

Secrets of pineapple nutrition revealed

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(Phys.org) —A researcher from The University of Queensland, has conducted the world's first pineapple microarray to gain a better understanding of tropical fruit development at the molecular level.

The pineapple is a tropical fruit crop of significant commercial value in Australia and other countries, yet surprisingly, Dr Jonni Koia from UQ's School of Agriculture and Food Sciences says there has been little research undertaken world-wide.

"This is the first large-scale gene expression study that has identified numerous genes involved in pineapple ripening and other important processes such as redox activity and organic acid metabolism," Dr Koia said.

"In addition, my research also identified genes conferring nutritional and health benefits, such as those involved in anti-oxidant, glutathione and vitamin C production."

"The results generated from my study have wide-ranging use across agriculture and food science, and could be incorporated in the future development of other important food and [plant crops](#)."

Dr Koia also characterised two [genomic regions](#) (called promoters) that control gene activity within the cell and have important biotechnological applications.

"The demand for new plant-based [gene promoters](#) without patent

protection is of particular interest among the research and Agbiotech community," she said.

The two promoters discovered by Dr Koia's research are derived from pineapple can be freely used for basic research and the plant improvement.

Her research also has potential health outcomes, which may lead to improved nutritional and dietary intake of [food crops](#) to relieve chronic diseases such as obesity, diabetes, cardiovascular disease and cancer.

Dr Koia's study was published in the scientific journals *BMC Plant Biology* and *Plant Molecular Biology*.

Provided by University of Queensland

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