

ENERGY SECURITY PROCESSES SPROUTING MALT

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It is known that the most significant problem in the grain mass changes is the accumulation of enzymes that provide the following process steps saccharification starching mediums. Special is the role of enzymes catalyzing the production technology of beer and alcohol, as energy crops are mostly starch. As a shiver-gee-shuger only need to supply sugar, the role of enzymes, which are accumulated in the very grain mass, is fundamental.

Storing grain weight is carried out with limited moisture and temperature. Grain moisture should not exceed 12%, as higher values of this parameter result in a significant acceleration of internal processes with the beginning of germination. Therefore, before germinating grain moisture-Xia to that of 48...50 %. Later humidity should grow this level. However, the outward simplicity of this formulation of the problem much more complicated other requirements of the process. The latter include the need for temperature stabilization and engagement in the grain mass of oxygen and discharge produced during respiration of carbon dioxide. This triple challenge in modern vision is executed only by a process of aeration of grain arrays. The air required adequate preparation - conditioning and increasing its relative humidity up to 100 % and then some temperature to 10 °C. However, this set of problems by aerating grain arrays inherent thermodynamic inconsistency. The latter is connected with the fact that the removal of heat from the grain means the perception of its air flow up to 12...16 °C (for inshugering different days). This means that the relative humidity is less than 100 % and it starts to dry a little grain mass and temperature adjustment layer equality is violated. If the lower layers through which the "fresh" air flow, have a nominal temperature. That upper higher than in the 3...4 °C. The experimental studies confirmed the phenomenological considerations given and allowed to determine the conditions, if not completely, then at least at approximate temperature stabilization. Among protection of them are modes of "inverse" aeration, that changes the direction of flow of air, increasing air flow with recuperative return to circulation circuits, use the sequence mode of aeration systems and regenerative rekuperative restoration of streams.

KEY WORDS: energy, security, system, temperature, stabilization, aeration, inverse, air flow