acres of grain as we used to on that farm, we had reduced the grain acreage to twenty acres and for three years after this rotation had been put in force I remember making a comparison with the figures I had, showing that for three years we grew more grain on this twenty acres of the farm that we had in grain than when there were sixty acres sown, and we had taken in a great many hundred dollars from our cattle, sheep, wool, swine and butter. It was a very pleasant change in the farm conditions on that eighty acre farm.

For want of time we will have to close this and take up the next topic. I said yesterday that Wisconsin people were very proud of what Wisconsin had produced on her farms, and at this time I am going to introduce to you another product of the Wisconsin farm, not the calf, though that is a product of the farm, and the subject is How to Raise a Dairy Calf, but it is the person who is to present this subject, that I refer to as being the Wisconsin product, developed in Wisconsin, and I take pleasure now in introducing to you Mrs. Adda F. Howie, of Elm Grove.

HOW TO RAISE A DAIRY CALF.

MRS. ADDA F. HOWIE, ELM GROVE.

The dairy interests of our state have assumed such important proportions, that it is now necessary to give every phase of the business our most earnest consideration, and, while I am not here to advocate any special kind of cattle, and, furthermore, have no intention of making discrimination in setting forth the merits of each dairy breed, I would most respectfully suggest that those desiring to engage in this line of work would give the matter more than the usual amount of deliberation. And, while I would not advise the ordinary farmer or dairymen to put aside his native stock and replace it with pure-bred for the reason that I don't believe one man in fifty is competent to care for highly developed cattle, I would suggest that every farmer or dairymen build up his herd and I earnestly assure you that while you are
developing your cattle you will also stimulate the better qualities of your nature—your heart, and brain, and if you work intelligently, you will gain the additional reward of a well filled pocketbook.

In the first place when one has decided to engage in this business, he should give the matter a good bit of thought and study. He should consider well what line he wishes to follow, and if he desires to produce a large quantity of milk, to sell by the quart or by the gallon, he should select the animal best qualified for that purpose. Should he wish to make the finest quality of butter or best article of cream, we have two breeds that will readily comply with his demand.

Again, if his ambition is to procure the finest flavored cheese in the world, or to put upon the market a milk best suited for infants' use there is still another breed to meet these requirements. So, you see, nature has been very generous to the dairyman in providing a special breed for each line of work, and we now have four accepted standard breeds of dairy cattle.

It is true that each and every one will give good milk from which good butter may be made, but if you wish to obtain the best results, I would advise that you select a breed best suited to your object. And, if that object is to produce a large flow of milk, we have nothing better than those beautiful, big black and white cows—the Holsteins, and while they have been bred and developed for hundreds of years for this purpose, the breeders of the present day, in this country, are now giving careful attention to securing a greater amount of butter fat and with such satisfactory results that the Holstein is justly winning renown for the quality as well as quantity of her product.

If, on the other hand, you wish to secure the very choicest article of butter or cream, you have two breeds from which you may confidently select, the Jersey and Guernsey. Both are capable of yielding the best product of its kind. But, if you have still another ambition, and that is to provide the finest flavored cheese in the world or to place on the market a quality of milk most desirable for infants' use, take Ayrshire, and I'll guarantee she will not disappoint you.

And, here you have the four recognized standard breeds of dairy cattle and the earnest energetic farmer who will employ intelligent and systematic methods may soon overcome every obstacle to be found along the certain road to success.
In the first place, I cannot urge too strongly that you once decide to enter the field of dairying, that you go into it with the determination to make a complete success, and the dairymen of today who cherishes such an ambition will quickly recognize the necessity of rearing from calthood up, the cattle that are to comprise the profitable workers of his bred, for the reason that if he should go to a first class breeder or dairymen to buy mature animals, he would find that the owner would understand the value of his work and would set his price accordingly.

Should he purchase his stock of a second or third rate breeder or dairymen, he is more than likely to get a stunted, runted creature that would never prove a source of profit, or satisfaction; consequently he should begin a systematic course of breeding up from the very start.

A noted man was once asked when to begin the training of a child, and the answer was “Two hundred years before it is born.” Now this same principle may well apply to the breeding of our stock because we must consider the characteristics of numerous generations if we are to improve the quality of our cattle.

