319).

One-third added to the present product of potatoes and grain would be more than \$524,000,000 (\$524,540,836).

One-third added to the staple products would amount to over \$306,000,000 (\$306,618,511), and with like additions to other crops and animals not enumerated, would reach a total of \$1,442,419,469, all added to the present product and all going into the farmers' bank account.

This prepares the way for the more direct discussion of the topic assigned me in this paper—"Normal Schools of Agriculture for Institute Workers." What kind of a school should this be? ✓

#### OF SUPERIOR GRADE.

A school for preparing men and women to become efficient workers in farmers' institutes ought not to be of an elementary or primary

grade. The kind of information that is needed in institutes is the latest and most advanced, and if the workers are to be able to furnish it they must have had the advantage of superior training. The best is none too good, and only the best is good enough. This means that the force of teachers must be composed of capable men, thoroughly informed with respect to the sciences that affect agriculture and with the details of practices that are most approved. No half-educated scientist is fit to teach in such an institution, any more than a half-trained classical scholar is fit to teach in the University of Athens.

The men and women attending such a school have had for the most part much experience in practical agriculture and most of them have more than ordinary education. They come not for general culture, but for receiving instruction in some speciality in which they are already well-informed. They are, therefore, in a sense post-graduate students of agriculture so far as their specialities are concerned.

#### MUST TEACH SPECIALITIES.

The school that is to be adapted to their wants will need to provide for the teaching of numerous specialities. This will necessitate a large faculty of expert specialists to give instruction, all of whom should be teachers of experience. Specialities in institute work differ in character from those ordinarily taught as specialities in college. A man who lectures in the institutes on dairying is a specialist in institute work. But in a training school for preparing men to give instruction on dairying, there would be needed the services of several specialists: One on bacteriology, one on chemistry, one on animal physiology, one on animal nutrition, one on the management of milk and cream and one on butter and cheese; all experts, whose special qualifications are needed to train the institute lecturer who is to make the giving of dairy instruction a speciality. A similar force of experts will be needed for the proper training of specialists along other lines, thus requiring a large number of skilled teachers to properly equip such a school.

#### ORGANIZATION OF A NORMAL SCHOOL.

How shall such a school be organized? Experiments in normal school work for institute workers have thus far been confined to assisting the lecturers and have not included the other classes of workers known as the managers or directors of the institutes, who, as I have indicated, will be equally important features in the institute of the future. The number of managers will greatly exceed that of the lecture force by several times. Experiments thus far made also show, with a reasonable degree of certainty, that no single state

is at present able to establish, equip and properly conduct a normal school of agriculture such as the institute work now demands for the education of its lecturers.

The first practical difficulty in the way of any state undertaking to establish such a school is the fact, that the institute lecture force in most of the states is comparatively small. Because of this and by reason of the limited number of instructors available at any one institution, it is almost impossible to divide the lecture force into classes of sufficient number that the instruction given may be suited to the peculiar needs of the several lecturers in the line of their specialities. Unless this can be done each student will be obliged, if he wishes to occupy his time, to attend all of the lectures, whether the subjects are those upon which he desires information or not, and thus during the entire course he may have had but one or two lectures on his particular speciality.

The second difficulty is, that most of the agricultural colleges and experiment stations are not as yet sufficiently equipped in their teaching force of experts to do more than cover a quite limited range of topics. Some institutions make a speciality of a single phase of agriculture, as animal husbandry, forestry, irrigation, plant breeding, soil physics or other branches of farming, and are not prepared to give advanced or post-graduate instruction in the particular subjects which the institute lecturer expects to teach.

A third difficulty is, that no one institution can afford to give the use of its teaching force for the length of time needed to make a course effective. A four or six weeks' term is an impossibility for any agricultural college or experiment station, and yet this is not too long for institute workers to devote to the study of their several specialities. One week is about as much as any institution can contribute annually outside of its regular work, and this is too short a period for the proper treatment of the subjects that need to be considered.

