

Title Vegetables antioxidant losses during industrial processing and refrigerated storage
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Abstract

Twenty-five vegetables (artichoke, asparagus, beetroot, broad bean, broccoli, Brussels sprout, carrot, cauliflower, celery, chicory, cucumber, eggplant, endive, garlic, green bean, leek, lettuce, maize, onion, pea, pepper, radish, spinach, Swiss chard and zucchini) were used to evaluate their antioxidant activity. All fresh vegetables studied were able to scavenge lipoperoxyl and hydroxyl radicals. All the vegetables also presented good total capacity antioxidant by TEAC assay except cucumber, endive, carrot and zucchini.

Vegetables stored (7 days) in a home refrigerator recorded the same antioxidant activity as fresh samples, except cucumber and zucchini (lipid peroxidation) and broccoli, Brussels sprout and leek (TEAC).

Canned vegetables showed a more pronounced loss of antioxidant activity than frozen vegetables compared with fresh vegetables.

During the shelf life of the processed vegetables (8 months for frozen and 18 months for canned vegetables), some products showed losses (19–48%) of their lipoperoxyl radical scavenging capacity and total antioxidant activity.