

and the other is deficient in quantity, yet each class of substances is utilized to the best advantage, and most profitably, when required to perform only certain functions that properly belong to it. For instance, the costly albuminoids have certain important functions to perform, and, while nothing can take their place, they can serve the same purpose as the starch and sugar do, and they will be consumed in doing the work of the cheaper materials, if called upon to do so by reason of an insufficient supply thereof. If, by an injudicious system of feeding, you give your cows two pounds of nitrogenous substances with every six of non-nitrogenous, only about one pound of the former would be utilized by the animal for the proper purpose, while the other pound would go to make up for the deficiency of non-nitrogenous nutritive matters, and your system of feeding would not be an economical one, because you could have supplied another six pounds of non-nitrogenous materials, at less than the cost of one pound of albuminoids that was thus wastefully used for an unsuitable purpose. Again, supposing that for every pound of nitrogenous matter in the dried fodder of each animal there are ten pounds of non-nitrogenous; there are two or three pounds more of the latter than can be utilized, with the amount of nitrogenous material supplied at the same time; this excess cannot be converted into albuminoids; such a transformation is utterly out of the question. What can be done with it by the animal? She can use a part of it to make fat, but a part will be apt to pass off, unused at all in the excrements. What goes into fat on the animal's carcass is, to be sure, not a total loss; but you are feeding the animal for the production of milk and not for the butcher; and, in that case, a system of feeding which results in less milk and more fat, is not so economical as one which, while it keeps the cow in a good condition, gets the largest possible yield of good milk for the cost of keeping it. The non-nitrogenous matter that goes into the manure, although it may go back on the land again, is yet as good as a total loss; it adds but a mere trifle to the value of the manure, for it contains neither of the three substances, phosphoric acid, potash or nitrogen, that render a manure

valuable. There is no trouble and expense in storing material, and storing it is no trouble of carrying it to the manure pile; it goes back to the field.

To make you acquainted with your own system, obtain amount of each substance there is the right substance to give in large proportions nutritive substances rich in sugar and fat. With a knowledge of its chemical composition, the different animal economies, nothing is wasted, this to a certain extent, proximately materials with somewhat better able to fail with.

But in order to send every year, of the various same, when clover hay and crop is treated with oats, corn, etc., analysed, and Crops Grow tables, showing materials which