Technology of Emulsion Sauces Using Zucchini Powder as Stabilizer

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Abstract

Sauces of emulsion type, including dressings became common in peoples` diet and are represented by polycomponent systems. They are composed of water, oil, emulsifiers, stabilizers and structure agents and also taste and nutritional supplements that provide different taste, flavor, shape and nutritional value [1,2].

One of the possible ways of optimizing lipid balance and appropriate quality of dressings is the use of dried plant material. This technological approach allows variation in fat ingredient, reducing it in recipes by making natural structure agents. Related to this, zucchini powder has been obtained with dispersion 35...40 microns, which is the source of anionic polysaccharides (pectin) and therefore plays the role of dispersed environment in dressings.

Application in the technology of production of zucchini powder allows except naturalness, to avoid seasonal vegetable consumption, simplify mechanical culinary raw material processing, shorten the process of cooking and culinary products and expand their range, reduce the area of warehouses and production facilities for the storage of vegetables. This is a promising idea, especially for restaurants, particularly of bistro type [2].

Matherials and methods

The object of research is powders from vegetable squashes, model systems, emulsive sauce using vegetable squashes powder. The subject of our research is technology of emulsion sauce production. Research methods are organoleptical, physical and chemical, microbiological, mathematical, implemented by standard as well as by original methodologies, using modern devices and treatment facilities of the results obtained.

To carry out objective organoleptical estimation of emulsion sauces by original appearance, color, taste, smell, consistency, recommended literature was taken into account [2].

Calculation of chemical composition of a new sauce was conducted in accordance with certificate tables that contain basic food substances and power value of foodstuffs [3], and also with a number of sources of reference literature and monographs [4].

Mass part of dry matter and moisture in samples were determined by drying to permanent mass in accordance with ГОСТ 30004.2 by the generally accepted methodology. Humidity of samples was determined by the generally

accepted methodology by drying to permanent mass by ГОСТ 3626- 73. Dispersion of powders was determined by a sieve method with different diameters of openings, sifting 3 samples. Moisture-absorbing ability was determined by methodology stated in literature. Moisture-retaining ability was detirminated by the pressing method, by the diameter of pressed imprint of the sample on filtration paper.

Results

As the result of the study of organoleptic dressings quality indicator it has been found out the advantages of the sample with the addition of 15% squash powder to the mass of formula mixture. Rheological characteristics of new sauces with vegetable raw materials have been defined. It is shown that due to the high moisture retaining ability and lipid absorbing powder from cabbage polydispersion structure, which is the dressing, the viscosity of the new product exceeds that of the control sample with the same mass fraction of solids. Emulsion stability is established while adding powder from cabbage. Chemical composition of the dressing with vegetable powder has been calculated, which resulted in reduction of calories and increase of nutritional value.

Conculusions

Thus, the technological production process of emulsion sauces type involving plant material with zucchini powder has been proposed.

References

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