



VARIETIES OF CATTLE.



THE Ox belongs to the fourth class of vertebrate animals, and is of the order *Ruminantia*. It is a ruminant, with hollow horns, which are directed sideways, and then twine upwards in form of a crescent. It is a large animal, with a broad muzzle, low stature, and stout legs. It is also distinguished by a fold of skin which hangs beneath the neck, and is called the *dewlap*.

The male and female of this species are respectively the BULL and the Cow. The young males are called STEERS, and the females HEIFERS.

Beef is the most useful product which the ox affords.

The problem of utilizing the ox to the greatest extent simply consists in producing, as quickly and economically as possible, an animal excelling to the highest degree both in the quantity and quality of its meat. Care, therefore, must be taken particularly to develop those parts which furnish the joints which are most esteemed.

The type of the ox best fitted for the butcher is that in which flesh surpasses bone in proportion, and

in which the hinder parts are more fully developed even at the expense of the neck and shoulders; for the latter joints furnish an inferior article of food, so that their reduction, if compensated for by an increase of the more valuable portions, must be a great desideratum.

What, therefore, are the points by which we can discern when an ox approaches the butcher's ideal? The answer is, great width combined with depth and length.

"The deeper the animal is in the thorax, in proportion to its size—the closer it is to the ground, in vulgar terms; added to this, the longer it is in body and rump; and the thicker it is, or, as is commonly said, 'the better it is made up,' the greater amount of clear meat it gives in comparison with its absolute or living weight, and the better it approaches to the desired type."

There are certain accessory characteristics which must have their due importance, as likewise forming a prominent feature in the type of the ox which is intended for the butcher. It must have slenderly made bones, a fine head, skin supple and not too thick, moderate dewlap, thin and downy hair, calm visage, quiet and mild look. It may be regarded as a certainty that the ox which combines these and the former attributes possesses a special fitness for becoming good beef.

Next to meat, milk is the most valuable product with which this race furnishes us—a source of wealth

to the producers, for it is an article of universal consumption. Thus it may be easily understood how important it is for the buyer to be able to distinguish, *à priori*, in the market, from certain outward signs, what are the milking qualities of a cow, and to be able to arrive at a correct conclusion, even in a heifer, whether she will be a good or bad milker.

There are both good and bad milkers in every race; the proportion, however, of each presents a certain constant character, by which some breeds may be recognized as possessing a decided milking superiority. Climate and nature of pasturage have also great influence on the lacteous qualities of different races.

The principal breeds of oxen and cows are the Shorthorn, Hereford and Devon; and besides these we have the Sussex, the Longhorned, the Galloway, the Angus and the Kyloe.

The *Shorthorn* is now undoubtedly the dominant breed. Originating in Teeswater, and carefully bred years before the existence of any herd-book recording descent, it soon reached the highest reputation for its early precocity and meat-producing qualities.

The *Herefords*, another leading breed of cattle, characterized by red body and white or mottled face, come almost as early to maturity as the shorthorn, and, attaining great weight, are certainly one of the best breeds. They have as great an antiquity as the shorthorn. As much as \$5,000 have been given for a Hereford bull and cow; and high prices are fetched still, though not so high as those of the shorthorn stock, for well-bred bulls and cows.

The breed has now a herd-book of its own, and it is in the hands of as much enthusiasm and ability as has characterized the history of the shorthorns. For early maturity, and large size, accordingly, it now almost equals the shorthorn; and for quality of meat it probably excels it.

The Devon.—The North Devon ox is a small animal, of a light red color, without any white, with long yellowish horns, and a well-made symmetrical frame. Hardy, light and active, it is an excellent worker, and is worked in harness until five or six years old, and then fattened.

The *Sussex* is a larger, coarser animal than the Devon, but otherwise resembles it.

The *Longhorned*, a dairy breed, rather than one adapted for the feeding-house, is gradually disappearing from the midland and western counties, where it prevailed.

The *Kyloe*, or *West Highlander*, adapted to the rough pastures of the districts where it is bred, is driven south to be fattened on English grazing-grounds, where it yields the very best of beef at four and five years old. It is characterized by long, upturned horns, a shaggy coat of a yellow, dun, or black color, and well-made, compact little body.

The *Galloway*, resembling a *Kyloe* without horns, with a less shaggy coat, is, when well bred, one of the best-made and most symmetrical of our breeds of cattle. It, too, is driven

south in large numbers to be fattened, and yields excellent beef.

