

printed tag attached to the package. The Act defines a commercial feeding stuff as "Any article offered for sale for the feeding of domestic animals, and feeds claimed to possess medicinal as well as nutritive properties, excepting only hay and straw, roots, the whole seeds, or the mixed or unmixed meals made directly from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat or flaxseed; wet brewers' grains; the bran or middlings from either wheat, rye, oats, peas or buckwheat, sold separately and not mixed with other substances." To avoid unnecessarily hampering the trade in staple commercial products, the common well-known articles, such as the whole seeds, or the mixed or unmixed meals, from these certain grains were exempted.

However, to check such frauds as mixing of the oat hulls with wheat bran, and the adulteration of meal from mixed grains, it was decided to deal with the adulteration of these products under section 26 of the Adulteration Act. With the object of determining a fair standard composition, remarked Prof. R. Harcourt, in his paper before the Western Ontario Dairymen's Convention, the Chemist of the Inland Revenue Department, at Ottawa, collected and analyzed 541 samples of bran, middlings and chop-feed, or moulee! The results are given in Bulletin 191 of the Inland Revenue Department. To show the variation in composition found in these products, Prof. Harcourt quoted these figures, which give the extreme and average results of the analyses:

Bran—148 samples analyzed:

|                  | Maximum. | Minimum. | Mean. |
|------------------|----------|----------|-------|
| Fat .....        | 9.52     | 1.42     | 3.92  |
| Proteids ..      | 17.56    | 11.81    | 14.67 |
| Crude Fibre ..   | 13.20    | 3.96     | 9.26  |
| Ash .....        | 7.16     | 3.16     | 5.53  |
| Carbohydrates .. | 64.25    | 50.06    | 56.01 |

Shorts or middlings, 258 samples analyzed:

|                  | Maximum. | Minimum. | Mean. |
|------------------|----------|----------|-------|
| Fat .....        | 6.88     | 0.95     | 4.04  |
| Proteids ..      | 18.93    | 10.00    | 15.25 |
| Crude Fibre ..   | 12.15    | 0.22     | 5.63  |
| Ash .....        | 5.74     | 0.88     | 3.63  |
| Carbohydrates .. | 74.18    | 51.04    | 60.55 |

Chop-feeds—135 samples analyzed:

|                  | Maximum. | Minimum. | Mean. |
|------------------|----------|----------|-------|
| Fat .....        | 11.75    | 0.87     | 3.09  |
| Proteids ..      | 16.19    | 6.63     | 10.70 |
| Crude Fibre ..   | 25.80    | 1.21     | 8.69  |
| Ash .....        | 7.64     | 1.04     | 3.24  |
| Carbohydrates .. | 74.59    | 47.89    | 64.45 |

There is nothing to hinder the manufacturer of these products guaranteeing their composition, as required for other foods in the Commercial Feeding Stuffs Act. In fact, the Chief Chemist strongly recommends the manufacturer of chop feeds—i. e., feeds made from mixed or unmixed grains, ground or unground, to register such feeds and sell them under a definite guarantee.

In case bran, shorts and chop-feed are sold or offered for sale without a registration number, and without a special guarantee from the manufacturer or agent, the Chief Chemist recommends that the following limits be made legal:

|              | Crude Protein<br>(Not less<br>than) | Crude Fat<br>(Not less<br>than) | Crude Fibre<br>(Not more<br>than) |
|--------------|-------------------------------------|---------------------------------|-----------------------------------|
| Bran .....   | 14.                                 | 3.                              | 10.                               |
| Shorts ..... | 15.                                 | 4.                              | 8.                                |
| Chop-feed .. | 10.                                 | 2.                              | 10.                               |

With reference to the above standards, it is important that the three constituents be considered. Recently, a sample of bran was sent in for examination which was found to contain more than the standard amount of protein and fat, and could not be considered adulterated, if these were the only constituents considered; but, it also contained about 15 per cent. of crude fibre, which was one-half more than the standard allows. It is in this constituent that the addition of oat hulls would be most readily detected. It is expected that the adulteration of bran may be controlled in this way, without requiring the guaranteed analysis to be stamped on the bag.

