Trial strawberry variety shows exciting health potential

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(Phys.org)—A Queensland strawberry-breeding program has uncovered what could become the nutritional power-berry of the strawberry industry.

Researchers from UQ's Queensland Alliance for Agriculture Food and Innovation (QAAFI), Queensland Department of Agriculture, Fisheries and Forestry (DAFF), and CSIRO (Animal, Food and Health Sciences) have recently completed a study on several current commercial and trial varieties to evaluate and compare phytochemical content and antioxidant capacities.

They also investigated the correlation between the colour of the fruit and the phytochemical levels.

As a result of the study (see link below), a line of strawberry currently being developed by the Queensland Strawberry Breeding Program in Nambour, on the Sunshine Coast, has been found to be an exceptional source of the phytochemical anthocyanin, with about twice the levels of current commercial varieties.

It was also found that the depth of colour of the fruit had a direct correlation to the level of anthocyanin content.

The breeding program is led by DAFF with funds from Horticulture Australia Ltd using the Strawberry levy and matched funds from the Australian Government, with support from the Queensland Government and the strawberry industry (Strawberries Australia Inc.).

According to Dr Kent Fanning from Agri-Science Queensland, the health benefits of fruit and vegetables are in part due to the presence of phytochemicals, which have been reported to have anti-cardiovascular disease, anti-obesity, anti-inflammatory, anti-cancer and anti-hypertensive properties.

"Breeding programs have traditionally been used to develop increased disease resistance and plant adaptability," he said.

"However in recent years, interest in developing new varieties for health-related benefits has increased.

"Not only does the development of nutritionally rich fruit benefit consumers, but may also benefit farmers and processors through increased returns for higher-value products.

"The breeding line identified is a promising basis for developing nutritionally enhanced fruit.

"Although it is not currently a commercially viable variety, this particular trial line has revealed its potential to be used in the development of phytochemically rich strawberry cultivars," Dr Fanning said.

The DAFF breeding program has been responsible for developing a number of new strawberry varieties that are suitable to Queensland growers, the most successful to date being Rubygem, with more than 3 million plants producing fruit each year.

More information: Fredericks, C. H., Fanning, K. J., Gidley, M. J., Netzel, G., Zabaras, D., Herrington, M. and Netzel, M. (2012), High-anthocyanin strawberries through cultivar selection. *J. Sci. Food Agric.* doi: 10.1002/jsfa.5806

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