FOOD INDUSTRY WASTES AS SOURCE OF CAROTENOIDS IMPORTANT TO
HUMAN HEALTH

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The growing industrialization of foods have generated large amount of industrial by-products or wastes. Besides the economic and environmental impact, important bioactive compounds can be wasting due to not re-usage of these by-products. Five lots (5 kg each) of residues of the tomato, guava and pumpkin processing from industries of Sao Paulo State were collected and evaluated as their carotenoid composition. Pumpkin and tomato wastes were constituted by seeds and peels, with appreciable amount of pulp adhered to the peel and guava waste presented mainly fibers with adhered pulp. The material was spread on trays, dried at 50°C, ground and the carotenoid composition was determined by HPLC using C18, 3 µm column and . Industrial pumpkin dried waste showed two principal carotenoids, β-carotene and α-carotene. The α-carotene concentration varied from 93 to 168 µg/g and the β-carotene from 167 to 434 µg/g). Reflecting the high content of these both provitamin A carotenoids, this material showed high vitamin A activity (1778 to 4217 µg RAE/100 g). These values expressed in wet weight (131 to 920 µg RAE/100 g) are similar or higher than many vegetables recognized as good sources of vitamin A. Guava and tomato waste presented high level of lycopene (77 to 193 µg/g and 115 to 180 µg/g, respectively). Results demonstrate the potential of agro-industries wastes as source of carotenoids important to human health those can be used by food, pharmaceutical and cosmetic industries.