

SOME OF THE THINGS THAT A COUNTY EXPERT WOULD DO

Grow Improved Seed on the County Farm & Distribute This
Seed to the Farmers of the County

For more than one hundred years past men have spent their lives in developing improved breeds of horses, cattle, hogs, sheep and poultry and at the present time we find in every community farmers whose principal business is the further improvement of the particular breeds of live stock and the raising of purebred animals to sell to their neighbors as breeding stock. While this has been true in the live stock work it is only in very recent years that we have found men who have been devoting special attention to the improvement of valuable varieties of corn, oats, wheat barley, timothy, clover and various forage crops with the idea of selling pure bred seeds to their neighbors. A small amount of work along this line which has been done shows beyond doubt that there is fully as much opportunity for improvement along the line of seed grain as there is with stock improvement. Careful experiments conducted in over thirty counties in Iowa have shown that there are various varieties of corn which will produce ten or fifteen bushels per acre more than the average seed used in those counties. If any county should hire an agricultural man one of the things which he would do would be to direct the growing of improved varieties of corn, oats, wheat, etc. on the county farm and aid in the distribution of improved seed to the farmers of the county. A state law passed in 1906 provides that any Board of Supervisors may appropriate \$300 for experimental work on the county farm. This appropriation would provide for the expenses of growing improved seed and other work as will be outlined briefly below. The expense of carrying on this work of seed improvement could also be very reasonably borne by charging a fair price for such seed.

Conducting Demonstrations on the County Farm

There are a large number of field demonstrations or experiments as they may be called which can be very profitably conducted on the County Farm under the direction of a man who thoroughly understands the work. For illustration during the past nine years demonstrations have been made with planting corn with different number of kernels per hill, with planting seed corn imported from other parts of the state side by side, with home grown seed, with planting corn at different depths from one to six inches deep, with planting butt, middle and tip kernels from the same ears side by side, with planting seed from different farmers to show the great difference there is in seed planted by different men, with planting different ears of corn from one man showing the big differences there are in the yields from such ears and the possibilities there are in the careful selection of seed corn. Other demonstrations which might be conducted under the supervision of a competent man are as follows:

The comparative value of spraying and not spraying potatoes; the comparative value of drilling and broadcasting oats; the value of different methods of cultivating corn and potatoes; the value of cultivating orchards rather than leaving them in pasture as is done with most Iowa orchards; the value of spraying fruit trees; the value of conducting a systematic rotation of crops in which no one crop is raised more than two years in succession; the value of different leguminous crops such as Canada field peas, cowpeas, soy beans, vetch, etc.

One of the greatest difficulties of conducting a systematic rotation as mentioned above is the great uncertainty of getting a catch of clover. Consequently when clover fails corn or oats is again put on the ground when it should have been in clover or some crop which takes the place of clover. What is needed is a leguminous crop which can be sown in the spring which will provide a protein feed to balance the corn

ration and will also have the same effect on the soil which clover has. There are crops which will do this. A competent man would try out a large number of these crops on the county farm and the farmers of the county would come and see them growing and the next year could see the effect on the following crop. When they found that some crop was successful in taking the place of clover where clover failed they could adopt the plan of using that crop on their own farm.

Another demonstration which could be conducted at the county farm would be the seeding of alfalfa in the spring and in the summer with and without the inoculation of the soil and with and without the use of lime. A great many farmers would be growing alfalfa if they knew how they could be reasonably sure of getting it started. On the county farm this man would be able to try out different methods and the farmers of the county could come there and see which was best. Other work along the line of demonstrations and experiments on the County Farm could be carried on as the work developed.

Held Short Course Schools

The 120 Short Course schools held during the past eight years in different parts of the state have proven of unquestioned value to the people of the communities in which they have been held. The following is a brief outline of the work done at these short course schools. Regular classes for a week are conducted in judging horses, cattle, hogs, and sheep. In connection with this class work illustrated lectures are given on methods of feeding and caring for the different kinds of live stock. One-half of the time each day is devoted to work along the line of corn judging which is simply the selection of seed corn; together with a series of lectures and demonstrations on the selection, care and testing of seed corn and preparation of the seed bed, cultivation, preparation of seed oats, ~~at~~ the care

of the small grain crop, the eradication of injurious weeds and insects and also lectures and discussions on soil fertility, rotation of crops and use of manure, etc.

