Greater Farm Efficiency

Cows That Make Most Money

By PROF. G. C. HUMPHREY, *Wisconsin College of Agriculture*

The Dairy Cow Must Have a Tendency to Produce Milk Rather Than to Lay on Fat.

A dairy cow is one of the specific dairy type and breed capable of making a large and economical production of milk and butter fat. A careful study and analysis of this definition and its application to cows whenever one has opportunity to apply it will greatly aid in getting in mind the correct ideal of the dairy cow and in judging and buying cows.

"Type" refers to the conformation of an animal and is indicative of utility. "Specific dairy type" refers to an animal having a large, deep barrel, a prominent, well developed udder, and sharp, clean cut features about the head, neck, shoulders, back, hips and rump, due to the absence of thick flesh. Such a type indicates dairy utility and that she is of little value except for milk production.

The dairy cow must be of distinct dairy breed as well as of dairy type; otherwise she may convert her feed into flesh rather than milk and thus result in a beef animal. The National and International dairy shows of this country recognize the Holstein, Guernsey, Jersey, Ayrshire, Brown Swiss, and Dutch Belted breeds of cattle as distinct dairy breeds. High grade and pure bred animals of these breeds are found in this state and rank in number in the order named. Pure bred animals possess 100 per cent. of the blood of their respective breeds while the grade animals have a predominance of the blood of a given breed but less than 100 per cent. Grade cows are generally by pure bred sires and out of native or grade dams.

A large production of milk and butter fat is a necessary requisite for a dairy cow. The production for at least a year should be taken into consideration because some cows make a large production during the early part of their lactation and then dry off soon. It is characteristic of beef cows and of many poor cows of the dairy breeds to dry off soon. A strictly dairy cow tends to make a large and economical production of butter fat throughout her life time which means that she converts a comparatively large amount of the feed that she eats into milk and butter fat, and only a small portion of it into building up the tissues of her body. A dairy cow shows marks of dairy breeding and constitution; and not only produces milk and butter fat in large and economical quantities but also at regular intervals progeny which tends to be satisfactory for dairy purposes.

Essential Features of the Dairy Cow.

The dairy cow is a living machine which, when in perfect health and form, has four prominent features. These are: a body indicating a large, strong digestive capacity, a dairy temperament which is nervous and results in milk production rather than flesh production, a large well developed udder of healthy gland tissue, and a strong circulatory system that distributes the blood actively to all parts of the body and gives vigor, health, and activity. A cow usually fails in the production of milk as she fails in one or more of these essential features. Each part of the body bears some relationship to one or more of these essential features and enables one to judge of their prominence. Where one is able to consider all the parts of the body and judge these essential features he is not likely to err seriously in his judgment.

Digestive Capacity.—A large body, more especially the barrel in proportion to the size of the animal, is indicative of capacity. The body of the dairy cow should be wedge shaped as viewed from front, side and top. That is, wider at the hip points and between the fore legs than at the withers, and deeper from the hip points to the lower line of the rear flank than at the fore quarters. This character of the body has led to the term, triple-wedge-shaped conformation, and in giving consideration to the digestive capacity of the cow one should remember that it is the base ends of the wedges, rather than the sharp ends which indicate her capacity. Long, well sprung ribs, openness of chine, width of back over loins, size of barrel, depth and width between the hips, and fullness of rear flanks all combine to indicate large digestive capacity. A wide forehead and a comparatively long face are indicative of the size and feed capacity of the body and likewise the broad muzzle, good sized mouth and strong, sinewy jaw. The tail is often measured in judging the cow and should reach to or below the hocks and carry a good switch. This renders it most useful in brushing flies, which appears to be its chief purpose.

In judging the quality and condition of the muscular tissue of the body one should remember to take into consideration the size, age, and stage of lactation of the animal. The bone and muscular tissues in a large cow are naturally heavier than in a small one and there is not the apparent refinement and spareness of form in the large breeds that is noted in the smaller ones. Marked coarseness, however, in any animal is usually accompanied by a sluggish disposition which in a dairy cow prevents her from performing satisfactorily. Young heifers with first calf usually carry more flesh than cows of mature form. All properly fed cows usually show a higher condition of flesh development toward the close of their lactation and prior to freshening than they do when four or five months advanced in lactation.