#### SEVERAL STATES UNITE.

For the present and until the agricultural colleges have been greatly strengthened and until the institute force has been greatly enlarged, it will be necessary for several states to unite in a normal school to be held at different institutions each year and to be equipped with a teaching force contributed by each. This would overcome the difficulties mentioned, and make it possible to classify the students and thus enable them to devote their time to subjects that more nearly relate to their several specialities. No one institution would be seriously embarrassed by the loss of the number of its teaching force, which it would be called upon to furnish, and

the additional number of subjects offered in such a school would give a character to the meeting and enthusiasm to the teachers and scholars that would do much to popularize it and give it standing among educational institutions.

An essential feature of a school that is to train institute lecturers is, that it shall be in contact with field demonstrations or experiments in agriculture that are conducted along scientific lines. By changing the location of the normal school each year to a different institution, the students would have the advantage of contact with a wide range of experiment work, and thus be far better equipped for giving instruction than would be possible if they had only visited a single institution. The expense to the students would be but slightly increased by this method, and the extended acquaintance with fellow-workers and college experts thus formed would be of lasting benefit. States might be grouped whose agricultural interests are most similar, as for instance, New York, New Jersey, Pennsylvania, Delaware, Maryland and Ohio. These six states represented in 1903, an aggregate instruction force of 217 lecturers. Fifteen of these lecturers were reported as being connected with the experiment stations of the several states or the faculties of their agricultural colleges, leaving 202 who would be likely to be in attendance at a school formed by a union of the six states designated. If there were added to these, one local manager for each county in these six states, numbering 262, there would be a total of 464.

It is reasonable also to expect that others, knowing of the normal school of instruction provided and of its high character, would be attracted in perhaps considerable numbers, thus adding to the classes that would annually assemble.

Suitable courses of study for such a school could be prepared by the deans of the agricultural faculties of the several agricultural colleges and by the directors of the experiment stations of the states interested, together with the State directors of institutes for these states, this body forming a board of control. These representatives could also select the teaching force or faculty of the normal school each year, and make requests to the respective institutions for the assignment of the persons selected.

The courses of study should be constructed so as to require at least two years for their completion, and a certificate could be given to those who satisfactorily pass the examinations in any one or more of the courses offered.



## EXPENSE.

The average cost to the students in such a school need not exceed \$100 per term of eight weeks, distributed substantially as follows:

A matriculation fee of .....	\$25 00
Eight weeks' board and room, .....	40 00
Certificate of graduation, .....	5 00
Transportation charges, .....	30 00
	\$100 00

The cost for maintaining such a school would vary as the faculty is increased. No doubt the work could be begun with a force of 12 lecturers on the faculty staff, or two from each state, changing the men from time to time as the needs of the school required. The college and station officers and the State directors would no doubt contribute whatever deficiency might arise from the failure of the matriculation fees to meet expenses. The matriculation fees of 250 students would amount to \$6,250. The salaries of 12 professors for two months at \$100 per month would be \$4,800; salary of a permanent secretary would probably be \$1,000, making a total of \$5,800 for these items. There would also be the expenses for postage, advertising, traveling expenses of the board of control, and other incidental items. It would be expected that the halls, recitation rooms, and equipment for illustrative purposes would be furnished by the institution at which the normal school is held.

A graduate school of agriculture, similar in character to the normal school just stated, was held at Columbus, Ohio, for a period of four weeks, and was supplied with a faculty of 35 teachers at a cost slightly less than \$4,000 for the term (\$3,945.12).

## WHAT MAY BE ACCOMPLISHED.

What such an institution could accomplish in an educational way in fitting specialists for their duties by devoting their attention to a single study, can be approximated by considering what is now accomplished in fitting young men in college in the line of mechanic arts in the brief space allotted to such study. Sixteen weeks of six days each in the two-years' course proposed for the institute lecturers, with three hours each day given to lectures on a speciality, three hours to practical work, and one hour to a lecture on some subject of common interest, would give 288 hours to instruction in the students' speciality. This amounts to 96 hours given to lectures on general subjects; 283 hours to practical work; library reference work and special reading, two hours each day, 192 hours; a total of 9 hours per day for study, recitation and practice work, or 864 hours given to

instruction, all but 96 of which are devoted to a special line of study.

