

## F.27. EVALUATION OF SENSORIAL AND ANTIOXIDANT EFFECTS OF BASIL (*OCIMUM BASILICUM* L.) EXTRACT ON COTTAGE CHEESE

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**Abstract.** Cottage cheese is a soft, rindless cheese. The body has a near white colour and a granular texture consisting of discrete individual soft curd granules of relatively uniform size, from approximately 3-12 mm and possibly covered with a creamy mixture. This study is intended to prepare cottage cheese by adding different ratios of basil (*Ocimum basilicum*, var. *Cress*) extract (0.15, 0.20, 0.25, 0.30, 0.35 and 0.40 g/100 g cheese). The results of the sensory analysis showed that there are differences in the aroma scores between the treated and control samples. Adding extract of *Ocimum basilicum* to cottage cheese samples gave it a pleasant and refreshing flavor. Cheese samples with basil extract (0.30 and 0.35 g/100 g) were highly appreciated. Flavored components in basil extract that had been used, led to an improvement in the sensory properties of the cheese. The same trend was observed by Sturza et al. in the cream cheese with berry powders, by Abbas et al. in the ultra-filtrated soft cheese supplemented with basil essential oil and by El-Fataah Mohamed et al. in the cream cheese with *Moringa oleifera* leaves extract. Increasing the concentration of the extract from 0.15-0.40 g/100 g cheese gradually increased the inhibition percent from 30.97±0,04 - 79.24±0,12%, respectively. The IC 50 value of the extract was 0,3 g/100g. The DPPH scavenging ability of basil (*Ocimum basilicum* var. *Cress*) can be attributed to the presence of phenolic acids and flavonoids that have antioxidant activity: methyl-rosmarinate (17.98±0,08 mg/g), rosmarinic acid (14.53±0,02 mg/g), rosmadial (6.78±0,14 mg/g), carnosol (5.03±0,09 mg/g), dehydrodiferulic acid (3.26±0,03 mg/g), chicoric acid (1.36±0,02 mg/g), luteolin-glucoside (0.90±0,10 mg/g) quercetin-rutinoside (0.79±0,05 mg/g) and epigallocatechin (0.76±0,08 mg/g). *Ocimum basilicum*'s components (rosmarinic acid, quercetin, carnosol, luteolin, chlorogenic acid, rutin and apigenin-glycoside) are well known for their antioxidant activity. Consequently, extract of *Ocimum basilicum* had excellent antioxidant properties which may be used as natural antioxidant and flavoring agent for cottage cheese. It can extend the shelf-life of products which normally have a short storage time. The inclusion of this natural compound would satisfy the current food manufacturers and consumers demands for healthier food.

**Keywords:** cottage cheese, extract of *Ocimum basilicum*, natural materials, antioxidant activity, sensory analysis.

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