

herd of Mr. Deane Willis, at Bapton Manor, in Wiltshire, and it must be admitted that no more enthusiastic patron of Aberdeen Shorthorns exists than Mr. Deane Willis. He bought many of the pick of the Sittytton heifers, and yet his chief show successes have been made with the produce of a Booth bull on these cows. The position seems to be that the best advantage to the breed from the use of Aberdeen Shorthorns has come from the introduction of cows of this strain into English herds. Where mated with English bred bulls, they have produced stock which has done much to increase the stamina of the herds. Perhaps the truth on the merits of the Shorthorn strains lies midway, as is so often the case. We suspect some have ridden the Cruickshanks hobby to death, just as some rode the Bates hobby to their own destruction. It is just as easy to be fooled by five top crosses of Sittytton blood as it was to be fooled by five top crosses of Bates blood; and we have heard gentlemen who could very roughly criticize the mad policy of the Bates men, themselves talk learnedly of the number of top crosses of Cruickshanks blood in a very ordinary looking bull. We believe in pedigree firmly, but we also believe that the wisest use to make of pedigree is to keep it as a servant, and not allow it to become a master. There are men—good judges—who ought never to know what the breeding of an animal is until they have decided on its merits. Then their knowledge of pedigree will be of genuine use to them.

Clydesdale business is in quite a healthy state. Not even during the brightest days of the American and Canadian boom were district societies so anxious to hire good horses as they are this season. The most notable engagement has been the hire of Macgregor, from Mr. Andrew Montgomery, to travel in the Rhins of Galloway, or Strauraer district, during 1895. This old horse is now at once the oldest and the most uniform, as well as the highest paid sire in the Clydesdale world. His terms are 10gs. each mare, with 80 guaranteed. The significant thing about these terms is, that they have been Macgregor's rates since he was four years old, and next season he will be seventeen. His has been a remarkable career, and it has been truly said of him, that while other sires have occasionally bred a horse or mare which sold for more money, or had a more brilliant career than any of Macgregor's progeny, no horse ever bred so many really good sound animals, and certainly none ever bred so very few which could be described as bad beasts. Alike in respect of quantity, quality and soundness, his progeny are very easily the best seen in this country during the last half century. Darnley, his sire, did wonderfully well in the Strauraer district for the three seasons of 1881, 1885 and 1886, and we are confident the career of Macgregor will be equally satisfactory.

SCOTLAND YET.

The Evolution of the Scotch Shorthorn.

[Compiled from an article prepared by Robert Bruce for the Highland and Agricultural Society.]

(Continued from page 364.)

GENERAL MANAGEMENT AT SITTYTON.

The system of feeding and management pursued in the north can be fairly well indicated by giving the method used at Sittytton. The severe climate and the absence of old grass-pastures in the north necessitates house-feeding almost entirely from October to May. As a rule, the whole of the females are tied by the neck and stand two together in a stall, the different stables being arranged with wider and narrower stalls to suit the several ages of the cattle. One important reason for this treatment is because the main grain crop grown is oats, and therefore straw is a precious article, and, by keeping the stock tied, they can be kept much cleaner on less bedding than if allowed to run in boxes. Under a five or six-course rotation of cropping, with either two or three grasses, there is on all farms a fifth or sixth of the entire acreage year by year under turnips.

The months of December, January, February and March constitute the favorite calving season, but in all herds calves are dropped at other seasons of the year.

The breeding cows are tied up, one year with another, about the middle of October, and almost invariably remain so tied till they go to grass about the middle of May. They are fed up to calving time on yellow turnips and oat straw, the weight of turnips given being of sufficient quantity to keep the animals' bowls in a proper condition. Few if any of the cows get cake or meal, although in the case of breeding from heifers at about 24 to 26 months' old, cake is sometimes used to strengthen the animals and assist them to rear their calves.

For many years Mr. Cruickshank bred from heifers served when they were from fourteen to sixteen months old. His experience is that a larger percentage of them became breeders than if they had been left till the following year before being served. Late calves, calved after May, were generally left a year longer.

When the calving season set in, with the whole of the calves raised by sucking, it was a matter of great importance that each calf should be properly nursed. Careful attention was given to this, and changing of bull calves from heifers to older cows, giving them heifer calves instead, was freely resorted to. Although the calves were allowed to take all the milk they required, the cows were carefully attended to and milked dry at regular intervals.