The *Angus*, also a polled breed, of a red or black color, is a much larger animal, and when crossed with the pure-bred shorthorn breed, furnishes one of the best crosses for the feeding-stall that we have.

Besides these, there are other sorts especially adapted to the dairy.

Different Kinds of Cows.—The large kinds of cows are generally chosen where there are rich fertile pastures; and no doubt the dominant breed throughout the country, both for indoor and outdoor feeding, is, as has been said, the shorthorn. This breed is divided into several varieties—the *Holderness*, *Northumberland*, *Durham*, *Yorkshire*, etc. The *Yorkshire* is thought to be the best for the dairy. These fine animals appear to have descended from the *Teeswater* breed. There are a great many varieties of the large cows in this country that have been bred by shorthorn bulls. An excellent cross is common in the eastern counties between the best *Suffolk* cows and shorthorn animals of the best blood. They are good milkers, harmless, and very quiet, and consequently much approved of for pasture-feeding. Cows of this breed will produce from ten to twelve pounds of butter per week each, when well managed; and for butter dairying the quantity and quality of cream produced is of greater importance than the quantity of milk.

Cheshire Cows.—The *Cheshire* dairy farms are mostly stocked with a mixed breed of cows, between the *Cheshire*, *Lancashire*, and other crosses.

Lancashire.—The *Lancashire* are distinguished by their long horns, deep fore-quarters, and long hair. They, as well as other long-horned cows, are said to give richer milk than polled cows, but not so much of it. Besides the milking properties of a breed of cows, their hardy qualities must be thought of, where they are exposed to bleak situations; and no doubt the long-horned *Lancashire* and other coarse-skinned animals are the most hardy.

Devons.—The middle-horned breed of cows may include the *Devons*, the *Herefords*, and the *Sussex*. The two latter are the largest, but neither of them excel the best shorthorn in their produce of milk. The *Devons* are of a light red color, with yellowish colored horns, well made, and their milk is rich—or we should not have such rich *Devonshire* cream.

Hereford.—The *Hereford*, next in size to the shorthorn breed, is a fine animal and a pretty good one for dairy stock, but better, perhaps, for fattening purposes. The *Sussex* do not differ much from the *Herefords*; they are both of a darker color than the *Devons*, with horns of a moderate length, turning up at the points, having wide hips and smallish bones. They are middling cows for the dairy.

Galloway.—The polled *Galloways* are very nice animals for grazing purposes; they are mostly black, well proportioned in form, and yield an average quantity of milk, when carefully used, for dairy purposes.

Highland.—The *Highland* are not thought to be better milk-producers than the *Galloways*, but more hardy.

Ayrshire.—The *Ayrshire* cow is a favorite in some places, but not preferred by cow-keepers in general. It is, however,

a good animal for the dairy, and almost equal to the Alderney in the richness of its milk. It has fine wrinkled horns, is larger than the Alderney, and somewhat like it in appearance. Its color is usually red and white.

Shetland.—The Shetland cattle are very small, and inferior in shape to those of the Western Highlands. They are hardy, small consumers of food, and yield about two quarts of milk a day.

Welsh.—The Pembrokeshire cow is small and hardy. It is fine-boned, with clean light head and neck, small yellow horn, good chine, long round barrel, thin thigh, and short fine legs, always in good condition if tolerably kept, and has a rich wave in her hair which ever denotes thriftiness of kind. Its produce is from five to seven pounds of butter a week during the dairy season.

Irish.—The Kerry cattle, in size and shape, resemble some of those from the Western Islands, of a high-bred deer-like shape, not so broad or so low in the leg as the native Highland Stots. These cattle are very hardy, being reared in a country of rocks and hills. Their properties are said to be that of giving the largest quantity of milk, which is also of the richest quality for the amount of sustenance they require.

Alderney.—The little Alderney cow is a slender-made animal, not very well shaped, though admired for its deer-like mild face and fine bone; it is mostly of a red and white color, with a mottled face. The Alderney gives the richest milk of any kind, and some of them have been known to produce ten and eleven pounds of butter a week of the finest quality. They are rather tender, and require to be well housed in the winter.

Suffolk.—The Suffolk cow is believed to be the best of the polled breeds for the dairy where the pastures are not very rich. They are quiet, hardy, and suitable for upland fields.

