

FARM MANAGEMENT.

One of the most helpful and suggestive papers on farm management that we have read in many a day is the address of Prof. W. J. Spillman, agriculturist, U. S. Department of Agriculture, made before the 25th annual meeting of the Ontario Agricultural and Experimental Union, held at the Ontario Agricultural College, Guelph, December 1 and 2, 1903. After complimenting the experimental Union on the eminent success of its efforts to improve farm conditions in Canada, Prof. Spillman said:

When I was a boy on the farm I conceived the idea of going away to school. On the farm where I was brought up it was the custom to start in the field at seven o'clock in the morning. We quit very promptly at noon and rested an hour, then worked till 6 o'clock in the evening. We lived considerably farther south and the winter days were not so short as the summer days as they are here. We made a living, however, even if we did not work more than 10 hours a day. When I decided to go to college I was taking and scripping together enough to pay my expenses, and I decided that after we had finished our fall plowing I would hire out to a neighbor and earn a little more money. I went to one of my neighbors and engaged with him to do some plowing. The farm on which this neighbor lived was one of the best in the country, and the man who preceded him had made a fortune out of it and retired.

Mr. Brush, who had retired, had the farm had considerable money, and had bought six good horses, five good cows, and farm machinery. I went down at 6:30 in the morning to start work, and when I arrived there were a number of farmers plowing around the field. When he came around, he said: "You are a little late," and I asked him when they began, and he replied: "At four o'clock in the morning." I said: "Do you expect to make a profit on this farm?" He said: "If hard work will do it, I do." He was plowing about two and a half inches deep. What were the results? Two years later Mr. Brush had two old, worn-out horses, his cows had all been sold, or had starved to death, and finally he moved into Indian Territory, where a man could brand cattle enough to keep the wolf from the door. He was in a poorhouse in the North, and his wife and the rest of the family are dead. This is the best illustration I have of the man who believes that farming consists of hard work. He was going to make a living on that farm if hard work would do it. I want to tell you that hard work alone will not make a living for a man anywhere. I want to say further that one pound of brain to the farm is worth ten of muscle.

I was very much interested in the talks which preceded me this evening. One of them suggested to me a farm home with which I have the honor to be well acquainted. It was at one time my duty to judge the butter at a State Fair in Washington, and in awarding the prizes I was required to give my reasons for giving them. I did not know whose butter it was that had won first prize, but it was one of the finest samples that had ever come to the association. In my talk I told them this, and said that I could tell some things about the man who made the butter, although I did not know who he was. He happened to be sitting on a seat right in front of me, and it was the first time he had attended one of my meetings. When I got through, he rose up and asked some questions. I saw immediately that I had a man of brains to deal with, and I answered him as intelligently as I could. I saw that he knew something, and I had spoken particularly about the excellent flavor of the butter, and made the remark that the man who fed the cows understood the science of feeding to get butter of that flavor in the late winter. He said that his principal feed at that time was turnips, and that they were old and strong. Then I knew that I was dealing with an exceedingly intelligent man. I said: "I am glad to hear that you feed turnips," and I told him that I had said "that is exactly the way I do it," I said: "Where did you learn?" He said: "From experience, and I read it in the papers." I afterwards cultivated his acquaintance. He had been educated for a lawyer, but had given it up because he had been very successful in some commercial ventures, and had come to the bank and partly owned a mercantile establishment. He became so prosperous that he thought he had enough money ahead to develop a supposed iron mine, and lost everything he had in it. He went into the woods, and took up eighty acres of land, and cleared off a little place large enough to build a house and barn, and when he got there he built a house three thousand dollars in debt. He was a man of energy, well known in the community, and could get credit. In nine years he had paid that debt, had built a nice modern dwelling, had built a large commodious barn, and had cleared off 80 acres of land. Twenty acres was natural prairie, and was kept in pasture, but some 45 acres he had put under the plow. During that time he never hired a day's labor, but he, with his three boys and three girls (the oldest boy being sixteen at the time he went on the farm) have done the work of the place and built the houses. They never went to work before seven o'clock, and he did any work after six o'clock, but the evening was reserved for reading and amusements. The oldest boy in that family came to school with me later, and graduated in agriculture, and was offered a valuable position in Washington, but he refused it to go back to the farm, because he had not been educated away from the farm, and farm life to him had not meant drudgery. That home is a model home today, and one in which the State of Washington is proud. There is a case where hard work combined with brains has made a home. He now has four head of the Jersey cows, and an income of \$3,000 a year from that little farm.

The average yield of hay on farms in the United States is 1.1 ton per acre. In some of the best countries, farms, it is not far from 7 tons. This difference is not wholly due to the difference in soil and climate, for it is not infrequently found on adjacent farms. In such cases it is due to differences in methods of management of the soil. Similar differences are found in the products of herds of cattle on adjacent farms. We may say that it is simply a matter of difference between men; and this is very true. Our problem then is with the farmer himself. It is a mistake, however, to suppose that these differences between men are necessary; they frequently represent differences in opportunity; and when this is the case, it is possible to lift a man out of the average class and place him amongst those in the forefront of his class. Herein is the justification for much of the money ex-

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pendent in recent years in agricultural investigations and in bringing before the farmer the results of those investigations by means of schools of agriculture and other means of disseminating information.

