

Dr. Twitchell's Lecture

(Continued from first page)

Prof. Twitchell never kept a flock of hens so cheaply as I did last winter and I was accused by my neighbors of buying them. I am now feeding them in the morning four quarts of shorts, four quarts of oats (ground), two quarts of linseed meal, with a kettle full of vegetables (cooked), I cooked them in the afternoon, sealed my mail string them in together and covering up tight, sometimes seasoning with salt, but that is not necessary. I use only a very little of that occasionally, put the feed away till the morning and that was the morning feed for 223 hens. At noon I would hang a large cage about feet from the floor of the pen in such a position that they would have to work for it, and occasionally a turnip or chopped apples or onions; in the afternoon one quart of grain for every 17 hens, oats, wheat and corn mixed in proportions of 40, 40 and 20 per cent respectively, and scatter it around as much as possible. When the weather was hot, I would mix all corn to sustain the animal heat. One quart for 17 hens. If you divide a quart of grain into 17 piles you will see how much each of them got. Yet I never had a hen that died. The percentage of loss was less than ever before and I never had to do better. They were hardy and vigorous, laid well, and wintered and summered well. I found no trouble about getting out good strong, rugged chickens. The whole year's operations hang right here, that is why I am dwelling upon it. The most success of my operations hang on that, because the flocks cannot be turned out to exercise and yet you must keep their animal vitality up or you don't get chickens next summer that can be grown at a profit.

Q.—Do you keep water by your fowls? A.—Yes.

Q.—Warm or cold? A.—I warm it. A gentleman who runs a dairy of 15 cows and gets 40 cents a quart the year round for his butter told me last week that he gave his cows each day one quart of Indian meal and one quart of molasses, and with two pounds of hay and warm water raised a little above the temperature of rain water and he said, "I would rather give them that than any other food, and with the warm water, than I would give the double the ration and give them cold water." I asked him, "Why don't you raise the temperature twice as much and take away the molasses, so that this would not work. But, joking aside, gentleman, there is something in this. The warming of the water removes the animal food from the water, it takes into the system, goes on at once to work and nothing is consumed in supplying animal heat."

Q.—You are working from the standpoint of a warm stable in New Brunswick are very cold? A.—Yes a good many are cold and a good many are warm. It is to day standing out on the cold ground not only in New Brunswick but in the State of Maine.

Q.—In that case those short rations would not apply? A.—No, because just as soon as you can get the fowls to keep up the heat. Short rations, gentlemen, for poultry only apply when all the other conditions are present, and your flocks want to be kept busy from morning till night and never allowed to be idle. Diseases, bad habits such as egg eating, picking feathers, etc., in almost any bad habit that might be mentioned are largely the result of over-feeding. You go in to-morrow morning and give the flock all they will eat of warm food, then in a little while in the afternoon you will find them all huddled together in just as small a space as possible, or else on the roof. If you continue that process for a month or more, the fowls will peck at egg shells that will hatch. It is impossible. Feed them what they need, not what they will eat, and you will have them searching for something all the time because they have not had quite enough. My own method—I don't like to mention myself so much, still I want to cover the ground—this is: I keep my hens in small flocks and build them good nests. I take a board 8 feet long, put a strip around it two inches high, then put a board in each corner and a rail around the top about 8 inches high from the lower floor, then put on lattice work and divide the space for the hens to put their heads through and eat. The whole to be set on two by three inch joists raised out of the dirt, with board and lattice work, and going in. If you feed on the floor or in pans a certain proportion of the food is soiled or wasted. That wasted food costs you just as much as what they eat, and hence in a question of dollars and cents, ought to be taken into account. Now, I intend to feed my flocks in the fall and early in the winter, so that they will be ravenous all the time, and I have studied the thing out and know how much they require. I will put in a little food in the morning—what I think they need—and then in the afternoon they come up to the trough, eat heartily and go away without having eaten all, I take out food. I intend that when the whole flock has gone away for the first time from the trough there will be nothing left. I do not intend that they shall eat, then go away and come back in five minutes and find any more. I intend that they shall eat all they require, and that they shall stand there. If I find during the day that some or all of my hens are not at work, I will take a pint of oats, go into the pen and scatter it all over the floor, among say 12 to 15 hens, and let them work for it in the dirt. If you throw down a bushel of corn in a pile it would seem as if four hens could get away with the whole of it? They would go at it and get it all away from themselves, but by scattering a little grain as I have described and thus imitating nature as much as possible, so that the kernels will have to be sought for, they will get only what they need, and you are going to give them exercise necessary to digest that food and get the most value out of it. In this way you are going to carry your flocks through the winter not only at a reduced cost, but when you get ready to hatch chickens in the spring you will find the eggs ready for you, not only in quantity but in quality, from which healthy chicks will come.

