Antioxidant and chemical properties of wild and cultivated strawberries

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Summary
Strawberries are important berries grown in Turkey and the country 2nd biggest strawberry producer in the Europe after Spain with 250,000 tons production each year. The country has also important wild grown strawberries which concentrated throughout black sea region. More recently, pronounced attention has been paid to the antioxidant capacity of horticultural plants particularly flesh colored fruits such as strawberries, currants, blueberries, blackberries, raspberries, elderberries etc. This parameter is strictly correlated to the presence of efficient oxygen radical scavengers, such as vitamin C and phenolic compounds, which have been shown to play an important role in controlling oxidative reactions in the human body and exhibit anticarcinogenic activities. Content of individual total phenolics (TPH), anthocyanins, and total antioxidant capacity (TAC) in the fruits of 4 wild and 2 cultivated strawberries were determined and a comparison was made between cultivars which belongs to Fragaria ananassa and wild specie belongs to Fragaria vesca. The content of total phenolic compounds varied among the wild species, as well as among the studied cultivars. Overall, total phenolics expressed higher values in the wild strawberries in comparison to the studied cultivars, and consequently the highest levels of total antioxidant capacity were recorded in F. vesca (5.8-7.1 mg asc/g FW) which were 5.1-5.5 mg asc/g FW in strawberry cultivars.

Key words: Strawberry, antioxidant, wild