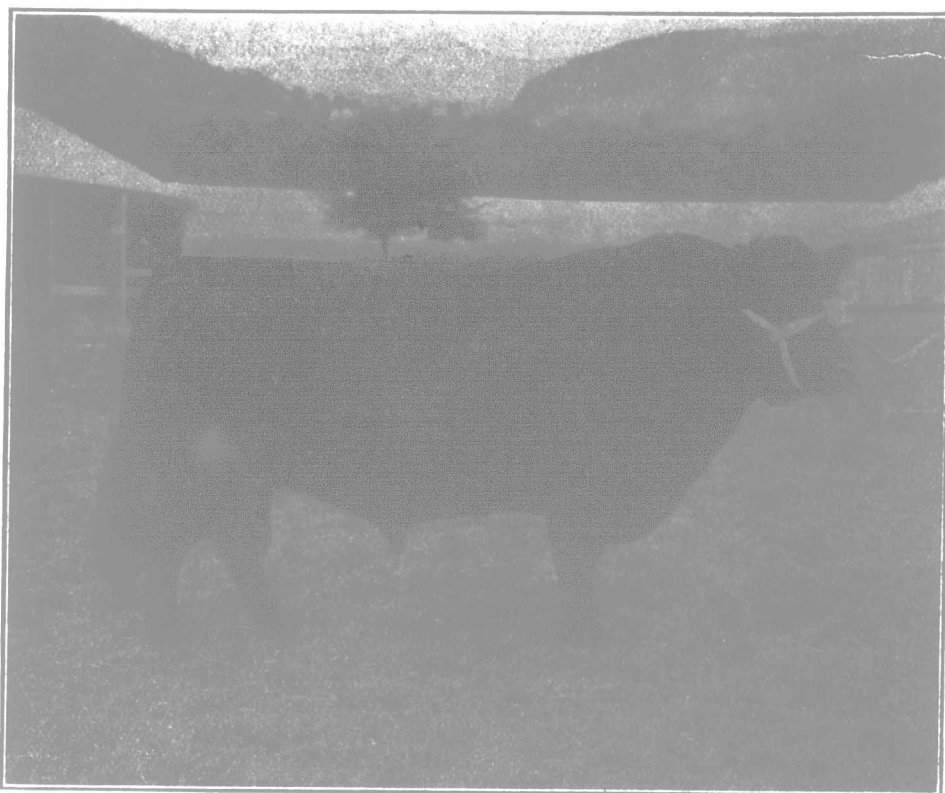
The Commercial Feeding Stuffs Act ought to be decidedly beneficial in three ways:

1. It will protect the stock-feeder against low-grade and mixed by-products which he is not familiar with.
2. It will protect the manufacturer and dealer against dishonest competition.
3. It will promote a more intelligent use of the mill by-products, and thus directly help to bring about a more economic use of all feeding stuffs. There are some in the market that are dear at any price; others are good value at the prices asked.

It is to be hoped that farmers, dairymen, and all feeders of live stock will make themselves familiar with the terms of the Act, and so study

the composition and price of the feeds offered for sale that they will be able to make the best possible use of these in supplementing the home-grown roughage in producing economic gain, whether for growth, or fattening, or for milk production.

A member in the audience was informed that it has been a custom, in some cases, to adulterate bran with ground Western screenings, and inquired whether this form of adulteration would come under the Act. Prof. Harcourt was not prepared to reply what ruling the officers might make on this point, but thought that if the screenings were brought in separately, and then mixed with the bran, it would.



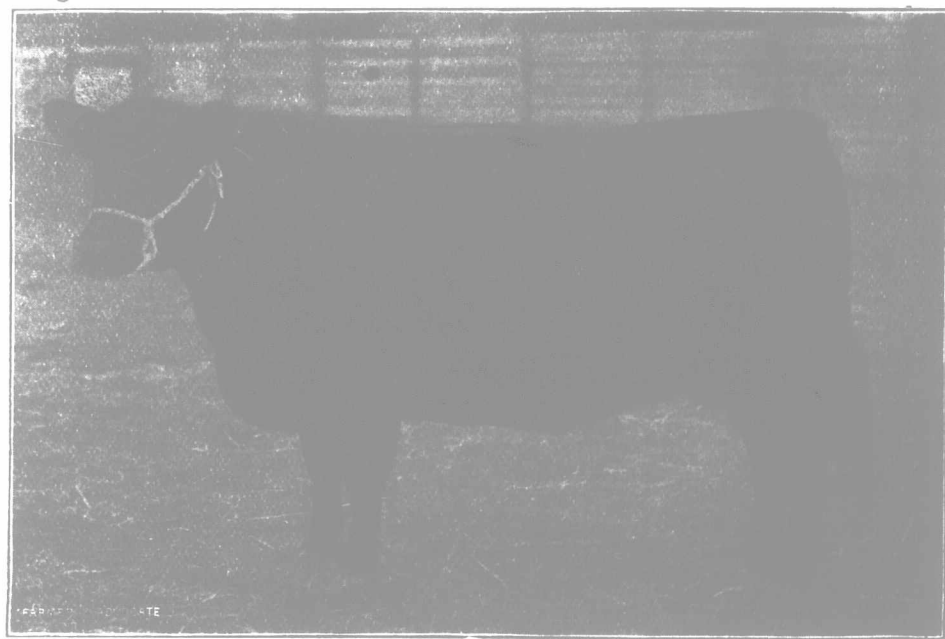
Galloway Bull.

