



Nancy Roma Paech Visiting Professor supports Australian growers in managing microbial contamination in irrigation water.

Water is a scarce resource in Australian agriculture and its quality and safe use is of paramount importance to fresh produce producers. However, irrigation of fruit and vegetables can become risky if microbial contamination is higher than the recommended [guidelines](#) of < 100 CFU (colony forming units) of generic *E.coli* bacteria 100mL⁻¹ of pre-harvest irrigation water. Professor Channah Rock from the University of Arizona is a water quality specialist who is visiting the Sydney Institute of Agriculture, funded by the Nancy Roma Paech Bequest. She has visited growers in Tasmania, Victoria and Queensland to provide advice on identifying conditions when higher than usual microbial risk might occur, such as flood or drought, animal incursions in water ways, or through human recreational activity.

Professor Rock said “We have developed an easy to use ‘app’ for growers in Arizona to plug in simple information that will alert them to the high risk conditions, and we are working with students and staff from the ARC Training Centre for Food Safety in the Fresh Produce Industry to develop a similar tool for Australian conditions. Tools such as this grower-based app allow producers to make more informed decisions about their water sources and how best to manage their production practices in order to protect public health and produce high quality crops.”



Professor Rock (centre) discussing channel water quality with Carolyn Thomas (right), Quality Manager of Fresh Select, and Agronomy Consultant Stewart Griggs (left) in Werribee.



Professor Rock (centre) with Carolyn Thomas (left), Quality Manager of Fresh Select, and Emily White (right), ARC Food Safety Centre PhD student.



Rob Nath, Manager, discussing water quality in the packhouse at Fragapane Farms with Professor Rock.

Professor Robyn McConchie, Director of the ARC Centre which began in February 2017, said “Professor Rock’s willingness to share her experience through Field Days, [webinars](#) and seminars has been invaluable for the industry and the members of the Centre.”

Professor Rock has outlined four options available to growers when their irrigation water exceeds the guidelines. “They can change to a water source that meets guidelines, dilute or shandy the water with an alternative source to reduce the microbial count, treat water with an approved disinfectant or sanitizer, or stop irrigation all together (allowing for microbial die-off),” said Professor Rock. “However it is important for producers to know when they need to implement these strategies and the ‘app’ is one such tool.”

ARC Centre PhD student Emily White, whose research is on minimising fresh produce contamination from pre-harvest irrigation water, said “We are gathering historical weather and water quality data from the main growing regions to assist us in developing an Australian ‘app’. I am excited to be developing a tool that will benefit the fresh produce industry in producing safe, high quality food.”

The ARC Training Centre for Food Safety in the Fresh Produce Industry is a research partnership between industry and the University of Sydney. The Centre hosts 19 industry partners, 10 PhD students, three postdoctoral associates, and 11 chief investigators aiming to minimise fresh produce contamination in both the on-farm and postharvest environments and developing risk management decision support tools for producers.

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