As a model and inexpensive beginning I would recommend that you select a few of the best cows you now have, and from this foundation, grade up your cows until you own a herd of pure-bred cattle.

It will only require a few years time and while they may not be eligible to registry, for the practical purpose of dairying; they will be equally valuable.

In choosing your best cows it will be necessary to use a business system—there can be no guess work in profitable dairying—and you will be obliged to keep an accurate account with these cows, just as you would if you were keeping human boarders, in order to learn which cows are yielding a profit and those that are being kept at a loss, and the only satisfactory way to determine this point is to put a milking sheet in your barn, and put the name of every cow on this sheet. Don’t give her a number. I want you to give her an attractive name, because every cow worthy of a place in the herd is entitled to a name, and she will feel more of a privileged character on the farm if she has one. Now get a pair of spring balance scales and hang near the milk record. When the cow has been milked, weigh the milk and jot the number of pounds opposite her name and you will then be
able to figure the exact amount of milk that she gives in a day, a week, a month or a year. A Babcock tester, should always be a prominent part of the equipment of every dairy farm. In order to make an impartial test, the milk must be poured from one pail to another two or three times, so as to become thoroughly mixed before taking a sample, because if a sample is taken from the top of the pail even immediately after milking, the test would deceive yourself. You would be under the impression that the cow was a better cow than she really was, whereas, if you should take the sample from the bottom of the pail, you would do an injustice to the cow, and no good dairyman will ever cheat a cow, and the only way to know the actual working value of every animal in your herd is by weighing the quantity and testing for the quality of the product.

You may think that because one of your cows is a large, sleek animal, giving a big flow of milk, that she is the best cow in the barn, while the little, angular cow standing by her side is the one you should get rid of as the least profitable, whereas, if both were subjected to a fair test, you might find that the large cow would milk but six months in the year and that her milk contained a small amount of butter fat in comparison to that of the little cow with a milking period prolonged to ten or eleven months.

Now if you have a milk sheet, a pair of scales and a Babcock tester, you can readily separate the profitable from the unprofitable cows.

After your cows have been carefully selected, you should put a pure bred, registered sire at the head of your herd. Now, you may think that as your cows are only common stock, any registered sire would be good enough to grade up with and that it will not be necessary to get an expensive animal at the start, but I want to impress upon you right here the importance of securing a good sire and of fully understanding your object in breeding.

Ask yourself what is the most important requisite for a profitable working herd, and if you have given the matter careful consideration, you will at once see that constitution must ever be your foremost object, and if you go to look at an animal, and a breeder leads out a little, runted, stunted creature with lack luster eyes, narrow in chest, gaunted in heart room and hide bound, and then says, "Here is one I'll sell cheap; he has a fine pedigree and will be all right to grade up with." When he sees you
hesitate, he adds the only commendation he can truthfully give, "He's gentle." Why, of course, he's gentle; can't you see that he hasn't vitality enough to be anything but gentle? And he is not the animal to bring improvement into any herd. Don't take him at any price. The safest place for such a creature is a deep hole in the ground and well covered over.

But if the breeder should be honest—and there are honest breeders—he might say, "I have an animal not quite up to the standard for breeders who are breeding for fancy points; he is broken color where he should be solid; he has a white tongue and switch, where those breeding for fancy points demand that they be black, but he possesses constitution and a valuable milking strain ancestry;" and if he leads out a strong, vigorous fellow with bright, prominent eyes, big nostrils, in order that he may draw into his lungs large quantities of oxygen, broad chest, plenty of heart room, a soft mellow hide, indicative of perfect health and condition—in short, one that you'll hold at the end of a staff and keep your eye on him—not the vicious animal, but one full of life and nervous energy, take him, and you will be well started on the road to success.

