Report of Secty

FARMERS' COOPERATIVE DEMONSTRATION WORK.

October 20, 1909.

Any observer of farm crops in the United States has noticed that a few farmers secure a good yield almost every year regardless of seasons or pests, while the great majority of farmers make only moderate returns the best seasons and between these secure partial yields or have total failures. The advent of the boll weevil in the cotton states accentuated this situation and enormously multiplied the failures till a total wreckage of that great fiber industry was threatened. Primarily to meet this condition the Farmers' Cooperative Demonstration Work was inaugurated upon an extensive scale by the Bureau of Plant Industry in January 1904.

The central feature of this work consists in placing a practical object lesson before the farmer, through demonstrations made by the farmers upon their farms, exemplifying the best and most profitable methods of producing the standard farm crops. It is an effort to show the farmer a way to help himself under such direction and guidance as this Department may be able to furnish.

The most important factor in the improvement of agricultural conditions is the man on the farm. Unless he can be aroused and impressed with the necessity of securing better results there is little hope of permanent reform

in methods. The evolution in the man must come by personal achievement and the only achievement open to the average farmer is greater accomplishment upon his own farm. A better crop, or a better farm, or better conditions of life give him local prestige and leadership. As far as practicable it is the plan of the Cooperative Demonstration Work to secure enough object lessons in each county to permit one or more to come under the immediate observation of every farmer and then to secure the cooperation of all for further trial.

This method of teaching appeals as forcibly to such as do not read as to those who do. It reaches and convinces all classes and apparently is the only method by which rapid and radical changes of methods long established can be secured.

If the increasing demand for the work is a measure of the value, it is certainly accomplishing the objects for which it was inaugurated. It has increased in the past six years from one field agent to 362, and from one farm under supervision to over sixty thousand including the farms classed as cooperating. The work is now, more or less extensively, in twelve states, and has been influential in securing to considerable extent the addition of humus to the soil and an improvement of soil conditions, a better preparation of the soil for crops, the use of better varieties of cotton and corn, almost universal attention to seed selection, more intensive cultivation, better storing of crops, the production upon each farm of

the foods necessary for the support of the families and teams working the farm, more pastures and meadows, more and better teams and implements, more live stock, great improvement in farm and home conditions, more months of schooling, and better rural conditions.

As organized under the Bureau of Plant Industry the working force consists of 1 director, with 6 assistants, a chief clerk, an accountant, 16 clerks and stenographers, 10 state agents and 352 district and traveling agents. Weekly itinerary and field reports are made to the director, giving full statement of farms visited, work accomplished and meetings held. Besides the general meetings, many field meetings are held on the demonstration farms to inspect the crops and discuss the best methods. During the year our agents have traveled by private conveyance 536,548 miles and by rail 453,774.

This amount of work could not be done solely with the appropriations made by Congress.

ADDITIONAL AID.

The General Education Board has very materially aided this rapid extension of the work and is at present paying all the expenses in five states except where local aid is granted. This work is done under the direction of the Department. The sum appropriated by the General Education Board to be expended in extending this work for 1909-10 was $102,000.00.

In addition a large number of counties in Mississippi,

North Carolina, Texas and other states have made considerable contributions to secure additional time and service by a local agent of the Department. That is, when the Department funds were only sufficient to employ a man a part of the time the county supplemented the amount and secured full time.

In the Boys' Corn Clubs of the Southern States there were enrolled the past year 10,543 boys, who were required to work a plot of ground upon their fathers' farms under instructions from the Department. These demonstrations served a double purpose, practical education and encouragement to the boy and a valuable lesson to the farmer, as the yield of corn on the boys' plots was generally many fold the average product of the farm. Greater interest in this work was manifested by the citizens of the county than in demonstration work among adult farmers. Ten thousand dollars in prizes were contributed by public spirited citizens to encourage boys' corn clubs in the past season.

The Farmers' Cooperative Demonstration Work, as a method of practical instruction, has been widely adopted by colleges, normal schools, industrial schools, rural high schools and some common schools in the management of the farms or plots of land attached. Some rural schools have asked cooperation to work land for instruction, the proceeds to be applied for the purchase of a library or the extension of the school term. In a similar way church societies have placed lands under the demonstration agents to provide funds for special expenses.

The Farmers' Cooperative Demonstration Work has especially appealed to the colored farmers and has been helpful in improving their farm methods and in promoting better conditions of living.

A recent letter from Prof. C. M. Conner, Acting Director of the Bureau of Agriculture, Philippine Islands, states "We published in the August number of the Philippine Agricultural Review a brief statement of the plan and purpose of the Farmers' Cooperative Demonstration Work in the Southern States. In an editorial we have commended it for the consideration of the people and of the Philippine Legislature. This plan, it seems to me, has many features which commend it as a possible scheme for promoting agricultural development in these islands."

MY HOPES AND IDEALS FOR THE FARMERS' Cooperative DEMONSTRATION WORK IN THE SOUTH.

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The Farmers' Cooperative Demonstration Work is an organized system by which the simple and well-established principles of successful farming are taken directly to the man on the farm.

It is a well known fact that there have been for many years farmers who have made a pronounced success of their farming operations. These men have always secured larger returns per acre than their neighbors. The effort of the Farmers' Cooperative Demonstration Work is to bring farmers generally up to the standard of those who make a success of their farming operations. I do not need to say that the influence of this work has now been felt in every Southern State. A comparison of statistics in the table published with this article will be sufficiently convincing to anyone, especially when it is known that the averages mentioned in the table are collected from the very large number of demonstrators who have followed the teachings of the Department. This work goes directly to the problem of securing the adoption of modern methods of farming by obtaining the close cooperation of a large number of farmers in raising crops under improved practices. Its teachings are simple and direct,

well proven and practical, and not theoretical and experimental. The results have been certain and progress rapid. There has not been a year since the establishment of the work in 1904 that has not shown marked increase in the number of demonstrators and in the number of agents employed.

A systematic effort to increase the earning capacity of the farmer is the primary step in all effort toward rural progress. Every subsequent step is dependent upon the increase ~~of the farmer's~~ ability to afford the improvement. This is the fundamental principle upon which Dr. Knapp proceeded in extending and systematizing the Farmers' Cooperative Demonstration Work. In working out the principle there are four great objects ~~to be aimed at~~ at which to aim. First, a better return per acre at a less cost, by the use of better methods and modern labor-saving implements. Second, the building up and maintaining of soil fertility by proper farm practices. Third, the production of home supplies ~~of food and feed~~ for man and beast. Fourth, the ~~adoption~~ adoption of sound business principles in farming, by operating on a cash basis instead of a credit basis in the production of all crops. In fact, these four great objects might be consolidated into one by saying that this work seeks to establish happy, contented and prosperous rural homes.

Emphasize Each one

The South has before it an era of agricultural advancement which, it seems to me, is bound to bring it into great prominence and great prosperity. One of the healthiest indications of this tendency is the growing feeling of cooperation

existing between all men who are working along similar lines in the South. Its great educators get together for conference, its commercial organizations meet in conventions to consider the interests of the South generally, and its agricultural colleges, commissioners of agriculture, and the workers in the Department of Agriculture at Washington are steadily growing into closer touch with one another under a more broad-minded appreciation of the work being done by each of these great forces. The load pulls easily when ~~the~~ your neighbor's team ~~is~~ and yours are hooked ~~in with yours~~ to ~~your~~ the same wagon.

The greatest step that has been taken in recent years is the awakening of the South to the fact that it could grow corn. I need not refer to the well known fact that in 1910 the South increased its crop of corn by practically a billion bushels, if we include the State of Missouri as part of the South. The increase in nine of the Southern States that have not heretofore been considered corn-raising States was ~~685~~ 158,294,000 bushels or forty-five per cent of the total increase of the United States. While it is true that the acreage in corn was increased it is likewise true that every Southern State increased its average production per acre in corn and some of them made this increase to a considerable degree. The progressive farmers of the South have also been brought to realize that they have an abundance

of crops which can be raised for grazing purposes and for hay. With the clovers, cowpeas, and other leguminous crops the farmer of the South has wonderful possibilities, not only for restoring nitrogen and humus to the soil but for producing crops with which to feed his stock, and we must add to these the small grains for winter grazing and the grasses which may be used for permanent pastures. Corn, hay and grass mean livestock, and, if we can only get rid of the tick in the South, it possesses the greatest possibilities as a ~~livestock~~ cattle-producing country of any section of the United States. The tendency is ~~all~~ in ~~that~~ the direction of livestock and many hundreds of small hog farms are being put in; counties and States where formerly no hogs were ever shipped to market are now producing them for shipping purposes; silos are being built, and dairies on a small scale are being established here and there all over the South. These are but the indications of the future great growth in this direction.

It seems to me that the ideal situation for the Southern farmer is diversified farming. In boll weevil sections the ~~Department~~ Demonstration Work is rapidly showing the farmers how to raise cotton under boll weevil conditions, ~~and diversified farming is being rapidly established whereby~~ the farmer produces his cotton in spite of the weevil if he follows the directions, and more often than not produces more of a crop per acre by following modern methods than he did by following old methods before the weevil came. The man who thinks that the South should go

out of the cotton business or should abandon the great hold it now has on that wonderful industry, ~~it seems to me,~~ has not thought very far into the future. The cotton crop of last year was worth approximately nine hundred and fifty millions of dollars, or more than any other farm crop produced in the United States, except corn. By modern farming methods the Southern farmer can produce as much cotton on less acres; can produce corn sufficient for his own use in a modest stock-raising venture; can produce his own forage crops, and grazing sufficient to enable him to raise hogs and cattle. Stock-raising means the production of the valuable home manures so necessary in keeping up fertility of soil. And these, in combination with the rotation of crops possible under Southern conditions, will enable the Southern farmer to maintain his soil fertility so that his land ought to constantly improving instead of deteriorating. That is my ideal for the Southern farmer of the cotton belt.- to have a good home, with pleasant surroundings; to produce the home supplies; to keep plenty of good chickens, a little dairy, some livestock, especially hogs; to produce all the grazing and feed this livestock will require; to produce his own corn and grow his cotton as a cash crop. I believe it is perfectly possible for the South to maintain her supremacy in cotton-raising under such a system. These are my ideals and hopes for the Farmers'

Cooperative Demonstration Work in the South. I need not say that they were the hopes and ideals of Dr. S. A. Knapp in his great efforts for rural uplift in the South. All I have sought to say is that these hopes and ideals still exist and that it will be my earnest effort to work for a realization of the ideals by carrying on the Demonstration Work in the same way that it has been carried on heretofore, carefully cooperating with every great force that is striving to benefit the common farmer. In an address before the Legislature of the State of Alabama, Dr. Knapp said: "I would rather bring an ounce of hope to the common farmer than to carry a bag of gold, no matter how heavy that bag of gold might be." I want to adopt that statement. The carrying of hope to the common farmer has been the object of the Farmers' Cooperative Demonstration Work. I know and understand from experience the hardships, privations and difficulties of the common man. The difference between hopefulness and despair is the difference between progress and stagnation. The five hundred and fifty men employed in the Farmers' Cooperative Demonstration Work are daily bringing hope to the farmers in the South. During the present year somewhere close to one hundred thousand farmers are receiving instructions and approximately thirty three thousand are being visited every two weeks or at least every month. The work of the Department of Agriculture and of the Agricultural Colleges

and Experiment Stations in research, garnering, from the field of the unknown, knowledge that is rapidly being ~~sifted to~~ refined for practical usefulness, is of vast importance to the present and future progress of American farmers. Extension work, agricultural trains, farmers' institutes and short courses are of great importance in carrying these messages to the farmer but often the lessons they teach are not adopted because there is no one to follow up the lesson by personal contact with the farmer while he is working out the new method. That is the job of the Farmers' Cooperative Demonstration Work. It goes into the highways and byways of the South, seeks out the poor and debt-ridden farmer as well as the good farmer and gets him, by a personal supervision, to a point where he has self-reliance sufficient to carry on his farming operations under modern methods. This work has accomplished a great deal of good in the South and has brought great benefit to the Southern farmer. A careful estimate of the value of this work to the demonstrators and cooperators alone on their demonstration plots, to say nothing about the influence upon surrounding ~~plots~~ crops, places it at approximately five million dollars increase to these men ~~in the South.~~ last year.

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thirty-three thousand are being visited every two weeks or at least every month.

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THE FARMERS' CO-OPERATIVE DEMONSTRATION WORK.

It frequently occurs that in attempting to do something every method is tried but the simple, direct and natural way by which it alone can be easily accomplished.

Agriculture has ever had a host of friends and well-wishers who tried almost every method to foster the interests of farmers except going directly to them and proving there was a better way than following the old methods, which yielded little profit, disgusted the over worked children and ruined the farms.

The necessity for doing something to thwart the boll weevil caused the general application of the Farmers Co-operative Demonstration work to the South.

The object of the Farmers' Co-Operative Demonstration Work is not only to place a practical object lesson, illustrating the best methods of producing standard farm crops before the farm masses, but to secure their active participation in such demonstrations to an extent that will prove that the average farmer can do better work and will do it if properly approached. These demonstrations must show that better and larger crops can be raised on the average farm, and at vastly greater net profit per acre. Incidentally they are designed to prove that there is no necessity for this wide-spread deterioration of the farms and the general poverty of the masses on the farms. Like all grrat reforms,

do for his neighbor to take it for him.

The remedy for poverty of the farmers is:

1. Better drainage of the soil.

2. Better tillage of the soil.

3. Rotation of crops and soil renovation by the use of Legumes and winter cover crops (oats, wheat, etc.)

4. The judicious use of commercial fertilizers.

5. Greater care in selecting and planting seed.

6. The use of more horse power and better machinery.

7. The raising of more and better stock.

8. Keeping an account of the cost of farm operations.

The Co-Operative Demonstration Plan.

The Cooperative Demostration plan is a method adopted by the United States Department of Agriculture, Bureau of Plant Industry, to reach and influence farmers to accept and follow better methods of farming.

This is organized upon the following plan: General Director with a competent office force, State Agents, District Field Agents, Sub Agents, Demonstrators and Cooperators.

A District Field Agent is a Special Agent of the United States Department of Agriculture, who superintends "The Farmers' Demonstration Work" in a certain district.

A Sub Agent has in charge a more limited territory than a District Field Agent.

A Demonstrator is a practical farmer who works a portion of his farm under the supervision of a Field Agent or Sub Agent, which tract he is expected to inspect at least monthly and reprt

on same.

A Co)operator is a farmer Wo agrees to follow the instructions of the Department and make a general report at the end of the season.

