



PLANTS AS BIOFACTORIES FOR HIGH-VALUE COMPOUNDS

Researchers studied crops that become bio factories of high-value compounds.



Red de Oficinas de Transferencia de Tecnología del Tecnológico de Monterrey



BACKGROUND

Demand for naturally-derived active and functional ingredients, besides being more sustainable sources, has been increasing in the food industry.

Perfectly usable harvested crops are often discarded due to quality/appearance issues which make them not attractive for the end consumer. However, these crops are potential sources of chemicals for the industries. Harvested crops are living tissues that can respond to stimuli, and as such can be prompted to elicit a desired response, like the production of interesting phytochemicals.

TECHNOLOGY

Our researchers have studied the metabolic pathway of a range of commonly discarded crops, including carrots and potatoes, to optimize the stimuli (cuts, UV radiation, etc.) that prompts them to become bio factories of compounds like shikimic acid (for the production of Tamiflu(R)), chlorogenic acid, lutein, and a range of other nutraceuticals and antioxidants.

KEY BENEFITS

- This technology doesn't use genetic engineering.
- Enlisted compounds have potential to prevent and treat chronic degenerative diseases.
- Innovative technology that uses as raw material vegetables considered "waste" because they don't fit characteristics for selling.

DEVELOPMENT STATUS

- A lab scale stimuli process has completed proof-of-concept for diverse compounds in a range of crops. Our patented products include stimuli applied to carrots to produce shikimic acid and potatoes to produce chlorogenic acid.

TECHNOLOGY READINESS LEVEL: 3/9

INTELLECTUAL PROPERTY

Patent Applications in:
MX/a/2013/000789, US14/648,029
MX/a/2015/005941

This technology is available for licensing. More opportunities on our website: <http://redottec.com>



Tecnológico de Monterrey

📍 Av. Eugenio Garza Sada No.427, Col. Altavista Monterrey, Nuevo León, México. C.P. 648449

☎ (81)8358-2000 Ext. 5626

✉ ott.mty@itesm.mx

📘 OTT - Oficina de Transferencia de Tecnología del Tecnológico de Monterrey

🐦 OTT ITESM MTY

🌐 OTT Tecnológico de Monterrey