Q.—How many farmers say, "O, it will be no use for me to try to hatch chickens until the hens in the spring have a chance to get out into the open air, because it is because of the unnatural conditions they have been kept under during the winter by which their vitality has been lowered. It is their vitality that counts, shows want of vitality and vigor in the parent stock, but by keeping them at work all winter long you will experience no trouble whatever. You see it is a matter of considerable importance, if you are going to grow 100 chickens for the fall market you want to get a fair hatch every time you put the eggs under the hens. Give your flocks a chance and a place by themselves, and take care that they are not disturbed or molested by your laying hens. Put them a good rotary box, well lined with paper, and at this season of the year, give them seven or eight eggs. It will pay you to go slow at this season of the year. When the chickens come out, don't be in a hurry about feeding them. Nature knows more about these things than we do. The chicken is formed entirely out of the albumen of the egg, and during the last twenty-four or thirty-six hours previous to its coming out, those little fibrous strings of albumen grasp the yolk and it becomes nourishment for the chicken until it gets ready for its food in the new state of existence, and that is why the chicken will not eat until about thirty-six hours after it leaves the egg. A great many good and worthy people think they ought to try to give their chickens some thing to eat, (laughter), but the chicken will just eat as soon as it wants to. It is a wonderful provision of nature.

Right here I want to say to you fathers and mothers, here is a good chance to give your children little object lessons that cannot fail to be valuable to them in after years. Take the hen and give her a lot of eggs to hatch and about the fourth or fifth day break one of them open and with a sharp needle separate the yolk from the yolk and show them the germ of the chicken already beginning to form; let them see the pulsation of the heart, and how it acts on the surrounding material. The second day after break another and let them observe the circulation and process of development, see how the blood circulates, and so on from time to time till the day of hatching. You have lost a setting of eggs, but that is nothing;

you will have taught your children something worth more than that, and shown them the operation of that mysterious law by which life develops in the egg. Even after the heart is formed everything is transparent and you can see the blood and muscles plainly, and the motion of the various parts, everything plain to the naked eye. You have never tried that before, for the young is not for the old. Now, we will suppose for we have hatched out your chickens and now you want for the market. Now, you want to probably have just as you would feed hens, feed them for growth. In setting hens I would set three or four or five at a time, putting only eight or ten eggs under each hen, and about the eighth or tenth day I would examine every egg and take out all that have not fertilized. I would not recommend you to examine them until the eighth or tenth day because you probably would not be able to tell with certainty, but in France they test them in twenty-four hours, and every one that has not fertilized they take out and sell and I suppose that is the kind of eggs we import from that country. (Laughter). Wait till the tenth day, then hold the egg to the light and if it is transparent you know that it has not fertilized. Save these eggs, cook them, chop them up fine and feed them to the newly hatched chicks. About the third or fourth day after your chickens are hatched, commence mixing with hard-boiled eggs and the fifth or sixth day add wheat (cracked) and oats (soaked), and by the tenth day they will be eating with them some soaked. Never give them any water to drink. Keep all moisture away from them for ten days. Then give them a little milk; that will nourish them but water will feed them. Feed them four times a day and never allow a particle of food to remain in them, and you will find them very soon beginning to take whole grain. You see I am feeding them with hard-boiled eggs and flesh, but not in fat. Thus far I have not given them any corn. Corn is seventy-four per cent fat. It is a safe rule to lay down that there shall be no place in the diet of a growing chicken.

