Grain Growth and Its Morphological Changes in Improving the Technology of Alcohol Malt Production

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Physiological and biochemical changes during the growth period of grain planted in the ground also occur in artificially grown grain. from environment to active life. The flour-like state of the reserve substances breaks down with the consumption of water and is easily attacked by enzymes. During cultivation, the consumption of nutrients increases. At the beginning, for consumption, substances that are quickly soluble in water and easily digestible are used, which are in small quantities in the murkat. Murtak consumes water-soluble substances, and then feeds on substances contained in grain.[1-10]

Under the influence of high molecular substances - starch, protein, organic phosphates, fats and other enzymes, the murka turns into quickly digestible substances.

Low molecular weight products decompose; absorbed by the fungus, partly used for respiration and partly for the clean synthesis of high molecular weight compounds in leaves and stems.

The energy required to activate enzymes and synthesize new tissues is generated during respiration. Enzymes partially bind to carbohydrates and other (protein, fat) substances during oxidation.[11-18]

During the grain growth period, it first develops under the leaf and mainly under the husk. Then the bark begins to break out. In this case, a "hole" appears in the grain. Later, 3-5 roots appear in one place where the root is developing. After the appearance of the leaf, it grows upwards, that is, towards the end of the grain. It grows from the seed.

A leaf growing from under a grain is called a shoot. (During the preparation of malt, the grain is grown in the factories until the tumor sprouts, and the growth process is stopped when the tumor appears).

In distilleries, the process of growing malt takes longer, so it is allowed to grow a few centimeters of growth.

Morphological change occurs in the floury part of the grain. The walls of endosperm cells, which are considered starchy bop, do not actually contain starch polysaccharides and proteins. Due to this, a road will be opened for the production guide to the grain mill. The layers of the cell walls become soft.

The process of decomposition occurs near the stem and depends on the development of grain growth. Because of this, starch completely disappears from the walls of the cell, and the substances of the starch grains in the cell are also broken down. At this stage, the starchy grains

are in a fragile state, and the endosperm has such a fast decomposition ability that even when it is crushed by hand, it breaks down quickly like dry starch and leaves a white mark on the hand. [19-23]

Such a change in grain structure during malting is called breaking down or melting of grain structure.

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