

FEEDS AND FEEDING FOR DAIRY STOCK.

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THE SCIENCE OF FEEDING.

RESEARCH, particularly the work of Kellner, among other scientists, has taught us many facts about the mammary gland of the cow, of which milk is the product, especially as to the behaviour of the gland during certain portions of the lactation period and under the action of particular foods or their elements. Research has also taught us the important fact that the food can only exert an influence upon the quantity and quality of the milk within the range of development and productiveness of this organ. In other words, the power of the mammary gland to secrete much or little rich or poor milk is hereditary, and the effectiveness of the food for milk-production is regulated by this inherent factor. How important, then, is the testing of the individual, irrespective of the breed, so that the maximum results may be obtained from the food fed and the management exercised! Kellner in particular makes mention of the fact that the individuality and breed of the animal and the condition of the mammary gland as influenced by the period of lactation have the greatest effect upon the milk-yield. He stresses the fact that the food, along with other factors, plays a less important part, and that it only exerts an influence within the *capacity* of the mammary gland. It is, he declares, upon the food, however, that the *efficiency* of this gland very largely depends.

The mammary gland is most active shortly after the birth of the calf, and it is then, we are informed, that the greatest latitude is left for the action of the food. Later, when the gland from natural causes loses more and more of its activity, the most liberal feeding cannot maintain the milk-yield at its former high level. Too much food in the second half of the lactation period, therefore, causes the deposition of fat, states the authority, and when the mammary gland is fat its capacity is reduced. This fact would point to the advisability of apportioning supplementary feed, fed because of declining pasture, so that the greedy animals will not get too much and thus not tend to develop fatty mammary glands as the lactation period advances. Liberal feeding of the cow during the first half of the lactation period is therefore