The work is in no sense experimental: no experiments are tried; the instructions are not new nor doubtful; Everything recommended has been fully tested by practical farmers.

The agents are expected to visit as many centers of influence in their districts as possible, and by personal effort secure the cooperation of bankers, merchants and farmers in this co-operative work; also always interest the editor of the local paper. Second, establish near these centers the special demonstration farms, then secure co-operatoes. Small, thrifty and energetic farmers will generally do better as special demonstrators. Large farmers have too much business to give our work the requisite attention. The agent must use judgment in selecting co-operators and secure men who will follow instructions and report.

Field agents must keep a firm hold of two things to be accomplished: First, that the special farms and co-operators follow our instructions. Second, they must secure the reprts of these famms so as to prove that the increased crop is due to our methods.

Special Demonstration Farms.

It is our plan to establish the most advanatgeous locations, not less than two Special Demonstration Farms if from one to five acres each, near some small town or trading point. If there are several different types of soil in the community and within

walking distance, if possible, of the railroad depot. The party accepting a Special Demonstration Farm is to furnish the land, labor and fertilizers that may be deemed necessary, free of charge. The amount of land agreed upon is to be prepared, planted and cultivated by the owner as directed by this department or its special agent. The owner is also to keep as accurate account as possible of all the soil and crop history, of all cost of cultivation, and of the yield of the crop, and furnish it to this department at the completion of the demonstration. The products of the field belong to the owner.

Co-operators.

In addition to securing these Special Demonstration Farms as any farmers in the immediate vicnity thereof as will agree to co-operate with us are enrolled. These co-operators are to plant any area they may prefer; but it is not best for them to plant more than they can till well in any crop in co-operative work. They are to make reports to this department of the growth, cultivation and yield of such at the ~~time~~ close of the season, when requested to do so, and are also to agree to follow the instructiobs of this department or its special agent in the cultivation and preparation of the agreed area. The department will furnish all information and plans for the crop. Each agent should so guage the number of Special Demonstration Farms that he will be able to visit them at least one day a month. He should notify all co-operators of that community in advance, just when he expects to be upon the Special Demonstration Farm, and request them to meet him at that point. We will thus be able to illustrate the

improved methods more effectively, and we think such instructions will be better understood.

To have this plan inagurated farmers should be encouraged to establish special seed plats on every farm and special seed farmers in every county.

The importance of using the best seed cannot be too strongly emphasized.

That the work of this department is bearing good fruit is evidenced not only by the favorable reprts constantly coming in, but also by the fact that we are daily receiving requests for its extension into new territory. It is believed that an adherence to the plan outlined above will not only make our work more effective, but will enable us to extend that work, even with the means at our disposal.

Remeber that our work is in no way experimental. Its object is to teach the farmers the best and most improved methods as determined by the various experiment station and the U. S. Departmet of Agriculture. To this end it is well to impress upon all the advisability of not planting too large an area and confining operations to the more common and better known crops, to wit:

Farmers' Co-operative Demonstration Work.

There has been some misapprehension among farmers in regard to the Farmers'Co-operative Demonstration Work. Many have supposed that the insrructions all come from Washington, and were not adapted to Southern conditions. This is not correct. The instructions given out for this work are made upon the following plan:

First, there is a compilation of all the information

obtainable in the U. S. Department of Agriculture and all the experiments relating to a given crop by the Experiment Stations in states is carefully made. Then the experience, in planting, of a large number of the best farmers ih the United States working along the same lines is carefully noted. In addition to this observation and experience of all the Travelling Agents of this Department are brought to bear upon the instructions to correct any defect. Thus our instructions have the following elements of perfection: First, what the Department at Washington knowsfrom its vast stores of information about field crops; secondly, what the State Experiment Stations have demonstrated to be the most advantageous; thirdly, what the best farmers have tested and proven the most successful upon the farm; fourth, the knowledge obtained by the travelling agents of our Demonstration Work, who especially visit and have personal knowledge of the States in which they are stationed. Even then our instructions are along the lines ofcorrect principles, leaving many details to the good judgment of the farmer?

In this Co-operative Work great stress is laid upon a more thorough preparation of the soil in the fall. The effect of using good seed is not sufficiently appreciated, nor perhaps is it understood just what makes good seed. It must be the very best variety, carefully selected, early in the fall, and stored in a dry place.

Our reasons for very frequent cultivation are, the admission of air, the conservation of moisture in the soil and the prevention of surface crust. The farmer may say that this frequent cultivation is so much work for nothing, but he will find in the

fall abundant pay for every day's toil in the crib and granary.

Young plants require excellent cultivation, just as young animals require the best of food and care.

The judicious use of Commercial Fertilizer is one of the most important improvements in modern agricluture, for it furnishes plant food directly and indirectly to the young plants.

No farmer need wait for some chemist to analyze his soil, and tell him what to do. The cotton and corn tell the while story, and explain to the farmer even more than the chemist can tell. If the plants are vigorous, then a fertilizer with considerable phosphoric acid and very little nitrogen should be used in the fertilizer. For sil building we musr depend largely upon barn-yard manure and leguminous plants, such as cow-peas. The put nitrogen in the soil and when plowed under add humus. An intelligent following of the foregoing suggestions will double the crops of the average farmer.

It is recognized that the reforms necessary to revoluntionize agricultural conditions are mainly changes in farm equipment and practices. It will be noted by referring to our remedy for poverty on the farm that the first thing is to get the standing ater out of the soil. No use in theorizing; everybody knows that wet land will not successfully produce an agricultural crop. The remedy is to open, ditch or tile the tract. The second remedy is better tillage of the soil, which involves deeper fall plowing. Several plowings, pulverizing all clods and making a garden land of the soil before planting. The cultivate the crop intensively. This may require better implements and more teams and stronger

teams and undoubtedly will require more energy on the part of the farmer. Just so to the end of the list; it is something to be done in every instance. How is the farmer to be influenced to do these things?

There is but one sensible way and that is to send men to w him in whom he has confidence and show him on his farm what is required. Even then only a few will fall in line the first year, but the second year men who could not be reached through their judgments are reached through their pocket books and more follow, until all finally follow or quit farming. The world's competition is becoming more strenuous every year and it will increase geometrically as the years go on. In every division of the world's work, wherever it is necessary that there be specific accomplishments men are sent to see that the work is done. This is true whenther in lines of trade or morals. This is especially important in agricultural reforms. The farmer lives remote from reliable sources of information; he is liable to imposition from interested agents and he has learned the lesson of distrust; he is subject to waves of depression that sweep over a community; just when or how they arise no one can tell, but they are disastrous. I have known the farmers of a county to be paralyzed by the rumor that no cotton crop would be made that season and half the tenants prepare to abandon their crops when one of our agents visited that teritory, restored confidence and a profitable crop was made. Of all classes of men the farmer is benefitted the most by this personal element in the work. The farmer who works

his land by a lot of antiquated notions requires the personal element to induce him to substitute modern methods and the farmer who begins to awaken is in a dangerous condition for he is apt to believe too much: For example, he is impressed with the great value of commercial fertilizers and he depends upon them solely for increased production; or he becomes enthused over better seed and he purchases at high prices every year for his entire crop. The average farmer who depends solely on purchased fertilizers and high priced seed will eventually learn his mistake. The gardenr may do it and succeed; not the average farmer. He should plow under green crops; he should manufacture fertilizers by using vegetable mold, the leaves, the straw, the barn yard manure and the waste of the farm and supplement with commercial fertilizers.

Every farmer should buy enough of the best variety of seeds every year fro a seed plat. He thus tests the plant and produces his own seed for the following season. In our Farmers' Co-operative Demonstration Work all our agents are drilled not only in successful crop production, but in thrift, economy on conservative lines - in values as well as methods and these lessons are taught to the people.

The results have been phenominal. Tens of thousands of individuals have changed their methods and have passed from poverty to comfort.

Recently a farmer wrote that he took instructions from us four years previously and had made a good crop every year since, even the present year, and that he taught the plan to a neighboring colored farmer and this colored fa mer had in four years bought and

paid for a farm.

Business men clubs have taken a hand and have given influence and financial aid. Within a few days the President of such a club has written that the club is trying to establish one thousand demonstration farms of one acre each on our plan.

Counties are aiding the work and apparently all the commonwealth of the South are uniting to place agriculture upon a high plane of prosperity, but most of all that body of great philanthropists , the General Education Board of New York, has placed its money and influence at the service of the farmers of the Southto help them to secure a fair share of the wealth, comforts, education and all the good things of the present age by earning them through a more remunerative toil.

S. A. Knapp.

Address care Bureau of Plant Industry,

Washington, D. C.

Dr. Knapp is the Special Agent in Charge of Demonstration Farm Work in the South. He has local agents in the different States. Mr. T. O. Sandy, of Burkeville, Va. is the local agent in charge of the work in Virginia and inquiries should be addressed to him with reference to the establishment of Demonstration Farms in this State. Ed.

Year Book Article

THE FARMERS' COOPERATIVE DEMONSTRATION IN THE BUREAU OF PLANT INDUSTRY.

The aim of the Farmers' Cooperative Demonstration Work is to place a practical object lesson before the farm masses, illustrating the best and most profitable methods of producing the standard farm crops, and to secure such active participation in the demonstrations as to prove that the average farmer can make a much larger average annual crop and secure a greater return for his toil.

This work also shows that there is no necessity for the general deterioration of farms and the too common poverty of the rural masses.

Briefly stated, the salient features of the rural lessons given by the farm demonstration work are as follows:

(1) Better drainage of the soil.

(2) A deeper and more thoroughly pulverized seed bed; deep fall breaking (plowing) with implements that will not bring the subsoil to the surface.

(3) The use of seed of the best variety, intelligently selected and carefully stored.

(4) In cultivated crops, giving the rows and the plants in the rows a space suited to the plant, the soil, and the climate.

(5) Intensive tillage during the growing period of the crops.

(6) The importance of a high content of humus in the soil. The use of legumes, barnyard manure, farm refuse, and commercial fertilizers.

(7) The value of crop rotation and a winter cover crop on Southern farms.

(8) The accomplishing of more work in a day by each laborer by using more horse power and better implements.

(9) The importance of increasing the farm stock to the extent of utilizing all the waste products and idle lands of the farm.

(10) The production of all food required for the men and animals on the farm.

(11) The keeping of an account with each farm product, in order to know from which the gain or loss arises.

PLAN OF ORGANIZATION.

The Farmers' Cooperative Demonstration Work is conducted by a special agent in charge, who reports directly to the Chief of the Bureau of Plant Industry. A corps of field agents, classified according to territory in charge, as State, district, and county agents, is employed. The county agents are appointed mainly on the advice of local committees of prominent business men and farmers conversant with the territory to be worked. Each agent has in charge the practical work in one or more counties, strictly under such general directions as may be issued from the central office at Washington, D. C. The field agents are selected with special reference to a thorough knowledge of improved agriculture and practical experience in farming in the sections to which appointed.

District agents are expected to have not only a knowledge of scientific agriculture, but to be practical farmers and to have had considerable experience in the demonstration work. State agents are strong and capable men, who have shown their ability to successfully carry out the instructions of the central office over a large territory, and they are especially qualified for the work by the possession of the tact necessary to influence men.

The term "demonstration farm" is used to designate a portion of land on a farm that is worked strictly according to our instructions. This is visited by an agent as often as once a month, if possible, to see that these instructions are carried out and to give any further advice necessary.

A "cooperator" is a farmer who agrees to work a part or all of his crop according to our instructions.

The demonstration work may be regarded as a system of adult education given to the farmer upon his farm by means of object lessons in the soil prepared under his observation and generally by his own hand.

The teaching by object lessons is more effective where it is simple, direct, and limited to a few common field crops, such as cotton, corn, cowpeas, and oats in the South, so that the comparisons may be evident and accepted at a glance. If general success can be secured with these standard crops, further diversification follows as a natural result.

The instruction given for the first year mainly refers to the method of making a larger and more profitable crop at a reduced cost of production and consists of four lessons called

"The Primary Lessons."

1st - The best seed bed and how to make it.

2nd - The best seed of its variety and how to obtain it.

3rd - Frequent and mainly shallow cultivation of the crop - how and why.

4th - The use of better teams and tools to secure more economic production.

The principal defects in the seed bed for farm crops in the South is shallow breaking (plowing), failure to fully pulverize the soil before planting, insufficient humus in the soil and defective drainage. Such a seed bed can never produce maximum crops. It carries insufficient moisture for periods of drouth and has an excess under heavy precipitation. During most of the period of growth the plants are insufficiently nourished, either from inability to obtain sufficient food through lack of moisture or a too diluted nourishment throu h excess of moisture. The result is a small crop.

The simple remedy is deeper breaking in the fall. Thorough use of disc and harrow, plowing under of green crops at frequent periods and an improvement of the drainage by ditches or tiles,

One cause of the general shallow breaking in the Southern States is the single mule used on many farms (See figure 1) and the light mules where they are used double. The introduction of the disc plow as shown in Figure 2 enables one man to do nine times the work in a day of the one man in Figure 1, and do it easier. The one man with one mule is expected to break an acre a day three inches deep; one man

with a disc plow and four large mules will average three acres a day, nine inches deep on rather stiff soil and do a better job.

Prior to the commencement of the Demonstration Work the average farmer in the South gave little attention to Seed Selection; corn was culled in the spring from the crib and cotton from the gin-run pile and planted without testing it. The result was a poor stand - a condition that can rarely be remedied.

THE SEED.

The Demonstration Work requires seed of a known type, carefully selected, graded and stored for the first years planting and for each succeeding year the planting of a small field remote from any grain crop of the same type; this seed patch to be specially prepared, fertilized and planted with the seed selected in the field the previous fall when the grain was ripe, and stored in a dry place.

CULTIVATION.

Great use is made of the section harrow before and after planting and when the plants are quite small. Cultivation of cotton or corn in rows is at first deep, but shallow and frequent after the plants are ten inches tall. This conserves the moisture.

In the practical application of these instructions it has been found that the best seed bed added a hundred per cent to the average crop on similar lands with an average preparation; planting the best seed made a gain of fifty per cent, making a total gain of two hundred per cent on a crop

three times the average. With better teams and implements this greater crop is made at less cost an acre. The profit increases faster than the yield. If the net profits on a crop of corn yielding twenty bushels an acre, valued at 75 cents a bushel, be$3.00, on a crop of sixty bushels the net profit would be $33.00 an acre - that is the profit is ten fold where the gain in yield is three fold.