The Udder.—The udder is the milk secreting organ and its proper development is, therefore, essential. In many instances cows of large digestive capacity and of dairy breeding have failed in production apparently on account of poorly developed udders. The udder consists of two large glands each of which is more or less distinctly divided to correspond with each of the four teats and form the quarters. The duct of each teat enters a small cavity termed the milk cistern. The milk cistern of each quarter is more or less surrounded by lobes of gland tissue held in position and closely together by connecting tissue. These lobes may be likened to thick bunches of grapes since each lobe has several lobules corresponding to the grapes. The lobules are made of small divisions called alveoli which correspond to the seeds of grapes. These alveoli are constructed of small cells surrounded by a fine network of blood vessels and nerves and it is by these cells that the milk is secreted.

The best cows have comparatively large udders with equally developed quarters extending well forward underneath the body and a good distance up behind and between the thighs. Poor attachment giving a swinging or pendant type of udder and deficiency and irregularity in the development of the quarters are criticisms to be offered on many cows. The quality of the udder when examined by handling should reveal gland tissue of fine, plastic texture rather than fatty tissue or a texture that is coarse and hard.

The Circulatory System.—This system determines the activity of the cow with respect to all parts of the body. Only when in perfect health and all parts of the body are actively performing their respective functions can the dairy cow be expected to yield a large flow of milk. When the cow is sick or by virtue of her poor individuality is dull and morbid there is an inactivity of all the glands of the body resulting in a dry, harsh condition of the skin, a staring coat, and a low production of milk. The circulatory system includes the heart, lungs, arteries and veins since these organs respectively force, purify and carry blood to and from all parts of the body. When food becomes digested and assimilated the blood must carry it to the parts of the body demanding it and in the dairy cow the glands of the udder demand a large share of the nourishment of the blood for the secretion of milk. The size and character of the milk veins, more properly termed "mammary veins," and the milk wells on the underside of the body are the best indications of how much blood passes through the udder. These veins do not cary milk as some people believe, but carry a large portion of the blood away from the udder. The blood passes into the udder through arteries located deep on the inner side of the thighs. If one were standing below a mill propelled by a water wheel and noted the race filled with water from the mill he would have reason to believe that the mill was in operation and performing its work. Likewise when one observes large, branching mammary veins entering the body through wells of sufficient size to avoid a vein becoming gorged he has reason to believe that the udder is performing its work well.

POULTRY

TO KEEP LICE FROM POULTRY

One of Most Difficult Problems That Confronts Chicken Fancier—Proper Proceedure.

(By R. G. WEATHERSTONE.)

One of the most difficult problems which the poultry keeper has to meet is that of keeping his poultry houses and stock reasonably free from lice, mites and other external parasites.

In keeping a poultry plant free from lice there are two points of attack: One, the birds themselves; the other, the houses, nest boxes, roosting boards, etc.

In using any kind of lice powder on the birds themselves, it should always be remembered that a single application of powder is not sufficient. When there are lice present on a bird there are always unhatched eggs of lice ("nits") present, too. The proper procedure is to follow up a first application of powder with a second at an interval of four days to a week. If the birds are badly infested at the beginning it may be necessary to make still a third application. To clean the cracks and crevices of the woodwork

First Prize Black Cochin.

of houses and nests of lice and vermin a liquid spray or paint is probably the most desirable form of application.

A splendid lice powder may be made at a cost of only a few cents a pound in the following way: Take three parts of gasoline and one part of crude carbolic acid; mix these together and add gradually with stirring, enough plaster of Paris to take up all the moisture. The liquid and the dry plaster should be thoroughly mixed and stirred so that the liquid will be uniformly distributed through the mass of plaster. When enough plaster has been added the resulting mixture should be a dry, pinkish brown powder having a fairly strong carbolic odor and a rather less pronounced gasoline odor.

Do not use more plaster in mixing than is necessary to blot up the liquid. This powder is to be worked into the feathers of the birds affected with vermin. The bulk of the application should be in the fluff around the vent and on the ventral side of the body and in the fluff under the wings. Its efficiency, which is greater than that of any other lice powder known to the writer, can be very easily demonstrated by anyone to his own satisfaction. Take a bird that is covered with lice and apply the powder in the manner just described. After a lapse of about a minute, shake the bird, loosening its feathers with the fingers at the same time, over a clean piece of paper. Dead and dying lice will drop on the paper in great numbers. Anyone who will try this experiment will have no further doubt of the wonderful efficiency and value of this powder.

For a spray or paint to be applied to roosting boards, nest boxes or walls and floor of the hen houses the following preparation is used:—3 parts of kerosene and 1 part crude carbolic acid. This is stirred up when used and may be applied with any of the hand spray pumps or with a brush.

