

## CO-EXTRUSION PRODUCTS WITH FRUIT STUFFING

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The actual task of food industry is the development of extrusion technology of products with natural fruit stuffing. The main issue here is that the co-extrusion products have low amount of moisture (4-6%) and a porous structure that can lead to a migration of moisture and make the product wet. In order to prevent this process from starting the hydrocolloids are added to a prescribed mixture. Hydrocolloids (pectin, starch and its mixtures) are substances that interact with water and create structural systems.

For identification of hydrophilic properties of hydrocolloids the scientific experiment on sorption ability was conducted.

Different kinds of both natural and modified starch as well as apple pectin were taken for these scientific experiments. As a result they showed the apple pectin had the best sorption features and thus the following stuffing preparations were decided to conduct with the hydrocolloid mixtures based on pectin.

The rheologic features of different types of compositions of corn, potato and modified starch with apple pectin were researched and the optimal correlation of polysaccharides in mixtures for the receiving of a strong structural system were determined.

Likewise the experiments were made on moisture to determine the changes of moisture state in the fruit stuffing with the help of a derivatograph by the warming up speed of 5 C/min to the target temperature of 180 C. It is determined that when the stuffing with hydrocolloids gets warmed up the insignificant increase of free moisture occurs and not going to lead to a significant changes in the process of conservation.

The optimal dosing of hydrocolloid mixtures in amount of 5% to the weight of stuffing was determined, the correlation of pectin and starch in a mixture depend on certain necessary rheological parameters of a ready made stuffing that has either soft or hard structure.

Thus, on the basis of the conducted experiments the recipe of fruit stuffing for co-extrusion products was developed.

**KEY WORDS:** Hydrocolloids, pectin, modified starch, products of co-extrusion, fruit stuffing