It generally requires two to three years to thoroughly impress the farmer that this lesson of making a greater yield per acre is a practical method of farming applicable to his entire farm. The first year he rarely carries out the entire plan. He has not qyite faith enough or possibly the season is adverse, but he generally succeeds so much better than he expected that the second year's trial is more thorough with a correspondingly increased gain.

The farmer is a natural doubter. When he has harvested the larger crop the second year he is frequently inclined to attribute it to one thing, generally the seed, because this is most in evidence, instead of distributing the credit between the better seed bed, the better seed and the intensive cultivation. Frequently his neighbors, full of the one idea merit, offer five dollars a bushel for the seed, thinking that the seed alone will make the crop. The third year the demonstration farmer is generally more of a convert and enlarges his trial area, frequently including his entire farm. In the mean time his neighbors have been observing and have commenced to inquire and follow the example.

It requires from three to five years to have the in-

creased yield show a considerable average gain in the local markets. This depends, however, somewhat upon the number of demonstrations established in a county. Where one can be placed in each neighborhood the progress is rapid because the interest soon becomes intense. If only one or two demonstration farms are established in a county it does not create interest enough to arouse public sentiment and create at once a strong opinion in its favor.

As soon as the primary lessons, as above explained, have been accepted and tested by a farmer a secondary series are commenced which include

1st - Demonstrations in conserving and enriching the soil by the use of legumes and winter cover crops. This involves simple crop rotation and the turning under of green crops; also the prevention of soil waste by erosion.

2nd - The value and uses of barnyard manures and commercial fertilizers and how to apply them.

3rd - Simple methods of farm drainage.

The third series of lessons relate to the better pasture and meadow and how to secure them; the most economic grain crops for work animals or to produce flesh additional to the pasture and meadow grasses. The third line of instruction is necessary because the economic production of farm crops depends in a great measure upon an economic support of the work teams.

The general method among the small farmers of the South was to depend mainly upon corn fodder and corn. Some had pastures but rarely a good pasture. This method is expen-

sive and caused a reduction in the number of animals kept for work to the smallest number possible and a corresponding substitution of hand labor. Modern methods of farming require considerable increase in the number and strength of teams. Profitable farming has become a team and implement problem. The improved pasture and cover cured hay furnish foods of great economy and are sufficiently nutritious for ordinary support of work stock. For heavy work a small addition of grain to the ration is required. If it be necessary in the interests of economy to produce upon the farm the food for the work animals it is still more important to produce as far as possible the food required by all the laborers and their families. The family garden, the poultry and the cow are great cash economizers and pocketbook conservors and may be classed with the better teams and tools as essential to better farm equipment.

BOYS' CORN CLUBS.

One of the very great problems before the American people has been how to interest in rural life and attach to the farm the young man who has acquired a liberal education and displayed a capacity for leadership. The loss of rural leaders by emigration to the city has been one of the most serious retrogressive factors in our whole civilization. The Farmers' Cooperative Demonstration Work has solved the problem. These young men left the farm because they were repelled by the hardships, excessive toil and meager gains on the farm and were allured by a seemingly greater op-

portunity to acquire wealth, influence and position in the city. The demonstration work undertook to create in the school boy a love of the farm and a new hope by showing the wonderful possibilities of the soil when properly managed and the ease with which wealth and distinction are achieved in rural life when science and art join hands. This is worked out by a co-operation of the demonstration work, the county superintendent of public instruction and the rural teachers.

The superintendent and teachers organize the school boys over ten years of age into clubs; the demonstration work furnishes the plan of organization and the instructions, (which the boys agree to observe); the respective parents furnish land, teams and implements; the merchants and bankers provide the prizes and the local papers give the publicity. Each boy must personally work one acre under the same regulations. The result of 300 to 400 boys entering such a contest in a county arouses intense interest. The boy learns how to raise corn or cotton the best way and his appreciation of the farm is greatly enhansed.

In 1909 the boys in the corn contest of one county in Mississippi averaged to produce 74 bushels of corn per acre while the farmers averaged less than 20. In South Carolina one boy raised 152-1/2 bushels on a measured acre while the state average was less than 16.

FIELD MEETINGS.

A very valuable method of instruction introduced by the demonstration work is the field school. Previous to the day the local agent of the work expects to visit a demonstrator

he notifies all the cooperators in the vicinity to meet him there on a certain date at a given hour. Thus a number of good farmers discuss the methods and place a value by comparison upon the work done. See Figures 5 & 7. The same method is employed in the selection of seed corn. See Figure 6.

Figure 4 represents a meeting of farmers called to compare with each other the seed corn they expected to plant. Such is the isolated situation of the average farmer that he may continue for years to believe;he has the best seed of the several crops he produces;unless he is brought into direct public comparison and competition with other farmers to test the value of education by comparison and competition - not in a fair or exhibition where prizes are to be awarded and only the best specimens are brought, but as a mere exhibit of what the farmers expected to plant without any assorting. The farmers in the first congressional district in North Carolina were invited to assemble in March 1909 at central points and each bring about 50 ears of the seed corn they expected to plant. These were arranged on a long table in the public square, the owner's name being conspicuously attached to each pile. (See 2 samples Figure 8.) Expert judges were present to select and test. Some corn was brought that tested less than 45 per cent of fertile grains. At the close of the meeting over 90 per cent of the corn samples went for stock food and was replaced by purchasing a better variety or quality.

INCIDENTAL TEACHING.

In addition to the demonstrations made to teach the best methods to secure the largest yields of field crops with the greatest economy, incidentally there is much instruction along the lines of rural improvement, the better home, its equipment and environment, the country roads, the school at the cross roads, rural society, etc. The average farmer takes it for granted that an agent of the Department of Agriculture is authority upon all lines of husbandry and innumerable inquiries are made of him about the dairy, the breeding and management of farm stock, horticulture, market gardening, insect pests, etc. All this incidental teaching is done without demonstration by referring the parties to the several Bureaus in the U. S. Department of Agriculture, or request is made that a bulletin be forwarded them by mail.

In still another way the Farmers' Cooperative Demonstration Work is helpful; the many scientific divisions of the Bureau of Plant Industry are annually making discoveries of great value to the people in a way so effective that they will adopt them. A bulletin does not do this with the average farmer. The agents of the Farmers' Cooperative Demonstration Work can place these improvements or discoveries in the hands of men that will utilize them to a profit because they are in touch with all the people. Thus the demonstration work is a means of disseminating information for all the Bureaus of the Department that are close to rural l life.

HELPTUL IN OTHER WAYS.

In the Southern States where there are some white and many negro farmers who can not read there is liable to sweep over a section a wave of depression amounting to a doubt about making a crop which may cause a perceptible reduction in the acreage planted, if it comes prior to planting, or if later reduces the tillage of the crop or may result in its total abandonment. Nor is this wave of pessimism confined to the unlettered. Where crops are made on the advance system it may take such hold of the merchant and the banker that they refuse to make the necessary advances, which forces the labor and the tenant farmer to remove to territory where the advences can be obtained. In Harrison County, Texas, in 1907, about five hundred tenants and laborers were preparing to abandon the farms after the cotton crop was up through fear that they could not succeed in making it and it required the utmost effort of the demonstration agents to prevent them from carrying out their plans. The same cause enormously reduced the cotton acreage in Louisiana and Mississippi in 1909. The agents of the Farmers' Cooperative Demonstration Work have been exceedingly influential in restoring and maintaining confidence among all classes.

INFERIOR SEED AND FALSE METHODS.

It is astonishing how much inferior seed is sold to farmers. It may be inferior in quality or the seed may be good and the variety inferiot. Agents hawk them about to the detriment of everyone who purchases. Other fakirs advocate

new and unproven times or ways of planting or of cultivation to the general detriment of the farmers. Our agents have been helpful in maintaining conservative and sane practices.

TWO VIEW POINTS.

The Farmers' Cooperative Demonstration Work may be regarded as a method of increasing farm crops and as logically the first step towards a true uplift, or it may be considered a system of rural education for boys and adults by which a readjustment of country life can be effected and can be placed upon a higher plane of profit, comfort, culture, influence and power.

Because the first application of this demonstration work is to show the farmer how he may more than double his crop at a reduced cost of production it has been regarded by some solely as a method of increasing farm crops at a reduced cost of production by applying scientific principles to the problem. This would be of great value to the world and would stand as a sufficient justification for the efforts put forth and the expenditures involved but such a conception would fail to convey the broader purpose of this work.

There is a body of knowledge of wide application and helpful to husbandry annually worked out and made available by the scientists in the United States Department of Agriculture and in the State Experiment Stations and by individual farmers upon their farms, which is sufficient to readjust agriculture and place it upon a basis of greater

profit: to reconstruct the rural home and give to country life an attraction, a dignity and a potential influence it has never received. This body of knowledge can not be conveyed and delivered by written message to the people in a way they will accept and adopt it. This can only be done by personal appeal and ocular demonstrations. This is the mission of the Farmers' Cooperative Demonstration Work and it has justified its claims by the results.

It is noteworthy that the sciences adopted the demonstration method of instruction long since. The chemist and the physicist require their students to work out their problems in the laboratory. The doctors and surgeons must practice in hospitals and mechanical engineers must show efficiency in the shops to complete their education. The Farmers' Cooperative Demonstration Work seeks to apply the same scientific methods to the farmers by requiring them to work out their problems in the soil and obtain the answer in the crib. The soil is the farmers' laboratory.

How can the better and more economic methods of tillage, the improved implements, the seeds of stronger vitality and greater adaptation and many valuable improvements in farm economy, be so successfully taken to the farmer for his adoption as by demonstration at his home? The wholesale merchant no longer depends solely on advertizing to increase his sales; he sends an agent with the goods. The Farmers' Cooperative Demonstration is a delivery of the goods.

The demonstration method of reaching and influencing the men on the farms is the only plan by which radical improvements can be wrought out with certainty. It is destined,

therefore, to ultimately be adopted by most civilized nations as a part of a great system of rural education.

THE FARMERS' COOPERATIVE DEMONSTRATION WORK ~~IN THE BUREAU OF PLANT INDUSTRY.~~

The aim of the Farmers' Cooperative Demonstration Work is to place a practical object lesson before the farm masses, illustrating the best and most profitable methods of producing the standard farm crops, and to secure such active participation in the demonstrations as to prove that the farmers can make a much larger average annual crop and secure a greater return for their toil.

This work also shows that there is no necessity for the general deterioration of farms and the too common poverty of the rural masses.

Briefly stated, the salient features of the rural lessons given by the farm demonstration work are as follows:

(1) Better drainage of the soil.

(2) A deeper and more thoroughly pulverized seed bed; deep fall breaking (plowing) with implements that will not bring ~~the~~ too much of the subsoil to the surface.

(3) The use of seed of the best variety, intelligently selected and carefully stored.

(4) In cultivated crops, giving the rows and the plants in the rows a space suited to the plant, the soil, and the climate.

(5) Intensive tillage during the growing period of the crops.

(6) The importance of a high content of humus in the soil. The use of legumes, barnyard manure, farm refuse, and commercial fertilizers.

(7) The value of crop rotation and a winter cover crop on southern farms.

(8) The accomplishing of more work in a day by each laborer by using more horse power and better implements.

(9) The importance of increasing the farm stock to the extent of utilizing all the waste products and idle lands of the farm.

(10) The production of all food required for the men and animals on the farm.

(11) The keeping of an account with each farm product, in order to know from which the gain or loss arises.

PLAN OF ORGANIZATION.

The Farmers' Cooperative Demonstration Work is conducted by a special agent in charge, who reports directly to the Chief of the Bureau of Plant Industry. There are five general assistants, and a full office force; and a corps of field agents is employed, classified according to territory in charge, as State, district, and county agents. The county agents are appointed mainly on the advice of local committees of prominent business men and farmers conversant with the territory to be worked. Each agent has in charge the practical work in one or more counties, strictly under such general directions as may be issued from the central office at Washington, D. C. The field agents are selected with special reference to a

thorough knowledge of improved agriculture and practical experience in farming in the sections to which appointed. District agents are expected to have not only a knowledge of scientific agriculture, but to be practical farmers and to have had considerable experience in the demonstration work. State agents are strong and capable men, who have shown their ability to successfully carry out the instructions of the central office over a large territory, and they are especially qualified for the work by the possession of the tact necessary to influence men.

The term "demonstration farm" is used to designate a portion of land on a farm that is worked strictly according to our instructions. This is visited by an agent as often as once a month, if possible, to see that these instructions are carried out and to give any further advice necessary.

A "cooperator" is a farmer who agrees to work a part or all of his crop according to our instructions.

The Farmers' Cooperative Demonstration Work now covers portions of 12 states, employs 375 traveling agents, has many thousand demonstration farms and potentially influences through boys' corn clubs, field schools and cooperators a much larger number than are classed as demonstrators. At present it has close cooperation with six agricultural colleges and a large number of rural schools, assisting the latter to make field demonstrations. It also cooperates with state and county superintendents of public instruction in demonstrations for boys' corn clubs.

This work is supported by congressional appropriation,

by liberal contributions from the General Education Board, by county aid and by donations from Boards of Trade and private individuals.

A REAL RURAL SCHOOL FOR THE MAN WITH THE PLOW.

The demonstration work may be regarded as a system of adult education given to the farmer upon his farm by means of object lessons in the soil prepared under his observation and generally by his own hand.

The teaching by object lessons is more effective where it is simple, direct, and limited to a few common field crops, such as cotton, corn, cowpeas, and oats in the South, so that the comparisons may be evident and accepted at a glance. If general success can be secured with these standard crops, further diversification follows as a natural result.

The instruction given for the first year mainly refers to the method of making a larger and more profitable crop at a reduced cost of production and consists of four lessons called "The Primary Lessons."

1st - The best seed bed and how to make it.

2nd - The best seed of its variety and how to obtain it.

3rd - Frequent and mainly shallow cultication of the crop - how and why.

4th - The use of better teams and tools to secure more economic production.

The principal defects in the seed bed for farm crops in the South is shallow breaking (plowing), failure to fully pulverize the soil before planting, insufficient humus in the soil and defective drainage. Such a seed bed can never pro-

duce maximum crops. It carries insufficient moisture for periods of drouth and has an excess under heavy precipitation. During most of the period of growth the plants are insufficiently nourished, either from inability to obtain sufficient food through lack of moisture or a too diluted nourishment through excess of moisture. The result is a small crop.

The simple remedy is deeper breaking in the fall, thorough use of disc and harrow, plowing under of green crops at frequent periods and an improvement of the drainage by ditches or tiles.

