

CHAPTER II

YEAST—BACTERIUM—FERMENTATION

Although this more theoretical than practical chapter may appear of a rather abstract nature, the numerous inquiries received from a certain number of farmers and housewives interested in home canning and desirous to obtain information as to the cause of their repeated failures in the packing of fruits, vegetables and meats, have induced me to insert in this bulletin a brief account of the development of these invisible organized beings, which are the only cause of decomposition of vegetable and animal substances, and of the practical means at our disposal to fight same in an efficient manner.

These few notions will only serve to make the lectors better understand the "why" of each operation in the different processes that will follow.

Bacteria and yeasts exist in the air, in the ground, on all animal or vegetable substances and even in the living organism.

But, in spite of the universal existence of these infinitely small beings, the exact knowledge of their nature and structure is hardly forty years old.

There is a great number of varieties of these micro-organisms: some are harmful, others,—the majority—are serviceable.

Yeast

The yeast is composed of only one cell. Its mode of reproduction consists in the development of a bud on the surface of the cell, which breaks after some time to give birth to another plant similar to the first one.

Bacterium

The bacterium spreads more rapidly than the yeast and its mode of reproduction is also different of the former.

As the yeast, it is formed of only one cell invisible to the naked eye and which can only be studied with the help of a microscope.

This cell contracts itself, divides and gives birth to another similar cell. Its mode of multiplication is accordingly simple and rapid.

Bacteriologists have esteemed that a single bacterium can produce, within 24 hours, 17 millions of similar organisms, if all the favorable conditions of dampness, heat and proper nourishing surrounding are combined.