

PRODUCTION OF BISCUITS WITH INULIN AND DETERMINATION OF THEIR CHARACTERISTICS

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Abstract

Inulin is highly studied and has already been accepted as a prebiotic. Due to its recognized prebiotic properties, it is increasingly used in the development of new food products. Often different types of biscuits do not have a prebiotic effect, but by adding ingredients such as inulin, their biological value can be increased.

In order to determine the characteristics of the biscuits with inulin two types of biscuits were produced: control (regular) biscuits and biscuits prepared with inulin. The raw materials used include: integral rye flour, buckwheat flour, oat flakes, flaxseed, sucrose, salt, sodium bicarbonate, cinnamon, sesame seed, water, olive oil and inulin. The biscuits production includes the following operations: measuring raw materials, mixing the powdery raw materials, adding water and oil, stirring, resting the dough in a refrigerator for 15 min., rolling out the dough and forming the biscuits, baking (150 °C, 10 min.), cooling at room temperature and packing. The prepared biscuits were chemically analyzed: moisture (routine reference method), ash (MKC EN ISO 2171:2011), protein (MKS EN ISO 20483-1:2011), fat (MKC EN ISO 6492:2012), crude fiber (MKC EN ISO 6865:2010), nitrogen-free extract (calculated by difference) and energy value (by calculation using Atwater factors). Also, the biscuits were sensory analyzed. Sensory analysis was conducted by applying the scoring method.

The addition of inulin increased the content of moisture (11.18%), proteins (11.35%) and nitrogen-free extract in the biscuits. (58.61%), and reduced the content of ash (1.84%), fat (14.69%) and crude fiber (2.35%). Inulin biscuits had a lower energy value and a received a higher average total sensory grade (14.19) in comparison with the regular biscuits (13.55).

From the results obtained it can be concluded that adding inulin to the biscuits influences by decreasing the energy value of the biscuits and improving the sensory characteristics.

Key words: Biscuits, Functional food, Inulin, Characteristics.