

Peel, (183); 3, Willard Butler, Norfolk, (176); 4, Geo. Pack, Middlesex, (175); 5, T. B. Barrett, Norfolk, (172); 6, Jerden Palmer, Oxford, (170).

Coupled with the competition for individuals was an inter-year competition for the students of the Ontario Agricultural College, the successful class team securing the Day trophy. Each team was to consist of 5 men selected in advance by the class. The senior, or fourth year, won with 4,292 points, followed by the second year with 4,032 points. The third year were third and the

freshmen fourth, neither having a full team. All told, there were 27 entries in horses, 31 in beef cattle, 31 in dairy cattle, 27 in sheep, 21 in swine and 19 in poultry, in the individual competition. The first five men in each of the five classes of stock and their scores are given below. Heavy horses: 1, J. D. Dyer, (155); 2, F. Webster (153); 3, V. Stuart, (141); 4, A. W. Mead, (140); 5, L. E. Dymont, (137). Beef cattle: 1, F. M. Snyder, (170); 2, V. Stuart, (161); 3, L. S. Chapman, (160); 4, J. R. Higgins, (141); 5, G. Grant, (139). Dairy cattle:

1, E. Stillwell, (159); 2, W. A. Fleming, (158); 3, L. A. Dymont, (156); 4, J. B. Hammer, (153); 5, W. B. Blakely, (152). Sheep: 1, D. F. Aylesworth, (191); 2, C. Tice, (188); 3, M. F. Cook, (175); 4, J. M. Shales, (145); 5, W. C. Hopper, (136). Swine: 1, W. R. Gunn, (185); 2, J. R. Higgins, (179); 3, C. Flatt, (170); 4, S. King, (166); 5, P. L. Sanford, (165). Poultry: 1, G. S. Snyder, (250); 2, C. F. Luckham, (249); 3, T. Hall, (245); 4, R. Frith, (233); 5, C. C. Eidt, (232).

Range Breeding Problems and Programmes.

By Jas. McCaig.

THE other day I saw an account of a prize being given to somebody for giving the greatest number of reasons why sheep should be kept on the farm. In fact, most of the literature you read in agricultural sheep magazines and periodicals is made up of ingenious persuasion of the farmer to get a flock of sheep, by which it appears that people are convinced that the sheep business is in need of revival.

The general evolution of the sheep business seems to be something like this. Sheep were, to a reasonable extent, part of most farming enterprises in the East in the early days of development of both Canada and the United States. When the short grass areas of the Western prairies opened up, then the great volume of the sheep interest of the country became a range interest; at least, the volume of it became sufficient to furnish a competitive element in mutton and wool production which the Eastern producer could not very well meet. The total investment of the Western rancher was in productive stock, with nothing invested in land and next to nothing invested in equipment. This condition, however, of free lands has been steadily subject to reduction through settlement. The total national production of wealth from land has, no doubt, been vastly increased, but it has been changed from beef and mutton and bronchos to grain. People cannot get along without horse stock and some cattle stock, and it is the sheep industry as a whole that has suffered shrinkage. Investigation in Eastern States show that even in the states where sheep are most numerous, that is, in Maine, New Hampshire and Vermont, only one farmer in five keeps sheep, while over the whole of the Eastern States only one farmer in fifty keeps sheep.

Eastern farmers have been devoting their land to other uses than sheep grazing. They have been engaged in truck farming, dairying, pig-raising and poultry, and generally in work requiring more or less intensive application of labor and that gives large per acre returns. It is thought that sheep will not yield suitable returns from expensive land, though Great Britain has decidedly proved the contrary, and people who are promoting general farm economy of a conserving type are facing the task of trying to get sheep back on Eastern farms and likewise getting them on to the farms of the settlers who have blackened the range. Judging by the appeals that are made to the farmers to get some sheep, it seems to be some job.

Cost of Production on Range Going Up.