And now will come the struggle that requires a firmness of purpose. A year or so may pass by and you will begin to feel elated with the promising results of your energy and wisdom. The calves will show their breeding; they will be a fine, vigorous lot of youngsters and you will have every reason to feel a pride in them, when, perhaps, some neighbor may come to comment on your experimental work. He'll begin by saying, "Yes, it's a good idea to build up a herd; I'm going to do it myself when I get around to it." When you get around to it. Did you ever stop to think that Time is the most valuable commodity that is ours, and that none of us have more than a hundred years to develop any kind of stock, and that the sooner we begin, the sooner we may expect results. "Yes," he will say, "You're on the right track, but you've made one big mistake. What under the sun possessed you, when you put that measly little Jersey at the head of your herd? Don't you know that when you come to sell your cows to the butcher, he wont give scarcely anything for them? Why, it just makes a stockman swear when he sees anything with a drop of Jersey blood come into the yards." And, then, I want to ask you right now, why do you want to sell a
good, motherly old dairy cow to the butcher? Because, if you bring her up the way I am going to tell you how, by the time she has worked faithfully for ten, twelve or fourteen years, you will have a real affection for that cow, and if you have kept careful records, you will find that she has paid time and time again for that poor old carcass, and that she has left you a good, big legacy besides; you can afford to give her a decent burial, and you will feel better for doing so. Don't count on the sale of her poor old body before she is born.

"Yes," the neighbor will say, "you have undoubtedly made a mistake;" and then, when he notes your crestfallen look, he will hasten to add, "But it's all right; you can easily overcome that. Don't you see, you have already bred in the butterfat of the Jerseys—because Jersey are rich milkers, no one can get around that. Now, if you will get a Holstein you will have the large flow of milk and the big frame. Can't you see what an improvement it will be? You will then have the butter fat of the Jersey and the quantity and size of the larger breed." And here is where it requires firmness, for if a breeder wavers, he is quite apt to follow the neighbor's advice and replace the Jersey with the Holstein.

More years will go by and another friend will come to inspect the herd and pass judgment on his neighbor's efforts in improving his stock. "It's all right," he will say, but don't you think that the calves look a little bit queer? How did you come to buy a Holstein? Any one would infer that we had no wells in the state. Don't you know that you can pump water into milk quicker than you can breed it in? And then he will cheerfully add, "Now don't get discouraged, you've been doing good work, and I want to see you succeed; you have bred in the butter-fat of the Jersey and the flow of milk from the Holstein, now, if you will take my advice, you'll get an Ayrshire or a Guernsey and then you will have an ideal type of a dairy cow? In following this course what has he done? He has not improved any one breed; he has made a mongrel of them all, and it will be necessary for him to make a new beginning before he can hope to succeed.

When you have decided what line you intend to follow, lay out your breeding plans, just as you would lay out your land for plowing. Put a little white flag at the end, as it were, and
keep your eye on that flag. Don't allow anyone to turn you to the right or to the left; go straight forward, always with an object before you, and in a few years, you may have the satisfaction of owning a profitable pure bred herd of cattle of uniform type, quality and style, that will be a credit to your effort and intelligence.

Now, when the sire has been carefully selected, look well to the mother, because these mothers, have a way of leaving an impress on their offspring. See that she is a cow of rugged constitution, and that she is a persistent milker; not the cow that when fresh will run the pail over and then in a short time begin to dwindle down until in six or seven months she is dry and will board with you the balance of the year. This is not the profitable dairy worker. See that she gives a reasonable flow of reasonably rich milk for at least ten months in the year, or as you are grading up, as near that length of time as possible.

Now, if this cow has been properly fed and cared for, the little creature that comes into your herd will be a bright-eyed, lively vigorous little thing. And, when it comes nosing fearlessly around you, don't give it a rude push, in order to make it understand from the start that you are its master. Because a dairy man and his working partners should be on the best of terms; they must be friends. Let its first lesson be to learn that you are its friend. Give it an assuring pat of welcome. And here, perhaps it will occur to you how little you know about the right methods of bringing up a calf, and you are anxious to raise it in the best possible way, because it is just as essential to dairy interests that we bring up the little ones of our herd to a standard of working excellence as it is to social interests that we bring up our girls and boys to be useful women and men. Consequently, you look at the little creature and begin to ponder on the course you are to take. You remember of having read in one dairy paper that you should take the calf away from its mother at once. And then you noticed the Wisconsin Farmer advised leaving it with her for three days, and while this conflicting authority is puzzling your brain, you may chance to see a neighbor driving by, and when a man can't put the responsibility on his wife he usually tries to place it on some neighbor, so you will call to him. "See here; we've the finest calf you ever saw. I tell you it's a dandy, and I want to bring it up just
right. You've had experience; tell me what is best to do. Shall I take it away at once or would it be better to leave it with the mother a few days?"

