DAIRY SESSION—MARCH 29.

WHAT COW DOES THE DAIRYMAN NEED?

By Hon. W. D. HOARD, Ft. Atkinson, Wis.

H. C. ADAMS in the Chair.

Two Types of Cattle.—I am restricted to twenty minutes, and the cow is over six thousand years long. To condense this question into so short a statement, is a work which I shall be unable to accomplish; therefore, I will jump into the middle of it at once: Behind me you see hung two crayon sketches of two distinctive characters of cattle—on the left the Jersey cow Matilda 4th, that has made in one year more than her weight in butter, or over nine hundred pounds; on the right, a Hereford cow. Both are drawn from photographs.

Form Everything to Purpose.—Now, the question comes practically to the farmer and the dairyman, seeing these two machines, and observing differences of shape, why is it that with universal agreement, one machine takes one shape and the other machine takes the other shape? It may be answered, "why is it that a sewing machine is different from a reaping machine or a threshing machine?" I repeated to you last night the remark of El Hassen about the horse, that "form is everything to purpose;" and if I could get the farmers of Wisconsin to indelibly burn that simple statement into their minds, I would put in their possession the key to all their future success in the handling of farm animals.

Temperament.—I base, in my studies, the dairy function in cattle upon temperament, and temperament produces form. I stand before you to-day a man of nervous-bilious temperament, and men of my temperament almost universally are of like form and characteristics.

Another man stands before you with a short neck, short, thick fingers, heavy jowl, and fleshy build and he is the product of the lymphatic temperament. Now, temperament shapes form, and form shapes function. The race horse in horses, the fine wool sheep in sheep, the hunting dog in dogs, and the dairy cow in cattle, are the products essentially of the nervous temperament.

The bull-dog in dogs, the draft horse in horses, and the beef animal in cattle are essentially the product of the lymphatic temperament. So you see that by first going back physiologically to the beginning of things, and taking temperament to build upon, you have a start by which you can determine the reason
why function swings one way or the other. Then, carry that out right practically a little farther, and you will see that if you breed for the dairy you must breed to temperament, if you breed for beef, you must breed to temperament, if you breed for draft, you must breed to temperament, and if you breed for speed, you must breed to temperament. Consequently, the man who would cross the animal of one temperament with an animal of another, would simply be making hash of temperaments, cutting them up, putting two warring temperaments together, and he would have no results, or, at best, contradicting results of function in the animal. Why not go back and reason in these things physiologically?

Laws of Heredity.—The mischief with our farmers is this: They have no clear understanding of the laws of heredity. I heard a man stand up in an institute and say he commenced with Shropshires, then crossed to Merinoes and then back to something else, and he said: "I haven't a sheep worth a continental." He made hash.

Heredity is the line of descent in the parents. People look at their children and wonder why they are so much unlike themselves. They are not the only parents of the child, they are the last parents; that is all. The child has thousands of parents, and it is the antecedent parentage of the child that marks its character a thousand times more than the last parentage. This we call heredity.

A few men have been intelligent enough in this world to adhere strictly and closely in a physiological sense to the laws of heredity. Think for a moment of the value and power of heredity. Take it in dogs. Here stands a fox hound, the product of one heredity; here stands a bird dog, the product of another heredity; each dog is bred essentially for a certain power, to run and smell. The bird dog, with a nose as sharp as the fox hound's, will cross a dozen fox tracks and never know it, because his heredity is not in that line, and his discernments do not answer to that purpose; but the moment he strikes a bird's track, every single muscle in him is stiffened, and you see the whole answer of the hundred years of breeding in the attitude of that dog. The fox hound crosses a dozen bird tracks and never knows it. The moment he strikes a fox track, up goes his nose and out comes the deep mouthed assertion: "I have found it, I have found it." Found what, Mr. Fox-hound? "Found that for which I was bred to find."

Is there a boy in Dane County to-day foolish enough to go hunting birds with a bull-dog? No, but his daddy will hunt for butter with a beef animal.

When we, as farmers dealing with these animals, refuse to be wise, and fructify our intellect with this knowledge and judgment, then we stand in our own light, and deserve nothing better than what many of us get. We all need the light that comes from thinking and from knowledge.

Physiological Law of Form.—I will spend a few moments in giving you what, in my judgment, is a distinctive physiological law of form, and try and give you a physiological answer for every point that I believe applies to the dairy cow.

Beef and Dairy Forms.—You discover the difference in outline between these two animals. Here is a square block, or a parallelogram, with legs at each corner. This is the beef form. Remember at the start that this other animal is a mother, and clear down through the whole of your reasoning and studying, above any breeding, feeding or handling, must this one question
of motherhood stand with the hand on the throttle all the time. She is the type of bovine motherhood. The beef cow is the type of the miser. The dairy cow takes food and gives off lavishly and liberally each day, another form and amount of food. The beef cow takes the food and stores it up and refuses to surrender it until placed on the block. For this purpose we have this form, and for the dairy purpose this other form, and these questions of form generally lie at the bottom of functional performance.