A Highland Society champion.

Note that the Act prohibits the mixing, say, of corn and wheat brans, unless stamped and sold for whatever the mixture may be.

Incidentally, Prof. Harcourt strongly emphasized the feeding value of alfalfa, which no dairy farm should be without a patch of. No fodder crop, except, perhaps, corn, yields so well of good feed, fresh and green, throughout the season, and its protein content is very high.

Frosted wheat is rather higher in protein content than normally-ripened wheat. The proteid framework of the grain is the first to be constructed, and it is then filled with starch.



A Typical Galloway Cow.

Western spring-wheat bran is probably slightly higher in digestible protein than the bran of Ontario fall wheats.

Wheat bran should contain not less than 14 per cent. of crude protein, but samples have been analyzed that went as low as 3 per cent.

Well-matured silage is superior to rape or anything I have tried for fattening steers. However, where it shines is for feeding milch cows.—[R. D. Nodwell, Wellington Co., Ont.]

## Galloway Cattle.

By David McCrae.

The district known as Galloway is in the south-west of Scotland, and now comprises Kirkcudbright and Wigtonshire. The hardy, hornless breed of beef cattle known as Galloways take their name from this district. For many centuries they have been bred in considerable numbers on the uplands and rough pasturage of the district. The true Galloway is a hardy, well-shaped, profitable beef animal, the body long, deep and round; the back straight and broad; leg short and stout; foot large; the coat of hair shaggy and black, with often a brownish tinge.

Of all the hornless breeds, it has the oldest record, and they can be fed and handled like a flock of sheep, when carefully and kindly treated. Much has been written about the origin of polled cattle; scientists have claimed one or other of the wild breeds as their progenitors. How or when the first were domesticated, is unknown, whether or not Jabal, the father of such as have cattle, had polled cows amongst his first flock, is not known, but it is known that polled cattle were described by Herodotus, who wrote over 2,300 years ago. Herodotus says that the domestic cattle of the Scythians were without horns. Galloway was early inhabited by the Picts, and Bede, one of the earliest English historians, known as the Venerable Bede, says: "The nation of Picts, coming (as reported) out of Scythia," what more

likely than that from Scythia they brought their hornless cattle, and that these were the progenitors of the modern Galloway breed? Long before the union between England and Scotland considerable numbers of Galloway cattle were taken south to be fattened on the richer pastures of England. Their beef, of excellent quality, mottled and marbled, the fat and lean intermixed, gave them a famous name in the old days. In 1723, the author of "A Journey Through Scotland" says he saw a thousand bullocks grazing in preparation for the markets in Norfolk and Suffolk. Dairying and cheesemaking

have invaded the old home of the Galloway, and it would now be hard to find a flock of a thousand in that section. They are still in the front of good beef-producers, and at Smithfield have taken a good place in that great show.

A considerable importation of Galloways was made in 1853 by Messrs. Graham, of Vaughan, York Co., near Toronto. Records were not kept by the Board of Agriculture till 1872. The descendants of that first importation are still numerous, and good enough to win yet in our larger shows. Geo. Miller, Markham; John Snell, Edmonton, Ont. (now Snelgrove); Wm. Hood and Thomas McCrae, of Guelph, were also

early and extensive breeders. The latter made many importations, and so far-reaching were his sales that, at the recent sale at the International Show, in Chicago, 1909, every animal but one in the sale traced to stock at one time in this Canadian herd.

In 1871, M. Smith and R. B. Caruss, of Michigan, came to Canada and purchased herds of Galloways. Shortly after, Peter Davy, of Wisconsin; M. R. Platt and A. B. Matthews, of Kansas City, and J. McHardy, of Emporia, Kansas, brought herds, and the descendants of these animals are now widely scattered over many of the United