

INTRODUCTION.

The purpose of this bulletin is to supply to the farmer, as simply and directly as may be possible, information as to the nature, composition and nutritive qualities of the more important feeds found on the market. This information is largely based on the analyses of numerous samples of these materials submitted to examination in the chemical laboratories of the Dominion Experimental Farms during the past three or four years.

One of the chief means by which the farmer and dairyman in these days may expect to make his work more profitable is by judiciously buying the feeding stuffs he needs to supplement the home-grown fodders. Directly or indirectly, prices of milling and industrial by-products of feeding value have reached figures hitherto unknown in the Dominion and there is no immediate prospect of their reduction. Further, while many of the well known feeds have been kept up to their standard quality there have appeared upon the market not a few that are exceedingly poor, some practically worthless, and these are sold at prices little if anything below those of feeds far superior in nutritive value. Under these conditions the economical purchasing of concentrates has become a problem of no small importance, one that it well repays to study closely, and especially will this be true on farms requiring large amounts of bought feed. More than ever before, the farmer must study not merely the relative prices of the various feeds upon the market, but also their composition, especially as to their percentages of protein, fat and fibre. Price is not invariably and inevitably an indication of nutritive value. This we have repeatedly shown, and the farmer must endeavour to correlate price with composition before making his selection. If in this he needs assistance, we shall be glad to advise, provided he can furnish the necessary information as to prices and the quality of the feeds he has under consideration.

And in this connection we must point out that he should insist on the vendor furnishing a guarantee as to protein, fat and fibre content for such products as the Commercial Feeding Stuff Act provides are to be sold under guarantee. The farmer should bear in mind that, altogether apart from the matter of wilful adulteration or imposition, many of the by-products are put upon the market in several grades and it is not sufficient to order, say, cotton seed meal, gluten feed, dried distiller's grains and many similar high priced concentrates, without first ascertaining whether the price asked be in accordance with the grade or quality.

While the composition of a feed as determined by analysis is all-important towards the establishment of its feeding value, the fact must not be overlooked that palatability is a quality which may markedly influence a feed's usefulness. Unfortunately it is not always possible to ascertain by chemical means whether a feed will prove acceptable to stock; the presence in a meal of finely ground weed seeds, many of which are bitter to the taste, may not be detectable by analysis. Palatability and wholesomeness are attributes that can be ascertained only by actual feeding trials.

The value of a feeding stuff depends on its composition and on the digestibility of its nutrients. All feeding stuffs are composed of the same constituents (known as nutrients), but they differ widely in their value to the animal from the fact that the proportions and the digestibility of these constituents vary greatly. These constituents are: moisture, protein, fat, carbohydrates, fibre, ash. We shall not here attempt any complete account of these nutrients, but merely emphasize one or two points in connection therewith, which will enable the farmer to purchase his feeds to the best advantage.

NUTRIENTS.

PROTEIN.—This constitutes the nitrogenous portion of the feed. Its chief function in the animal is the formation of body tissues and fluids—muscle, blood and milk.