It is thought that the Dun-colored originally descended from the Galloway; they do not, however, generally appear to be so uniformly well-shaped as the Galloway, although they have been vastly improved of late years by careful breeders. Various crosses between them and the Ayrshire, and other varieties, have increased the produce of the dairy in many places; but it is believed that for large dairies, no cross is superior to that of the Suffolk cow and the shorthorn bull.

Whichever breed is made choice of to improve the stock, both male and female should be of the best animals. By a first-class bull a hardy, well-informed, and abundant milk-producing cow is almost sure to produce valuable calves to bring up for the future supply of the dairy.

THE COW AND CALF.

Rearing Cow Stock.—Where there is accommodation for rearing young cow stock, the best males and females should be selected for propagating a good breed. It would not do, however, for those who expect to make a profit by dairy-farming, to purchase animals at the fabulous prices of hundreds and thousands of dollars, such as we read of at the sales of first-class breeders. Very excellent animals can be found now of various breeds, and calves chosen from the best of them, though not very high in price, will be as good for dairy purposes as

the most celebrated stock. A selection should be carefully made from mothers which are the best milkers, with full-size udders, wide rounded hips, straight backs, and broad chests, with small tapering legs; and bulls with broad breast, projecting a little before their legs, with neck rising from their shoulders, moderate-sized heads, flat, broad, straight backs, well filled up behind their shoulders and between their ribs and hips, with small straight legs and rounded bodies. Large sunken bodies are generally brought on by poor keep. Animals kept on straw and sedgy meadows only, while young, are usually disfigured by their bodies becoming unnaturally protruded.

Watchfulness required.—When cows are expected to calve (at the end of forty weeks) they should be carefully watched night and day, and where the weaning of the calf is intended, it would be best for them to calve at the beginning of March, as they would then have the whole of the grass season before them. When the cow has had a protracted and difficult calving-time, she will require careful treatment. In common natural cases she will soon be all right; but in difficult cases brushing of the belly and loins with a wisp is serviceable—gentle walking exercise for a short time in fine weather is useful. Gruels and cordial drinks should also occasionally be given. The latter might consist of a quart of ale mixed with sugar or treacle, and diluted with water, to be given warm. She must have her warm water mixed with a little meal. Should fever intervene, it is best to send for the veterinary surgeon, and commit the case to his care.

Cows after calving should be carefully fed with nutritious food, in small quantities often repeated; and it is certainly best to give cooked or boiled food, as it prevents more generally indigestion and flatulent colic. At all events, sweet and easily digested food should be given, or material injury may arise. Should the udder swell from excess of milk, or the incapacity of the calf to draw it all away, frequent milking is requisite, and it should be hand-rubbed well, with frequent washings of warm water and soft soap, or with warm bran-water. The teats occasionally become sore; the same applications should be resorted to, and, in addition, a little lard, olive-oil, or even cream, should be gently rubbed on, particularly in cases of pustules arising, or scab.

Calves will soon learn to drink from a pail; but it is generally thought best to allow them to suck from their mothers for a few days, while the herdsman milks on the opposite side. The cow will give down her milk the better for it, and become reconciled to his milking her without the calf afterwards, if treated with gentle kindness.

The calf should have new milk for a fortnight twice a day; then skimmed milk mixed with oatmeal or linseed meal, boiled for half an hour, during another fortnight or three weeks. It will require about two gallons a day till it begins to eat well, which it will do when it is five or six weeks old, if some sweet hay be given it daily, or some hay chaff with pulped mangold or swedes mixed with it. Skimmed milk, or whey mixed with a little linseed meal, will then do for its drink,* which may be continued till it is twelve weeks old, when it would live very

* The milk may be taken from the quantity set up for butter and once skimmed after standing twelve hours.

well on a pasture or on natural food. Some people wean calves almost entirely on linseed tea.

Summer Treatment.—When the weather is warm and the flies become troublesome, they ought not to be left in their pasture without shade or shelter. If well shaded during the heat of the day, and supplied with pure water and some green food in their cribs, they will most likely continue to thrive; but if left to be tormented with flies, huddled together in a corner of their pasture, or in a wet ditch, they will probably become unhealthy. It may here be remarked that, on first leaving the cow-house, the calf should be confined in a safe place in the yard or elsewhere for a day or two, until it becomes accustomed to the bright light of day, as on its first introduction it appears almost blind, and would be likely to run into danger.