One cause of the general shallow breaking in the Southern States is the single mule used on many farms (See Figure 1) and the light mules where they are used double. The introduction of the disc plow as shown in Figure 2 enables one man to do nine times the work in a day of the one man in Figure 1, and do it easier. The one man with one mule is expected to break an acre a day three inches deep; one man with a disc plow and four large mules will average three acres a day, nine inches deep on rather stiff soil and do a better job.

THE SEED.

Prior to the commencement of the Demonstration Work the average farmer in the South gave little attention to Seed Selection; corn was culled in the spring from the crib and cotton from the gin-run pile and planted without testing. The result was a poor stand - a condition that can rarely be remedied.

The Demonstration Work requires seed of a known type, carefully

carefully selected, graded and stored for the first years planting and for each succeeding year the planting of a small field remote from any grain crop of the same type; this seed patch to be specially prepared, fertilized and planted with the seed selected in the field the previous fall when the grain was ripe, and stored in a dry place.

CULTIVATION.

Great use is made of the section harrow before and after planting and when the plants are quite small. Cultivation of cotton or corn in rows is at first deep, but shallow and frequent after the plants are ten inches tall. This conserves the moisture.

In the practical application of these instructions it has been found that the best seed bed added a hundred per cent to the average crop on similar lands with an average preparation; planting the best seed made a gain of fifty per cent and shallow, frequent cultivation was equal to another fifty per cent, making a total gain of two hundred per cent, or a crop three times the average. With better teams and implements this greater crop is made at less cost an acre. The profit increases faster than the yield. If the net profits on a crop of corn yielding twenty bushels an acre, valued at 75 cents a bushel, be $3.00, on a crop of sixty bushels the net profit would be $33.00 an acre - that is the profit is ten fold where the gain in yield is three fold.

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entire farm. The first year he rarely carries out the entire plan. He has not quite faith enough or possibly the season is adverse, but he generally succeeds so much better than he expected that the second year's trial is more thorough with a correspondingly increased gain.

The farmer is a natural doubter. When he has harvested the larger crop the second year he is frequently inclined to attribute it to one thing, generally the seed, because this is most in evidence, instead of distributing the credit between the better seed bed, the better seed and the intensive cultivation. Frequently his neighbors, full of the one idea merit, offer five dollars a bushel for the seed, thinking that the seed alone will make the crop. The third year the demonstration farmer is generally more of a convert and enlarges his trial area, frequently including his entire farm. In the mean time his neighbors have been observing and have commenced to inquire and follow the example.

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been accepted and tested by a farmer a secondary series are commenced which include

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2nd - The value and uses of barnyard manures and commercial fertilizers and how to apply them.

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The third series of lessons relate to the better pasture and meadow and how to secure them; the most economic grain crops for work animals or to produce flesh, as a supplement to the pasture and meadow grasses. The third line of instruction is necessary because the economic production of farm crops depends in a great measure upon an economic support of the work teams.

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The farmers in the first congressional district in North Carolina were invited to assemble in March 1909 at central points and each bring about 50 ears of the seed corn they expected to plant. These were arranged on a long table in the public square, the owner's name being conspicuously attached to each pile. (See samples Figure 8.) Expert judges were present to select and test. Some corn was brought that tested less than 45 per cent of fertile grains. At the close of the meeting over 90 per cent of the corn samples went for stock food and was replaced by purchasing a better variety or quality.

BOYS' CORN CLUBS.

One of the very great problems before the American people has been how to interest in rural life and attach to the farm the young man who has acquired a liberal education and displayed a capacity for leadership. The loss of rural leaders by emigration to the city has been one of the most serious retrogressive factors in our whole civilization. The Farmers' Cooperative Demonstration Work has solved the problem. These young men left the farm because they were repelled by the hardships, excessive toil and meager gains on the farm and were allured by a seemingly greater opportunity to acquire wealth, influence and position in the city. The demonstration work undertook to create in the school boy a love of the farm and a new hope by showing the wonderful possibilities of the soil when properly managed and the ease with which wealth and distinction are achieved in rural life

when science and art join hands. This is worked out by a cooperation of the demonstration work, the county superintendent of public instruction and the rural teachers.

The superintendent and teachers organize the school boys over ten years of age into clubs; the demonstration work furnishes the plan of organization and the instructions, (which the boys agree to observe); the respective parents furnish land, teams and implements; the merchants and bankers provide the prizes and the local papers give the publicity. Each boy must personally work one acre under the same regulations. The result of 300 to 400 boys entering such a contest in a county arouses intense interest. The boy learns how to raise corn or cotton the best way and his appreciation of the farm is greatly enhansed.

In 1909 the boys in the corn contest of one county in Mississippi averaged to produce 74 bushels of corn per acre while the farmers averaged less than 20. In South Carolina one boy raised 152-1/2 bushels on a measured acre while the state average was less than 16.

INCIDENTAL TEACHING.

In addition to the demonstrations made to teach the best methods to secure the largest yields of field crops with the greatest economy, incidentally there is much instruction along the lines of rural improvement, the better home, its equipment and environment, the country roads, the school at the cross roads, rural society, etc. The average farmer takes it for granted that an agent of the Department of Agriculture is authority upon all lines of husbandry and innumerable inquiries are made of him about the dairy, the breeding and management of farm stock, horticulture, market gardening, insect pests, etc. All this incidental teaching is done without demonstration by referring the parties to the several Bureaus in the U. S. Department of Agriculture, or request is made that a bulletin be forwarded them by mail.

In still another way the Farmers' Cooperative Demonstration Work is helpful; the many scientific divisions of the Bureau of Plant Industry are annually making discoveries of great value and the problem has been how to get these to the farmers in a way so effective that they will adopt them. A bulletin does not do this with the average farmer. The agents of the Farmers' Cooperative Demonstration Work can place these improvements or discoveries in the hands of men that will utilize them to a profit because they are in touch with all the people. Thus the demonstration work is a means of disseminating information for all the Bureaus of the Department that are close to rural life.

HELPFUL IN OTHER WAYS.

In the Southern States where there are some white and many negro farmers who can not read there is liable to sweep over a section a wave of depression amounting to a doubt about making a crop which may cause a perceptible reduction in the acreage planted, if it comes prior to planting, or if later reduces the tillage of the crop or may result in its total abandonment. Nor is this wave of pessimism confined to the unlettered. Where crops are made on the advance system it may take such hold of the merchant and the banker that they refuse to make the necessary advances, which forces the labor and the tenant farmer to remove to territory where the advances can be obtained. In Harrison County, Texas, in 1907, about five hundred tenants and laborers were preparing to abandon the farms after the cotton crop was up through fear that they could not succeed in making it and it required the utmost effort of the demonstration agents to prevent them from carrying out their plans. The same cause enormously reduced the cotton acreage in Louisiana and Mississippi in 1909. The agents of the Farmers' Cooperative Demonstration Work have been exceedingly influential in restoring and maintaining confidence among all classes.

INFERIOR SEED AND FALSE METHODS.

It is astonishing how much inferior seed is sold to farmers. It may be inferior in quality or the seed may be good and the variety inferior. Agents hawk them about to the detriment of everyone who purchases. Other fakirs advocate

new and unproven times or ways of planting or of cultivation to the general detriment of the farmers. Our agents have been helpful in maintaining conservative and sane practices.

TWO VIEW POINTS.

The Farmers' Cooperative Demonstration Work may be regarded as a method of increasing farm crops and as logically the first step towards a true uplift, or it may be considered a system of rural education for boys and adults by which a readjustment of country life can be effected and placed upon a higher plane of profit, comfort, culture, influence and power.

Because the first application of this demonstration work is to show the farmer how he may more than double his crop at a reduced cost of production it has been regarded by some solely as a method of increasing farm crops at a reduced cost of production by applying scientific principles to the problem. This would be of great value to the world and would stand as a sufficient justification for the efforts put forth and the expenditures involved, but such a conception would fail to convey the broader purpose of this work.

There is a body of knowledge of wide application and helpful to husbandry annually worked out and made available by the scientists in the United States Department of Agriculture and in the State Experiment Stations and by individual farmers upon their farms, which is sufficient to readjust agriculture and place it upon a basis of greater profit; to reconstruct the rural home and give to country life an attraction, a dignity and a potential influence it has never received. This body of knowledge can not be conveyed and delivered

by written message to the people in such a way that they will accept and adopt it. This can only be done by personal appeal and ocular demonstrations. This is the mission of the Farmers' Cooperative Demonstration Work and it has justified its claims by the results.

It is noteworthy that the sciences adopted the demonstration method of instruction long since. The chemist and the physicist require their students to work out their problems in the laboratory, the doctor and surgeon must practice in the hospital and the mechanical engineer must show efficiency in the shop to complete their education. The Farmers' Cooperative Demonstration Work seeks to apply the same scientific methods to farmers by requiring them to work out their problems in the soil and obtain the answer in the crib. The soil is the farmers' laboratory.

How can the better and more economic methods of tillage, the improved implements, the seeds of stronger vitality and greater adaptation and many valuable improvements in farm economy, be so successfully taken to the farmer for his adoption as by demonstration at his home? The wholesale merchant no longer depends solely on advertising to increase his sales; he sends an agent with the goods. The Farmers' Cooperative Demonstration is a delivery of the goods.

The demonstration method of reaching and influencing the men on the farms is the only plan by which radical improvements can be wrought out with certainty. It is destined, therefore, to ultimately be adopted by most civilized nations as a part of a great system of rural education.

#1.

THE FARMERS CO-OPERATIVE DEMONSTRATION WORK.

It frequently occurs that in attempting to do something that every method is tried but the simple, direct and natural way by which alone it can be easily accomplished.

It has been recognized for more than two thousand years that agriculture has ranked low in the world's progress, whereas as the landlord and purveyor of men it should lead the advance. The arts and sciences advanced with amazing rapidity, great cities arise on every hand, schools and colleges multiplied and filled the land and learning became the common heritage of men; but agriculture still occupied its position in the rear. It had a host of friends and well-wishers who tried almost every method to foster the interests of farmers except going directly to them and proving there was a better way than following the old methods, which yielded little profit, disgusted the over worked children and ruined the farms.

The necessity for doing something to thwart the boll weevil caused the organization of the Farmers' Co-operative Demonstration Work in the South.

The Farmers Cooperative Demonstration Work

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The necessity for doing something to thwart the boll weevil caused the organization of the Farmers Cooperative Demonstration Work in the South

This report to be made weekly to Dr. S. A. KNAPP, Lake Charles, La.

UNITED STATES DEMONSTRATION FARM REPORT.

Field No. _____ _____, *190* .

LABOR.

Names.	Time Employed.			Pay.	
	Days.	Hours.		Daily.	Monthly.

NATURE OF WORK.

Plowing.		Harrowing.			Clod Crusher.		
Date.	Depth.	No. times.	Date.	How soon after plowing.	No. times.	Date.	How soon after plowing.

CONDITION OF FIELD.

Wet or dry?	If wet, why plowed?	If too dry, how conserved moisture?

PLANTING.

Date.	Kind of seed.	Amount of seed per acre.	Broadcast or drill?	If drill, how deep?	Was it rolled?	No. times rolled.

Fertilizer.				Condition of Crop.		
Kind.	How applied.	When applied.	Amt. per acre.	Date seed came up.	Development.	Stand.

2

Reports made by the State agents of the Farmers Cooperative Demonstration Work to The Hon James Wilson, Secretary of Agriculture

While the State agents of the Farmers Cooperative Demonstration work were in Washington (Sept 1st 1908) arranging some details of their work for the year 1908-9 they called upon Secretary Wilson and in response to inquiries made by him the following facts were brought out

Mr T.O. Sandy Burkeville Va. State agent reported that the Farmers Demonstration work was Commenced in Virginia in May 1907 Up to this time it had been exclusively confined to the Counties South of the James river, where tobacco was the staple Cash crop; under the Effect of

which farmers had determined in production capacity and value till many were on the market - a short time since at 3 to 8 dollars an acre. Most of the hay for the work animals was imported. Two hundred and Thirty two thousand dollars worth of hay was imported within a radius of a few miles of Burkeville in one year for home consumption

The average yield of corn was 5 to 10 bushels an acre

Secty - "How much hay or corn did your demonstration fields produce?"

Mr. Sandy - "On my demonstration farm the yield of hay was 4 to 6 tons of hay and 75 bushels of

c

Corn an acre. One of my demonstrators raised 85 bushels an acre. The effect of this was to increase the number of demonstration farms from 27 last year to nearly 1200 this year; to stop the importation of hay just as fast as lands can be prepared and sodded to grass"

In reply to a question by the Secretary as to the effect of this work upon introducing diversification in farming & upon the price of lands ~~and especially upon the betterment of rural conditions~~, Mr. Tandy stated that nearly all lands about Burkittsville had doubled and some had advanced three fold since the demonstration work commenced Soon as the farmers found

& They could produce hay & corn profitably
They wanted to engage in dairying and
stock raising so as to use their idle
lands. He stated ~~that stated~~ that
a creamery and cheese plant had been
built this season at Burkeville with
the pledge of 1000 cows; & he hoped to advance
funds to purchase many of the cows
Commercial dairies are springing up in
adjoining counties"
The Secretary - "What effect has this had on
the improvement of home conditions?"
Mr Sandy "Immediate, because the Estimate
of farm life was changed. It had been
thought that farming in Virginia could

E not be made profitable. Many moved away and nearly all ceased to spend much money in farm improvements. As soon as they saw the demonstration work they commenced to improve. Eleven farmers in one section put hot water heating and sanitary closets into their houses the past season."

Th Secretary. "I should like to hear from each State agent"

W. F. Proctor Tyler Tex. in charge of the Demonstration Work in Eastern Texas was called and said in substance "My territory includes about 60 counties - all infested with the hookworm

7 The Soil is mainly a Sandy loam, well drained, and well watched, making an ideal Section for the hybernation of the weevil I will mention two examples of our work. The weevil had caused such loss of Cotton in Harrison Co that ~~that~~ the crop in 1906 was less than one fourth the normal amount. Cotton being the principal cash crop, general depression followed; Some farms were abandoned and a general abandonment by tenants threatened An appeal was made to Dr Knapp to establish the Farmers Cooperation Demonstration Work in Harrison Co. in an intensive way. The people were asked

to raise money for improved seed
They raised 1000, and later increased
the account to 1700, An agent was
sent to the county; 300 demonstration
farms were established - Last year,
though exceedingly unfavorable
for cotton the increased yield over 1906
was 3500 bales and this year under
the general adoption of the system
the increase is over 16000 bales -
including seed
on a gain of $848,000 in value for
the year in the county

Sulphur Springs, Hohms Co, reports
a similar experience this season. The
County demonstration agent Mr Bryson

H located demonstration farms along the main highways leading to Sulphur Springs for four or five miles out, so that every farmer entering the city could not fail to observe them

Prominent citizens estimated the value of his work this year at 2 5% acre. for the county

The Secretary "what effect did this have on the homes"?

