

NATURAL POLYSACCHARIDES AS STABILIZING SYSTEMS

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Fast life pace of nowadays and ever increasing the number of people on the Earth requires a large amount of food stuff production with high quality. Different food additives are used in food products for providing the quality and presentation of products during their storage. A number of stabilizers and thickeners (E400-499) should be highlighted among the variety of food additives which are used to create necessary consistency and texture of food products. Pectin and starch are natural representatives of this group. They function as stabilizers, bulking agents, gelling agents, thickening agents, etc.

A wide range of technological functions of these food additives is provided with different types of modifications which they are pretreated. The necessary function of starch depends on the type of modification. It is possible to use mixtures of different types of modified starch and pectin to obtain the food products with desired consistency, texture and viscosity. The analysis of mixtures rheological properties allowed to point out the following.

The structure of the systems formed by a mixture of pectin and starch, for the same mass fraction of solids (5%), has much lower viscosity than the structure of the system formed by pure pectin. Increasing the share of starch in the system reduces the strength of the structural frame, however the strength of the structural bonds in the system increases.

Systems with potato starch are more plastic than those with corn starch and are destroying slowly under increasing load. Adding pectin to potato starch has less impact on the fluidity of the system than to the cornstarch. The structure of systems formed by a mixture of pectin with modified starches is found to have lower strength than that of the system formed by pure pectin. In general, increasing the share of modified starch in the system reduces the strength of the structural frame. The system, formed by adding of swelling starch is characterized by more strength of structural of the frame than the system with of gelling starch.

Therefore, combination of different types of modified starches and pectin makes it possible to achieve necessary consistency of desserts food concentrates.

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