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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