For the women and girls class work consisting of demonstrations and lectures along the line of cooking, sewing, home management, home nursing, ventilation, sanitation, etc. are held. In order to conduct these short courses schools local organizations have been formed and to pay the expense a fee of \$2.50 or \$5.00 for the men and \$1.50 or \$2.00 for the women has been charged: With a man who understands this work in the County several of these short course schools could be organized in the different towns each winter and a much greater number of the people get the benefit of them.

Help with Work in the Rural Schools

The County Superintendents in several counties where they are introducing agricultural work into their schools have stated at different times that the employment of an agricultural expert to live in their county would enable them to do more and better work in the schools because of the fact that they would have this trained man with his agricultural library to draw on for suggestions and information that would enable them to make the work of more interest and benefit to the pupils in the schools.

Supervise Cooperative Experiments

In some states and countries hundreds of farmers are carrying on simple experiments on their own farms. A lesson learned by any man or boy by testing out different methods on his own farm is of far more value to that person than any lesson learned by the same experiment when made on another farm, especially when that other farm is in some other part of the state. Some of the simple things which men might do on their own farms are as follows:

Plant corn with different numbers of ~~kernel~~ kernels per Hill. An experiment of this kind can be carried on very easily. Many modern planters can be made to drop two, three or four kernels per hill by simply moving a lever. A man could plant ten rows with two kernels per hill then ten more with three per hill and ten with four per hill. Two or three strips should be planted with each number of kernels per hill. Then at husking time the corn from the different strips can be weighed or carefully measured and the actual value of planting the different numbers of kernels per hill determined for that farm during that season. If under the direction of a man who could visit the farms and keep the work uniform, fifty or one hundred men and boys should carry on this same experiment for three or four consecutive years the people of that county would have a very definite idea of what thickness of planting gave the best results under their conditions.

In a similar way men who have drills could determine very definitely the comparative value of drilling and broadcasting oats both as to their effects on the yield of grain and the stand of clover ~~and~~ and timothy secured. Simple experiments could also be carried on without much extra work with different methods and times of seeding alfalfa, with spraying potatoes and fruit trees, with different methods of cultivating corn, with different methods of taking care of pastures and many other things which might be named. Under the direction of a careful man who had the confidence of the farmers of the county many valuable things could be learned in a few years by means of these cooperative experiments. This man would visit the farmers on their farms, would help to keep the experiments uniform so that the results secured by the different men could be averaged together and reported at the short course schools, farmers institutes, granges and clubs, in printed reports and in the rural schools work of the county. Such work is now being started here and there over all of Iowa under the direction of a

man at the state experiment station. With a man located in a county to visit the people on their farms this work could be made of great value.

Establish a Farmers Information Bureau

If an agricultural expert were located in the county he would spend at least one day each week in his office where farmers could call on him and secure information free of charge along any line in which they might be interested at that particular time. For illustration there are many farmers who would like to know how to get rid of certain weeds and insects which are injuring their crops. They would also like to know why their stock is not doing as it should do. With a man in the community who has made a special study of these things they would be able to secure much information along these lines which they can only secure now by writing to the State Experiment Station or the United States Department of Agriculture. If any particular problem came up the agriculturist would visit the man on his farm and be in a position to help him with this.

Organize Dairy Test Associations

With a man in the county to direct the work those interested in dairying could organize test associations in order to learn which of their cows are profitable and which are losing them money. Associations organized ~~in the past in Iowa~~ after the plan followed very successfully in Denmark are being organized in northeastern Iowa at the present time. The plan of these associations is as follows:

Twenty-six farmers form an organization and hire a man to test their cows for them. There being twenty-six in the organization and twenty-six working days in the month the tester can visit each farm once each month. He comes to the farm during the afternoon and at night keeps a record of the weight of the milk from each cow. He also tests a sample of the milk from each cow and records the amount of butterfat. He weighs the grain fed each cow and estimates the amount of roughage and pasture

that she has used during the day. In the morning he again weighs the milk and tests it for butterfat and weighs the grain fed. By means of these records for each cow one day each month an approximately accurate knowledge is gained of the amount of butterfat produced by the cow during the year and of the cost of producing it. With this knowledge the members of the association are enabled to sell their poor cows and keep the good ones. Because of these definite records of the production from the different cows they are also enabled to sell the young stock from the good cows at much better prices than could be secured if they had no records of the profits from the cows. These associations have proven very successful in Denmark and in Blackhawk County, Iowa, where two associations have been organized for three years past. By having a man in the county who thoroughly understood his work, associations could be organized, competent men secured and the work carefully supervised.

