

## **16. RESEARCH ON THE USE OF SODIUM ALGINATE WITH MUSHROOM RAW MATERIAL**

**Vasyl Pasichnyy**

*National University of Food Technologies*

**Yuliya Yastreba**

*Poltava University of Economics and Trade*

The sodium alginate is currently widely used in food industry as an emulsifier, stabilizer, thickener and gelling ingredient. Its many uses are due to its special properties: its ability to easily thicken and quickly become viscous once it is dissolved in cold or hot

water. Another beneficial property is that it forms a gel once in contact with calcium. Unlike agar-agar gel, sodium alginate can thicken even when dissolved in a cold solution.

Sodium alginate is a compound of the sodium salt of alginic acid. It is a wholefood extracted from the cell walls of brown algae. Sodium alginate is a polymer composed of a repeating chain of the carbohydrates D-mannuronic and L-guluronic acid.

The purpose of the study was the use of calcium alginate gels for structured products on the basis of mushroom powder.

The present work characterizes the conditions of mushroom powder hydration for structured products based on sodium alginate and calcium.

Interactions of sodium alginate with calcium salts and their influence on the rheological properties of textured gels using mushroom powder have been identified.

In practice, it has been found out that convenient gelling conditions can be created with the use of alginate and calcium concentrations 7,5:0,35 with hydration 1:12. An important factor controlling the speed of the gelation reaction is the ratio of the water volume to the amount of the mushroom powder.

Accordingly, it can be seen that in a preferred embodiment the invention provides a process for preparing a heatproof gel having comminuted mushrooms included preferably in the range of 1:9.

Finally, the results obtained confirm the possibility of effective use of alginate gels with mushroom raw material.