

Characterization and evaluation of kohlrabi (*Brassica oleracea* L. *gongylodes*) and kohlrabi-based ovo-vegetarian diets as new food recipes

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THE APPLICABILITY of kohlrabi for producing ready-to-use and ready-to-eat ovo-vegetarian diets was studied. For this purpose, two kohlrabi cultivars were characterized for their agriculture yield, vegetative parameters, proximate chemical composition, phytochemicals, and their antioxidant activity. Moreover, the phenolic compounds in different parts of kohlrabies were identified and quantified. Furthermore, six ovo-vegetarian diets were formulated by incorporating kohlrabi with different protein sources such as faba bean, chickpea, and defatted soy bean flour. Subsequently, the proximate chemical composition, minerals content, phytochemicals and their antioxidant activity as well as the sensory evaluation of the prepared diets were carried out.

The results indicated that no significant differences ($p>0.05$) were found between both kohlrabi cultivars for either yield or chemical composition. In contrast, significant differences ($p<0.05$) were found for carotenoids and total phenolic compounds as well as for the antioxidant activity depending on plant tissue. Additionally, the phenolic compounds fractionation indicated that catechin, pyrogallol, protocatechuic, syringic acid, 4-hydroxybenzoic acid, caffeic acid, *p*-coumaric acid, benzoic acid, quercetin and kaempferol are present. Overall, the main characteristics of prepared diets demonstrated sufficient nutritional values. The sensory evaluation manifested high consumer acceptability scores of prepared ovo-vegetarian diets, especially for the kohlrabi-chickpea formulas. To conclude, the possibility of the producing kohlrabi-based ovo-vegetarian diets as ready-to-use and ready-to-eat using kohlrabi vegetable could provide a promising approach for improving the traditional meals and beneficial for human health.

Keywords: Kohlrabi, phytochemicals, polyphenolic identification, antioxidant activity, ovo-vegetarian diets, health benefits.