Factors influencing patulin contamination of apples and apple derived beverages.

Project ID: NWGICHD8

Apples and other horticultural fruit crops are prone to post-harvest rots during storage. Species of the fungus Penicillium are particularly problematic for apple production, since apples are normally stored for several months post-harvest. Aside from rotting the fruit some species of Penicillium produces patulin, a mycotoxin which is potentially harmful for human health. Bruised and damaged fruit that isn't suitable for the fresh fruit market is typically juiced and maybe be further processed to make cider. This damaged fruit is often contaminated with Penicillium that isn't readily visible to the naked eye and may be present at low levels. After crushing the apples the fungus rapidly grows undetected in the juice. Although patulin is degraded during the process of fermentation, it is not unusual to add unfermented juice to cider. This project will examine the fate of patulin in apples from the orchard through to the finished product. The aim of the work is to provide the apple industry with better management options for patulin contamination. The project will be conducted in collaboration with the Apple Industry and will combine techniques in plant pathology, horticulture, analytical chemistry and beverage production.

We seek a highly motivated PhD candidate with a high level Honours or Masters qualification or equivalent in one or more of the following areas, plant pathology, microbiology, horticulture or plant chemistry. The project will be based at the Wagga Wagga campus of Charles Sturt University.

For additional information please contact:

Prof Chris Steel
National Wine & Grape Industry Centre
Charles Sturt University
Email: csteel@csu.edu.au
http://www.csu.edu.au/nwgic/about-us/our-people/profiles/research-staff/chris-steel
Ph +61 (0)2 6933 2721