Q.—Should chickens be kept confined and prevented from running at large? A.—As soon as the grain commences to grow in small quarters for a week or two previously. But when raising chickens before the grain starts take a little box of corn, and mix it with the shell, and some other hempseed, and when it begins to sprout nicely cut it and feed them. Then you will give them a little animal food, meat scraps, and some warm manure, then a layer of barley, then a layer of manure and another of barley; if you have a few dozens of eggs at the time agreed upon he will be ready to pay an increased price for them. I could name many parties with whom I am acquainted who have been receiving 35 cents a dozen for their eggs the year round. Every egg taken from the nest is stamped and is of quality guaranteed. When you find a lot of stale eggs under the barn which you think the hen has been sitting on for a week or two, better sell those to the village grocer and never risk your reputation on any such stuff with parties who are willing to pay a good price for a good article. By this means you will receive the better price for your eggs, and you will have a good market for a superior article. These higher prices are possible for each and everyone of you, and as I say I believe the market of Fredericton would respond readily to your efforts just as soon as the dealers are assured they can have just what they want. If you are thinking of engaging in the poultry business, let me first embark on too large a scale, it is something to be learned just the same as any other industry. It cannot be acquired in a moment; men must grow into it gradually, and I would suggest fifty hens as the number to start with. Then, when you can grow flocks of hens that will pay \$1.00 to \$2.00 per dozen in New Brunswick, and let them to you, that is your extra expense of transportation and duties as compared with us) I would double the number, and not till then when you double your number you have quadrupled your care, your liability to mistakes and accidents. There are so many little things that are apt to get into the mind of the beginner that it becomes a question to be carefully studied. Commence on a small scale and grow up and grow into the business and you will find profit perfectly satisfactory for you. There is no branch of farm industry that will yield so large a per cent of profit as a well conducted poultry yard.

Q.—How long is the opportunity for young people, and I want to urge this upon your attention: if you farmers are engaged in your regular duties upon the farm and making money out of it as I hope you are, give the boys and girls a chance. Don't keep all the money in your own pockets; let them feel as they are growing up that there is something in the world for them to do. Stimulate in them the love of stock breeding; give them a flock of hens, or a cow, or a calf, give them something to do on the farm and thus educate them in the principles of farm-work and those that underlie all success, and when the produce of their little industry, whatever it is, comes to market, don't put the money in your own pocket for Heaven's sake. (App.) Be honest with them and when they are grown to let them go to work and when they are honest with you and when they grow to manhood and womanhood they will be no anxious to get away from the farm as we are to-day. (App.) You have as fine a country for general agricultural purposes as is to be found in the world. I believe it is possible for the fathers and mothers to keep their children at home, and that it will be better for them. Why is it that the young men of Maine and New Brunswick are going out into Montana and the far West? We are very glad to have your boys come to the State of Maine if they are going anywhere. Across the border in the garden of Maine, the western part of the St. John Valley. You have the eastern and why should it not be as valuable? Why should they leave this Province at all; it is because they have in so many cases I fear heard nothing but hard times on the farm; they have felt nothing but the drudgery and hardship of the home, and that is why some boys have said to me in my own State, "I want to get just as far from home as possible." This remedy for this evil is largely in the hands of the parents themselves. 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Q.—Would you advise hulling the buckwheat? A.—If you take the hulls off the buckwheat you will improve it. In the first place if you hull it before you put it for the market don't give them too much exercise; keep them confined. Exercise requires food. Just as soon as you can get it into the system, that is why I am very, very, very, the male from the female, let your females have the run and confine your males in the pens, and commence to work on the pen, and let them speak from the day they leave the shell. When you come to the fattening process confine them in dark rooms. I used to put each of my birds in a pen or box of just such dimensions that they would not turn round, and always succeed in putting a great deal of weight on them in ten days. That is nothing to what they will do for you, where they stand their poultry by machinery, stuffing them with a certain quantity of food per day. Confine your birds in small pens such as I have described, feeding five times a day, giving them just what they will eat and you will find they will add one third to their weight in 10 days. But you cannot do that if you allow them their full liberty for a time and then get them ready for market. It is impossible for them to take on fat if you let them run at large. These fattening pens should be clean and with bright enough light for the birds to see their food.