Where the range does persist the cost of raising wool and mutton has vastly increased. The top of grazing on range land seems to be difficult to conserve, and when the range feed becomes short it is necessary to supplement the grazing by large quantities of purchased concentrated feed, or modify the management by converting part of the land to cultivation and raise a larger volume or bulk of feed by the application of labor to the land. The result, in either case, is that the cost of producing wool and mutton has been very greatly increased, and, of course, the cost and price of producing breeding animals has been greatly augmented. Even without the war, sheep prices would have been subject to progressive increase due to the higher cost of production, and we have not yet got to a point, as far as the small average farmer is concerned at least, of regarding the little sheep flock strictly on its commercial merits. It is the main sources of revenue such as grain, beef and butter which are given adequate business scrutiny. Most people, so far as they give the matter any attention at all, generally say that sheep are profitable, but the investment of both money and care in the sheep as part of the farm enterprise is proportionately so small that the interest is not systematically taken account of.

Difficulties of the Ranchman.

Instead of trying to fulfil the very necessary task of bringing sinners to repentance, we might perhaps give some attention to the ones that have already been brought into the fold, and try to give them a little help towards orderly improvement. There is no doubt but that the range business is still the larger part of sheep interest in Alberta, and is still more or less important in Saskatchewan. It is likewise the case that the range business is in the same condition of flux and uncertainty on the breeding side as it has always been. A farmer has practically no problem on the breeding side at all. He is bound to select a mutton breed of sheep because in normal times his returns are almost wholly from mutton, and with his considerable capitalization in land, he wants the quick turnovers which can be secured from rapidly-maturing stock; for example, the ninety-pound lamb produced on milk and grass and without any hand feeding. The English mutton sheep in practically all of the most common breeds up to the number of eight or ten, have all been brought to a state of improvement by selection that leaves little to be desired. If a man wishes to raise pure-bred sheep he buys as good ewes as he can afford and the best rams

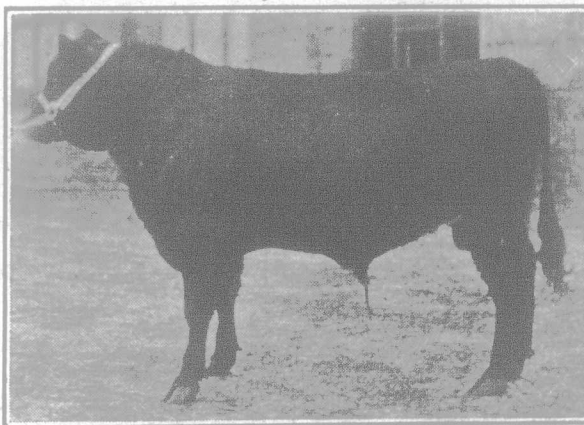


Hereford Character

he can find (because he cannot afford to buy anything else) and keeps on steadily at the business and gives the degree of care necessary to produce well-developed individuals of the breeds. If he goes into grade sheep he does practically the same thing, namely, chooses the breed which he likes best and grades it up to as near perfection as possible through the use of the best sires procurable, and he should not change back and forward from one breed to another, as many, however, do.

Inherent Qualities of the Merino.

With the range man it is different. We have a range breed of sheep just as distinctly and perfectly developed for range conditions as the English sheep is for farm condition. Unfortunately for the Merino, however, his products and services are too restricted for modern needs. The capacity for achievement of people in the temperate climate is held up on a meat diet. These seem to be the elements in the race that are qualified to service. While wool has no adequate substitute, the matter of fineness does not figure as a standard, because the gauge is a gauge of common or general utility. The capacity for meat production, however, is important, both as to quantity and quality. Mutton is not a strong or concentrated type of meat like pork, but is wholesome and easily digested and furnishes variety to diet which is a feature of modern food demand. Consequently, we are not content to let the sheep



Middlebrook Prince 11th.

Champion Angus Bull at Guelph for J. Lowe, Elora, Ont.

specialize on the side of either quantity or quality in wool. In other words, the Merino is up against the problem of adjustment to existing demand. The chief resource it brings is the herding habit. We have no flocks that can be run in such numbers as the Merino. Consequently, so long as we are running range sheep, we must make use of the herding habit of this breed of sheep.