Now, very likely this man is a cow keeper—there is a big difference between a cow keeper and a dairy man—and he will swell up with importance and say, "I've been breeding cattle for nigh on forty years, and the best thing you can do is to take it away at once, or the cow may hold up her milk or something." He don't know what or why.

And then, I say, leave that calf with its mother for three days. And you will probably say, it's all nonsense, just what one might expect from a woman. But if you will only stop and think a bit, you will readily remember that the calf that mother and the girls raised always made the best cow. Not that women are wiser than men, but because there is a bond of sympathy between the human and the bovine mother; therefore, I sincerely believe that a woman is better calculated to look after the interests of a cow barn than a man. And I suggest that you leave that little one with its mother for three days.

Now, when an institute worker makes a statement they must back it by a good reason, and I am going to be generous to the extent of giving you three good reasons why you should do so.

In the first place, I am going to give you the woman's reason. It may be sentiment, but in this instance, it is well to mix a little sentiment with business. So it is "Because." Because that mother is entitled to her little one for that length of time. Leave it with her. And now I will give you the man's reason, and that is hard, cold dollars and cents. I have always noticed that when you could jingle the hard, cold dollars and cents in a man's pockets, he would be sure to give his attention. And that is, if you have the type of cow that I bear in mind, she will be of a highly nervous organization, and if that little one is taken from her, she will become excited and restless, her temperature may go up, and you may have a case of milk fever on your hands. And if you have ever had that in your herd, you will not care to see it again. And if it takes the very best cow—and it is always the good cows that have it—you will lose a good sum of money, for it is not an easy matter to replace such an animal. So it will be money in your pocket to keep that cow as quiet and con-
tent as possible. Leave the little one with her. And now I am going to give you what perhaps is the most important reason of all, and that is the scientific reason.

I wonder how many Professors are present. If there are none here, I should like in strict confidence to tell you farmers not to be afraid of the word "science." These Professors call it science so they can draw a large salary, and look wise, but to be plain, it's nothing more than what we ordinary farmers call common sense.

So I am going to give you the common sense or scientific reason why you should under usual conditions leave a calf with its mother for the first three days; and that is, because nature has stored up in the udder of the cow a secretion called colostrum, which is intended to regulate the digestive organs of that calf, in order that it may be well started towards a thrifty, vigorous life. Now, if it be left with the mother for three days; when it may take this nourishment direct from the udder, in small quantities, at frequent intervals, and at the proper temperature, it will have made one long stride towards a rugged life.

And at the end of three days? Well, even a woman will tell you that it will be necessary to take the calf away, if you expect to do profitable dairying.

But how will you take the calf away from its mother? Of course, if you are a big, strong man, you will be able to pick it up and carry it to another pen, and then you may turn the cow out with the balance of the herd. Still, I have seen men with hearts as sympathetic as a woman, and they could not bear to hear that poor mother calling and mourning for her little one, so, in order to avoid this difficulty, they might conclude to drive to town and leave the wife and daughters to hear it.

Now, I am going to tell you how mother and the girl would separate that cow and calf. They would build a little pen across the corner of the box stall and they would make it so high that the calf could not reach the udder of the cow, but so the cow could bend over and fondle it to her heart's content, and then they would turn the mother out. You all know that in just a few minutes she will come back wild eyed and terror stricken, because we progressive Americans have bred terror into our cattle—the terror of separation from
their little ones. Now this is a quality we do not need in profitable dairying, and if we are progressive, we will do our best in an effort to breed it out. Leave the door wide open and when she comes back, speak gently to her, go and pet the little one that she may see that you are its friend. And I have known them in just a day or two to go back and take their regular place in the long row of stalls.

And now that little one is turned over to you. What are you going to do with it? You will undoubtedly realize that the first step in its education is that it learn to drink. And I have heard men say that they would rather do almost any kind of labor rather than teach a calf to drink. I once knew of a very good man—he belonged to the church and wouldn't swear—that is, only under great provocation, who said he would sooner plow all day than teach a measly calf to drink. And I should think he would the way he went about it. He took a pail of milk, set his teeth, as though he were going to a dentist's chair, and started towards that calf. It instinctively knew something was going to happen, so it backed off into one corner and eyed him suspiciously. Now this little calf was only three days old; it had always been accustomed to looking up for its meals, and of course it did not know the man expected it to put its head down into the pail, so it lifted its nose into the air, and its owner, out of patience, grabbed it by the ears, threw one leg over its neck and rammed its head into the pail until the bubbles came up. Did you ever see a man feed a calf that way? Of course it struggled and kicked; wouldn't you? I rather think you would, if you were breathing milk into your lungs instead of air.