Mr Proctor "Texas farmers nearly always improve their homes and schools if they have the means. If they are not up in this respect with any other State it is simply

because they ~~had~~ did not have ~~not had~~ the funds

The following State and general agents took part in this interview

W. F. Proctor Tyler in Eastern Tex
J I Quicksall Waco in Western Tex
W M Bamburg Anderson Oklahoma
W D Bently Wichita Falls Tex ~~in charge~~ Oklahoma
J A Evans Shreveport La ~~in charge~~ Ark & La
R. S Wilson Columbus Miss ~~in charge~~ Ala & Miss
E Gentry Jonesboro Ga ~~in charge~~ Georgia
C. R. Hudson Statesville NC ~~in charge~~ NC
J P Campbell General Assistant & Traveling Agt
H E Sawtelle do do do do

2 All agreed in stating that the Farmers Cooperation & Demonstration work was readily accepted by the farmers and aroused among them interest in agriculture especialy when field schools were held and the boys corn and cotton clubs were carried out

3rd They emphasized the great gains in farm crops under the System of farming taught in the Demonstration work and that the immediate effect of these increased earnings was to

1 Better the farm and home life
2 Better Seed + some plan for rotation of crops
3 Better teams and Implements
4 Reduction of debt

K

4 Ownership of land

5 Improvement of home - more comfortably and neatly clad - more fruit - farm

~~6~~ canning outfits bought - &c

6 More months of schooling

7 General cooperation in improvement of farm stock &c

Instances were given where a single demonstration showed the farmers in the Yazoo delta how they could increase their yield of corn from ~~14 to 20~~ bushels an acre to seventy without additional expense. Instances were cited where a single small farmer saved $300 — last year in commercial fertilizer

l from information derived from an
Agent in the demonstration work
P Many farmers are now making
cotton without the use of the hoe
or plow Mr Bamberge brought-
out this fact clearly and ~~and~~
showed its great economic importance
P Mr Sowell Called attention to the
effect of Field Schools that they
were very influential in promoting
home improvements ~~that~~ originally ✓
such meetings were held on farms
by Colored men as well as white
P Mr R.T. Wilson gave illustration
of the rapidity with which practical ~~know~~

along agricultural lines

M information spread through a district. As the result of 10 months work in Congressman Hudsons district a majority of the farmers were tilling their lands better; they were raising more corn and forage crops and many had adopted the Department plan of Seed Selection Mr J.L. Buckhall speaking of the great improvement in agriculture and the betterment of rural conditions since the Demonstration work commenced in Central Texas."

Mr S Knapp. "The Southern people are awake. In a number of States the patriotic women are forming rural improvement

IV

clubs for the betterment of home condition
In North Carolina they put a model
Kitchen on a Car and sent it about the
States. Congressmen are interested and
call for Agricultural Speakers instead
of political "

The Secretary "What do you find with
regard to the merchants furnishing
the farmers goods and taking security
on the crop"?

Dr Knapp - "It has been the general
custom of Southern farmers, whether in cotton,
sugar, rice or tobacco districts to depend
on one cash crop and buy with the pro-
ceeds their supplies of food & clothing
This is rapidly becoming a thing of the past

Del ans Agents merge the production upon the farm of all home supplies possible The result is that the money which formerly went for current debts now goes into home improvements, better clothing, better stock and more schooling The earlier maturing cotton introduced & made common by ans Agents allows 6 weeks more schooling, annually for the children

Rural improvement requires considerable expenditure of money which must be provided by the farmers. Through an increase in the value of products of the farm with a decrease in their cost "

More information

A large number of inquiries were sent out to ascertain present conditions in the South and the effect of the Farmers Cooperation & Demonstration Work

They all show great improvement in rural conditions

Without exception they fully corroborate the claims made for the Farmers Cooperation Demonstration work The following are a few of the replies

Amount of land distributed

Effect of land

Objects of the Work

The Object of the Farmers Cooperative Demonstration work is to place a practical object lesson before the farm masses illustrating the best and most profitable methods of producing the Standard farm crops ~~of this Section~~ and to secure their active participation in such demonstrations To an extent that will prove that the average farmer can do better work and will do it if properly approached.

A further object of the work is to prove that there is no necessity for this general deterioration of the farms and the too common poverty of the rural masses

This work is logically the first step to be taken in the improvement of rural conditions. Every substantial progress in human society costs money and must be maintained by increased earning ~~capacity~~ of the masses

Food and clothing are the first requirements of human society If the earning capacity of a people is only sufficient to supply these progress is blocked

There is no use in insisting upon a better house, more home comforts a school or any upward step

The problem is. Are the rural masses unwilling to provide the betterments which a progressive civilization in the country demands such as comfortable homes, better schools and more months of schooling, better highways with better home and farm equipment rural letter and package free delivery, telephones etc or do they lack the means

The proper remedy depends upon the view point & made The remedy is to increase the earning capacity of rural toilers; if able but unwilling then rural pride should be aroused and the force of public opinion and even law brought to bear

Our belief is that ~~Nearly~~ Every white or colored man, even among the poorest, will clothe his family better, improve his home and add conveniences if he earns more. In the course of social investigations I have noted for many years that invariably in rural districts better clothing and more comfortable homes result from increased earnings. Go into a thousand villages in the South and ask the merchants if colored men will buy better clothes if they have the money. The answer is, "They will buy every thing in sight, clothing, watches, buggies &c" The supposition may not be judicious but it proves a desire to spend money to add to their comfort and that is all any one does. Experience will correct the errors

A great majority of those who have sought to improve rural life have in the main unconsciously assumed that the reason rural conditions are so primitive generally in the South, is because of ignorance or, a lack of civic pride; no ambition can not be reached; are intrenched in prejudice &c

There never was a greater fallacy - Offer the farmer a genuine thing and prove it and no class of people is more responsive He is justly conservative and will not accept what has not been fully tested and he must see it - to believe, because he has been so frequently deceived He wants all that the best civilization can give him if he can get it

4

Increase the income of the average farmer and of the wage of the rural toiler and the first step necessary to the uplift of the rural masses has been taken and the following results will be wrought as rapidly as time will permit

2 Emancipation of the farmer from the bondage of debt

3 More and better tools and stock for the farm

4 Improvement of the home

5 Better rural school buildings and more months of schooling

6 Better highways, rural mail delivery and telephone service

7 Contentment with the life of a farmer

4 Bible and Explanations

In the Southern states there are in every township and in nearly every neighborhood a few ~~Heat~~ who are able to support a better civilization than the one in which they live; finding that it is difficult to obtain what they require, (where the great majorities are unfavorable) they move to the town or city or they accept the environment as they find it. This removal to secure better social, religious or educational advantages is a matter of common occurrence. There are after all the few The condition of the great majority must be considered

There is a general agreement that rural conditions should be improved The farmer believes it as strongly as the reformer

One obstacle in the way of true reform is that many well intending reformers have no practical knowledge of farm conditions and ~~The second is that they generally commence at~~ they commence at the wrong end of influences

When to commence is the first problem in reform Shall we trust the people and ~~start~~ commence by increasing their resources? or shall our efforts be directed to improving farm dwellings and farm conditions or the construction of better highways or the introduction of the telephone

~~of the telephone~~ and rural free delivery, and a community library or improved social and religious privileges

Evidently it depends upon the degree of advancement in rural communities. The remedy that would help one might be utterly inapplicable for another. For example: if it was found that the average farmer in a rural township lived in a house valued at about $100— without any barn or a ~~vegetable~~ garden (not a patch of grass, but a well tilled plat that furnished summer and winter in the South sufficient tubers, roots, legumes, melons and fruits in their season for the family) no cow, no pasture, an insufficient supply of poultry and a majority of the tillers of the soil unable to read

& and heavily involved in debt
it would be the height of unwisdom (advance)
to commence the rural uplift
by Establishing a public library
or even a school. The rural
toilers must first be properly
nourished, clothed and housed
It is the order of greatest
necessity. The means to do this
Can not be given to them and if it
was they would be no uplift.
they must be shown how
to earn it by a better tillage
of the soil and how to husband
their earnings by greater thrift
A low wage, a small amount of
work accomplished in a day
and an uneconomic use of
resources are a part of any
civilization limited by a low
Earning Capacity
No more frequent mistake
is made than to assume that
the low wage is a result of

oppression As a rule
the wage is determined by
the accomplishment In
~~British~~ India it requires
from 12 to 24 Servants to
do the work of a decent
household where two would
would do it better in Some
portions of the United States
In the U.S. Upon the farm one
man with a good team and
modern machinery can
do the work that 50 to 100
men do in many Oriental
countries Consequently
when they are paid 5 to 10 cents
per day They are paid up
to their earning capacity
~~If 24 will be noted that~~
~~each worker upon a farm~~
~~in Java~~ ~~this~~ ~~or~~ 5 times as
~~many acres and produces~~

and that capacity is insuf-
-ficient to sustain a high
civilization

61

As a preliminary step in this inquiry let us determine the present status of the rural South with respect to the following items

1 The earning capacity of the average farm workers in the South

2 The character and value of the farm buildings

3 The number of horses or mules used for each farm laborer

4 The value of implements and tools on the average farm in each State

5 The average number of acres worked by one man in each State

6. average number of milch cows per farm

7 Value of poultry per farm

Insert tables

Tables
note

21- will be noted that the value of farm buildings and farm machinery per farm as given above for each state differs from those in the Census of 1900. The explanation is that in the Census the value of the buildings on a single farm whether large or small is given in one sum and does not therefore tell how the laborer is housed, for in this sum may be included the value of 40 or 50 houses as generally is the case on very large farms. Especially in the South, and the same applies to implements. For our purpose + implements we took the average of buildings on the smaller farms so as to determine how our family lives and what implements he uses: but in every state enough farmers were included in our estimates to make a majority of the farmers of that state

2 21- should be born in mind that these tables represent conditions in 1900 Since that time rural prosperity has been greater than in any former period of American history - Undoubtedly the

T 2

next 1th census will indicate marked improvements

What The table Shows

The table shows that the average value of the buildings on each farm worked by one family ; the value of the implements & farm machinery ; the value of poultry and the average number of cows per farm ; also it shows the number of horses or mules for each laborer, the number of acres the tills and the amount the produces annually in value ; also the percent of farms worked by tenants in each state and the Earnings of Each share tenant on the basis of 1/2 the Crop

The value of implements per farm ranges from $ 55.56 in Alabama to $ 1,124.66 in Texas ; implements from 2.2 3 in Ga to $ 2.01 in Texas

This shows the conditions of the housing of families & Stock in the Southern States, of farm equipment to do work, of amount of work accomplish-ed and of annual income which fully

T 3

account for the condition of schools roads & churches in the country

The income is scarcely sufficient to maintain the civilization now existing, ignoring progress and these do not present the whole truth of the situation

P 2 with a per cent of the small farmers still own on their farms. Prior to 1905 the per cent of these in some states amounted 3/4 of the whole Since that date there has been considerable decrease P Nearly all the tenant farmers of the South and a large proportion of the farm owners have been mortgaging their farms by securing annually advances from the merchants, costing from 20 to 75 per cent more for supplies than under a cash system This situation is rapidly improving

Different methods of reform tested or proposed

1 Increase the valuation of property in the country or the rate of taxation so as to provide more revenue for schools & highways This has been tried

in Several Southern States and has met with stubborn opposition by the masses

2d Improve The Schools In Some instances this might be done, but with such an exhibit as that in the foregoing table (which represents more than 4/5 of all the farmers, it is difficult to see where any marked improvement could be obtained, Especially as the South is compelled to sustain a double School system one for whites and one for Colored

3 Establish County or district Agricultural High Schools. If established by State or National aid how could the Sons or daughters of people who earn So little pay the expenses of attending School remote from home and if they did and became Educated would Such a farm life as they had

T5

know before attending school
have any attractions for
them?
Education has simply
intensified their rebellion
against the only farm conditions they
know. An agricultural school
might point to a better, or an
ideal farm life, but this requires
money which they do not have

Some states with their large
earnings for the rural masses
are doubtless prepared for
this step, but so long
~~So long~~ as average
farm life in the South
remains what it is, with
its life of toil for small
reward, and its average home of
discomfort and penury it is
doubtful whether any school,
rural or urban, agricultural
~~or~~ scientific or classical
will cause these young
people to forget their early years of
want & toil and return to the
farm. They sought Education that they might find broader & more remunerative fields of labor & it has opened
to them the doors of ambition and hope
~~for them~~ in other lines of work

Whether such schools be
established by state or national
aid it will be done with the money
that belongs to all the people
and means greatly needed

1 ation can the knowledge of better
agricultural methods be conveyed
to the masses in a way so effective
that it will be accepted and become
common practice?