The stock-bulls were kept in boxes, having a corner bedded down, and the rest of the floor paved

with cobble-stones and kept clean and hard. The young bulls, calved the previous season, were, as a rule, kept two together in a string of hovels, with small, open yards facing the sun. Every attention was given to having the young bulls forward in condition, so as to make them strong and fit for service at an early age. This was the more difficult on account of the infirmity known in the north as rheumatism, which is the great bane of bull-breeding in many parts of the country.

Very little artificial food was fed at Sittytton, Mr. Cruickshank's aim being to make the produce of the farm sustain the herd. A little linseed cake was given to some of the smaller of the heifers when they became mothers, the other female animals having to depend entirely upon turnips and oats straw during the whole of the winter and spring months. When put on the pastures, as the whole female stock was in the end of May, the fresh young grass had a wonderful effect on the heifers, cows and calves.

The different fields were visited twice a day by the cattle-men, who took this opportunity of walking out the stock-bulls, leading one round as he inspected the different lots of cattle.

It is a commonly held opinion that stock from old cows and bulls, more especially the former, are not so strong or good as from younger parents. This idea is not indorsed by Mr. Cruickshank, who writes:—"I never saw any tendency in either cows or bulls to deteriorate as breeders with old age. Many of my best cattle were the produce of old cows and old bulls. If a bull turned out well I generally kept him as long as he would live and be useful."

Breeding, as Mr. Cruickshank did for many years, entirely within his own stock, the older cows, many of them twelve to sixteen and eighteen years of age, were almost invaluable, allowing, as they did, a reasonable amount of close breeding without his having to resort to in-and-in-breeding. It was only in a herd where strength of constitution had been maintained, and where the milking qualifications of the females had been attended to, that such matrons could have been found.

The loss of milk in many herds is a direct one; but the mischief does not end with this. Our general experience is, whenever we find nurse-cows needed to supply calf stock with milk, we may look in vain for old breeding cows.

Independently of the direct results of Mr. Cruickshank's doings as a breeder of Shorthorns, there is, in his lifetime's work, much that must have a far-reaching effect. Through the independent stand that Mr. Cruickshank took, through his ability and judgment, he has shown to owners of all kinds and breeds of cattle that there is no finality in the pursuit of cattle-breeding. He has shattered prejudices, he has given breadth to all matters connected with the breeding of pedigree stock beyond what seemed possible a few years ago, and he has educated the general public to recognize ability and genius, which were apparently looked upon as lost in the profession.

In conclusion, let it be remembered that the ascendancy of Scotch Shorthorns is but a natural, as it is a healthy sign of the times. Since the palmy days of the early seventies, there has been quite a revolution in British agriculture. One wave of depression has followed another, leaving the landed proprietors and tenant-farmers poorer by untold sums of money.

It is the nature of things that in times of financial adversity, fashion goes to the wall and practical utility comes to the front. Fancy in Shorthorn breeding had its day.—practical utility is now the main object sought for. Hence the ascendancy of the Scotch Shorthorns of the present day.

Dressed Beef vs. Live Cattle Shipping.

BY A. C. HALLIWELL.

It is a fact well established that meat, especially beef, to be in the best table condition, should be given time to "ripen" after it is dressed. It is also well established that the time required between slaughter-houses in the interior of the North American continent and the consuming markets of England is no greater than is required properly to ripen good corn-fed beef. [NOTE.—We can scarcely concede the accuracy of this sweeping proposition.—Ed.] Much depends, however, on the conditions at slaughter and the refrigerator services in transit being unvarying and good. It is claimed by pretty good authorities, though mainly by those who do not have killing plants in the West, that the beef of cattle shipped alive to the Eastern seaboard, and there dressed and placed in the ocean refrigerators, reaches its destination in better condition and can be safely exposed for sale a longer time than beef slaughtered in the West and unavoidably exposed to a change of temperature in transferring from the cars to the steamers at New York or other ports. Certain it is that one of the pioneer concerns in the ocean refrigerator business, the Eastman Company, holds to this view of the matter, and has built up an enormous business on that basis against heavy competition. This concern began by forwarding live cattle on the hoof, then experimented with refrigeration, continued the shipment of beef both alive and in coolers for a long period, and then settled down to the refrigerator system exclusively as being the most economi-