Mother and the girls begin by flattering that calf. They would tell it that it was the sweetest, dearest little thing that ever came into the herd. And it would believe them—because you can flatter a calf almost as easy as you can flatter a man. And all the while they were talking to it they would gently press its head a little lower, and a little lower, until the lips grasped the finger tips that protruded just above the milk. The nostrils of the calf would not be plunged into the milk. When the calf began to draw the milk into its mouth, the fingers might disappear; perhaps the head might lift up, but a little more coaxing, and I have known them
to drink with one lesson. Sometimes it will require more, but patience in the cow barn will pay you big dividends.

Now, you have it drinking; how much are you going to give it? You may say, "It's a nice calf, and I am not going to stint it on any account. It shall have just all it wants, even if we are short of milk." Now, be careful; be very careful. Don't you know that a young calf's stomach is very small and that if you distend it unnaturally, it is liable to bring about all kinds of digestive troubles. Consequently measure or weigh the milk. If the calf is large, strong and vigorous, you may give it two quarts of milk at a feeding. If it is not strong and vigorous, feed less. Feed three times a day for the first three weeks. Always feed from a strictly clean pail and a temperature of 98 degrees. Never feed cold or luke warm milk to a young calf.

At the end of three weeks the daily amount may be divided into two feedings. If the calf is thrifty at the end of the first week, a cup of skimmed milk may replace one of whole milk, and, by changing gradually, at the end of another week or ten days, the entire amount may be skimmed. It will not be necessary to raise the amount; still, if you can make it convenient, I would suggest that as the calf grows older, the allowance be gradually increased. But, if you cannot spare the milk, when the calf is old enough to require more liquid, water may be added. And it is well to teach your dairy cattle to drink large quantities of water, not alone because the milk is composed of about 85 per cent. water, but because it will flush the system, and you will have a stronger, healthier and more vigorous animal.

From the day of its birth, offer it some clean bright hay. Now, don't smile, for I don't expect it will eat it so soon, but I have seen calves when just a few hours old trying to chew hay. It's a beautiful sight to see a little creature seeking to imitate its mother, and we want to teach our dairy calf to chew in order to develop the glands that secrete the saliva, so that later on, she may aid the digestion by mixing a large amount of saliva with the food, that she will turn into a valuable product. Now, when you come to give it hay by itself, don't throw the hay down on the floor of the pen where the calf will walk all over it and get it soiled, because if it takes filth into its stomach, there is liable to be trouble.
Make a little rack in the corner of the pen and in this way
the calf may always be sure of having fresh, clean hay. It is
also a great saving of hay.

Now you have it on skimmed milk and hay. When it is
about two weeks old put a little box in one corner of the pen
and in it put a small handful of whole oats. After it has had
its milk, rub a few oats on its nose and it will soon find the
box. When it is a couple of months old you will increase the
amount of oats. It may safely measure its own allowance
of hay.

Be sure the calf pen is kept clean and dry and not located
in a draught. If the calf should get out of condition, look to
the pen. Take your pitchfork and dig down and you will
find that in nine cases out of ten a sprinkling of clean straw
has been put over the dirty bedding and that it is foul and
wet beneath. No living creature can thrive when compelled
to sleep on a wet slimy bed.

The fall and winter calves are not put out on the first grass,
it is too succulent. Wait until it has dried down a bit and
then put them out for an hour or two at first, gradually in-
creasing the length of time. Never put them in a pasture
where there is insufficient food, because we should teach our
dairy heifers to distend their barrels with large quantities of
roughage, for later on, they will be able to make a cheaper
and more wholesome product and we will have a better and
more vigorous animal than when forced with more solid and
blood-heating concentrates.

