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Changes in levels of phytic acid, lectins and oxalates during soaking and cooking of

Canadian Pulses

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ABSTRACT

Raw and processed (soaked or cooked) seeds of peas, lentils, chickpeas, fava beans and

common beans were studied for their contents of antinutritional factors (lectins, phytic acid, total

and soluble oxalates), along with soybean as a control. Analysis of variance indicated that

legume type, treatment and their interactive effects were significant on these antinutrients. The

raw soybean seed was found to contain the highest levels of lectins (692.8 HU/mg), phytic acid

(22.91 mg/g), total oxalate (370.5 mg/100 g) and soluble oxalate (200.7 mg/100 g) among all

investigated seeds. Relatively high contents of lectins were detected in beans (87.69 – 88.59

HU/mg) and other pulses ranging from 2.73 – 11.07 HU/mg. Phytic acid in Canadian pulses

varied slightly from 8.55 - 22.85 mg/g. Total oxalates were variable, ranging from 244.7 - 294.0

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