

Biochemical studies of food additives as salt formulations with vegetable and aromatic components

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Abstract

According to the World Health Organization, a healthy diet for adults includes consuming less than 5 g of salt per day, which helps prevent hypertension and reduces the risk of heart disease and stroke for adults. The paper presents experimental data on the biochemical study of food additives – salt substitutes to limit salt intake in a healthy human diet. They are obtained by adding spicy, medicinal herbs and spices to the salt. The study of total antioxidant activity using coulometric titration showed the following results, in terms of the standard sample – rutin: “Svan salt” 508.92 mg, Himalayan pink salt with Adygei spices “Bzhedugskaya” 387.75 mg, “Adygei salt” 193.87 mg, “Black Thursday salt” 139.35 mg, salt “Iletskaia” 3.62 mg per 100 g of additives. Antioxidant activity of nutritional supplements depends on the activity of plant components, their constituents and preparation technologies. The total antioxidant activity of edible salt constitutes 9-47% of the activity of food additives used to limit salt intake and depends on their production deposits and manufacturing techniques. Salt “Slavyanskaya” has an activity of 65.43 mg of rutin per 100 g, “Iletskaia” iodized – 55.74 mg of rutin per 100 g, “Slaven” salt – 53.32 mg of rutin per 100 g, and salt “Iletskaia” not iodized – 43.62 mg of rutin per 100 g. Salt “Iletskaia” iodized has an antioxidant activity 27.79% higher than that of non-iodized salt, and when it is heated with a weight loss of 0.36% by weight, it increases by 105.57% and is 89.67 mg of rutin per 100 g. This is due to the formation of antioxidant substances formed during the decomposition of potassium iodate with the participation of adsorbed water.

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