See that they always have shade, shelter and plenty of
good, pure water. Three months before a heifer is about
to freshen, give her special care and a generous ration—be-
ginning with a small amount—of bran and oats. Give her
a stall—never put a dairy cow in a stanchion—where she
may have perfect liberty of head, limbs and muscles. Groom
her each day, not alone because her appearance will be im-
proved, but because it will stimulate her circulation, and as
scientists tell us, the milk is made through the blood, we will
increase the value of the product. Handle the udder in order
to familiarize her with the milking process, then, when she
freshens, you will have no great difficulty in getting her to
stand still at milking time. She may step around a bit, when she
hears the milk falling in the pail, but, if she knows you are
her friend, when she hears your reassuring voice, she will stand quietly. I have known them in just a day or two to stand chewing their cuds like an old cow.

And now, I am going to ask you to milk this heifer three times a day for at least five weeks, or until the udder will contain all the milk without inconveniencing the cow, in order to develop her milking qualities. It will pay you, for while you are doing this, you will gain from two to four pounds of milk daily and the butter-fat will be increased from one-half to one per cent. Milk her the first year as near up to the second freshening as possible. If in a few months she begins to dwindle and gives so little that you conclude that it don't pay to milk her, and dry her, she will never be the persistent milker that is always so valuable in any herd, for she will have formed a habit of drying at that time, and the next year and the next, she will milk for that period and no longer.

Two months before the third freshening, dry her, pet her and groom her, and in nine cases out of ten, you will have a cow that will stimulate your pride, as well as add a gratifying sum to you bank account (a good dairyman always has a creditable bank account), for you will take pleasure in showing the neighbors her milk record and you will have confidence in the belief that Wisconsin has all the qualifications for a first-class dairy state, and you will be enthusiastic in the belief that dairying is an ideal occupation.

**DISCUSSION.**

Mr. Jacobs: Mrs. Howie says to milk the heifer—for how long a time, three times a day?

Mrs. Howie: About five or six weeks, until the udder will contain all the milk.

Mr. Jacobs: Will it contain it, because the udder is increased in its capacity, or because the cow does not give quite as much?

Mrs. Howie: It will contain it, because the udder has increased in capacity, you have developed it by this milking process. While you are doing this, you will be paid for the
cost by the increased flow of milk, from two to four pounds per day, and your butter-fat will be increased from one-half to one per cent., so that will pay you for the trouble of milking. When you stop, it will go down again.

Mr. Jacobs: In regard to milking the heifer as near the second period of freshening as possible, do you recommend milking her right up to the period of freshening the second time if she will?

Mrs. Howie: I have done so. If there is about fifteen months between the first and second freshening, then I might dry them off.

Mr. Jacobs: Then you do not run the milking into the second freshening?

Mrs. Howie: Yes, if the cow will milk up to it, I milk her up to it. I have a cow in my barn that never has been dried off. I had one die of milk fever that had never been dry for twelve years. I prefer to dry them off, but my first object is to have a persistent milker; to develop them from the very start into profitable dairy cows.

Mr. McKerrow: In other words, you would prefer to have one that is hard to dry up than one that is easy to dry up?

Mrs. Howie: Surely.

A Member: How do you make them drink a large amount of water?

Mrs. Howie: By offering it to them when they are little. Some of those Nova Scotia herdsmen, who are trained up with their herds, are very particular about this. The first thing they do is to turn the cows out for water, and the more water they can get the cows to drink the better they consider it for them.

A Member: Then you do not recommend a cow drinking more than she wants?

Mrs. Howie: Let her have what she wants, but if you offer it often, she will get in the habit; like you will after you had four meals a day, you would miss one if you didn’t have it. You can get that cow in the habit of drinking a good deal of water from the start; give it to her from the very beginning, even when she has milk.

Mr. Linse: Do you think it a good thing to give salt to stimulate the appetite for water?

Mrs. Howe: I wouldn’t advise that to any great extent.
I think you will thin the blood. Of course, give the cow salt, but don’t force her, and above all when you have worked over her, do not, for the sake of a few paltry blue ribbons, ruin her. Don’t give her a big year’s work or a big day’s work and then put her in her grave, and say, “That was a great cow.” We don’t want the “has-beens,” we want great big producers and we want them to keep producing, and we don’t want to let our petty vanity work against our best interests and the cow’s health.

Mr. Glover: Mrs. Howie, you said that there was a difference between the Jersey and the Guernsey and the Ayrshire and you gave those differences. Don’t you think that the American climate and methods of treatment are bringing those breeds nearer and neared together each year?

