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Natural Antioxidant Changes in Fresh and Dried Spices and Vegetables

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Abstract : Antioxidants are became the most analyzed substances in last decades. Antioxidants act as in activator for free radicals. Spices and vegetables are one of major antioxidant sources. Most common antioxidants in vegetables and spices are vitamin C, E, phenolic compounds, carotenoids. Therefore, it is important to get some view about antioxidant changes in spices and vegetables during processing. In this article was analyzed nine fresh and dried spices and vegetables- celery (Apium graveolens), parsley (Petroselinum crispum), dill (Anethum graveolens), leek (Allium ampeloprasum L.), garlic (Allium sativum L.), onion (Allium cepa), celery root (Apium graveolens var. rapaceum), pumpkin (Curcubica maxima), carrot (Daucus carota)- grown in Latvia 2013. Total carotenoids and phenolic compounds and their antiradical scavenging activity were determined for all samples. Dry matter content was calculated from moisture content. After drying process carotenoid content significantly decreases in all analyzed samples, except one -carotenoid content increases in parsley. Phenolic composition was different and depends on sample – fresh or dried. Total phenolic, flavonoid and phenolic acid content increases in dried spices. Flavan-3-ol content is not detected in fresh spice samples. For dried vegetables- phenolic acid content decreases significantly, but increases flavan-3-ols content. The higher antiradical scavenging activity was observed in samples with higher flavonoid and phenolic acid content.

Keywords : antiradical scavenging activity, carotenoids, phenolic compounds, spices, vegetables
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