WHAT FARMERS MUST UNDERSTAND.

The subject before us is so broad and complex that I shall be confined, in a brief discussion of this character, to very general remarks. The farmer must not only be a business man, knowing how to buy and sell to advantage, how to prevent waste, and how to arrange the details of a complex business, but he must understand something of the principles of chemistry, botany, mechanics, and animal and plant physiology. To do this he must not only possess executive ability, but he must be a student. The most frequent mistake a farmer makes is to think too little and work too much. Even on a small farm, it pays better in every way for the responsible head to spend a portion of his time studying the literature on his subject, and in laying out plans for the work, even if extra help must be hired to take his place in the field. Sooner or later the direction of the work on those American farms will devolve on those whose time is worth more when they are doing manual labor. He who plans the work of a farm must not work so hard that he has no energy left to do the planning; if he does he will soon find himself willing under someone who does take time to plan.

PLANNING THE WORK.

To run a farm properly, no matter how small it may be, someone must decide many important questions every year. One of the most vital of these is what crops to grow. In order to show how complex such an apparently simple question may be let us consider for a moment the number of things that must be taken into consideration in answering it. First, there are the climatic conditions. The relation of most crops to climate is fairly well understood, so that this phase of the question is usually of minor importance. It is of much importance, however, in the case of any new crop. Quite recently our farmers across the line have been greatly concerned about the climatic relations of alfalfa. Many have refrained from sowing this most valuable of all hay crops under a mistaken notion that it was not adapted to humid or to fairly cold climates. The amount of labor involved in handling a crop must also be considered in deciding what crops to grow. Farm labor is growing scarcer and less satisfactory every year in our country, and there is a strong tendency to adopt styles of farming that require a minimum of labor. Most American farmers are tilling too much land, and the crops grown must be governed to no small extent by the amount of available working capital. Then the system of cropping must be such that the crops dovetail together, so that no land shall lie idle between crops. The crops must also be chosen so as to distribute the work during the year. Otherwise, the farmer must depend largely on temporary labor, which is always unsatisfactory and high priced.

Then there is the question of the adaptability of the soil to the crop, which requires considerable special knowledge. Few farms are uniform in all parts, as regards the character of the soil. One part is better adapted to the raising of potatoes. Finally, the farmer follows his rotation blindly, or shall he increase the acreage of this crop next year, when it hits on the field best adapted to it, and decrease it in the next year when the turn comes on another field not so well suited to it. Again, the prevalence of certain insect pests or fungous diseases may have an important bearing on the choice of crops. Finally, there is the question of markets to consider. In our Southern States farmers are greatly handicapped because cotton is the only crop they can grow for which there is a market ready to hand. I have discussed this subject somewhat in detail to show how complex may be the simple question, "What crops shall I grow?" Yet this is only one of many questions just as complex that must be answered every year on every farm. For instance: What stock, if any, shall be kept on the farm? Shall it be horses or cattle, or sheep or swine, or two or more of these? If cattle, then shall we go in for dairying or beef production, or both? In either case, what breed shall we choose, and how many heads shall we attempt to keep? What feed shall we raise, and how many acres of such kind? If we decide on dairying, shall it be butter or cheese or milk?

Take a simpler case. Here is a crop of oats to be grown. "What variety is best?" "How shall the soil be prepared?" "What crop shall it follow?" "What manure is it best to use, and how much?" "When shall the seed be sown?" "At what rate per acre?" And so on ad infinitum. Is it any wonder that many of these questions are answered wrongly, even on the best of farms?

WHAT IS FARM MANAGEMENT?

The continued answering of a host of questions similar to those above constitutes Farm Management. No business calls for wider knowledge or better judgment than this. We cannot take all these questions into the laboratory and answer them with test tube and scale. They must be worked out on the farm in actual practice. The whole subject is so complex that its main features must be largely guess-

work, tempered by good judgment, and based on the results of successful practice.

There are those, doubtless, who would maintain that the student of agriculture has done his duty by the farmer when he has unveiled the principles the farmer must apply in his work. Yet the problem the farmer has, of applying these principles in practice, is often greater than that of discovering them. Can we not help him in this difficult undertaking, or shall we leave him to his own resources? Since the problem of planning the work of the farm is the most important element in the final results, it seems to me that we can advance this great and fundamental subject, the subject, and by publishing accounts of the methods used by successful men, have furnished suggestions to others, which have resulted in much improvement in methods of farming generally over the country. But in publishing such accounts the newspaper naturally selects those points which will make an interesting story, and omits many details which are necessary to a clear understanding of the methods described. I am of the opinion that it is desirable to furnish farmers with full and accurate statements of the methods used on the most successful farms of all types. This might not make the best reading matter for a newspaper, but it would furnish good material for study on the part of the farmer, and is, therefore, suitable for publication in the form of a bulletin.