Mrs. Howie: Don’t you think that the American dairymen with his slipshod methods is bringing them nearer together each year? That is my idea of it.

Mr. Glover: I would say in the hands of our most skillful dairymen. Now, you take it at St. Louis, the cow champion there was a Jersey, testing 380, I think, and there was a Holstein that tested more. There was a letter that came in from an old Jersey breeder the other day, telling that Jersey butter is getting less yellow than years ago. Now, the Island of Jersey has a certain climate, and certain grasses, and it has developed that breed. Thirty miles from there is the Island of Guernsey which produces a cow, the cream is more yellow, perhaps. Now, don’t you think when you bring the Guernsey and the Jersey over here, and give them the same climate and the same kind of grasses, and the Jersey people working for a larger flow of milk and the Guernsey people working for a larger percentage of fat, with all this combination, don’t you think the time will come when there will be but a trifling difference in the quality of the milk produced from the different breeds actually?

The Chairman: In other words, we will have an American type.

Mrs. Howie: Do you think that would be an advantage to us? Don’t you think it is nice for each man to have a selection? Suppose you mix all the breeds of people, and after a while they will be all the same kind.

The Chairman: That is what we are doing in this country.
Mrs. Howie: I know, but it is not to our credit. In the first place, I think possibly that with the idea which Americans have that they can put an improvement on anything that they want to do—I was in the Island of Jersey and I made quite a careful study of some of their methods. To me they were beautiful; perhaps not so progressive as they might be. You would find cows seventeen and eighteen years old, and I heard of one of twenty-four years old that the people were still petting, loving, and still holding up her gold and silver medals. I do not consider the people that can over-feed a good cow and force her into the grave are the best breeders by any means. I consider that a man who can hold his lines over those cows and keep them for a period of years in a good state of production is a skillful man, and he has not let his vanity run away with his good sense.

Mr. Glover: I agree with you, but it is not necessary to force a cow in order to bring about these things. But I think these cow-tests are all right to show the possibilities of the animals and only for that purpose. It seems to me that from what I read that the Island of Jersey and of Guernsey have come to lay a great deal of stress upon those gold and silver medals.

Mrs. Howie: Yes, but you couldn't find a breeder that would spoil his cow for that purpose. They have their records.

Mr. Glover: Some of them pay more attention to the medals than anything else. We have had correspondents from the Island of Guernsey who have gone all through the Island and the main thing we hear all the time is those wonderful medals.

Mr. Scribner: I heard about a man that went out to buy a young sire to head his herd, and an animal was brought out that didn't hardly meet his requirements and the owner of the calf said, "This animal has one of the best pedigrees of any calf in the barn." and the man said, "I am awful glad to hear it, because I never saw a calf that needed it worse." Now, which do you consider most important, conformation or heritage?

Mrs. Howie: I don't consider either the most important. I want working qualities measured by the scale and the test.

Mr. Glover: Would you take into consideration her power of reproduction?
Mrs. Howie: Yes, I would. I have one cow in my herd and I have made more money on that cow than perhaps any other in the herd, because I can scarcely keep a calf of hers for myself. I have put on price after price and they all go, because her calves are something beautiful. So you see it is well sometimes to cater to public taste. I have noticed that they like beauty as well as utility, and I wouldn’t give a cent for a man who didn’t.

Mr. Everett: I believe Mrs. Howie is correct, she believes in having perpetual workers.

Mrs. Howie: Yes. I believe just as Mr. Glover said, in handing down your land in better condition than you took it, in strong, working condition. I don’t believe in having a few crops and then having the fertility of the land dropping off and the land finally abandoned.

Mr. Linse: Mrs. Howie expressed the opinion that Jersey milk was not exactly the kind of milk to raise babies on. Now, I am in the business of furnishing milk exactly for that kind of purpose, nursing, bringing up babies, and if I ought to be doing something else, I would like to know if there is anything more adaptable for that purpose.

Mrs. Howie: No, not if the babies that are taking this milk are thriving on it. If they were not thriving, I should ask you to get some other kind.

Mr. Linse: The babies are certainly thriving and doing excellently well on this Jersey milk.

