able degree with scours, much more so than when corn-stover, hay or cane is fed with it. These cattle were off feed several times, and in consequence they consumed less and made a smaller daily gain than the medium-fed cattle. The average daily consumption of grain and hay was but 26.5 lbs., as compared with 30.7 lbs. for the medium-fed group and 29.2 lbs. for the light-fed group. The records showed that with good alfalfa hay remarkably good gains may be made on twelve pounds of corn and all the alfalfa that the steers will eat.

From the results of this series of experiments it is indicated that when corn is above 35 cents per bushel, and alfalfa is worth $7.00 per ton at the barn, the old method of fattening cattle for market, namely, that of crowding with grain and using but little roughage, is much less profitable than a more moderate use of grain and correspondingly more roughage. Not to exceed three-fourths of a full feed of corn (or other grain), and a correspondingly larger quantity of alfalfa, will give practically the same daily gains; the cattle will take on quite as good a finish during an equal length of time, and will bring as much per pound as when given all the corn they will consume, and these things will be accomplished at a reduced cost of production, with larger profits to the feeder. With a good quality of alfalfa at $6.00 per ton or less, and corn above 50 cents per bushel, something approaching half a full feed of corn is still more profitable, if the feeder is in a position to keep the cattle a month or two longer than the usual time on a full grain ration (that is, all the grain they will eat). Lengthening the feeding period increases to some extent the interest charges on the money invested and the labor connected with the feeding operations, but with the more liberal use of alfalfa the manure is more valuable and a larger market is provided at the farm for a hay crop, which is profitable to grow. Allowing $1.50 per ton for harvesting the alfalfa, a field yielding four tons to the acre (not by any means an impossible yield), would give a net revenue of $18 per acre, valuing the alfalfa at only $6.00 per ton (a very low value), which is six per cent. interest on $300 per acre.

From the results of this series of experiments it would seem advisable to make a larger use of roughage and less grain than has been done in the past. Former experiments also show the advisability of feeding with alfalfa some cornstalks to lessen scours, to furnish variety and to lower the cost of production by the utilization of a cheap feed.

These experiments were carried on with stover and with corn as the grain feed. Silage is just as good, and in many cases much better, feed than corn-stover, and the other grains fed in this country take the place of the shelled corn, which forms the greater part of the grain ration where these experiments were carried out. It is safe to say that with good silage or corn-stover and good alfalfa or red-clover hay beef may be produced with a minimum of grain, and maximum returns made. It may be found profitable to add a few roots to the ration, but the point is, an abundance of well-balanced roughage is more economical in beef production than a maximum grain ration and little roughage.

Our Scottish Letter.

Neither England nor Ireland has as yet got quite clear of foot-and-mouth disease. Scotland still remains immune, and for four years we have had no contagious disease of any kind among our cattle. This result is all the more remarkable in view of the fact that the two English counties which have been worst hit by the imported disease from Ireland have been Northumberland and Cumberland. The latter seems, happily, to have got quite rid of it, no outbreak having been reported there for several months. Northumberland has not been so fortunate, and indeed the men qf the northeast of England have good cause to cherish anything but kindly sentiments towards their Irish neighbors. They have been by far the worst hit, and to make their lot more bitter, three prominent flockmasters who hold land on both sides of the Cheviots have been fined for removing their sheep from the Northumberland side to the Roxburgh side. They were up against a very stiff proposition. Their grass on the English side was very bare and the stock were starving; on the Scottish side their pastures were going to waste because there were not enough stock to eat it. Their farms on the English side are 20 miles from the scene of the outbreak, but they had to conform to the Local Authority's orders. They were in a very tight place and endeavored to get out of it in the simplest way possible. They brought the sheep to the pasture and were fined for their pains. Probably this paid them better than starving the sheep while the pasture was wasting. Irishmen are making a deal of noise, and have wrung some concessions from the Board of Agriculture and Fisheries, but if they had to suffer as the flockmasters in question, they would very quickly change their tune. As things are at the moment, Mr. Runciman, the President of the Board, has allowed store cattle from immune districts in Ireland to be landed at five specified ports in England, but not unconditionally, and he has also promised to secure liberty to ship pedigree stock from Scots ports to places abroad. How he ex-

Shoulder of Mutton.

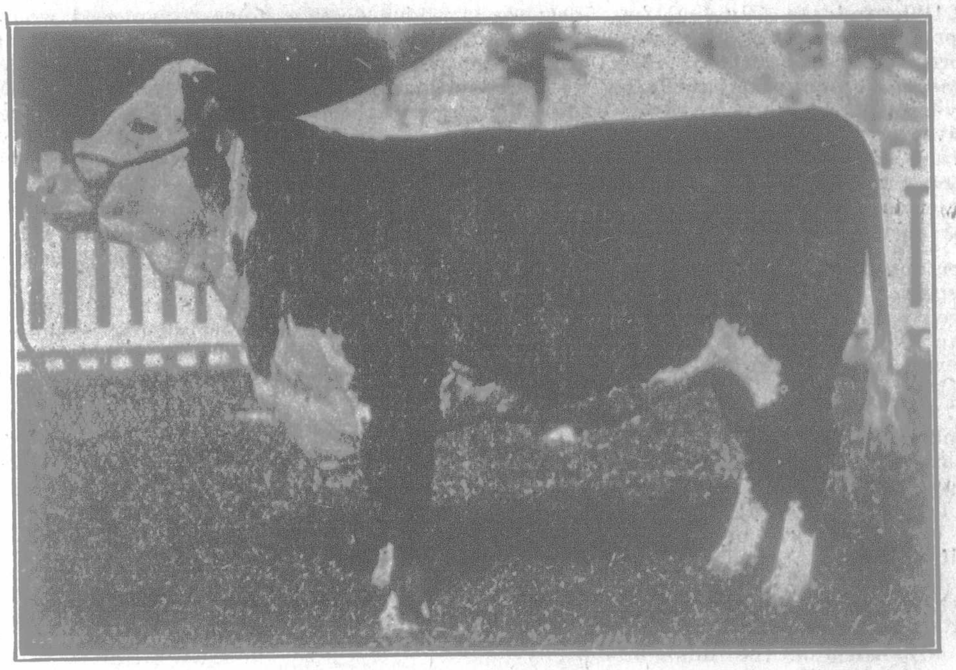
pects to harmonize the two positions is not quite apparent, but doubtless he will pull through. What he has done is a bit risky. Its success will be its justification, but its failure may spell ruin to many things, including Mr. Runciman's reputation as an administrator. For sheer intellectual force he is the ablest President of the Board of Agriculture and Fisheries since the office was created.