The Motherhood Type.—Now, the motherhood type is almost universally formed and built in the nervous type of character; large expression of motherhood function comes from that form of build. On the beef side of the house, we have a bullock of the feminine gender, and consequently this animal surrenders motherhood in the breeding of her young and breeds for the bullock type.

The General-Purpose Cow.—She cannot help the issue, and if the dairymen of to-day who are clamoring for a general-purpose cow would stop and think what a general-purpose cow is, they would see that such a cow must be bred from beef lines to get size, and size means extra cost for the support of the frame that they don’t want, in order to get a little milk that they do want. Therefore, it is not an economical build.

The Nervous Temperament.—The nervous temperament invariably produces, I said to you, a certain form of construction. What do I mean by nervous temperament. Men and animals are divided, men particularly, into nervous lymphatic, bilious and sanguine, four basic temperaments. Then, we have the combinations, nervous-bilious, nervous-lymphatic and so on.

But with animals we are building for specific results, reaching into the future all the time, not building for to-day or for the present.

Take myself, for instance. I am a man of nervous-bilious temperament—I don’t mean nerveless. People misunderstand this word “nervous.” They think it means excitable, fearful, timid; nothing of the kind. See how you contradict it yourself when you say a man is a man of nerve. Do you mean he is nervous in your sense; you mean a man who has nervous power sufficient to control his nerves, not muscular power, because the nervous system lies at the bottom of all systems in physiology.

You can’t fatten a man like me, and it is just the same with this cow. By virtue of temperament, food must be expended in certain lines of force, not in accumulations of flesh.

The nervous temperament in dairy cattle starts in the brain; the brain is the seat of all temperaments, but particularly is it the seat of the nervous temperament. Therefore, the brain and facial outline, the neck outline, the middle piece outline, all of these are important as indications.

Points of the Dairy Cow—Muzzle.—The dairy cow should have a wide muzzle, because she is a large eater. She must have a wide nostril because she must be a large breather; the lungs have a great deal to do with the purification of the blood, the maintaining of the character of the blood, and milk is a product of blood.

It is claimed, that if you were blindfolded and given a drink of warm milk, and another of warm blood, you couldn’t tell the difference, and whether that be true or not, milk is essentially a secretion from the blood, and the breathing power has a vast deal to do with the vital character of the blood.

The Nostrils—Should be wide, the
jowl strong and muscular, but lean and free from all indications of superfluous flesh.

The Eyes—Should be very full and intelligent and active, of a quick and lively expression. The eye is an unfailing indication of the temperamental character of the brain, and should be bright, indicative of quick comprehension, standing out very full so as to make a dashing expression to the face.

The Brain—Should indicate fullness. So you see that you have here a very delicate piece of work, and those of you who think that you can take this delicate machinery and saw off the horns and expose the inner chambers of the skull and not injure this nervous temperament, had better go slow. You may deal that way with your beef animal, but not with my dairy cattle.

The Neck—Should be thin, muscular. The spine is a continuation of the brain, and should rise full from the head. It is a good sign to see it extend above the shoulder blade.

The Back-Bone—Should continue strong, full and rugged, indicating unusual strength and size of process. The hips should be full and wide, long from the hip to the point of the rump. When we come to this point we commence the study of the maternal machinery, the office for which the cow was built. You must remember that you make merchandise of her maternity, of her motherhood. Treat her like a steer if you dare, and your pocket tells the story.

The Pelvic Arch.—Here we have the pelvic arch. This is a very excellent sign in a cow. It indicates strength of the pelvic organs, wherein lie the offices of maternity; it also indicates a very strong, full rise of the spine.

The middle piece should be very large and very full, indicating large power of digestion. The ribs of the dairy cow are wide, and the space between should be wide; the ribs of the beef cow are much closer set, and the rib springs out horizontally in order to form a place to lay a loin. The dairy cow should not be handicapped with extra weight, or superfluous flesh.

The Butter Gland.—Right here at the flank is a little combination of muscles, called by some the butter gland; it rolls under your finger like a lead pencil, and, as a rule, you will always find it in excellent dairy cows, and particularly in good butter cows.

The Flank and Tail.—In a good dairy cow, the flank should be thin. In a beef animal it should be thick and heavy. In the dairy cow, the tail should be long, indicating a full, strong, spinal construction clear through, and that indicates a powerful nervous organization.

The Udder.—The mammary gland, or the udder, should have good shape, high behind, reaching well forward upon the abdomen. The cow, Mary Anne of St. Lambert has the most marvellous udder I ever saw upon a cow. She is thirty-three inches in the medial line of the udder and twenty-four inches is a good long line in any cow. A good udder should be not meaty and thick, because then it is inclined to garget. The inner formation of the udder of a butter cow is very elaborate, and the more solids there are in the milk the more danger there is of garget, and the more wisdom and care you must exercise. That is the reason the Jersey is more liable to garget than other cows.