Organize Granges and Clubs

One of the things which Iowa needs and does not have much of is organization among the farmers. One of the reasons why boys and girls leave the farm is because they do not have the social life in their homes and in their farm life which their nature demand. Not being able to get this social life in the communities where they live they go to town for it. One reason why the young men and women of Iowa have been going to Canada and the western states where opportunities seem greater is because there have been no special ties binding them to the farms and communities where they were brought up. In those states and communities where the farmers meet together from time to time in their farmers clubs and granges, the young people become attached to their homes and to their communities and want to live there and are not attracted by the possibilities of the new country. A man trained along agricultural lines who also understands the organization of granges and clubs could do much in the county in the way of helping

the people to get organized and then to help them so conduct these granges and clubs that the people will keep up their interest in them and in the community life.

It is not difficult to organize a club or grange in most any community in Iowa at the present time. The great difficulty is to keep such an organization running in such a way that it will build up the community after it is once organized. This man would make a study of methods used by the officers and program committee in those organizations which have been conducted successfully for a number of years and help the people of the county to apply the same methods in their own clubs and granges.

Cooperate with Existing Agencies

In order to make this work successful in the county the agricultural expert would necessarily do his best in cooperation with the agencies which already exist for the betterment of the social, educational and material conditions of the county. In the work of developing and distributing improved varieties of corn, small grain and forage crops he would necessarily cooperate with the Board of Supervisors. In the holding of corn and grain shows, institutes, short course schools and in the general work which he would do there should be a close cooperation with the commercial clubs, and business men's organizations of the county. The cooperation with the superintendent of schools in the interesting of boys and girls in farm work and farm life has already been discussed. By having a man in the county who would devote a part of his time to the work of the farmers institutes, meetings could be arranged for not only in one or two towns of the county each winter but in every community where there was enough interest to warrant the holding of such institute meetings. Some other states have done much more in the way of organizing farmers institutes in several towns of each county than

has been done in Iowa. The assistance which such a man would give to the organization in keeping up interest in granges and clubs has already been mentioned. In communities where the Y.M.C.A. is organized in the small towns and rural communities with a county secretary in charge the agriculturist could cooperate with the association secretary in the work among the boys of the county by conducting classes in stock and grain judging, knot tying and rope splicing in the various communities. Members of the state extension department have been giving considerable assistance to this kind ~~form~~ of work in Greene, Buena Vista and Sac Counties where the Y.M.C.A. is organized. A large number of pastors of rural churches in Iowa and other states have become much interested in the improvement of agricultural conditions in their communities. These men realize that when a boy or man or when a group of boys and men become interested in the farm work that they are doing and in the improvement of their homes rather than simply the making of money these boys and men become better morally and are more easily interested in the bigger and better things of life. Several such pastors have spoken of the assistance which such an agricultural man in their community would be to them in their work.

The County Fair could be helped much by this man who would spend a considerable part of his time traveling over the county visiting the people on their farms and in their homes in connection with his work. Such a man would necessarily know who it was who had good herds of cattle hogs, sheep and who had good crops of corn, small grain, fruit and garden truck and by urging those who had especially good specimens to exhibit them, could help much in bringing out larger and better exhibits than can be done unless someone takes it upon himself to interest the people in bringing out those things which they have.

In order to make the work in any county of the greatest value this man would necessarily cooperate with the State Agricultural College and Experiment Station and with the United States Department of Agriculture so as to bring the benefits of the work that those institutions are doing to the people of the community in which he works.

SOME OF THE POSSIBILITIES IN CROP & ANIMAL
PRODUCTION IN CLINTON COUNTY

The following table shows some of the increases in yields which might be secured in Clinton County if every farmer did as well as many farmers are now doing.

Crops	1911 : Acres	Possible Increase			
		: Yield	: Amount	: Value	: 1/10 Value
Corn	: 110,000	: 15	: 1,650,000	: 825,000	: 82,500
Oats	: 44,000	: 10	: 440,000	: 176,000	: 17,600
Potatoes	: 1,100	: 50	: 55,000	: 27,500	: 2,700
Milk	: 16,500	: 10¢	: 165,000	: 49,500	: 4,950
	cows	butter			
Pigs	: 20,000	: 1	: 20,000	: 100,000	: 10,000
	swine	pig			
TOTAL				1,177,000	117,750

The average yield of corn in Clinton County is reported as being about forty bushels per acre. There are men in practically every community who scarcely ever get below fifty bushel per acre and during the better years will get seventy-five to eighty bushels and occasionally ninety or more. Their average yield for a number of years is from fifty-five to sixty-five bushels. These men secure these yields not because their soil is naturally better than that of their neighbors but because they know how to take good care of their seed corn, prepare the seed bed well and keep up the fertility of the soil by rotation and manure. An increase of fifteen bushels per acre over the entire county would not be difficult if the land were all owned by one man and he placed the direction of the raising of corn under the management of an expert along that line. As shown in the table an increase of fifteen bushels per acre would mean an increase in value, at fifty cents per bushel, of \$825,000 each year.