A change of pasture now and then is desirable, but calves should not be put into low wet meadows, as it is generally in such situations that they get diseased with a husky cough. As the fall approaches the grass will be less nutritious, it will then be necessary to give them some food in their yard or shed, such as pulped roots mixed with cut straw chaff, every night. A little salt mixed with their chaff is a good thing, and is believed by some people to prevent "hove."

When frost begins they should not be turned into their pasture till nine or ten o'clock, or till it disappears. Their racks, cribs, and mangers, or whatever they feed or drink from, should constantly be kept clean, and the herdsman should be urged to feed and water them regularly, and to keep them well supplied with dry bedding.

As winter approaches they would be best confined to the yard and shed, where, if well sheltered and fed regularly with a proper quantity of pulped roots, turnips or mangold, mixed with straw chaff sprinkled with a little salt, they will thrive fast enough till the spring, when they can return to their pastures, or be provided with green food; they should be carefully treated as before recommended. The upland pastures are best for young stock.

Some people allow heifers to have calves when only two years old, but they seldom (if ever) make such good cows as those that are left free till they are three years of age.

Young stock brought up as here recommended will generally thrive fast, and be free from disease.

Cost of Keep.—Cows are large consumers of food, and should not be stinted when in milk. Heifers will require nothing but green food in the dry summer months; but as the winter approaches they should be sheltered in a yard at night, and a little fresh barley or oat straw given them in their cribs; whenever the pastures become injured by frost, both young and old cows require improved food in their sheds. A few Swedish turnips or mangold roots should then be given them, which, if pulped and mixed with sweet chaff (one-fourth hay), would be sufficient to keep them in healthy condition; but this applies only to those that are not in milk. When within two months of calving, all cows should be dried, for, if not then dried, they will not produce so much milk the next year. They should afterwards have their food improved by an additional weight of roots with their chaff, which should be mixed in a heap over-night. By the morning it will be found to have heated a little, which imparts a flavor that is much relished by the cows.

Consumption of Food.—As was before remarked, "cows are large consumers of food," and no wonder that they should require an abundance, to enable them to supply so rich a sustenance for mankind, as well as to support themselves. Where there are no good dry pastures to provide them with plenty for their summer keep, they would do very well in a proper feeding-house (enclosed on the north and south sides) with a door at each end, if they were liberally supplied with green food, cut for them and put in racks: such as rye grass, clover, tares. It has been found that milk as abundant and butter quite as good have been produced by cows so fed, as by those which had the run of rich pastures. But where there are pastures it would be well to have the cows housed in hot weather, when insects are troublesome; or else they will be worried and heated and unable to feed, and will fall off in their produce of milk.

A large cow will consume a cwt. of green food per day.

When green food is scarce, as is generally the case at the end of a dry summer, a little linseed-cake or bean-meal, mixed with cut chaff (one third hay), should be given them to keep up the produce of milk, lest part of the best season for dairying should be lost by its failure.

It is not good economy to feed cows on much uncut hay, for they would consume and spoil a cwt. a day, if fed entirely on it. Much less expensive and more natural condiments can be made by a mixture of bean, barley, maize, or linseed-meal, and other produce of the soil by cow-keepers themselves.

Milk Dairies.—When cows are kept only for the purpose of producing a large quantity of milk, brewers' grains are given them, with a small portion of hay, for ruminating purposes. On this they do tolerably well, but it will be found to their advantage if about three or four pounds of bean-meal be mixed with the grains for each cow per day.

Winter Food.—In winter and spring, Swedish turnips, mangold, and other root crops would be found mere economical food than the grains, meal, and hay last mentioned. A bushel of pulped roots mixed with about fourteen pounds of cut chaff, one-third hay, and given them twice a day, would be found sufficient to satisfy a moderate-sized cow, but they should not be stinted or confined to any quantity if they are found to require more. Cabbages, carrots, and parsnips are very good food for milch cows if given in moderate quantities with other food. It is important that all roots should be freed from earth before pulping, or given to the cows, otherwise it would impart an unpleasant flavor to the cream. When cows are fed on pulped roots, with cut chaff, a peck or two of malt-dust ("combs") would be a nice addition, as it would give a zest to the mixture. A sufficient quantity for the whole herd should be put into a heap about twelve hours before it would be wanted, when it would be found to have acquired a little warmth and a fragrant smell, which would give the cows a greater relish for it.

A change of green or succulent food appears to promote the secretions of the system, and to give stimulus to their action. Such as would injure the flavor of milk should be avoided. White turnips and cabbages will do this, if given without a good supply of other food with them.