

Constitution in Dairy Cattle.

Much has been said and written regarding the importance, in their breeding and management, of keeping up the standard of robustness of constitution and good feeding qualities in the beef breeds of cattle, and the result of such breeding and care is manifest in the broad chest, deep and well-sprung ribs and strong loins of the best specimens of those breeds, the result of the use of strong, healthy, vigorous sires, liberal feeding of the young stock, and not allowing them to breed at too young an age. But comparatively little attention has been paid to these points by the great majority in the breeding and care of dairy cattle. Undue importance has too often and too generally been attached to fancy points, many of which have been proven by experience to be mere fads, and the great fundamental principle of constitutional vigor which underlies all true success in building up and maintaining an enduring and profitable class of stock of any breed has been relegated to a subordinate place in the operations of too many of the breeders of cattle of most if not all the dairy breeds. The fact that the bull calves of most dairy breeds cannot profitably be turned into steers to feed for beef has led to many inferior bulls being raised and sold for breeding purposes. Many of these are not only inferior themselves, but are sons of weak and inferior cows, and go out from the herd to perpetuate their meanness in their offspring. The mania for using bulls related in blood lines to some particular family which has gained notoriety from the fact of one or more of its members having scored an unusual record as prizewinners or producers has led to the use of many sires individually deficient in vigor of constitution, as the result of too close inbreeding for the purpose of combining to the greatest possible extent the blood of a family which may have been fortunate in falling into the hands of an ambitious or enterprising man who has assumed the trouble and expense of making records for some of its members, and thus succeeded in giving the family a reputation. The value of the principle of heredity or of individual excellence of conformation and performance being perpetuated by inheritance can hardly be overrated when applied with discrimination and good judgment and in conjunction with the equally important law of "the survival of the fittest"; but to breed from a weak and inferior member of a noted family, whose only claim to preference is relationship to a great-grandmother, a cousin or an aunt with a record above mediocrity, is equivalent to building on a foundation of sand.

Some few men with a genius for the work, and some by good luck rather than good management, may, and doubtless have, made a success of more or less close inbreeding, but in either case it may be safely assumed that the use of vigorous animals was the rule, and for the rank and file of breeders the safer plan is to make judicious selections of healthy, robust individuals of approved type, bred from immediate ancestors of similar type, having the acknowledged indications for dairy production; and if these can be secured, combined with superior performance by actual test, all the better. By this means individual excellence is vastly more likely to be reproduced and perpetuated than by the use of inferior stock having only pedigree or family lineage to lean upon. The practice of this incestuous breeding, it is well-known, caused the downfall of what was once one of the most popular families of Shorthorns, resulting in barrenness and disease, which literally swept them off the face of the earth. Yet many breeders of dairy cattle, and notably Jersey breeders, are following the same course without regard—or with little regard—to constitution, a course which must inevitably have the effect of reducing the vigor and vitality of the stock. This tendency must be greatly intensified by the practice of using bulls for service before they are a year old, and breeding heifers to produce their first calf at less than two years, many indeed being mothers before they are a year and a half old. Unless all the accepted principles of breeding and management, with a view to maintaining constitutional vigor, are baseless and unsound, such a system continued from generation to generation must in time prove disastrous to a large proportion of the stock concerned, and to the general well-being of the breed.

Speaking of Jerseys as a breed, one is bound to own that, considering the manner in which they have in many instances been bred and handled, they must be credited with remarkable vitality and vigor of constitution to present as strong a showing as they do. Even in the home of the breed, on the Island of Jersey, they have been cramped, owing to the limited area of arable land and the remarkably large number of cattle kept in proportion to the acreage, being either stall-fed or tethered much the greater part of their lives and thus denied the acknowledged benefit in regard to robustness that comes from abundant exercise in the open air. In America, while many of them have fallen into the hands of wealthy owners and have had liberal fare so far as feeding is concerned, yet they have been often in these instances unduly pampered, closely housed, early and incestuously bred, and been unmercifully milked, in many cases being kept