Constitution.—A cow must have constitution, but she should not be hardy, in the sense that I hear people talking about a hardy cow. I often think how little they understand the significance of the word.

A cow must not be hardy in the sense
men talk of it, but she must have constitution. The bookkeeper must have constitution to stand the confinement of his life, but he need not be hardy in the sense of bearing exposure. Constitution is endurance in a given line of action. I may not have half the endurance that John Sullivan has to stand up and be knocked down, and still I might excel John Sullivan twice over in sitting at the desk.

You must not call upon the dairy cow to be hardy in the sense of bearing your neglect. She is a mother, and as a mother you must treat her with motherly conditions. What are they? Warmth, the first thing. A dairy cow cannot secrete milk if you force her to be chilled.

Formation of the Navel.—The best indication of constitution that I know of is the formation of the navel. I ask every farmer here to go home and look his herd over and find me a single cow of large performance that does not show a very strong full development at the umbilical or navel point. A strong conformation here means constitution, vitality, power of endurance, within the line of heredity and her natural functions. Constitution cannot be trained into a man, neither can it be fed into him; it must be born into him. Therefore, it is that which you take from your mother.

My attention was first called to this by seeing a regular army surgeon reject men for the army. I saw him turn off men who were strong shouldered, heavy lunged, straight limbed, perfect looking men, and I was astonished and I said, "Doctor, what is your reasoning?" and he showed me the weakness of this man's construction at the abdomen and said: "That man has no endurance or vitality; the moment you put him into army service, he will go down." He told me also that he had carried this theory further in a study of animals, horses particularly. I took it up in connection with a study of the cow, and for fifteen years, whenever I have seen a cow of large performance, I have looked to this point and I have failed to find a single instance in which a large performing cow did not show well at this point. This is the channel through which support comes to the offspring, and if the offspring is largely supported, they show a full conformation.

The Nervous Theory.—Now, gentlemen, I want to call your attention in confirmation of this nervous theory to the udder, and I am done. The mammary gland is a complete net-work of cells and nerves. A marvellous combination of nerves surround this whole udder as a net-work, which is called the sympathetic plexus. From that this nervous system proceeds directly to the uterus and from the uterus to the lumbar region of the spine, and from the spine to the brain, and here is the combination, a current that governs this milk function. Milk fever sets in, starting with a chill; it is a nervous disease. These nerves telegraph to this great secretory organ, "stop work," and the disease commences to spread, passes along the sympathetic plexus until it strikes the spinal marrow, and the cow drops, the spinal column being involved. Now, it begins to show its effect as it approaches the citadel of life, and by and by it strikes the brain; she swings her head from side to side and dies a victim to her own maternity, and thousands of times to men's ignorance and stupidity.

If you understand clearly this physiological action of the nerves in the production of milk, would you treat the cow as a mother, or would you treat her brutally? Would you give her cold ice-
water to drink when any intelligent understanding of the function of motherhood knows to the contrary? Would you give her cold barns to live in; would you give her food calculated to produce a flow of milk, or would you feed her like a bullock?

These are questions that come out of an intelligent understanding of the dairy cow, and the kind of a cow a dairyman should have.

MONEY RETURNS FOR FOOD CONSUMED.

By CHAS. R. BEACH, Whitewater Wis.

Second Paper.

The Subject Important.—I am expected to confine myself exclusively to the feeding of dairy cows, and to tell how to feed a cow so as to get the most money, not out of the cow but out of the food.

This distinction is a very important one, and one that is often overlooked, especially by those who are ambitious to report large yields per cow. Many of our largest reported yields of butter show an increased cost per pound out of all proportion to the extra amount produced.

Its Difficulties.—Were the cow an animate machine, constructed upon known and well understood scientific principles, in no way affected by external surroundings, whose capabilities of working up raw materials was always and invariably in the exact proportion to the force applied—and that force something distinct, and outside of what was to be produced—it would be comparatively an easy matter to tell with approximate certainty how much milk, or butter, or cheese, or money, you could get by feeding a ton of hay, or corn, or oats, or bran when alone, and also how to combine them for the best results; for knowing the chemical ingredients in the article we wished to produce—and also of the materials from which we were to obtain them—we could determine the exact combinations of the different materials that would give the largest per cent. of production.

But when we find this machine that we are compelled to use, is a piece of living mechanism, more complicated than any steam engine—self acting—with inherited powers and tendencies, which can only be approximately estimated after a full knowledge of its ancestral antecedents, and individual peculiarities, subject to a hundred external as well as internal influences, many of them entirely beyond our control, we realize the hopelessness of attempting to predict beforehand the amount of production from a given amount of material.

But farther, when we come to know that the force by which this living machine acts must be supplied out of the materials from which we expect our products, the problem becomes still more intricate.