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from a given quantity of food consumed? This question cannot be answered from the facts and figures given, and the prejudice therefore rests on no foundation. In comparisons of this kind great stress must also be laid on the relative ages of the animals.

With regard to the comparative sizes of the cows in the two herds, the Shorthorn grades have the advantage. It is well known that, say two large cows are more profitable than three of the same weight, all other conditions being alike, the proportionate food of support being less in the large animals, chiefly for the reason that they have less external superficies for the radiation of heat and moisture. We therefore admire the ambition of the Ayrshire man in his attempt to increase the size of his cows, but his mode of doing so cannot be defended from any standpoint whatever, except as to size. If he only obtained an increase of size, little objection could be made, but he gets more; he gets an increasing tendency for more beef and less milk, thus defeating his own pet principle—that of breeding for dairy purposes only. He also gets a more debilitated constitution, a shorter milking season, and a great risk is run with regard to the usefulness of the offspring for the dairy. No farmer who has ever seen a first class agricultural paper would think of attempting to permanently improve any herd by the use of a grade bull. A graded herd especially will rapidly degenerate under this method of supposed improvement.

These facts lead to very practical and important conclusions. The farmer who is accustomed to feed liberally and manage tenderly, may succeed well with a good dairy herd of Shorthorn grades; otherwise it may be improved by the use of Ayrshire or Holstein bulls. An Ayrshire grade herd or a herd of common stock, where size is desirable as well as quantity of milk, can be best improved for the production of cheese by the use of a Holstein bull. But farmers who have a well established Shorthorn grade herd, produced by careful selection from the best strains of Shorthorn blood, would undertake improvement at a considerable risk. Such herds, however, are exceedingly rare.

Feeding for the Show.

A subscriber writes to us asking how he should feed a bull for the shows this fall. This being a question which every farmer and stock raiser should take into mature consideration at this time of the year, we give it special prominence. Our correspondent does not tell us the age or breed of the bull, or at what shows he intends to exhibit, but the general principles involved in the fattening of all show stock will be a guide to him. In the first place, if he wants to feed for a Provincial prize, he cannot do so on any known method without injury both to the bull and to his offspring. The flesh of highly fed animals is a diseased condition of their constitution; and although it is tender and palatable to the tastes of some people, it is neither so nutritious nor so wholesome as that of moderately fed animals. This is strikingly illustrated by the fact that the flesh of wild animals is considerably more nutritious than that of our domestic animals. This predisposition to disease is transmitted to the offspring, and if the existing methods of high feeding are

persisted in to a material extent for any considerable length of time, disease will become as prevalent in Canada as it is now in Europe. This danger increases with the increasing tendency to offer larger prizes at our exhibitions. It is a disguised mode of gambling. Such animals are also impaired in their reproductive functions; their constitutions become weakened, and in no case should the offspring be kept for dairy purposes.

Notwithstanding all this there is a strong inducement for farmers and stockmen to raise a class of animals of this stamp for the show ring and the shambles; and so far as the latter is concerned, we would not be taking the financial interests of the farmers into consideration, if we advised them against raising such a class of stock, so long as it has the greater demand. Early maturity by high feeding is an important point gained for the producer, so far as quick returns on the investment are concerned,—also with regard to gain in weight in proportion to the quantity of food consumed, but this does not necessarily increase the actual profits as they are regulated by the relation of the supply to the demand. The lower cost of production means cheaper beef for the consumer, and a correspondingly inferior quality,—not so far as tenderness is concerned, but with regard to the nutritive properties and flavor. Another point in favor of the producer must not be overlooked, viz., that the fat does not take a particle of nutriment out of the soil; the fertility of the soil is expended on the other parts of the animal, especially the bones, so that the farmer who is merely actuated by pecuniary motives should raise a class of animals with as much fat as possible, and as little bone and muscle. The production of muscular tissue is retarded by the lack of exercise, and this is an important consideration in sustaining or increasing the early maturity of the animal.

From this point of view, if the producer is justified by his pecuniary interests in raising a class of animals to suit the appetites of certain consumers, he may also be justified in bringing them to the show ring, even though in his zeal for speculation the value of his prizes is but a miserable compensation for the enormous cost of production.

Our advice then to our inquirer is this: If he has a bull which he wishes to use for the building up of a dairy herd, by no means should he feed him high for the show, but keep him in moderate condition, take him to the township shows, agitate for the appointment of sensible and honest judges, and he will stand as good a chance for a prize as any competitor at the fair. If, however, he has a mania for speculation or gambling, and wishes to build up a beefing herd for the purpose of satiating the morbid appetites of weak-stomached epicures, let him bloat up his bull for the Provincial or the Industrial, and the way he can most successfully do so will be found in the proper column.

The Connecticut Farmer says there is no fertilizer so well adapted to the Connecticut soil as Canadian ashes, of which there are immense quantities used in the State. Politicians flatter themselves and the farmers that millions of wealth are created by our exports of agricultural productions, but would it not be better to pile up billions by keeping certain products at home?

Dairy Schools in England.

England is about to enter into a new era in her agricultural history. After a protracted discussion with regard to the introduction of Agricultural Education, final measures have been adopted in the establishment of dairy schools. The system is not a new one, dairy schools having existed on the continent for half a century, and it is not therefore probable that the scheme will prove a failure.

In response to a scheme submitted by Mr. H. M. Jenkins, Secretary and Editor of the Royal Agricultural Society, Lord Vernon and Lord Fitzhardinge have consented to allow their dairies to be utilized for the practical and the technical education of pupils who enter under stipulated conditions. Lord Fitzhardinge and Dr. Bond will organize the Gloucestershire school, and Mr. Jenkins will at the outset devote his energies to the organization and conduct of Lord Vernon's school, situated at Sudbury. The first session will commence on August 15. Instructions will be given in milking, skimming and butter-making; also in the manufacture of whole-milk, skim-milk, and cream-cheese, as well as in dairy records. "Practice with Science" is the platform laid before the country, upon which the promoter of the schools hope to win the sympathy and support of the farmers.

Well-recommended males and females who have completed their eighteenth year are eligible for admission into the Sudbury school. The pupils will be compelled to work at the various dairy operations as diligently as paid servants. The practice of the best methods, both by hand and machinery, will be explained during the course of operations, and special lectures on the principles of the various branches will be delivered as occasion demands. A complete course of instructions will embrace three months, but pupils may enter for a longer or a shorter period by special arrangement. Fees for instruction will be £3 for the first month; £2 for the second, and £1 for the third. Board money is required to be paid in advance, 10s. per week for females, and 12s. for males. Certificates will be granted to those who pass satisfactory examinations.

Prof. Heath, in the American Dairyman, thus tells how to determine when a cow is in calf: Let a drop of fresh milk fall in a glass of water. If the milk properly disseminates itself through the water the cow that yielded that milk is not with calf, but if it sinks to the bottom of the glass as it falls upon the water, and produces but little of the milky cloud, the cow is pregnant. The specific gravity and viscosity of the albuminous milk being heavier than water, thus retains the drop of milk and causes it to sink.

The farmer's ideas of his business are beginning to enlarge. The question he used to ask himself was, How much money can I get for this steer? It wasn't asked how much it cost to produce; in fact he thought it cost him nothing; summer pasture on the road side was nothing, and as the animal had to shift for itself, the labor was nothing. Now the advanced farmer asks himself, How much beef, butter, and cheese can I get from an acre? If he takes care of the stock and the acres the dollars will shift for themselves.