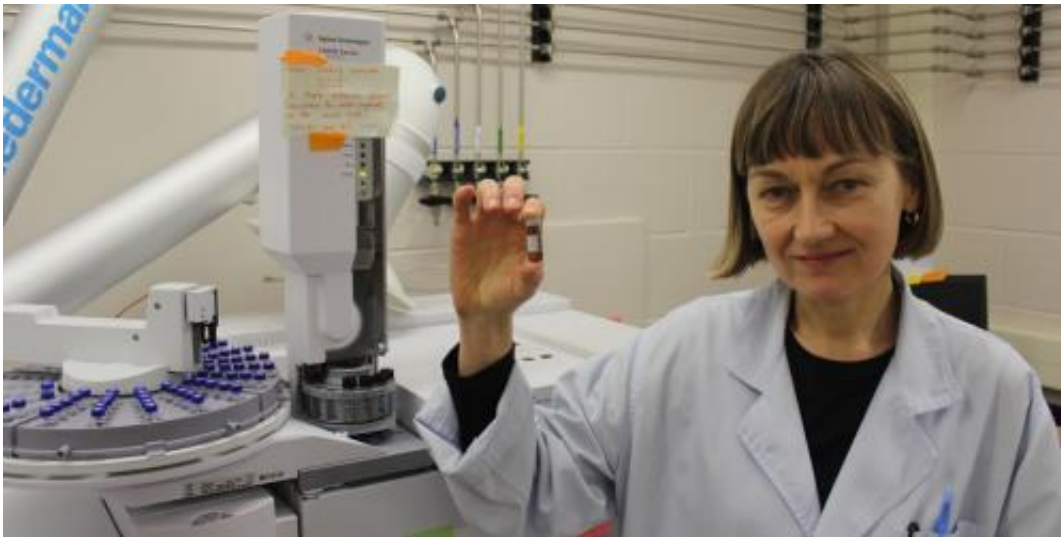


Discovery adds health benefits to common Canadian crops

March 12 2015, by Christopher Schieman



Researcher Elzbieta Mietkiewska successfully incorporated genes containing puniolic acid from pomegranates and Chinese cucumber seed oil into common Canadian crops. Puniolic acid has been found to help slow the growth of cancer cells.

In addition to the nutritional value they already contain, common Canadian crops like canola and flax may soon have cancer-fighting benefits too.

Elzbieta Mietkiewska, a research associate in the Department of Agricultural, Food and Nutritional Science, isolated three genes from pomegranates and incorporated them into high-value oilseed crops,

adding punicic acid to their list of nutritional benefits.

Punicic acid is a [polyunsaturated fatty acid](#) that has been found to help slow the growth of skin, prostate and [breast cancer cells](#). Until now, it was only found in pomegranates and Chinese cucumber seed oil.

However, finding seeds to extract punicic acid from doesn't come easily or cheaply.

"Because the fruits [that contain punicic acid] can only grow in hot climates and the seeds are very small, things like skin-care products containing punicic acid are expensive," explains Mietkiewska.

Punicic acid also assists with weight loss, has anti-inflammatory characteristics and can even act as a chemical agent that can help paints dry more quickly. Mietkiewska points out that incorporating punicic acid into high-value Canadian oilseed crops will benefit both farmers growing the crops and consumers looking for products containing this polyunsaturated fatty acid.

Pomegranate [seed oil](#) contains up to 70 per cent punicic acid. Mietkiewska's experimental plants accumulate up to 25 per cent punicic acid in the oilseeds that initially contained none.

Mietkiewska is also a research associate with Phytola, a University of Alberta-based research organization funded by Alberta Innovates – Bio Solutions. Phytola's research looks into Canadian oilseed crops to develop new technologies and enhance the oilseed industry.

Phytola and TEC Edmonton have applied for a patent on the research to begin the process of commercializing it. Mietkiewska is confident that in the coming years, the oilseed crops that Phytola is developing, in partnership with Alberta Innovates – Technology Futures, will make

products containing punicic [acid](#) easier to find and help more people capitalize on their health benefits.

Provided by University of Alberta

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