For many years the U.S. Dept
of Agric, the Agri Colleges + Exp
Stations, the Agricultural Press,
the Farmers Institutes and the
National and State bulletins upon
agriculture have thrown light
upon almost every topic relating
to the farm. It was a great
assistance to progressive farmers alert for
but the masses, especially in the South,
were scarcely affected. There
came a time under cotton boll
weevil conditions when they must
be reached and influenced
The Cooperative Demonstration plan
was then tested. It aims to place a
~~example of the best farming in~~
~~each neighborhood of a county~~

T6

for the betterment of primary schools. 2nd will be another case of using money for the benefit of the few

4 A fourth method of reform is to fill the readers & grammars with rural thoughts and the arithmetics with farm problems Probably these two last-named could be improved but however impressively they might advocate the life on the farm it would make but little impression on these hard, cruel children of toil Their view points are taken from what they have experienced and not from what they read

II The only remedy that can be successfully applied to help all the people, but that will be effective and

T 7

~~immediate~~ is to increase
the net earnings of ~~the~~ farmers
and farm laborers
21 is not intended here to
offer ~~any~~ objections to the
trial of any of the foregoing
methods ~~but~~ when the net earnings
of the farmers and farm laborers
will justify The paramount
issue now is how to most
widely and effectively aid
all the rural people
If each farmer is shown
how to produce twice as much
per acre as he now produces
and at less cost it will be
a profit in which all rural
classes will share and will
be the basis of the greatest
reform ever known to rural
life

The Farmers Cooperative demonstration work aims at Several Things

1 to reform agriculture, and make it an occupation of profit and pleasure

2 To improve rural Conditions

3 To broaden and elevate rural life

4 To make the farm attractive and country residence desirable.

Organization

As organized under the Bureau of Plant Industry its working force consists of one director with assistants, ten state agents and 147 district and local agents.

must be practical farmers

Local agents, and thoroughly instructed in their duties by the State and district agents and Semiannual state meetings of agents are called for instruction; at which the Director or an assistant from Washington is present

Weekly reports are made by all agents to the director showing work accomplished each day

The campaigns for the coming year are planned in Sept and active work commences in Oct. by calling public meetings in every district to be reported As which is shown the great advantage to see the people by increasing the crops yield two, three or four fold and it is made clear that this can be done by adapting better methods In country villages the banker, the merchants & the editor join with the leading farmers of the section in indorsing the progressive plans of the Demonstration work; farmers agree to follow instructions and demonstration plats, of one or more acres, are located so as to place a sample of the best farming in each neighborhood of a county or district

~~State~~ There must be enough
to allow
of these ^ every farmer to see one
or more during the crop growing
period The necessary work
on this sample must be done
by the farmer and not by a govern-
- ment agent, because the whole
object lesson is thereby brought
closer to the pupil The demonstrating
farmer ~~understands~~ it better
because he ~~does~~ does the work
His neighbors believe that what
he did they can do

How the farmer is instructed

Each month during the season
instructions are sent to every
demonstrator and cooperator
clearly outlining the plan for
managing the crop In addition
a local agent is expected to
call on each demonstrating farmer
monthly and explain anything
not understood in the instructions

5

A Field School

Previous notice by letter is given to all the farmers (cooperators such as are interested in the work and agree to follow instructions) in that neighborhood to meet the agent at a certain date at a given demonstration farm where the crops and plans are thoroughly discussed. This is called a Field School and has been marvelously effective in arousing local interest.

At such meetings and on all occasions when our agents meet farmers the following fundamental requirements for good farming are discussed by the aid of notes sent out from the Central Office

(1) Prepare a deep and throughly pulverized seed bed, well drained; break in the fall to the depth of 8, 10 or 12 inches, according to the soil, with implements that will not bring too much of the subsoil to the surface; (the foregoing depths should be reached gradually.)

(2) Use seed of the best variety, intelligently selected and carefully stored.

(3) In cultivated crops, give the rows and the plants in the rows a space suited to the plant, the soil and the climate.

(4) Use intensive tillage during the growing period of the crops.

(5) Secure a high content of humus in the soil by the use of legumes, barnyard manure, farm refuse, and commercial fertilizers.

(6) Carry out a systematic crop rotation with a winter cover crop on southern farms.

(7) Accomplish more work in a day by using more horse power and better implements.

(8) Increase the farm stock to the extent of utilizing all the waste products and idle lands of the farm.

(9) Produce all the food required for the men and amimals on the farm.

(10) Keep an account of each farm product, in order to know from which the gain or loss arises.

~~Washington, D. C.,~~
~~July, 1908.~~

~~S. A. Knapp.~~

7 In the course of these discussions it develops that the majority of small farmers have not fully complied with any of these rules. They thought they knew all about farming and changed their small product and failures to the seasons or the land. One farmer expressed it at a public meeting in Alabama this year expressed his views as follows "I was born in a cotton field and have worked cotton on my own farm for more than 40 years. I thought no one could tell me any thing about raising cotton. I had usually raised 1/2 a bale on my farm sail; and I thought that was all the cotton that was in it - in one season. The Demonstration agent came along and wanted me to try his plan on 2 acres

Just not to be contrary I agreed, but I did not believe any thing in what he told me however I tried my best to do as he said and at the end of the year I had a half and a half to the acre on the 2 acres worked this way and a little over a third of a bale on the land worked my way. You could have knocked me down with a feather. This year I have a bale and a half to the acre made over my whole farm 96 You don't believe it I invite you to go down and see for yourself as a good cotton planter I am just over your old"

Teaching a few essential things

21- is of the greatest importance to confine the work to a few standard crops and the instruction to the basic methods and principles which make for success and repeat them on every occasion

until every farmer works according to Sound system and knows the methods that make for success, instead of charging failure to ~~the~~ the weevil, to the season or to the soil ~~&~~ &c- requires several years to so impress these teachings upon the masses, even when supported by demonstration, that they become the general custom of the country

The first year a few try the plan on small areas. The second year these greatly enlarge the area and some of their neighbors follow the example The third year possibly 40 or 50 percent adopt some of the methods and so the work progresses by the force of ~~example~~ demonstration and public opinion till its general adoption is secured No one is asked to believe any thing not clearly proven

Other features of the Demonstration work In most of the Southern States the average ~~Small~~ farmer works with one mule. Cultivation of cotton and corn is a slow process and ~~a~~ much of it is done with the hoe

90 To remedy this, resort is had to demonstration The agent in some cases derives a strong team of mules or horses, hitched to a wagon filled with improved implements As the field meetings This better team and the improved implements are used to show how much more and how much better work can be done in a day and especially it is Emphasized That Cotton and Corn must be made without using the hoe. Thus saving 1/3 the Expense 21 will be noted that the earning capacity of Each worker upon a farm is almost directly in proportion to the number of horses or mules for the use of each 21 is Startling true outside of the rice, Sugar cane and market garden districts In North Dakota Each farm worker has 5.14 horses, cultivates 135 acres and has an Earning Capacity of 755.62 yearly, in Iowa Each laborer has 4 horses tills 80 acres of land and Earns 611.11 annually and in Alabama Each farm laborer has 6/10 of a mule works 15 acres and Earns 143.98 In case

of tenant farmers The Earning capacity (which is the total product of the State divided by the Number of workers) should be divided approximately by two

2 One of the conditions of securing a greater net income is to stop buying food products and live on what the farm supplies If greater variety is wanted produce it. Another condition is to accomplish more in a day

How the Cooperative Demonstration Work affects the farmer—

Every step is a revelation and a surprise. He sees his name in the county paper as one of the farmers selected by the U S Department of agriculture to conduct demonstration work: he receives instructions from Washington; he begins to be noticed by his fellow farmers; his better preparation of the soil pleases him; he is proud of his planting the best seed and doing the best cultivation; as the crop begins to show vigor and excellence his neighbors call attention to it and finally when the demonstration agent calls a field meeting at his farm he begins to be impressed not only that he has a good crop but that he is a man of more consequence than he thought. This man that was never noticed before has had a meeting called at his farm; he concludes that he is a leader in reform. Immediately the brush begins to disappear from the fence corners and the weeds from the fields. The good fence is straightened; whitewash or paint

12 goes on to the buildings: the
team looks a little better and
the dilapidated barnes is
renovated Finally the crop
is made and reported in
the county papers. It produces
a Sensation; a meting is called
by his neighbors and he is
made Chairman; he recives
numerous inquiries about
his crop and is invited to
attend a meeting at the county
seat to tell how he made that
crop He made a great crop
but - the man grew faster
than the crop There can
be no reform till the man
begins to grow and the only
possible way for him to grow
is by achievment - doing something
of which he is proud - It is
a common farmer what kind
of achievment is open to him but

doing better work and securing greater results on his own farm?

As soon as the man begins to grow he will work for every rural betterment. Demonstration work

Effect on tenant farmers

In the Southern States nearly one half the farms are tilled under the tenant system. In South Carolina, Georgia, Alabama, Mississippi & Louisiana over 60 per cent of the farms are worked by tenants. The poor equipment of such farms and the low earning capacity of the tenants appeal strongly for help. By the demonstrator's aid the tenant is urged to make a better crop and raise every thing necessary for his support. He is shown that as soon as he proves himself to be a progressive and thrifty farmer it will add to his credit. He can then buy upon better terms and will soon own a farm.

The landlord is seen and urged to look more closely after his farm, to improve his farm buildings

, because this is necessary to the securing and retention of the best tenants; to furnish a better implements or assist his tenant to purchase them and to insist that good seed shall be used (That this should be) and better tillage of the crop

Many proprietors take the deepest interest in having their tenants taught better methods They help call meetings, they scatter farm literature and create a sentiment favorable to the Demonstration Work

If the Farmers Cooperation Demonstration Work teaches other things besides making a better crop

The agents of this work are thoroughly drilled in the progressive steps

1 Master the rudiments of good farming and secure a greater income for labor expended

1. F important
An part of this greater net
earning capacity is good farm
economy and greater thrift
Farm economy dictates the
production of the largest crop
possible per acre at the
least expenditure of money
and without impairing the
production capacity of the soil
It also includes the planting
of crops of the greatest value per
acre, provided cost of production
is not proportionately increased
and it tackles a more
economic support of the family
and, team & stock, which is based

16 upon home production of
all the foods and forage crops
consumed For the family more
use must be made of milk, eggs
~~and~~ the vegetable garden and
fruits; for the stock the better
pasture and hay; especially
the abundant use of legumes

Thrift insists upon ~~thrift is~~
the proper housing of teams & tools and
family.
the more economic expenditure
of the greater gains of the farm
arising from greater earnings
and more economy
The only way to successfully
attack such problems is by
example (demonstration) —

Long time customs can
not be overcome by writing
a book. Might as well
write a book to teach better
sewing — poor farming is the
natural result of a lot of
bad practices and must be
treated rather as a defect in
art than a lack of intelligence
It is not assumed nor is it
the intention to assert that
agriculture is not one of the
greatest of sciences. so is eating
but at the initial they must
be treat[ed a]s arts and the best
[ad]opted

17

Then it is shown that this greater income should be applied to the reduction of debt - The betterment of the family and the home and the improvement of rural conditions - Co-operation is then taught - in buying and selling - but Co-operation is of little avail if the farmer in buying is the farmer has no money and unable in selling if his crop is mortgaged for advances The first step is to get out of debt

In fact progressive steps require very little teaching in the South if the income of the farmer is increased

Whoever has carefully noted
the instructions given in the
~~Cooperative Farm Demonstration~~
~~Work, in the farm Management~~
~~work~~ and the several divisions
of the Bureau of Plant Industry
will note that there is a
well matured plan for rural
betterment. Commencing with
Cooperative Farm Demonstration
work which seeks to remedy
the fundamental errors in
agriculture and give the farm
life an upward trend. When
When the farmer has mastered
the elements of more profitable production
and better living and is free from
the toils of debt, then the division
of Farm Management gives another
upward lift by teaching diversifica-
tion, dairying, stock raising &c as
sciences - and ~~by clearing away~~

The introduction of new + better breeds
Horticulture & Plant Breeding
plant diseases and the remedies
&c &c All planned to be a
complete course in agriculture
for the people of the whole
Country

The whole plan of the
Department of Agriculture
for rapid improvement
is simple & direct - & the atmosphere
is not clouded by the injection
of foreign matter. It is found
that each farm laborer in North
Dakota produces over
five times the crop value annually
as the farm employee in Alabama
The simple and natural plan
is to find out why and teach
the Dakota secret of farming to the
farmers of Alabama - The secret
is that each farm laborer in
Dakota uses 9 times the horse power
has times the farm machinery and
cultivates 9 times as many acres
of land. His crops are not as valuable
per acre but he accomplishes
vastly more in a day - If there
is a better variety of cotton seed

in Georgia or Texas, than the other cotton producing states should immediately have the benefits - This is precisely such work as the Farmers Cooperative Demonstration work is doing in the South

21 - It is truly a national work wherever put in operation with sufficient intensity to influence public opinion the following results have followed rapidly

1. Increased yield per acre
2. The purchase of more & better horses or mules.
3. Great increase in the use of better implements
4. General interest in seed selection and the use of the best seed
5. Home & School improvements
6. More months of schooling
7. Better highways
8. Increase of healthy social life in the country
9. Intense interest in agriculture

21 Take the item of cotton seed. The Department of Agriculture through the Farmers Cooperative & Educational work has been instrumental in the introduction of 100,000 to 500,000 bushels of better cotton seed annually. This has resulted not only in a large increase in yield per acre but an improvement in the staple.

Being of earlier maturity than the old varieties it is picked on an average of six weeks earlier in the fall, which gives the children 6 weeks more time for school and allows the farmer to prepare his land for the next seasons crop.

The old plan was to pick cotton all winter. The loss of cotton and the lowering of the grade by the winter rains made this plan an economic crime and it debarring the children from attending

22 school council is to be a Social crime This old method will soon be a thing of the past

Answers to questions in yours Janu. 23.

a) Committee composed of
M. Scully
W. J. Twyman
P. G. Whaley
Dr. Jno. H. Pope

B) Name of leading real estate agent
J. J. Gethen

C) The committee raised $800.00 by subscription to buy 1000 bushel Triumph Cotton Seed.
J. O. Womack Co. W. J. Twyman & W. J. Rosborough Jr. together bought 1000 bushel making in all 2000 bushel used in 1907 which planted about 2000 acres. Of the 1000 bushel bought by the committee and distributed by the Department 50 bushel were given to the County Farm and 50 bushel to the Caddo Lake Orchard Co. These two farms planted the seed

on selected land, fertilized it well and cultivated it scientifically. In the fall the seed were carefully saved under the supervision of the Govmnt expert T. O. Plunkett — so that a quantity of improved seed was assured for planting in 1908. So well was this done that about 1200 bushel of fine seed was available from this source. The crop of 1907 was very short on account of the boll weevil, the total number of bales raised being only 7800 while the crop for the year just closed 1908 will reach 18,000 to 20,000 bales thanks to the improved seed & more modern methods of cultivation introduced by the Govmnt Experts.

D.)

General range of price of farm land in 1907 was from $2.00 to $5.00 pr acre while at present it ranges from $5.00 to $20.00 pr

acre wich- prospects of advances in near future.

E.)

Candy Factory, the Specialty- of which is Soft Peanut Candy, using a large quantity of Spanish Peanuts grown in the County.
A large Canning Factory using Peaches, Tomatoes Berries etc.

The City- of Marshall the County- seat of Harrison County- has recently- completed a City- Hall at a cost of $50,000.

The Federal Govmnt has accepted a fine site- on which it will soon erect a Post office building.

The City- has also just finished laying 30 miles concrete side- walks

also now paving three principal streets- with- Bitulithic paving.

Two Natural Gas Companies are at present laying pipe throughout the City.

The Citizens of Marshall have about finished the raising of a $25,000 bonus besides right of way and Depot grounds for a new railroad, the Marshall & East Texas R.R.

A company of Capitalists are now laying the pact for our first electric Street Car line.

A company is boring for oil and gas 8 miles from our City.

Two companies are laying pipe lines from the gas fields to Marshall.