Now, I have been talking about chickens but you do know there is far more money to be made in chickens. Why? The productivity of ducks is something remarkable. A gentleman kept 100 ducks last summer and they gave him from January 1st to July 31st, 4500, or 90 eggs per head. He told me that his 100 ducks laid 4500 eggs in 7 months. He was getting 55. He writes me now that he is going to close out his poultry and keep nothing but ducks. That is eggs worth more than any other thing he has, and he has eggs, and if you want to keep a few ducks you can make a profit on them. You can grow ducks that when nine weeks old will dress you four pounds each. They won't cost you 15 cents a head, and will be worth from 20 to 28 cents per pound—those earliest ones. For eggs they should have 30 per cent of short, 20 per cent of long, 20 per cent of fat, 20 per cent of meat and 10 of meat scraps. This is for grow-

ing young ducks, and old ducks would want about the same. The 10 per cent of meat scraps should include ground bone or oyster shells mixed together. For growing poultry you want a ration of 40 per cent oats (ground), 40 per cent corn (cracked), 10 per cent of meal and 10 per cent of cotton seed or linseed. Add three per cent of meat scraps, oyster shells and ground bone for every feed. It is surprising the amount of oyster shell, or some equivalent, that hens require to supply the demands of the system. You will find if you have never tried ducks that the Pekins are more valuable than others. One thing I have not as yet spoken of, that is of great importance, is the cleanliness of the pens in which your poultry are kept. It is something which should be attended to. The droppings should be cleared away twice a week. You farmers—particularly cannot afford to neglect this matter. I used to sell poultry dressing for \$1.50 a barrel clear, the stock averaging me 45 cents per head for the year, so it paid for more than half the cost of keeping the flock. By saving the dressing carefully, sweeping the floor two or three times a week you will see what a quantity you will have. In spring throw over the dressing some plaster—never ashes—let it stand for a week or ten days, then go into it with a shovel and see how the moisture has accumulated and what a quantity of absorbents will be necessary before the whole is thoroughly dry. You will then have a manure as fine as commercial fertilizer and just about as valuable. Do not concentrate it to much in the bill when you come to use it, but scatter it over the ground just as you would your concentrated fertilizer.

In shipping poultry for the New England market you want to ship only good quality articles. If you are going to send eggs to the market don't send the inferior ones. Select eggs of uniform size and color and put them in the hands of some reliable dealer, and you will be surprised to see how quickly that man will respond to your enterprise when he finds you are reliable, and when he knows you can have some dozens of eggs at the time agreed upon he will be ready to pay an increased price for them. I could name many parties with whom I am acquainted who have been receiving 35 cents a dozen for their eggs the year round. Every egg taken from the nest is stamped and is of quality guaranteed. When you find a lot of stale eggs under the barn which you think the hen has been sitting on for a week or two, better sell those to the village grocer and never risk your reputation on any such stuff with parties who are willing to pay a good price for a good article. By this means you will receive the better price for your eggs, and you will have a good market for a superior article. These higher prices are possible for each and everyone of you, and as I say I believe the market of Fredericton would respond readily to your efforts just as soon as the dealers are assured they can have just what they want. If you are thinking of engaging in the poultry business, let me first embark on too large a scale, it is something to be learned just the same as any other industry. It cannot be acquired in a moment; men must grow into it gradually, and I would suggest fifty hens as the number to start with. Then, when you can grow flocks of hens that will pay \$1.00 to \$2.00 per dozen in New Brunswick, and let them to you, that is your extra expense of transportation and duties as compared with us) I would double the number, and not till then when you double your number you have quadrupled your care, your liability to mistakes and accidents. There are so many little things that are apt to get into the mind of the beginner that it becomes a question to be carefully studied. Commence on a small scale and grow up and grow into the business and you will find profit perfectly satisfactory for you. There is no branch of farm industry that will yield so large a per cent of profit as a well conducted poultry yard.

