feeds. The cotton seed meal, as will be shown, is a very concentrated food, while the amount of protein in corn, bran, and such substances is very low. Protein is the most expensive component of a feeding stuff and as has been stated, a considerable amount of it is absolutely indispensible to growth.

Hay, ensilage, corn, and roots, raised on the farm form the basis, and make up the bulk of the food for live stock, and supply all the starch, sugars, and fat required. They are, however, deficient in digestible protein, and if the quantity of digestible protein in a food is too small the animals produce less beef or milk than they would with a proper supply of protein. Furthermore, when protein is deficient the other food components (starch, fat, etc.) of the ration are in excess of the animal's capacity for assimilating them, and are, therefore, to some extent wasted. These, in part, pass out of the body, incompletely digested, and, unlike protein, give little value to the manure. In purchasing by-products or commercial feeds to supplement farm-grown crops, the keepers of live stock should bear in mind that the value of the food depends to a large extent on the quantity of digestible protein which it contains.

The tables referred to will aid in the selection of food of highest nutritive value. It must be remembered, however, that the tables give the total amounts of nutrients found by chemical analysis in the different feeding-stuffs, while only that portion of the food which is digested is of direct use to the animal.

The processes of digestion in the case of ruminant animals are carried on somewhat as follows: The food is taken into the mouth, where it is masticated and mixed with saliva, a secretion of the glands of the mouth. The saliva acts feebly upon the starch of the food converting portions of it to sugar. The masticated food then passes through the gullet to the stomach, where it is subjected to the action of the gastric juice. From the stomach the undigested food passes through the pyloric orifice into the intestines, where it is further acted upon by the pancreatic secretion, and portions of the starch, protein, and other components of the food are dissolved or emulsified. The dissolved nutrients are absorbed from the alimentary canal, and, in the form of chyle, pass into the blood, and finally serve to nourish and sustain the body. This portion is said to be digested and assimilated, and from it alone the animal is nourished.

The digestibility of different foods, however, varies markedly; and, moreover, the digestibility of the same food varies under different conditions. But under average conditions the digestibilty of the commoner foods has been roughly determined, and the practical feeder must make a study of such data before the figures giving the composition of different foods can be of much use to him. He should also investigate the whole question of digestibility in an independent manner, so as to be prepared to judge wisely in any given case.

We give the results of our analysis, with brief comment thereon :