cal method of putting American beef on the English markets. However, other large exporters, with killing plants both in the West and at the seaboard, notably Schwartzchild & Sulzberger, are engaged in shipping beef to England, both alive and dressed, from three points—Chicago, New York, and Kansas City. Then, again, Messrs. Swift & Company, the largest exporters of dressed beef from the United States, have always slaughtered their cattle in the West, but they have lately added to their export business a heavy trade in sending live cattle to Liverpool, to be sold there to the local butchers. From these varying practices of those operating most extensively in the transatlantic meat trade, it would appear that circumstances must alter cases, and that all classes of English custom can not be fully, and to the best advantage, met by any one method. At any rate, it is quite certain that all the advantages do not lie in one method.

The States shippers are to a degree handicapped by the fact that the great bulk of the cattle suitable for the export trade originate a thousand to fifteen hundred miles inland, and the best points at which to slaughter are that far from the seaboard.

If the Canadian meat trade with England could be turned into the refrigerator channel, there would be many benefits to be derived. Of course, there is no reason why slaughtering centres should not be established as far inland, if need be, as they are on the States side of the line.

It costs about 45c. per 100 lbs. to send dressed beef from Chicago to the seaboard, and 28c. to send live cattle, but the shrinkage on the latter brings the cost up to 55c.

There is also greater liability of crippling or killing cattle in transit than of causing damage to refrigerator beef.

It would tend to build up centres of industrial population in a remarkable manner, and a large share of the offal, fertilizer and various by-products would be near the great crop producing regions, where they could be used to considerable advantage with large slaughtering and cooling plants. At tide-water, however, the carcasses could be placed on ship-board with the least possible exposure, and a large share of the by-products, and all of the rough meats, could be used to the best possible advantage where the population is already greatest. The great beauty of sending dressed carcasses, instead of cattle on the hoof, is the fact that the parts of the animal left on this side, in the refrigerator process, goes far toward building up home industries. There are many more thousand men constantly employed at Chicago in handling cattle designed for Europe, in the carcass, than would be necessary to supply the same number of cattle to the Old World on the hoof. Sending cattle out of the country on the hoof is a good deal like shipping all of one's grain and forage from the farm, instead of feeding it to stock, and keeping a large percentage of fertilizer, as well as saving freight that would be charged on the larger bulk. Then, again, the refrigerator system necessarily calls for business being done on a large plan, and, of course, there is much economy in that. The small local butcher who kills a few animals a week, throwing away a large part of the offal, must make a large profit on the meat sold, but modern utilization of by-products make it so the slaughterer who does business on a large scale could much better afford to sell the meat without profit than to waste what the old-fashioned small butcher could not utilize. As showing how carefully all parts of the animal are preserved, the following list of by-products is given:

The stomachs of hogs, instead of being sent to the rendering tanks, are now used for the manufacture of pepsin.

Pigs' feet, cattle feet, hide clippings and the pith of horns, as well as some of the bones, are used for the manufacture of glue.

The paunches of the cattle are cleaned and made into tripe.

The choicer parts of the fat from cattle are utilized for the manufacture of oleo oil, which is a constituent of butterine, and for stearine.

Large quantities of the best of the leaf lard are also used for the manufacture of what is known as "neutral," also a constituent of butterine.

The intestines are used for sausage casings; the bladders are used to pack putty in.

The undigested food in the cattle stomachs is pressed and used for fuel.

The long ends of the tails of cattle are sold to mattress makers.

The horns and hoofs are carefully preserved and sold to the manufacturers of combs, buttons, etc.

Many of the large white hoofs go to China, where they are made into jewelry.

All of the blood is carefully preserved, coagulated by cooking with steam, then pressed and dried and sold to fertilizer manufacturers.

All of the scrap from rendering operations is carefully preserved and dried and sold for fertilizers.

Bones are dried, and either ground into bone meal or used for the manufacture of bone charcoal, which is afterwards utilized for refining sugar, and in some other refining processes.

The strongest argument in favor of the dressed beef system is its steady and rapid growth.

The strongest argument against it is that only men of large capital can now gain a foot-hold in the dressed beef business, while the older plan of live cattle shipping gives men of comparatively small means a chance to do something. One's stem tends to scatter and run haphazard, while the other tends more in the line of modern concentration.