Abstract: 3.º Simpósio em Produção e Transformação de Alimentos

Antioxidant Food Additives – Applications and Side Effects

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Abstract

Antioxidant food additives are added in small amounts to food stuff improve its durability by preventing food from deterioration due to oxidation. There are two main oxidation processes of foodstuff: (I) the enzymatic oxidation of fruits, vegetables, and processed derivatives like juices, soft drinks, jellies and jams; (II) oxidation and rancidity of spreadable fats and cooking fats and oils. So, the agro food companies use antioxidant food additives in a great diversity of food namely meat products, sauces, cheese, canned fish and meat, pre-cooked food, charcuterie and salted products, fruit and vegetables canned, several preserves, jams and jellies, juices and refrigerants, packaged bread, confectionery, cooked and frozen crustaceans, fish, shellfish and mollusc, oils and fats emulsified, and many other food products.

The use of food additives with the antioxidant function is regulated in European law and transposed into Portuguese law. There are authorized the use of more them fifty food additives with the antioxidant technological function.

The specific applications of each food additive depend of several factors, namely solubility, antioxidant characteristics and safety.

Some food antioxidants, such as tocopherols, acid ascorbic and ascorbates, citric acid and citrates, tartaric acid and tartrates, lactic acid and lactates, when applied to foodstuffs do not appear to have side effects in the amounts indicated by the EU regulation. Other antioxidant food additives, such as BHA, BHT, gallates, stannous chloride present meaningful side effects, and should be used in the smallest possible amount, maintaining the necessary technological features.

Among side effects that can occur stand out skin rashes and itching, urticarial and eczema, breathing difficulty, sneezing, gastrointestinal upsets, cholesterol in blood, hyperkinesis. This work is a synoptical review of food additives used as antioxidants authorized in the European Union, considering then characteristics, applications and side effects.