

RECENT INVESTIGATIONS

Conducted by "ENQUIRER."

Effect of Food on Milk.

The New Hampshire Experiment Station reports the results of feeding cows different kinds of oils. The tendency seemed to be to slightly increase the per cent. of fat in the cow's milk when the oil was first added to the ration; but the increased fat content was not retained, and the per cent. of fat soon returned to the normal. The bulletin concludes: "That the composition of a cow's milk is determined by the individuality of the cow, and that, although the unusual food may disturb, for a time, the composition of the milk, its effect is not continuous."

Cream Ripening with *Bacillus* No. 41.

Prof. H. W. Conn obtained from milk coming from Uruguay an organism which has a remarkable effect on butter. It is called "*Bacillus* No. 41." Cultivations have been used in more than 100 creameries with very favorable results on the butter, the quality and buttery flavor (grass flavor) of which is improved in the summer, and produced also in the winter. The influence of the cultures on cream seems to increase until the third or fourth week, when it rapidly deteriorates, and a new culture must be used. "*Bacillus* No. 41" is not only remarkable for producing the desired aroma and augmenting the quality of butter, but it actually destroys many injurious organisms which chance to be in the cream. It does not necessarily sour the cream, and no previous treatment of the cream is needed to obtain good results.

Application of Farmyard Manure.

Bulletin 21 of the New Hampshire Experiment Station gives a summary of results obtained from experiments in modes of applying manure. The following conclusions are drawn:

"Manure applied in the fall to the surface, either of plowed or grass land, will, by the action of frost and rain, become so thoroughly pulverized and distributed through the soil

that it acts more quickly, and is in better condition for plants to assimilate than the same manure would be if applied in the spring.

"The loss from evaporation and drainage, when manure is thus applied in the fall (unless the surface of the soil is very steep), will probably be much less than the loss resulting from fermentation if the manure is allowed to accumulate in cellars, or the washing, if left in open yards.

"On most soils, and for most crops, surface application is better than plowing in, especially if the manure is applied in the fall. In any case, it is a safe rule to keep the manure as near the surface as possible, and to have it as thoroughly mixed with the seed bed as can be done. This carries with it the necessity of using only such bedding and absorbents as are, of themselves, fine or easily pulverized."

It is also concluded that it is not profitable to use more than from five to seven cords of manure per acre for ordinary field crops.

The same bulletin also treats of experiments with commercial fertilizers, and the author concludes that, frequently, the unsatisfactory returns from commercial fertilizers are due to the fact that many such fertilizers contain the elements of plant food in unsuitable proportions. It is stated that chemicals, properly mixed and used, will give as good results as farmyard manure.

Corn Silage.

Bulletin 40, of the Minnesota Station, reports experiments in feeding silage from flint, sweet, southern, and dent corn. The following is the author's summary:

"(1) A hundred pounds of dry matter in either dent, sweet, or southern ensilage corn silage proved nearly of equal value for producing milk and butter in these trials, though the advantage in all cases was slightly in favor of the silage from dent corn. This corn bore a fair crop of ears.

"(2) Flint-corn silage did not prove as good, in this one trial, for producing milk and butter, as dent-corn silage.

"(3) Cattle did not seem to relish silage of flint corn as well as silage of the other three classes of corn.