When the gas is put in we expect a large glass factory as glass sand abounds around Marshall

The City + County are agitating the question of building macadamized roads through the County.

Parties are here looking for a 1000 acre tract of land on which to set out the fourth very large peach orchard in this County. They have found just what they want.

The County now has three large peach orchards, The Standard Orchard Co. 2800 acres 190,000 trees, The Caddo Lake Orchard Co. 1550 acres 80,000 trees, The Redlands Orchard Co. 1503 acres 70,000 trees.

A great many farmers from Michigan, Wisconsin Illinois Indiana + other Northern States have come into the County in last 2 years.

Three colonization parties are headed this way.

The people want more good farmers & fruit men from the North & West and will welcome them.

The merchants Association has gotten out an illustrated write-up of the County showing cuts of orchards farms & vineyards. These are for the three interests

The Texas & Pacific Monthly for Jany. 1909 is devoted to Marshall & Harrison County.

Dr. Knapp. After we have a successful plat on a farm managed according to our directions, we call the neighboring farmers in and have a little school, called field demonstration school. We talk to them about that plat, its defects, perfections, etc., and that is about the most effective school we have ever been able to get hold of. They will turn out to it and get very much interested. In another line of work we are taking the boys. The county superintendent takes hold of that and the teachers. They take the boys from 12 to 18 years old - common schoold boys whatever the age may be - and give them a little plat on their father's farm. We furnish the seed and instruction. The county superintendent looks after it. He is already paid. The merchants and bankers raise the prize money, about $400 to a county. Every boy has his name printed in the local paper, and the only thing is, we have to strap his eyes when he sees his name in print for the first time. The parents would not have their boys beaten for anything in the world. The result is that a general interest, through the boys and their teachers, works in everybody. We have a machine that gets hold of them. These men are all talking. We have to have certain meetings and they talk to the farmers in a plain way. After we have shown a farmer how to make two or three times as much money on his farm, what next? The next thing is "improve your home and put all modern improvements

into it for the betterment of the home, so as to make it easier for your wife, more comfortable and more beautiful. The second step is improve the schoolhouse. If you cannot start any other way put a bunch of roses on the table and make it clean. Have the toilet and basin whitewashed and painted, and have some shade. After you have the schoolhouse reformed, take hold of the church. See that it is a live church in the local community." I am telling you what we are doing and what we are talking about. It covers the whole subject of rural improvement in a simple way. The people are so anxious to hear us and so anxious to cooperate that a great many counties are putting up money to help. If we have not enough money they put some up. We have some in Mississippi, some in Texas.

Mr. Savely about how much money do you think probably would be put up in Mississippi.

Mr. Savely. There have already been three counties voluntarily agreed to put up money for next year, and I am contemplating something like fifteen at least, not less than that, probably more then fifteen counties are meeting us half way and carrying on the expenses of the work.

Dr. Knapp. What has surprised us is the interest in these older States. We were not surprised at Texas with the boll weevil prodding them, nor at Louisiana, but when we got into these older States, like Virginia, it has been the greatest astonishment that I have ever known.

The Secretary. You are in all the southern States?

Dr. Knapp. Practically all except Tennessee and Kentucky. Mr. Sandys how wide a scope do you think we have revolutionized in one year?

Mr. Sandys. About half of Virginia.

Dr. Knapp. Dr. Mitchell met me a while ago and he said you have captured everything from the mountains to the sea. All you have to do is to ask. Mr. Sandy a year ago last January you did ~~xxxxMrxxSandysxxxxyearxagoxlastxJanuaryxyouxdidxnotxhavexanything but one or two dairies near Burkevillex~~ not have anything but one or two dairies near Burkeville.

Mr. Sandys. We had only two.

Dr. Knapp. Now you have a creamery that can handle one thousand cows pretty nearly built and machinery in, and you expect to have one thousand cows patronage.

The Secretary. Give me just a word from each of the States represented here.

Dr. Knapp. We had one man in Amelia County. How many commercial dairies has he organized in one year?

Mr. Sandys. I think it is six or seven now.

The Secretary. Is he needing any help from our Dairy Division?

Mr. Sandys. We had a man lecture to us at one time.

Dr. Knapp. But this man only costs $25 a month. He went right to work as a business proposition and organized these dairies. In the first place Mr. Sandys taught them how to raise hay. How much hay is it they bought around your town?

Mr. Sandys. Two hundred and thirty two thousand dollars worth in one year.

Dr. Knapp. And you have entirely done away with that.

Mr. Sandys. Well in another year easily. We have cut it down at least one half in a year.

Dr. Knapp. Those old farmers, Mr. Sandys, used to raise from five to ten bushels of corn?

Mr. Sandys. Yes sir. Now I got 75 bushels to the acre, and one of my demonstrators beat me. He got 85 bushels. Land has gone up three and four and sometimes ten times as much as it was.

The Secretary. Mr. Sandys what is the effect of all this work of improvement on the homes of the people?

Mr. Sandys. Our homes are improving all around us. Many are painting and whitewashing and putting in hot water all through their houses. In one county this year there was over a dozen water systems put in to supply home and stables with fresh water.

The Secretary. You have helped them towards incomes to do that with.

Mr. Sandys. Yes sir.

Dr. Galloway. Mr. Proctor, tell the Secretary how you stirred up those people in Texas.

Dr. Knapp. To make it concrete I suggest you tell him the condition of things last year in Harrison County.

Mr. Proctor. The loss from the effects of the weevil and the discouragement which had come to that section from the dread of the weevil and because of their poor lands, the conditions that existed there had got down to where they only produced in one of the old counties 4,500 bales. Last season, although the season was very adverse, the production was nearly 8,000 bales. This season they are growing and we think will get about 20,000 bales. Some even think 25,000. That is due to cooperation with the farmers. The above increase having come to the notice of their board of trade they gave us $1,700 last year. We asked for $700, and they increased it voluntarily to $1,700 for improved varieties

of cotton. The negroes down there cannot remember the name Triumph cotton, and they call it "dat government cotton, that is the best cotton I ever seed grow." We probably now have cooperation from every farmer in Harrison County, and they are getting back to the maximum amount of cotton grown there, from the increase of better seed, better preparation of their lands, intensive cultivation, fertilization, of rotation of crops and the planting of legumes. We are insisting that they adopt the three year rotation on every acre of land in that county. Mr. Arthur Knapp was with me at Sulphur Springs and we met the best people there, the oil mill people and the farmers. We had appointed there a Mr. ~~Genner~~ Gentry who is present here. He succeeded in getting only one good farm there, that of a man who made 16 bales of cotton to 20 acres grown. We employed Mr. ~~Pierson~~ Bryson as our local agent there and his services will be about $600, without any other expense to the Government. Mr. Jones, one of their leading bankers there, told us while we were there a short while ago that "a year ago we looked upon the future as being very dark. One of our oil mills had left and our lands were depreciating in value. To-day we look upon a different picture. We are entirely optimists. Our lands have increased from $5 to $25 an acre, with scarcely an acre for sale. Almost every acre of land cultivated under the rule of your

demonstration man is making more than $50 per acre, while last year we did not make more than $10. Incidentally, that night sitting out in front of the hotel were some ten or twelve traveling men from various parts of the United States, one of them from Georgia. He said to them "did you ever see the beat of the cotton around this town. It is different from anything I see around us. After you pass out about five miles it is not as good." They discussed that quite awhile, and I asked them if they knew just why. I explained that our Mr. ~~Pierson~~ Bryson who lived in the town had established these farms on each road leading out from the town so as to make an impressive object lesson to the farmers coming to town. It is a wonderful object lesson to the farmers who go by. They stop to inquire why they are making two or three or five times as much cotton and corn on their acreage as the other fellow.

Dr. Knapp. They said to Arthur Knapp it increased the worth of their crop this season at that point $250,000.

The Secretary. What effect has this on the homes of the people, white and colored.

Mr. Proctor. As they are able most of them want to improve their homes, but they have not had the means. But when a man raises $50 worth of cotton per acre it soon enables him to commence

these improvements. We see new shingles in the homes being built and new barns where there has not been anything of that kind in ten years. They are commencing now in almost every community to put in better animals for breeding purposes.

Dr. Knapp. Mr. Savely you tried it in quite a lot of regions, for instance over there in the Yazoo Delta they were averaging about how many bushels of corn to the acre?

Mr. Savely. Ten would be a very liberal average. I really think it would fall slightly under 10 bushels per acre. About ninety-nine people out of every one hundred would tell you it is not a corn country and no use to plant corn there.

Dr. Knapp. But without any fertilizer, or not much, some not any, but by different methods how much corn did you raise on large areas there?

Mr. Savely. In the season of 1906 I had above 50 successful demonstrations with corn in which the methods of culture advocated in the instructions sent out by Dr. Knapp were put in practice on about that many farms. Of these the yield of the lowest was about 32 bushels and the highest 78.2 bushels per acre. The general average ranged above 50 bushels per acre.

The Secretary. Tell us something about last year.

Mr. Savely. Last year I gave only a limited amount of my time to that same district, as I was general assistant for Dr. Knapp over a large area there, but the yield last year came up fully as high. The report of the commissioner of agriculture for the State of Mississippi gives out that this year the increased acreage in corn for the Yazoo Delta where it has been a solid cotton field, in 1908 over 1907, was 25 per cent.

The Secretary. What effect did you see on the homes of the people?

Mr. Savely. This is a country of large plantations with negro tenants. In most cases we picked out a few colored men on these farms to be our demonstrators. We would have the plantation owner go with us to these farms and the other colored tenants come and meet us there. At these little meetings we have discussed not only crop cultivation but have spoken about home surroundings, how to live economically, the home garden, and things of that kind. Now we have seen a very marked difference. We have seen homes that never had whitewash before whitewashed. We have seen yards fenced in, flowers in them and neatly kept. They are moving along all right. They are heading in the right direction. I cannot speak definitely of conveniences in the home. They are making money, however.

Dr. Knapp. How about the great body of Mississippi hill farms.

Mr. Savely. I am speaking now of the Yazoo valley. In that Yazoo valley we have a colony of colored people. We have a local agent, a colored man himself, there this year. I went there last year to talk to these people about whitewashing their homes, etc. I saw Montgomery, who was the founder of the colony, and he said to me that there had been more improvement on their homes in the last 12 months than there had been since he founded the colony.

Dr. Knapp. My recollection is that the colony is about 20 years old.

Mr. Savely. As to the hill men. During the past six weeks I have made a campaign going with the local agents through the State, and at large demonstration meetings I brought out this question, is this demonstration work helping you on your farm? I call to mind a definite statement from a Mr. Robbins, at New Albany, Miss. We went into his section there last year. Mr. Wilson here put in a little demonstration on his farm and taught him how to judiciously fertilize his land. Mr. Robbins said to me "your agent, Mr. Wilson, saved me $500 last year in the use of commerrial fertilizers." Now the testimony I have gotten from all these people where our work went last year indicates that we did

not find one but made a statement of profit along some line or other.

Dr. Knapp. How about the homes of the white men?

Mr. Savely. It would surprise you to see how much they primp up when they know company is coming. I call to mind now uncle Harp Stuart. He is a man known far and near, and yet the negroes do not come in to see him much. This year we have had a number of demonstration meetings at uncle Harp's home. I have been surprised to see the improvement just in 12 months time. The yard has been fenced, he has fixed up generally around the home, and the improvement has been very marked. Of course, I could name other instances.

Dr. Knapp. Even where we have not any colored agents do our men generally give instructions to the colored people?

Mr. Savely. Yes. At Holker, Miss., our local agent there had a colored demonstrator and he called a demonstration meeting at that colored demonstration farm. There was some 15 or 20 men around him, white men. They came in talked together and looked over his farm, and he was the proudest fellow I ever saw. Last year it produced about one-third of a bale per acre. This year I am sure he will get a bale.

Dr. Knapp. I would like to have Mr. Wilson here give us a word about Hobson's district.

Mr. Wilson. I have been at a little disadvantage over there owing to the fact that it is new territory, and we have not had any work in Hobson's district until this year. I found that when I got there the Captain had made a great many promises. I finally had means to have four local agents under my direction. We have put in about 350 special demonstration farms in that district, but I have also taken on something like 2,000 men as cooperators. In that way we are in touch with something like 2,000 to 2,500 people in that district. One man will get 2 bales of cotton per acre, and one point there I appreciate very much is he has not had a plow in that field this year. He has cultivated a row at a time.

Mr. Savely. I would like to bring out one point. We are having a definite object in view in selecting and improving seed. I would like for Mr. Wilson to state what has been his success in that direction.

Mr. Wilson. I have at least, I suppose, in Hobson's district, about 200 men who have agreed to take up the matter of corn breeding. On a part of our demonstration plats the farmers are going so far as to detassel their corn.

Mr. Savely. How many farmers promised to select their seed this fall?

Mr. Wilson. In Chilton County I made a little tour and spoke to about twelve audiences during the week. At the conclusion of each talk I would say I want every man that goes to the field to select his corn to hold up his hand. I do not suppose I got half a dozen throughout that week, but at the conclusion of every talk I asked very man who was going to select his seed corn to stand up. I got something over 200 men during the week.

Dr. Knapp. Mr. Wilson did any of the farmers ever run away from you when they were told you were a Government man?

Mr. Wilson. They were sometimes very suspicious. They seemed to confuse our work with the revenue business. It made them a little suspicious of our agents and myself, but we insisted that we were farmers and had nothing to do with the revenue and only wanted to teach them to make more corn. They are not afraid of us now.

Dr. Knapp. I want to ask one question, is the general interest in agriculture increasing in Alabama and Mississippi?

Mr. Wilson. Greatly increasing. There is an undercurrent of interest you can see anywhere you go in the two States. They no longer question us or call us book farmers. They are quitting

that largely.

Dr. Knapp. I would like to hear from Mr. Bamberg who has been with us for sometime.

Mr. Bamberg. In Oklahoma we are laboring under peculiar conditions. The people cannot own the land. The land was held by the indians, and under the treaty they were prohibited from selling it for 21 years. Consequently the people are all renters, and we had a hard time with them. When the Doctor sent me over there last November I spoke my little piece to the Commercial Club at Ardmore. I went to the commercial clubs wherever they had one and asked their assistance in endorsing me in telling the people what I said was so, and that they would be safe in following my advice. Where they had no commercial clubs, I got the banker to interest himself or the postmaster and some of the merchants and called a meeting of citizens. In quite a number of instances I got them so interested that they furnished me with a buggy. I think in November, December and January I made a little over 300 alleged speeches. At first it was slow work. I kept at it with the result that we have in about six of the southwestern counties something over four thousand people who said they would follow our line of work. We have had 250 farmers who were trying to follow our line of work. We are growing cotton and corn both.