I have already pointed out the difference in the results obtained by the average farmer and the best farmers. The best farmers are those who are able, unaided, to adapt themselves to the conditions surrounding them, and to work out in a practical way the problem of applying the teachings of science to their work. The average man is waiting to be shown, and, fortunately, he can be shown. The different classes of farming are very well described by Elbert Hubbard, who, in speaking of initiative, says: "It is doing the right thing without being told, but, next to doing the thing without being told, is to do it when you are told once. Next, there are those who never do a thing till they are told twice. Then, still further down in the scale, there are those who will not do the right thing even when someone goes along to show him how and stays to see that he does it."

RAISING THE STANDARD OF FARM PRACTICE.

Acting on the assumption that there are many farmers whom we can materially assist by furnishing them the best accounts we can secure of the methods of our most successful farmers, we are now engaged in a search for men who have been pre-eminently successful in the various types of farming. In order that we may describe their methods in some detail in the publications of the Department of Agriculture. Occasionally we find a man who knows more than he cares to tell, and this is not surprising. I met a market grader the other day who was getting rich growing a crop his neighbors have been unable to grow. He would not tell me all I wanted to know, nor could I blame him for it. Usually, however, such men are sufficiently philanthropic to give others the benefit of their experience, even if they lose some advantage thereby. In all the cases that have yet come under my observation, these pre-eminently successful men are students. Not only are they familiar with the teachings of agricultural science, but they have worked out practical methods of utilizing scientific principles in their farming operations. I may overestimate the value of this work; but it seems to me that it is a very promising means of raising the standard of farm practice.

FARMERS THINK TOO LITTLE.

The most frequent mistake the farmer makes is to think too little and work too hard. I know an old farmer in Missouri who made a good success; but he made most of his money lying awake at night thinking. It is thinking that pays on the farm. Study the literature of the subject, and lay out plans of the work, even if you have to pay for help in the field. The point I want to make is this: I have conceived the idea that the student of agriculture may help the farmer in planning his farm work, help him to introduce into practice on the farm the principles discovered by the scientist. Just how to go about that is a little difficult, but let me tell you of one method we are introducing in training over this country and in the United States. I find here and there a man like the one I spoke of a little while ago—a man who has been pre-eminently successful in some particular line. When I discover such a man, I camp with him until I have made a complete statement of everything that man does. I afterwards publish this information in bulletin form, in order that less successful farmers may have him to follow as an example. If I were to write a bulletin and tell the farmers how they ought to do, they would make fun of me. They would say: "You go and try it; it cannot be done." So I go about it in a different way. I show what another man has done, and say: "You go and do likewise."

NOTABLE EXAMPLE OF THRIFT.

I am now going to tell you of a man who has done the impossible. I have a tale to tell half the truth regarding this man; but a better man than I have already published these things over his own signature. I refer to L. H. Bailey's leading article in the November number of "Country Life in America," in hunting for successful men I ran across a minister in Philadelphia, Rev. J. D. Dietrich, who, in 1881, inherited a little thirteen-acre farm, with one horse and two cows. The farm was in the suburbs of the city, and had been run down by two hundred years of unscientific farming, and at the time he assumed the place he did not support the one horse and two cows. Mr. Dietrich had never had a day's experience on the farm in his life. He went to reading, and the first book he got hold of was Young's little book on "The Soil and Cattle." He got an idea from that book, which was that, on a thirteen-acre farm, where land is worth \$1,500 an acre, he could not afford to grow pasture, he put his cows in the barn and commenced growing feed, and cutting that feed and carrying it to the cows. He lost four hundred dollars as the result of his first year's operations. During the next six years he paid off a mortgage of \$7,000 which was on the property, and the next year he spent in Europe. He is today a director in three large corporations, and one of the best known men in the United States. He has written a book for visitors flocking to see that little farm, so much so that he is thinking of charging admission to protect himself. He now keeps thirty head of stock on that farm, and produces annually three hundred pounds of hay. He does not raise grain, but raises hay, silage and soiling crops, and buys gluten meal, linseed oil meal, and bran. He also raises a few chickens, but buys no commercial fertilizers. If you will calculate how much dry matter it will take to supply thirty head of stock, you will get an idea of what the farm produces, and it is a fact that I have never seen in my life. If you make the calculation, you will find that it will take seven tons of hay to every

acre of land on that farm every year. He keeps no record, so that I could not find out what his yields were, but he told me how much milk he sold, and he has cleared \$2,000 a year selling milk and young cattle. He gets \$100 each for calves, and is one of the most intelligent breeders in the United States. He does very little work himself, but one thing about the place is absolutely remarkable, and that is the system and orderliness. He said: "I can leave home at any time, without notice to my hired hands, and be gone a week, as I frequently am on 'Farmers' Institute' work, and when I come back home, just as soon as I see either one of my hired men I know what time of day it is because I know what they are both doing every hour of the day." He had twelve fields on that thirteen-acre farm, but he sat there and told me the crops that had been grown on every one of them for three years past; he knew the farm like a book. There is an example of system in management. I have written up all I could learn about that farm. Before I left home I handed it over for publication, and it will be published in the year book of the Department of Agriculture during the winter. I contend that it is worth a great deal to the average farmer to have a description of the work of most successful farmers; and that is the work we are doing in encouraging the study of system in farm management.

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