Mrs. Howie: Then stick to it if you like it. You like the breed and know how to care for them right and that will overcome many other difficulties. Some years ago I read a very careful and exhaustive report of a London physician who had analyzed the milk of every breed and he considered that the Ayrshire milk was more fitting to be used for that purpose, because it contained less fat and more of the sugars and other elements that are better adapted to the growing child.

Mr. Glover: Don’t you think that the balancing of the ration has more to do with the character of the milk produced than the breed, as it will affect babies?

Mr. Scribner: Don’t you think it is the more sanitary conditions or because of keeping the stables in a sanitary condition that has the most effect in the long run, upon the babies, than the breed of cattle.
The Chairman: Here are two questions: Let us have Mr. Glover's question first.

Mr. Glover: Don't you think that the balancing of the ration and keeping the animal in good physical condition has more effect on the milk than the breed?

Mrs. Howie: Yes, because there is a variation in the richness of the milk of all cattle. We see that in the Holsteins. Although we are told we cannot feed for fat, we certainly can breed fat and we can feed for a flow of milk. As Mr. Glover says, probably the balanced ration is very important, because if a cow is not properly fed she will be out of condition and a cow out of condition will not furnish the best quality of milk.

Mr. Glover: I want to give you an example that I observed while I was in Illinois. I found a man feeding his herd silage and corn stubble, corn and timothy hay, and it made a ration very rich in carbohydrates and of course lacking nitrogen. His whole herd was in a run-down condition; there was not an animal in that herd that you would call healthy. That farmer had heard that by splitting the cow's tail and putting fat in it that it would cure the trouble. This man had a baby in the house at that time and I was raising babies as I am still, so I was interested, and he says to me, "What ails my baby?" I asked how he was feeding his babies. I had known of some little things in the care of babies and after looking into it I finally said, "You better buy some condensed milk," and he did so and the baby got well. But the next year we changed the method of feeding, he fed a good deal better, the cows were healthy and the babies had no more trouble with the milk from his cows. I think it is more in the feed and in the sanitary conditions than it is in the breed very often. I am sure it was in that case.

Mrs. Howie: Of course we advocate that you have your herd in a good, healthy condition and that you give it the right feed and good water, and good care, so that it will be a hearty, thrifty animal. I wouldn't think of feeding a baby from a cow that was not in perfect condition.

Mr. Linse: I wouldn't like to have the report go out from this meeting that Jersey was not exactly fit milk for human food, or especially for babies, because if some of my patrons read this report, my business would all go to the dogs. I
will say this, it is a sure thing that the sanitary conditions and
the proper feed are immense factors, and will give good milk
fit for the human, and these things I believe are more im-
portant than the breed of the cow. Of course the cow must
be in proper, healthy condition, and given good healthy feed
and good surroundings, good air, good ventilation around the
barn, and all these things to make food fit for babies.

Mrs. Howie: Mr. Linse, if you say that all those babies
are thriving, and that you have such good recommendations,
wouldn’t those people see for themselves what your milk is
doing and they wouldn’t let a word turn them aside, or any-
thing like that?

Mr. Scott: Inasmuch as this discussion has taken the turn
of raising babies, rather than calves, I would like to ask Mr.
Linse how that milk is cared for, that he feeds those babies
with.

Mr. Linse: Well, the first thing we try to do in order to
preserve the keeping qualities, is to take it away from the
barn as quickly as possible and cool it down to at least 45 de-
grees before it is bottled. It is all bottled.

Mrs. Howie: And how do you do that?

Mr. Linse: I simply take it in the shotgun cans, take it
away from the barn, and set it in ice water and keep it stirred.
Every can has a dipper and every man has to give it a stir.

The Chairman: The next topic is one of great interest to the
dairyman. While we take great pride in what Wisconsin has
produced, we are not here to claim that all the good things have
been produced in Wisconsin, and I am pleased to introduce to
you a gentleman from outside the State who will talk upon this
subject of “Better Things for the Dairyman,” Professor W. J.
Fraser, University of Illinois, Urbana, Ills.

Mr. Chairman, Ladies and Gentlemen: Mr. Glover has
touched upon an exceedingly important phase of dairying in his
address this morning. I most heartily agree with everything
that was said by him. Mrs. Howie has discussed a very impor-
tant thing in the dairy business, and that is, how to raise a calf.
The thing that I wish to talk about is the dairy herd and the
cow herself.