milking constantly for years without a day's rest; while in the hands of the average breeder they have in numerous instances, in addition to the disabilities above named, been subjected to short rations and hard fare; and in the respects mentioned—as well as others—it is probably true that no other breed has so often and in so many ways been wounded in the house of its friends. Yet, the record of the breed itself is an honorable and creditable one, having proved in many trials and tests its capability of producing extraordinary milk and butter producing cows, and taking it all in all, there is perhaps no better special purpose breed of cattle in existence to-day. There is no more satisfactory cow for dairy purposes, milk and butter combined, than the better half of the cows of this breed; but there are in this, as in all breeds, by far too many inferior and unprofitable cows, and there never was a better or more favorable time to weed out such than the present, and if advantage is taken of the present high prices for beef to weed out a large proportion of this class of cows, and inferior bulls and young stock too, by feeding them off for the butcher's block, the "beef boom" will have proved a blessing in disguise to dairymen.

The writer has been led into this train of thought by studying the portraits of some of the best English-bred Jerseys, one of which is reproduced in the present issue, in accordance with the well-known policy of the FARMER'S ADVOCATE in thus keeping ideal types of the different breeds and classes of stock before its readers. Nowhere has the Jersey breed been so rationally bred and used as in England, where there has been a wholesome absence of prejudice as to color and pedigree fads, where they have been liberally fed on roots and rough fodder, given ample outdoor exercise, and the heifers bred to calve at from two to three years old, and where money has been freely spent in buying the best Island-bred animals that could be bought. In the public milk and butter trials in England, and on the Island of Jersey, last year the English-bred cows made by far the better records, a number of the latter having made from 2 lbs. 7 ozs.



HAVERING CARNATIC.

English-bred two-year-old Jersey heifer, first and champion at the Royal Counties Show, first at the Royal Show, 1899.

THE PROPERTY OF MRS. C. M'INTOSH.

to 3 lbs. 4 1/2 ozs. of butter each in a day, while the highest public record at the Island Show for the same year was 2 lbs. 6 1/2 ozs. If the number of entries at the principal exhibitions be an indication of the popularity of a breed, the Jersey stands highest in England, the home of so many breeds. At the Semi-Centennial Exhibition of the Royal Agricultural Society, at Windsor, in 1889, there were over 420 entries of registered Jerseys, quite twice as many as of any other breed of cattle, and nearly the same proportion has been maintained at subsequent meetings of the Royal. With the knowledge of these facts, it has been the subject of surprise to many that Jerseys have not in recent years been imported to America from England. This is easily accounted for by the fact that the only acknowledged pedigree register of Jersey cattle on this continent is under the control of a corporation, the membership fee of which is \$100, and which, in the interest of its members, has framed its rules on the narrow-gauge principle that only the pedigrees of animals exported from the Island of Jersey direct, and their produce, are eligible to registry in the herd register of the American Jersey Cattle Club.

The absurdity of such a rule is well illustrated by the fact that the animals constituting the foundation of the St. Lambert family, which has figured so prominently in the pedigrees of the cattle owned by many of the leaders in this corporation, and from which these same men have made a mint of money, were English-bred and were admitted to registry previous to the adoption of the present contracted rule. The great bull, Rieter 746, E.H.B., who was paternal grandsire and maternal great-grand sire of Stoke Pogis, the sire of Stoke Pogis 3rd, was also English-bred. Let us hope this rule, which is unworthy of a people claiming to be liberal and progressive, will be amended or ended before the dawn of the twentieth century, and that the way may be opened for bringing out the best possibilities of the breed by use of the best specimens that can be secured, untrammelled by narrow rules, so long as the records show that the stock has been purely bred.

Growing Pastures and Fodder for Sheep.

BY PROF. THOS. SHAW.