In both of these formulae it is highly important that crude carbolic acid be used instead of the purified product. Be sure and insist to the druggist on getting crude carbolic acid. It is a dark brown, dirty looking liquid, and its value depends on the fact that it contains tar oil and tar bases in addition to the pure phenol (carbolic acid).

Guineas in Winter.

The guinea fowl is a native of warm countries and has a natural fear of snow, so in the north when guineas are caught out in a snowstorm there is a good chance for trouble if we undertake to force them to walk through snow to the poultry house.

The guineas will take to flight rather than wade in snow and rather than light on the ground when covered with snow they will light in trees, or if there are no trees they will light on the tops of buildings.

It saves trouble to house the guineas as soon as it is apparent that snow will cover the ground and keep them housed until the storm is past.

Dressing a Duckling.

The manager of one of the largest duck farms claims that an expert can scald and dress a duckling in ten minutes.

The Churches.

UNITED NOR. LUTH. CHURCH
N. G. W. Knudtsen, Pastor.

Services Sunday, March 24: At Warren, 11 a. m.; and Alvarado at 3.30 p. m.

MISSION CHURCH OF VIKING
Werner Drotts, Pastor.

Services next Sunday in church at 10.30 in temperance hall at 7:30. All are welcome.

SWEDISH MISSION CHURCH
F. L. Larson, Pastor

Services Sunday March 24: Morning services 10:30 a. m. Sunday school 12. Evening services 7:30.

SCANDINAVIAN M. E. CHURCH
Gustav Kvisgaard Pastor.

The servicese next Sunday will be held as follows: Sunday morning services at 10:30 a. m. Sunday school at 2 p. m. Evening services at 7:30 p. m. All cordially invited.

STRIP CHURCH NOTES
O. A. Anderson, Pastor.

Sunday, March 24th: Sunday school at 10 a. m. Services 8 p. m. Tuesday prayer meeting. Thursday, March 28th a young peoples coffee social will be given at F. Styrlund's at 8 p. m. Friday, March 29th, there will be a quarterly business meeting at O. A. Anderson's at 2:30 p. m.

PRESBYTERIAN CHURCH
Moses M. Maxwell, Minister.

There will be meetings at 10:30 a. m., and at 7:30 p. m. The morning subject will be, "The Liberties of the Christian Life." The evening subject will be, "Righteousness and its Power to Exalt." Sunday school after the morning services. All cordially invited.

METHODIST EPISCOPAL CHURCH
A. A. Myers, Pastor.

Services take place next Sunday morning and evening. The subjects for discourse will be "The value of personality" and "The man of action". The Sunday school meets at the close of the morning service, and Epworth League before the evening service. All are welcome.

SWEDISH LUTHERAN CHURCH

There will be services next Sunday evening at 7:30 o'clock. The Sunday School meets at the usual time. The Ladies' Aid society meets on Friday afternoon at 3 o'clock, this week at the home of Mrs. Nels Johnson. The Luther League meets in the evening at 8 o'clock at the same place. All are welcome.

SYNOD LUTHERAN CHURCH
P. F. Kjorlaug, Pastor.

Services Sunday March 24: At McCrea 11 a. m. The service will be held in the Palmer school house in Norwegian language. English services in Warren at 7:30 p. m. All are welcome McCrea ladies' aid meets Thursday March 28 at invitation of Mrs. A. Myrfield.

Latest style 1912 Fairbanks, Morse &Co., Gas Tractor now to be seen at our machine yard. It is a pleasure for us to show you this tractor and we want you to come in and see it.—W. F. Powell & Co.

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WM. ERICKSON, Warren. Minn.

SUED FOR KEEP OF COW

In municipal court at Thief River Falls yesterday evidence was heard in an action brought by P. A. Risberg against the Great Northern Railway company to recover for taking care of a cow over winter. It seems that the cow in question was injured in a car while being shipped from Roseau to St. Paul, and was unloaded here. The local agent acting under instructions from superior officers engaged Mr. Risberg to take care of the animal temporarily, and it has been in his care all the time. The company declined to pay the bill and the suit resulted. The court took the case under advisement and will render decision soon.—The Northern Light, Holt.

Good Flour

should present the appearance of pure uniform white powder, slightly tinged with yellow, free from all grit and lumps; and when pressed in the hands it ought to show some adhesivenes. It should be free from all smell of damp or mouldiness, and it should have no acidity of taste. This is

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