Clinton County produces 44,000 acres of oats in 1911. There are many men who produced an average of 10 bushel per acre above the general average under no better conditions. If the oat land of Clinton County were all managed by one man he would by the careful selection of seed, treating the seed for smut, proper preparation of the seed bed and good care of the crop after grown increase the average yield easily ten bushel per acre. This would mean an increase of about \$175,000 to the oat crop of Clinton County each year.

Clinton County produced about 1100 acres of potatoes in 1911, which yielded only 92 bushels per acre. Experiments with spraying potatoes carried on at different experiment stations have shown that an increase of fifty to seventy-five bushels per acre of marketable potatoes can be brought about by this means alone. If one man owned the potato crop of Clinton County he could by spraying three or four times with Paris Green and Bordeaux Mixture, by careful selection of seed, by careful preparation of the seed bed increase the yield at least fifty bushels per acre giving an added value to the potato crop at 50 cts a bushel \$27,500 per year.

As near as can be learned from the census reports there are about 16,500 milk cows in Clinton County. Each cow produces about 150# of butterfat per year. In one association near Waterloo in which the men own between 300 and 400 cows the careful weighing of the milk and testing it for butterfat together with a record of the feed used enabled the men to increase the butterfat production 26# per cow in a single year. If one man owned the cows of Clinton County he would unquestionably bring about an increase of 10# per cow per year by weeding out the poor cows and by better feeding and management. This increase in butterfat production would mean an increase of \$49,500 per year.

It is estimated that there are approximately 20,000 brood sows kept in Clinton County. Reports from hundreds of farmers living in different parts of Iowa shows that the average litter of pigs consist of three good pigs and a runt. There are men in practically every community who count on raising five, six and seven strong thrifty pigs, in each litter. An increase of one pig per litter would undoubtedly be brought about if all the sows were under the management of an expert along that line. The average value given to a pig at weaning time is \$5. The increase of one pig per litter at \$5 per pig would mean an increase in value of \$100,000 in a single year.

While the employment of an agricultural expert in a county could not bring about these increases as indicated except as by gradual practise all of the farmers of the county would learn to use those better methods of crop production and live stock management which are now used by the better farmers of the community. If there were an increase of only one and one-half bushel of corn per acre one bushel of oats, five bushels of potatoes, one pound of butterfat per cow and an average of only one-tenth of a pig per litter it would mean an increase of approximately \$118,000 per year. The expense of carrying on this work would be from \$3000 to \$4000 per year including salary of the man employed traveling expenses, office help, printing, etc. If by his being in the county only the very slight increase of production as indicated above would pay many times over for the employment of such a man. Clinton county has about 390,000 acres of land in its 2468 ~~with~~ farms. One cent per acre per year would pay all of the expenses connected with the employment of a man to look after the agricultural interests of the county.

WORK THAT IS BEING DONE IN OTHER COUNTRIES & STATES

Work of the kind which has been outlined has been done under varying plans in several European countries and is being carried on in several states of this country. In Belgium the work began about twenty-five years ago by the employment of trained agriculturists on the larger estates who worked among the tenant farmers living on those estates. During the twenty-five years in which this work has been done in Belgium crop yields are reported as having practically doubled.

In Ireland the work began ten years ago and has proven so successful that the people are unanimous in favor of the continuation of the work. In that country men spend a considerable part of their time in going from farm to farm as the farmers ask them to come, giving them suggestions and information. On the average each one of these experts visits about 365 farms per year.

In Ontario the work was taken up in a definite way five years ago. Twenty-two counties are now organized with a college graduate living in each county and working along the various lines as have been suggested. The government plans to extend the work through every county in the Province of Ontario showing that it has been successful. Work of this same nature has been done in Italy, Austria, Bavaria, Saxony and England.

In both North Dakota and South Dakota better farming associations have been organized with experts located in different counties and with a man in general charge of the work over the state.

