

"for sale in this province. These, as you may know, are largely imported, and bring a fairly high price."

Bulletin No. 116 of this Laboratory contains the results of analysis of 127 samples of feeds. This examination was made at the suggestion of the Department of Agriculture and the Ontario Agricultural College, and indicates that a suspicion concerning the value of these feeds is not confined to the province of Nova Scotia.

As already stated in the memorandum above quoted, a wide-spread demand for inspection of feeding stuffs has caused the enactment of laws in this regard in many of the States of the American Union.

These laws require that concentrated feeding stuffs offered for sale shall be registered, and their value in protein and fat, distinctly stated upon the package. Most of the laws in question, exempt from license the following classes of feeds :—

1. Hay and straw.
2. Whole seeds or unmixed meals made directly from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat and broom corn.
3. Wheat bran and wheat middlings not mixed with other substances.
4. Wheat bran and wheat middlings mixed together, but not mixed with other substances.
5. Pure grains ground together, unmixed with other substances.

The Kentucky law (1906) exempts nothing from legal registration and inspection, except hay and straw.

This seems to me the more rational mode of proceeding. Hay and straw are the normal feeds for cattle. They are capable of being accurately valued by direct examination on the part of purchasers. The term "concentrated" applied to a feed, means that it contains nutritive material in a more concentrated form than hay and straw; and the necessity for inspection lies in the fact that the actual value of these feeds is not capable of being determined by ordinary observation on the part of a purchaser.

Even such well known feeds as bran, middlings, shorts, chop-stuff (*moulée*), &c., differ very greatly in value among themselves, as may be seen from the tabulated results of analysis, in this report.

A practicable way of meeting the case would seem to be the adoption of certain minimum standards for protein, fat and carbohydrates in bran, middlings and shorts, and such other recognized feeds as possess distinctive names. Perhaps it might be necessary to distinguish wheat bran from oat bran, and so for other grains; but this is a matter for consideration. In all cases of mixed feeds, the manufacturer should be required to state either or both the composition of the feed, and the value in percentage of protein, fat and carbohydrates, the last term being understood to mean the difference between the sum of moisture, ash, protein, fat and fibre, and the total weight of the material. In this way it will include starch, sugar and pentosans, which last usually constitute about 10 to 15 per cent. of the whole, and have probably a less nutritive value than starch and sugar; although this value is not as yet well known.

If my view of this matter is correct, it will be necessary in the first instance, to define the terms bran, shorts, middlings, chop-feeds, oil-cake, &c., and to insist upon all other feeds being identified by registration numbers, and offered for sale under a guaranteed value in protein, fat and carbohydrates. Of course it would remain open to any miller who preferred doing so, to register a special grade of bran, shorts or chop-feed, and to guarantee for it a minimum value in nutritive matter; but the terms bran, shorts, &c., should themselves be so defined as to fix a minimum value for material sold under these names.