Compare this with the hours assigned to special topics in the course of study for an agricultural college, as prepared by the committee of the Association of American Agricultural Colleges and Experiment Stations, submitted at the meeting of the Association held in Washington, D. C., November 17, 1903. The time given includes the practical as well as the class-room work.

	Hours.
Chemistry, .....	330
Botany, .....	180
Physiology, .....	180
Horticulture and forestry, .....	180
Veterinary medicine, .....	180
Zootechny, .....	160
Agronomy, .....	140
Zoology, .....	120
Dairying, .....	70
Meteorology, .....	60
Farm mechanics, .....	60
Rural economics, .....	60
	1,720

Here are 12 agricultural subjects, with a total of 1,720 hours, or an average of 143 hours to each, the highest being chemistry, with 330 hours. This comprises the agriculture in a 4-years' college course, while in the normal school, as outlined, each speciality could, if necessary, in the 16 weeks have devoted to it 768 hours, or more than four times as many hours as are given to the highest number in the 4-years' course just quoted, except the number given to chemistry, which includes 150 hours for general chemistry.

The Pennsylvania State College gives 390 hours to French, and 400 hours to German. Harvard University requires in its classical course 570 hours in Greek, and the Divinity School at Yale devotes but 1,036 to its entire 3-year course of preparation of men to preach the Gospel.

#### CAPABLE OF EXPANSION.

Another feature of these institute normal schools of agriculture is that they are flexible, capable of unlimited expansion at very little increased cost. No money is needed for apparatus or libraries or buildings or land, animals or equipment. All that is expended goes into teaching and all that is required for expansion is to add from time to time to the faculties of instructors as the students in-

crease and the courses of study multiply. A greater or less number of states can unite as circumstances warrant; the number can be re-adjusted as experience demonstrates to be necessary.

#### PLACE INSTITUTE EDUCATION WHERE IT BELONGS.

The union system, moreover, will interest all of the colleges and experiment stations in the institute work; will give the advantage of wise counsel in the preparation of its courses of study; will secure uniformity in teaching and in the subjects taught and will place the moulding of institute education where it legitimately belongs, in the hands of institutions whose distinctive work is to give instruction in agriculture.

#### INSTRUCTION BY LECTURERS.

The instruction in such a school would of necessity be given by lectures. To make these lectures most useful in their immediate effect as well as permanently valuable, and also that the time of the professors and students may be most advantageously used, full notes and a syllabus should be prepared and printed by the instructors for distribution to their classes before the lectures begin. No lecturer should be engaged to teach who would not supply such a syllabus. It is important that the students shall have the lectures throughout in the exact form in which the lecturer presents them, inasmuch as many of the facts given are to be quoted in their subsequent work as teachers in the farmers' institutes of the country.

#### INITIATING THE MOVEMENT.

Who shall take the initiative in the inauguration of such a set of schools? First—The plan should be approved by the American Association of Farmers' Institute Workers, and second—It should be taken up by the National Association of Agricultural Colleges and Experiment Stations and thoroughly discussed in all of its details. If found to be feasible, a meeting of the State institute directors, with representatives of the National Association of Agricultural Colleges and Experiment Stations could be had, the plans be perfected, the states be grouped, teachers be selected, and all arrangements made for the immediate opening of the schools.

Such a set of schools properly equipped will do as much to assist farming people as any other single institution in existence, important as many of them are. The providing for the instructing of men and women out on the farms so that they may understand the mysteries of their occupation, teaching them to believe in it and love it, is worthy of the efforts of our most earnest and capable educators, and the maintenance of such a system is a duty which each state will, according to its ability, no doubt cheerfully undertake.