We are making some hay and a little fruit. I think you will find when the ginners make their report that Oklahoma will stand well to the front. I have got my people checking their cotton at 3, 3 1/2 and 4 feet and eliminating chopping. Every man who has checked his cotton has a brighter prospect of a crop than those who worked in the old way. I cannot predict what we will have in corn. I do not believe in importing seed. I believe every farmer should make his own seed.

The Secretary. Why do they detassel?

Mr. Bamberg. To cross. It was a great deal of trouble to me to explain to these people why I want them to detassel. I think the result of detasseling this year will be to have a great deal of our corn lands detasseled next year.

The Secretary. Are you seeing any improvement on the places where they live?

Mr. Bamberg. Seven months is a rather short time, but I imagine I do. As soon as titles to lands can be given in Indian Territory there will be a boom there.

The Secretary. You were confined exclusively to lands that can only be rented.

Mr. Bamberg. There is very little of that land that can be sold.

Mr. Campbell of South Carolina. I made my report to the Secretary last May over at Sumter, especially on the improvement of the home. I did not get into South Carolina until January of this year. Mr. Mitchell had been there and had appointed two agents when I went over there. I do not know what he said to the agents that caused them to go to work, but one began to sow seed for hay and the other began to improve his home. One man had more seed sown for hay in the way of clover, vetch, Canada field peas and oats than all the other men in his county. This spring I went to his field and he cut more hay from that field that was cut from all the other farms in the county. This year he writes me he has secured about 500 acres of land in Fairfield County to be sown in clover and other hay crops.

Dr. Galloway. What kind of clover?

Mr. Campbell. Crimson clover principally. The other man began work on his home at first. His wife demanded when he was appointed local agent a new dining room and kitchen. He put them up in January. She wanted him to find some plan whereby she could paint or stain that house without having to hire it done. She and I and the children worked on the staining of the inside of the

dining room. A negro school not far away had heard of some of that work and wanted us to come up and help them. They had no lawn, they were not making their garden truck, they were not fattening any hogs and did not even have an orchard. One of our local agents went out showed them where to put the grass and shrubbery around the building and pointed out the place for the garden. A white school heard of it at the same time and begged one of our agents to come over and help them, and when he went the white school teacher had already organized a club of about twelve people and had the agent talk to them and appoint committees, one on garden, one on orchard, one on improvement of the school grounds, and another on good roads. These are some of the little things we have seen in South Carolina. So far as the crop is concerned, we have not been able to get a report except the local agents hay crop. He hauled hay from the fields this year while many of his men were hauling it from the towns. Next year he tells me he thinks they will stop any hay from being shipped into Winnsboro.

Dr Dr.Knapp. I would like to hear from Mr.Quicksall, of western Texas.

Mr.Quicksall. I consider that in the last four years the improvement in central Texas has been wonderful. I live in the center of what we consider the black belt, the farm belt, of Texas.

At first a great many of our farmers were suspicious of the Government agent. They did not seem to think much of this "bbok-farmin'" as they called it. That opposition has practically all died away, and the universal call now is for more work. "We want you to come into our community" they say. I was a little while in Williamson county, which grows more than 100,000 bales of cotton. I said to them that I wanted them to grow more food and corn. The people did not believe it was a corn country, but this year, from the reports of our local agent and from talking with the farmers, we shall have the greatest food crop we have ever raised, and we have a good corn crop. We are making more cotton per acre. For 1907, on the plats of corn under our observation in 20 counties, we increased the yield of corn 4 2/3 bushels per acre. We increased the yield of cotton 72 pounds of lint cotton (I think it was) to the acre. In one of these counties we had a little meeting at the county court house, and after I had talked to the farmers, quite a crowd of them, one gentleman came up, among others, and said "I am going to follow your plan this year in growing cotton and corn." I visited his place two or three times during the growing season, and in the fall went out to his place to see how his crops had panned out. He gathered 40 bushels of corn to the acre and told me that his neighbor across the fence had gathered 15 bushels. His yield of cotton I

do not remember just now, but anyway, as we went back he said "Mr.Quicksall, you have been worth $500 to me this year". In Hamilton county, at the Farmers' Institute meeting, they put me up for a little talk and after I got through a gentleman who had heard me at a little schoolhouse meeting introduced himself to me and said "I heard you two years ago, and have been following your plan. I have been sending in my reports to Dr.Knapp. It has been worth $150 a year to me. In regard to the homes, there is considerable effect. We have some good homes already, though there is plenty of room for improvement. The people are buying better machinery. In one county in my district they are talking a good deal about improving the rural schools, and through the aid of the Board of Trade they are building nice fences around those schoolhouses. They are planting shade trees and in a few instances they have planted beds of flowers.

Dr.Knapp. Mr.Jenner, what is your impression of what is being done in Georgia, so far?

Mr.Jenner. I can illustrate by this one instance. On the 8th of August I went out with one of my sub-agents to look at his corn patch of 3/4 acre, planted about May 1. As we passed by, one of the neighbors, Mr.Watts, saw us and began to telephone around, calling in the neighbors. That was about 10:30 in the morning, and by 11 o'clock we had 30 or 35 men about us. I was

pulling at some tassels, and not saying anything about it. They asked me why. I said "We don't want to breed a scrub to a pure bred horse". They caught the idea at once. I talked for about two hours to those farmers. That illustrates the interest of the counties where we are working, so far, in the State. Some of our demonstrators have gone so far as to say that if we are worth as much to their whole county as we have been to them, it will run from $50,000 to $100,000.

Dr.Knapp. I want to say, to show the trend, that in a good share of the southern States they are now organizing, in nearly every county, rural improvement clubs. Patriotic women are taking hold of that, and in some States they are putting a model kitchen on railroad cars, sending it around, and letting the women see improvements, practical improvements and conveniences, for water, for better cooking, and better utensils. I was in North Carolina last week and they had one at Raleigh. They had had 75 meetings at 75 different points in the State, exhibiting this model kitchen. The South is alive! I have never seen people more alive to talk agriculture and improve their homes. Everywhere I go they assure me that they will make their quarters for their tenants better and improve general conditions on their farms.

The Secretary. What do you find with regard to the merchants furnishing the farmers with goods and taking their pay

when the crop is gathered?

Dr.Knapp. We are preaching the doctrine that every man must produce what he requires to live on and what is needed to support his teams. Formerly through the South everywhere they raised one crop and bought everything with it. If it was a cotton country, the farmer raised cotton and bought everything. It was the same with regard to sugar and rice and tobacco. Now that is largely being broken up and the people are producing the things necessary for their support and the support of their teams. That reduces their borrowing. In the next place, by increasing their crop they get out of debt. The first move after they get out of debt is to improve their homes and the second move is to increase their stock. They get better horses and use more horse power, better tools, etc. Then they take up the schoolhouses. We are teaching them to begin cotton picking earlier so that their children can begin to go to school in October instead of picking cotton all winter. We really get down to the bottom of the movement. We get hold of the under planks, and it lifts the whole business.

MY HOPES AND IDEALS FOR THE FARMERS' DEMONSTRATION WORK IN THE SOUTH.

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The Farmers' Cooperative Demonstration Work is an organized system by which the simple and well-established principles of successful farming are taken directly to the man on the farm.

It is a well known fact that there have been for many years farmers who have made a pronounced success of their farming operations. These men have always secured larger returns per acre than their neighbors. The effort of the Farmers' Cooperative Demonstration Work is to bring farmers generally up to the standard of those who make a success of their farming operations. I do not need to say that the influence of this work has now been felt in every Southern State. A comparison of statistics in the table published with this article will be sufficiently convincing to anyone, especially when it is known that the averages mentioned in the table are collected from the very large number of demonstrators who have followed the teachings of the Department. This work goes directly to the problem of securing the adoption of modern methods of farming by obtaining the close cooperation of a large number of farmers in raising crops under improved practices. Its teachings are simple and direct,

well proven and practical, and not theoretical and experimental. The results have been certain and progress rapid. There has not been a year since the establishment of the work in 1904 that has not shown marked increase in the number of demonstrators and in the number of agents employed.

A systematic effort to increase the earning capacity of the farmer is the primary step in all effort toward rural progress. Every subsequent step is dependent upon the increase of the farmer's ability to afford the improvement. This is the fundamental principle upon which Dr. Knapp proceeded in extending and systematizing the Farmers' Cooperative Demonstration Work. In working out the principle there are four great objects to be aimed at: First, a better return per acre at a less cost, by the use of better methods and modern labor-saving implements. Second, the building up and maintaining of soil fertility by proper farm practices. Third, the production of homw supplies of food and feed. Fourth, the question of sound business principles in farming, by operating on a cash basis instead of a credit basis in the production of all crops. In fact, these four great objects might be consolidated into one by saying that this work seeks to establish happy, contented and prosperous rural homes.

The South has before it an era of agricultural advancement which, it seems to me, is bound to bring it into great prominence and great prosperity. One of the healthiest indications of this tendency is the growing feeling of cooperation

existing between all men who are working along similar lines in the South. Its great educators get together for conference, its commercial organizations meet in conventions to consider the interests of the South generally, and its agricultural colleges, commissioners of agriculture, and the workers in the Department of Agriculture at Washington are steadily growing into closer touch with one another under a more broad-minded appreciation of the work being done by each of these great forces. The load pulls easily when the neighbor's team is hooked in with yours to your wagon.

The greatest step that has been taken in recent years is the awakening of the South to the fact that it could grow corn. I need not refer to the well known fact that in 1910 the South increased its crop of corn by practically a billion bushels, if we include the State of Missouri as part of the South. The increase in nine of the Southern States that have not heretofore been considered corn-raising States was 685,000,000 bus or forty-five per cent of the total increase of the United States. While it is true that the acreage in corn was increased it is likewise true that every Southern State increased its average production per acre in corn and some of them made this increase to a considerable degree. The progressive farmers of the South have also been brought to realize that they have an abundance

of crops which can be raised for grazing purposes and for hay. With the clovers, cowpeas, and other leguminous crops the farmer of the South has wonderful possibilities, not only for restoring nitrogen and humus to the soil but for producing crops with which to feed his stock, and we must add to these the small grains for winter grazing and the grasses which may be used for permanent pastures. Corn, hay and grass mean livestock, and if we can only get rid of the tick in the South it possesses the greatest possibilities as a ~~livestock~~ cattle-producing country of any section of the United States. The tendency is all in that direction and many hundreds of small hog farms are being put in; counties and States where formerly no hogs were ever shipped to market are now producing them for shipping purposes; silos are being built, and dairies on a small scale are being established here and there all over the South. These are but the indications of the future great growth in this direction.

It seems to me that the ideal situation for the Southern farmer is diversified farming. In boll weevil sections the Department is rapidly showing the farmers how to raise cotton under boll weevil conditions and diversified farming is being rapidly established whereby the farmer produces his cotton in spite of the weevil if he follows the directions, and more often than not produces more of a crop per acre by following modern methods than he did by following old methods before the weevil came. The man who thinks that the South should go

out of the cotton business or should abandon the great hold it now has on that wonderful industry, it seems to me has not thought very far into the future. The cotton crop of last year was worth approximately nine hundred and fifty millions of dollars, or more than any other farm crop produced in the United States, except corn. By modern farming methods the Southern farmer can produce as much cotton on less acres; can produce corn sufficient for his own use in a modest stock-raising venture; can produce his own forage crops, and grazing sufficient to enable him to raise hogs and cattle. Stock-raising means the production of the valuable home manures so necessary in keeping up fertility of soil. And these, in combination with the rotation of crops possible under Southern conditions, will enable the Southern farmer to maintain his soil fertility so that his land ought to constantly improve instead of deteriorate. That is my ideal for the Southern farmer of the cotton belt.- to have a good home, with pleasant surroundings; to produce the home supplies; to keep plenty of good chickens, a little dairy, some livestock, especially hogs; to produce all the grazing and feed this livestock will require; to produce his own corn and grow his cotton as a cash crop. I believe it is perfectly possible for the South to maintain her supremacy in cotton-raising under such a system. These are my ideals and hopes for the Farmers'

Cooperative Demonstration Work in the South. I need not say that they were the hopes and ideals of Dr. S. A. Knapp in his great efforts for rural uplift in the South. All I have sought to say is that these hopes and ideals still exist and that it will be my earnest effort to work for a realization of the ideals by carrying on the Demonstration Work in the same way that it has been carried on heretofore, carefully cooperating with every great force that is striving to benefit the common farmer. In an address before the Legislature of the State of Alabama, Dr. Knapp said: "I would rather bring an ounce of hope to the common farmer than to carry a bag of gold, no matter how heavy that bag of gold might be." I want to adopt that statement. The carrying of hope to the common farmer has been the object of the Farmers' Cooperative Demonstration Work. I know and understand from experience the hardships, privations and difficulties of the common man. The difference between hopefulness and despair is the difference between progress and stagnation. The five hundred and fifty men employed in the Farmers' Cooperative Demonstration Work are daily bringing hope to the farmers in the South. During the present year somewhere close to one hundred thousand farmers are receiving instructions and approximately thirty three thousand are being visited every two weeks or at least every month. The work of the Department of Agriculture and of the Agricultural Colleges

and Experiment Stations in research, garnering from the field of the unknown knowledge that is rapidly being sifted to practical usefulness, is of vast importance to the present and future progress of American farmers. Extension work, agricultural trains, farmers' institutes and short courses are of great importance in carrying these messages to the farmer but often the lessons they teach are not adopted because there is no one to follow up the lesson by personal contact with the farmer while he is working out the new method. That is the job of the Farmers' Cooperative Demonstration Work. It goes into the highways and byways of the South, seeks out the poor and debt-ridden farmer as well as the good farmer and gets him, by a personal supervision, to a point where he has self-reliance sufficient to carry on his farming operations under modern methods. This work has accomplished a great deal of good in the South and has brought great benefit to the Southern farmer. A careful estimate of the value of this work to the demonstrators and cooperators alone on their demonstration plots, to say nothing about the influence upon surrounding plots, places it at approximately five million dollars increase to these men ~~in the South~~ last year.

Dr. Knapp left the work in splendid shape, with a magnificent corps of most loyal and energetic men working in the field. Knowing his views, his ambitions, his ideals

and his hopes for this work, through long personal contact, and I constant daily discussion, I need not say that my hopes and ideals for the Demonstration Work in the South are to carry it on on the lines along which I know he would have carried it had he been spared to more years of usefulness.