<https://doi.org/10.30843/nzpp.2019.72.330>

Galling in *Actinidia* spp. seedlings

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Several *Actinidia* spp. genotypes exhibit crown gall-like symptoms in both roots and canes. Galls form on roots and pruning wounds of canes. Investigations were undertaken to determine if an *Agrobacterium* species was responsible for gall formation in the *Actinidia* spp. material. Macerated galls were plated onto King's B and various selective *Agrobacterium* agars, e.g. 1A and Roy & Sasser media. Bacterial isolates were tested by PCR for the presence of tumour-inducing (Ti) plasmids. Isolates that tested positive for the Ti plasmid were subsequently tested for pathogenicity by inoculation onto cut carrot discs, *Nicotiana glutinosa* and *Solanum lycopersicum*, and assessed for gall formation. Bacterial isolates that tested positive by PCR for the Ti plasmid were an orange tan colour on selective medium 1A, and clear with a red centre on the Roy & Sasser medium. Galls formed on cut carrots, *S. lycopersicum* and *N. glutinosa* after inoculation of Ti-positive bacterial isolates. Initial results indicate that an *Agrobacterium* species is associated with the formation of galls in *Actinidia* seedlings. However, biochemical characterisation and confirmation of Koch's postulates using *Actinidia* species are needed for verification of this result.

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Parasitism of diamondback moth *Plutella xylostella* by the solitary parasitoid wasp *Cotesia vestalis* in Samoa

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Plutella xylostella is a major pest of crucifer crops in Samoa and other Pacific islands. This pest has developed resistance to most insecticides available in the island nations so the objective of this study was to examine potential biological control options for *P. xylostella* in Samoa. Existing parasitism of *P. xylostella* on Chinese cabbage (*Brassica rapa* subsp.) was investigated at a farm in Alesia and at the USP farm in Alafua, and established populations of *Cotesia vestalis* were found at both locations. *Plutella xylostella* larvae turn light yellow and show sluggish behaviour after parasitism, and they could be easily differentiated from unparasitised ones. Developing *C. vestalis* larvae emerge from their hosts and spin white cocoon around their body. After 5–6 days, a single adult emerges from the *C. vestalis* cocoon. The average parasitism rate between April 2015 and March 2016 was 10–18% but was significantly higher at the USP farm than the Alesia farm. This result could be because no insecticides were applied to the crops at USP. Parasitism was highest between June and August when the lowest average daily temperatures occur.