## THE NEXT GREAT ADVANCE.

Interstate normal schools of agriculture for institute workers is the next great advance that the institute movement is destined to secure. When this is had, then the great need of the institute movement will be supplied. The need for means for equipping a large number of capable and enthusiastic men and women who shall carry the news of a better agriculture to farming people. When such institutions are established, many problems that now retard the progress and development of country life will speedily and satisfactorily be solved.

## SUGGESTED GROUPING OF STATES AND TERRITORIES FOR NORMAL AGRICULTURAL SCHOOL PURPOSES.

Groups.	Lecturers.	Number of counties.	Agricultural population.
Group 1.			
Maine, .....	9	16	243,063
New Hampshire, .....	14	10	118,948
Vermont, .....	26	14	138,830
Massachusetts, .....	68	14	165,515
Rhode Island, .....	1	5	25,713
Connecticut, .....	21	8	119,003
Total, .....	139	67	811,072
Group 2.			
New York, .....	66	60	1,010,376
New Jersey, .....	38	19	160,111
Pennsylvania, .....	58	67	1,077,661
Delaware, .....	19	3	45,260
Maryland, .....	7	24	230,480
Ohio, .....	29	89	1,237,790
Total, .....	217	262	3,761,678
Group 3.			
Virginia, .....	3	118	867,758
West Virginia, .....	16	55	487,070
North Carolina, .....	8	97	1,145,765
Tennessee, .....	7	96	1,135,585
Kentucky, .....	11	119	1,153,032
Missouri, .....	31	115	1,340,079
Total, .....	76	600	6,129,279
Group 4.			
South Carolina, .....	12	41	759,959
Georgia, .....	8	137	1,077,136
Florida, .....	22	45	187,989
Alabama, .....	11	66	1,060,644
Mississippi, .....	15	75	1,075,030
Louisiana, .....	13	59	554,031
Arkansas, .....	*	75	870,878
Total, .....	81	498	5,585,667
Group 5.			
Indiana, .....	39	92	973,870
Illinois, .....	84	103	1,219,852
Michigan, .....	97	83	993,342
Wisconsin, .....	22	73	825,278
Minnesota, .....	13	85	779,470
Iowa, .....	*	100	1,037,811
Total, .....	255	536	5,727,823

Groups.	Lecturers.	Number of counties.	Agricultural population.
<b>Group 6.</b>			
Kansas, .....	16	108	763,186
Nebraska, .....	33	90	564,072
North Dakota, .....	11	43	217,657
South Dakota, .....	*	57	249,776
Colorado, .....	9	55	104,701
Wyoming, .....	*	14	27,296
Montana, .....	16	28	60,588
<b>Total, .....</b>	<b>85</b>	<b>395</b>	<b>1,987,276</b>
<b>Group 7.</b>			
Texas, .....	*	220	1,768,251
Indian Territory, .....	*	8	187,579
Oklahoma, .....	6	26	289,188
New Mexico, .....	5	22	55,272
Arizona, .....	4	22	30,362
<b>Total, .....</b>	<b>15</b>	<b>298</b>	<b>2,330,652</b>
<b>Group 8.</b>			
California, .....	23	61	308,891
Oregon, .....	6	38	163,760
Washington, .....	3	42	155,430
Idaho, .....	9	5	74,091
Nevada, .....	5	17	8,170
Utah, .....	10	29	96,308
<b>Total, .....</b>	<b>56</b>	<b>192</b>	<b>806,650</b>

\*No report of lecturers.

## SUMMARY.

Group 1, .....	139	67	811,072
Group 2, .....	217	262	3,761,678
Group 3, .....	76	600	6,129,279
Group 4, .....	81	498	5,585,667
Group 5, .....	255	536	5,727,823
Group 6, .....	85	395	1,987,276
Group 7, .....	15	298	2,330,652
Group 8, .....	56	192	806,650
<b>Total, .....</b>	<b>924</b>	<b>2,848</b>	<b>27,140,097</b>













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