

## **PROBLEMS OF STABILITY INULIN AND OLIOHFRUCTOSE IN FOOD STORAGE**

**Oksana Lugovska**

**Scientific supervisor: Jana Okopna**

*National university of food technologies*

It is known that some food additives which are used in foodstuff manufacture can change the functional and other properties in the course of storage.

Such additives as inulin and olihofructose are high-quality components for manufacture in dietary foodstuff, as they:

- 100 % of a psychogenesis;
- possess important dietary properties, which allow to position ready foodstuff as dietary, functional, enriched or treatment-and-prophylactic;
- have the lowered caloric content;
- are suitable for diabetic and low carbohydrate diets (do not influence glucose and insulin level in blood);
- possess unique technological properties.

Inulin is a term applied to a heterogeneous blend of fructose polymers found widely distributed in nature as plant storage carbohydrates. Olihofructose is a subgroup of inulin, consisting of polymers with a degree of polymerization (DP)  $\leq 10$ . Inulin and olihofructose are not digested in the upper gastrointestinal tract; therefore, they have a reduced caloric value. They stimulate the growth of intestinal bifid bacteria. They do not lead to a rise in serum glucose or stimulate insulin secretion. Several commercial grades of inulin are available that have a neutral, clean flavour and are used to improve the mouth feel, stability and acceptability of low fat foods. Olihofructose has a sweet, pleasant flavour and is highly soluble. It can be used to fortify foods with fiber without contributing any deleterious organoleptic effects, to improve the flavour and sweetness of low calorie foods and to improve the texture of fat-reduced foods. Inulin and olihofructose possess several functional and nutritional properties, which may be used to formulate innovative healthy foods for today's consumer.

Inulin and olihofructose can be used as purely dietary components for creation of functional food stuff with the different declared properties, and as the components improving taste and a structure and allow to make sugar and fat replacement. Thus the best results turn out at a combination of dietary and technological concepts to develop high-quality innovative foodstuff.

The work purpose - stability research inulin and oligofructose depend on size pH, temperature and a storage time of foodstuff in which they were used.

As object of researches used soft drink with the maintenance in solids of 14,0 %. In the drink changed value pH environments, temperature and endurance time.

In the results it has been established that hydrolysis oligofructose degree changes with various intensity in different values of temperature and pH.

Hydrolysis oligofructose occurs slightly in value pH equal or above 4.0 and temperature 85-90°C. It is more important parameter of hydrolysis process, when level pH decreases and the temperature raises. Hydrolysis oligofructose degree increases in a product approximately three times at pH=3.5 and temperature 95°C.

In the hydrolysis inulin degree research with the temperature 85-90°C in the sour environment, it has been established that at pH=4,0 and above hydrolysis process was accelerated slightly. However, hydrolysis inulin increased approximately twice with the level decrease pH to 3,0 and rise in temperature to 95°C. Slight increase of sweet of a ready product was besides marked.

In the conditions of the sour environment and the raised temperatures hydrolysis (which have been brought in products with the technological purpose) increase. It leads to partial or full loss of their dietary properties, and, in certain cases, to slight increase of sweet of a ready product. Thus, hydrolysis inulin and oligofructose degree depends on level pH and the raised temperatures.

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