In Wisconsin there are about thirty counties which have agricultural high schools. The men who teach agriculture in these schools spend one-half of their time in teaching in the schools and one-half of it in working among the farmers of the county along different lines. This work is being taken up in some counties in Illinois, Massachusetts, Missouri

and southern states. In China and Japan land which has been farmed continuously for from four to six thousand years is producing twice as many bushels of wheat per acre as land in the United States which has been farmed from fifty to two hundred years. Commercial fertilizers have never been used to any considerable extent in China and Japan. The fertility of the soil being conserved by careful management. We need to have a man in each community in Iowa who will study the soil problem to learn how the people of other countries have kept up the fertility of their soil and then help the farmers to apply those same methods, which have succeeded elsewhere to their own conditions.

To Help Interest Boys & Girls in Farming

Iowa has become notorious because it was the only state in the Union ~~which~~ which lost population during the ten years from 1900 to 1910. This loss in population has been largely in the rural communities. One reason why this loss has occurred is because the boys and girls of Iowa have not ^{been} taught to like farm work. All of their training in the schools has tended to lead them away from the farm rather than to show them the possibilities and satisfactions there are in life on the farm.

An experience of Professor O. H. Benson formerly county superintendent of schools in Wright County indicates what it means to make an effort to interest boys and girls in farm work and farm life. When Mr. Benson began his work as Superintendent of Schools he wrote a letter to his teachers asking them to ask their pupils what they wanted to do and what they wanted to be when they grew up to be men and women. About seventy boys replied and about sixty-five of the seventy said that they wanted to be carpenters, blacksmiths, street car conductors, engineers, mail clerks, bankers, doctors, preachers, lawyers, etc. Only five boys wanted to be farmers. About sixty-five girls answered the questions as to what they wanted to do and be and about sixty of them

told their teachers that they wanted to be stenographers, milliners, clerks in dry goods stores, school teachers, etc. Only four or five of them were satisfied with farm life and wanted to stay there. This expression from about 140 Wright County boys and girls shows the lack of interest there is in farm life and the reason why so many leave the farm at the earliest possible opportunity.

Mr. Benson began work in his schools with the object of helping to interest those boys and girls in farm life. He helped the boys study the selection of seed corn and how to test it. They learned to tie useful knots and make splices in ropes. They learned to identify weeds and weed seeds and study methods of getting rid of bad ones. They learned why the soil is cultivated and reasons for rotating crops and making careful use of manure. The girls were interested in the home life by means of bread baking contests, learning to make their own clothes and studying the principles of ventilation and sanitation in the home. After four or five years of this work Mr. Benson again asked his teachers to learn what the boys and girls wanted to do when they grew up. He found this time that practically every one of both boys and girls had become so interested in farm life and farm work that they wanted to become farmers and live in farm homes after they became men and women.

Undoubtedly one of the most far reaching results of having an agricultural expert living in the community would be that he would help interest boys and girls and young men and women in farm life and so help to keep them on the farm.

To Help Develop Better Farms, Better
Schools and Better Homes.

The real reason for all of this work as it has been briefly outlined is the betterment of community life and home life. The increasing of crop and animal production and the increase of money profits by these

means will be of no avail if such money is not used to make the homes more pleasant and attractive, to improve the schools, the rural churches, the roads, social life in the country and all other things which have a part in making the home and community life more pleasant.

WHY HAVE A COUNTY AGRICULTURAL EXPERT?

The plan of having an agricultural expert located in a county living and working in only the one community is new in Iowa. However, this plan has been followed for several years in some of the European countries and in Canada with remarkable success. This plan of carrying agricultural information to the people is now being worked out in a large number of states in this country. Some of the reasons why we should have such an agricultural worker located in each county are as follows:--

To Help Increase Crop Production

In this country crop statistics show that we are producing only about one-half as many bushels of wheat per acre as is being produced in Europe under natural conditions, which are no better than ours. This fact alone indicates that there is much room for increase of crop production.

To Help Increase Animal Production

As near as can be learned from creamery and census reports the average Iowa cow produces only about 150 lbs of butterfat per year. In one community in Blackhawk County where the cows have been given good care the average production from more than 300 cows was found to be about 250 lbs of butterfat per year. This illustration shows some of the possibilities of increasing animal production in Iowa.

To Help Conserve the Fertility of the Soil

The American people are permitting the fertility of their soil to be mined and sold from the farm without putting anything back to take its place. Hundreds of farms in the New England states have been abandoned, because they no longer pay for cultivation. Millions of dollars worth of commercial fertilizer are being used annually in the eastern and other states of this country.

This wide spread movement and the great success which has gone with it where it has been tried out for five, ten and twenty-five years in Ontario, Belgium and Ireland show that the work is worth while and that it is bringing results.