The field that is opening up for the growing of pastures other than grass for sheep in this country is practically without limit. If our farmers only enter into this open door as they may, and doubtless they will, within a few decades America will astonish the world with the extent of the increase in the sheep industry, and with the high average quality of the product. Until recently we have been accustomed to look to Great Britain for pointers on sheep husbandry, and especially when mutton qualities were involved. We have been prone to adopt hints from the practice of the Old Country shepherd, but the day for this will soon be forever gone. When the shepherds of Great Britain grow green crops for sheep, they graze them off through the cumbersome and expensive process of folding, but the American shepherd has found a better way in simply allowing the sheep to graze down the supplemental crop without the aid of hurdles, which must needs be moved from time to time. By the American plan, only such movable fences are used as are necessary to separate the various crops grown, which have been sown side by side to produce the desired succession on succulent pastures. The Englishman will object, first, that such pasturing will produce waste, and that the land so pastured will not be equally fertilized. To this, then, it may be replied that the waste from such pasturing will be infinitesimally small with nearly all kinds of crops, and that sheep are apparently wiser sometimes in their method of distributing fertility than the men who own them. On level land they will take their rest anywhere, and will thus distribute the droppings with a fair measure of uniformity, but if the land is rolling, they will rest on the hills, and will deposit there a preponderance of fertility, exactly in the place where it is most wanted.

Note carefully the idea on which this system of pasturing sheep rests. It makes sown pastures, other than grass, the main feature in pasture production, and grass pastures supplemental. But so flexible is it in its application that these sown pastures may be made supplemental to the grass pastures, and they may be made to furnish any proportion of the pasture desired, or all of it if necessary. It will be at once apparent, therefore, that while it is adapted to all conditions existing in America, save those of the open range, it is especially adapted to an intensive cultivation, and the more intensive the cultivation the more completely does the system meet the requirements.

The Chief Pastures Grown.—In 1897, at the Minnesota Experiment Station, about one hundred head of sheep and lambs were pastured on ten acres of land from May 1st to Nov. 15th. About two-thirds of the entire number were sheep, and one-third lambs. In addition to the pasture a fraction over 10 tons of cured fodder, and also something over 10 tons of green food, were taken from the same land.

General Plan Followed.—Two and one-half acres of the land was kept in grass. On this the sheep were grazed when the weather was wet or when other pasture was not ready. The pastures were grown so that, if possible, some variety would be always in season. Movable hurdles were used to enclose the plot, or plots, that were being eaten down. The sheep were grazed on these in the forenoon and in the afternoon, and were given the freedom of the shed and of the adjoining yards in the middle of the day and also at night.

The Foods Grown.—The foods grown that proved the most useful were winter rye, oats and barley grown together, corn, sorghum, rape, and cabbage. Many other varieties were tried, some of which may yet prove helpful in providing such pastures, while others are not of much value. Of these, winter rye was first in season, and was the only variety that furnished early pasture. Sorghum was the best midsummer pasture. Rape provided pasture for a longer period than any of the other plants, and, taking it all in all, proved the most valuable plant. But the greatest amount of pasture per acre was obtained from cabbage.

Succession in the Foods.—Rye, as stated above, was first in season. As soon as it ceased to provide pasture abundantly, the land was plowed and sown with corn, sorghum or rape, and in some instances it was sown again in the early autumn with winter rye, after one or the other of these crops had been grazed down. As soon as the rye pasture was gone the oats and barley were ready, and when eaten down this crop was followed at once with corn or rape. In some instances oats and peas were sown, and with satisfactory results. Sorghum was usually followed by winter rye. Corn was sown at any time, as occasion offered, after the weather had become sufficiently warm. Rape, also, was sown any time from the opening of spring until the middle of July. It was the chief reliance for fall pasture, and cabbage was the last food grazed down.

Preparing the Land.—As far as practicable the land was plowed in the fall. If the crop to be grown on it was not to be planted for some time subsequent to the opening of spring, the harrow was used on it occasionally to destroy sprouting weed seeds, to assist in the retention of moisture, and to improve the tilth of the land. As soon as dry weather had set in the aim was to roll and then harrow the land soon after it had been plowed, and in some instances sowing was delayed till weed seeds on the surface had been sprouted and then destroyed by harrowing.

Sowing the Seed.—The aim was to sow winter