It is not to be said, however, that the contribution of herding qualities is the only thing which the Merino gives us. The heavy shearing qualities and fineness together are resources that can be made good use of in combination with the coarser elements of the mutton breeds, and it is this kind of compromise or combination

of elements that seems to stand for the characteristic solution of the Merino problem of adjustment, and generally of the breeding side of range sheep management.

Continuous Grading Up by Mutton Rams Impracticable.

Range men in Canada have got into possession of a wholly good bank roll without having yet developed any consistency, certainty or systematic practice in breeding whatever. Some years ago they fell for the general popularity of the Shropshire, and Shropshire rams were used in large numbers for crossing with range ewes. Any first cross seems to be good, but crossing of Shropshires, which some perhaps expected to lead to the development of range breeds with good mutton qualities and good fleece protection and perhaps reasonable herding qualities, were disappointed by light bone, light bodies, light fleeces and general loss of constitution, that is, where actual range conditions were followed. If the long wools were used, equally good or better cross-breeds were secured the first time, and no worse the second time, but it is no doubt true that it is impossible to follow any continuous grading-up system towards mutton standard on Merino ewes under open range management.

What is commonly done is to swing backward and forward between mutton rams and fine wool rams. A mutton ram is commonly used for a couple of years and then a switch is made to Rambouillet rams for a couple of years, without particular care in the classification of stock on the ewe side. The only guide is that mutton sheep are used for a while, and that the openness of the fleece is corrected by the use of fine wools again when it appears in a general way that that is desirable.

Crossing and Selection Together.

The systematic breeding of cross-bred sheep has reached a better stage in other range countries than it has in ours. Its advantages are made full use of, and its limitations are recognized. While it is being practiced it is accompanied by selection likewise, in order to preserve relative uniformity in the ewe flock at each stage. For example, a range man starts with a bunch of Merino ewes and a long-wooled ram—Cotswold, Lincoln, Leicester or Romney Marsh. What he gets from this cross are what are called half-breeds, that is, half-bred long wools, as the transformation is ascribed to the ram. This first cross comes more regular in type than the three-quarter-breeds secured by the use of a long-wooled ram on the half-breeds. Judicious selection, however, will probably result in cutting out about 10 per cent. of the half-breeds which fail to show the general characteristics and qualities of the cross. The remaining 90 per cent., being bred to a long-wooled ram again, gives us what is called three-quarter-breeds. Strange to say, these show less uniformity than the half-breeds, and it would probably be necessary to cut out fifteen or twenty per cent. of these, which are off type either towards one side or the other, and somewhat nondescript. It is found to be unsafe to continue what might be called a grading-up process with the long-wooled rams further, and the three-quarter-breeds that are bred back to a Merino ram. This crop is called the Comeback, and it shows still greater tendency to variation, and about 25 per cent. of these have to be cut away to conserve the uniformity of the breeding flock. These Comebacks are then bred to a Merino again. This gives two infusions of each kind of blood to the Merino foundation. The tendency to break up and vary is still greater in these than in any of the previous crosses.

Does Not Develop a Breed.

As said before, the rancher is not particular about different methods of breeding as between half-breeds and three-quarters, and does not recognize the point of limitation that he has reached at the end of the fourth cross anyway. Breeders who follow this regular method of crossing and selection usually consider it profitable and desirable not to use long-wooled rams again; for example, because the regularity of the cross-breeds breaks up badly and disappears on its fifth cross, and they use these sheep to breed with black-faced rams such as Oxford, Hampshire, Shropshire, and then market the whole bunch of ewes and lambs together. This method has some semblance to a system, and has already been demonstrated as satisfactory practice, though it can only be called cross-breeding even if it is systematic and entails the practice of always beginning with pure Merinos and pure long-wools, and exercising such details of breeding as are indicated by the various crosses spoken of.

A Range Breed.

The next matter to be considered is that of the development and use of a type of sheep for the range which has a good combination of size and mutton on one hand, and herding qualities and good wool production along with these. This has virtually been attained in