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Q.—How long is the opportunity for young people, and I want to urge this upon your attention: if you farmers are engaged in your regular duties upon the farm and making money out of it as I hope you are, give the boys and girls a chance. Don't keep all the money in your own pockets; let them feel as they are growing up that there is something in the world for them to do. Stimulate in them the love of stock breeding; give them a flock of hens, or a cow, or a calf, give them something to do on the farm and thus educate them in the principles of farm-work and those that underlie all success, and when the produce of their little industry, whatever it is, comes to market, don't put the money in your own pocket for Heaven's sake. (App.) Be honest with them and when they are grown to let them go to work and when they are honest with you and when they grow to manhood and womanhood they will be no anxious to get away from the farm as we are to-day. (App.) You have as fine a country for general agricultural purposes as is to be found in the world. I believe it is possible for the fathers and mothers to keep their children at home, and that it will be better for them. Why is it that the young men of Maine and New Brunswick are going out into Montana and the far West? We are very glad to have your boys come to the State of Maine if they are going anywhere. Across the border in the garden of Maine, the western part of the St. John Valley. You have the eastern and why should it not be as valuable? Why should they leave this Province at all; it is because they have in so many cases I fear heard nothing but hard times on the farm; they have felt nothing but the drudgery and hardship of the home, and that is why some boys have said to me in my own State, "I want to get just as far from home as possible." This remedy for this evil is largely in the hands of the parents themselves. This poultry business seems trivial in itself, but it offers you the opportunity to help the children to a better appreciation of home, to a knowledge and application of business and so to an interest in farm pursuits. The boys and girls that I speak of there are thousands of them waiting in the country of ours without any occupation, without any home, all because of the wrong conditions at home, all because they have been brought up to feel that home on the farm is only a place for hard work and drudgery. Let us give the boys and girls a chance in the world, and teach them to be men and women before they are sent out.

Q.—Would you advise hulling the buckwheat? A.—If you take the hulls off the buckwheat you will improve it. In the first place if you hull it before you put it for the market don't give them too much exercise; keep them confined. Exercise requires food. Just as soon as you can get it into the system, that is why I am very, very, very, the male from the female, let your females have the run and confine your males in the pens, and commence to work on the pen, and let them speak from the day they leave the shell. When you come to the fattening process confine them in dark rooms. I used to put each of my birds in a pen or box of just such dimensions that they would not turn round, and always succeed in putting a great deal of weight on them in ten days. That is nothing to what they will do for you, where they stand their poultry by machinery, stuffing them with a certain quantity of food per day. Confine your birds in small pens such as I have described, feeding five times a day, giving them just what they will eat and you will find they will add one third to their weight in 10 days. But you cannot do that if you allow them their full liberty for a time and then get them ready for market. It is impossible for them to take on fat if you let them run at large. These fattening pens should be clean and with bright enough light for the birds to see their food.

Now, I have been talking about chickens but you do know there is far more money to be made in chickens. Why? The productivity of ducks is something remarkable. A gentleman kept 100 ducks last summer and they gave him from January 1st to July 31st, 4500, or 90 eggs per head. He told me that his 100 ducks laid 4500 eggs in 7 months. He was getting 55. He writes me now that he is going to close out his poultry and keep nothing but ducks. That is eggs worth more than any other thing he has, and he has eggs, and if you want to keep a few ducks you can make a profit on them. You can grow ducks that when nine weeks old will dress you four pounds each. They won't cost you 15 cents a head, and will be worth from 20 to 28 cents per pound—those earliest ones. For eggs they should have 30 per cent of short, 20 per cent of long, 20 per cent of fat, 20 per cent of meat and 10 of meat scraps. This is for grow-

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