MR. TAYLOR VINDICATED.

The past fortnight has demonstrated the marvellous buoyancy of British stock-breeding, even under the shadow of the foot-and-mouth disaster. We have had a series of sales of Shorthorn cattle, which have illustrated in a truly marvellous degree the vitality of that interest. Through the lamented death of its owner and founder, George Taylor, Cranford, Middlesex, his celebrated herd of dairy Shorthorns was brought to the hammer in the closing days of September by John Thornton & Co., London, and the wonderful result was obtained of an average of £82.17.3 for 187 head of all ages, shown in ordinary condition right out of the fields. Mr. Taylor had no children, and left instructions just before he died that everything was to be sold off, in the interests of Mrs. Taylor, before the 29th September. The instructions were hurriedly carried out, with the amazing result just indicated. Some very high prices were recorded. The top figure was £525 paid by Sir Gilbert Greenall, Bart., for the fine cow Waterloo Baroness. Her heifer calf was bought by an Irish gentleman at £168. Two cows of the famous Darlington Cranford tribe were bought by the Duke of Devonshire at £262 10s. each. Wild Eyebright V. made £210, and there were other cows at the same figure. Others made £205 5s. and £157 10s. each. It was altogether the most successful sale of Shorthorns of the Bates type, and largely of Bates breeding, sold in Great Britain since the collapse of the Shorthorn boom after the Dunmore dispersion in 1879. Its secret lay in the fact that for years Mr. Taylor had labored to build up a herd of pedigree Shorthorns in harmony with accurately-kept milk records. The prices recorded at Cranford were not merely the prices of well-bred cattle; they were the prices of milk-record pedigree Shorthorns. While he was prosecuting his scheme, the late Mr. Taylor was sometimes laughed at, but the results of the dispersion show him to have been no idle dreamer, but a man with a well-founded rational idea as to what might be done to retain the dairying properties of the Shorthorns recorded in Coates' Herd Book. Unhappily, Mr. Taylor's vindication came too late to be enjoyed by himself, but it is none the less conclusive.

OTHER SHORTHORN SALES.

In our judgment, the sanest pedigree record in Christendom is Coates' Herd Book of Shorthorn Cattle. Within its four corners there is room for the Cranford dairy Shorthorns, with their milk records, and the Aberdeenshire Cruickshank cattle, avowedly bred for the production of beef, with a minimum regard for fancy points. Amos Cruickshank bred commercial cattle on pedigree lines, and this week we have seen those who followed in his footsteps, reaping a nice reward. At the Collynie sale of William Duthie's bull calves on Tuesday an average of £377.8.7 for 24 was recorded, and one calf, Collynie Cupbearer, was sold at £2,100, to E. N. Casares, for exportation to the Argentine. Another, named Collynie Golden King, went at £1,050; and a third, Collynie King Royal, at £997 10s. The sire of the highest-priced calf was the Missie bull, Merry Stamp, bred in the north of Ireland, by the late Sir H. H. Smiley, Bart., and now owned by James Coly, Larne, from whom Mr. Durno hired him for two seasons with an interval between. Six bull calves got by him made an average of £562.5.6 on Tuesday. The most successful sire used at Collynie in recent years, however, has been Adbolton Regal King, a richly-colored, dark roan, with a deal of Bates' blood in his veins, and bred by A. W. Hickling, Adbolton, Nottingham, from whom Mr. Durno hired him for one season. As a result, on Tuesday, 13 bull calves after him were sold at an average of £385. 15.1, and we understand there are at Collynie something like quite as many heifer calves of the very first rank which claim him as their sire. Adbolton Regal King was to a large extent impregnated with Bates' blood. His sire, King Christian of Denmark, was a very fine, stylish bull, which Mr. Hickling bought at the Ruddington Hall dispersion. He has certainly made a splendid cross with the Cruickshank cows, which constitute so large a proportion of the Collynie herd. Mr. Duthie's own stock bull at present is Stravan Clarion, for which he paid a very long price at a Birmingham sale. He sold four bull calves off this sire on Tuesday at an average of £62.9.6, and one heifer calf at £378. John Marr, who now occupies the famous farm of Uppermill which adjoins Mr. Duthie's farms, has a very fine collection of cows. His main stock bull is the home-bred Royal Leader, a sire with perhaps the best dam of any. He sold eleven bull calves off this sire at £53.1.5, and six heifer calves off another bull named Newton Clipper at £55.2.6. At



Miss Brae 38th.

First-prize junior yearling and grand champion Hereford heifer, Toronto, 1912. Owned by L. O. Clifford, Oshawa, Ont.