PATHOGENICITY OF *SCLEROTINIA SCLEROTIORUM* ON GIANT BUTTERCUP (*RANUNCULUS ACRIS*)

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Giant buttercup, *Ranunculus acris*, is a serious weed affecting dairy pastures throughout New Zealand, especially in the Takaka and Taranaki regions. Although *Sclerotinia sclerotiorum* is a serious pathogen of many agricultural and horticultural crops, it is also a potentially effective weed bio-control agent. Previous experiments have shown that the disease risk to susceptible crops is sufficiently low for the risk-averse deployment of this pathogen as a mycoherbicide in pastures. However, the degree of infection when applied as mycelial fragments to field populations of pasture weeds has proven highly variable. Detached leaf and whole plant pathogenicity tests were conducted using both ascospore and mycelial inoculum to determine which inoculum preparation was more effective at initiating disease in giant buttercup. Results will be presented and their implications for the use of *Sclerotinia* as a mycoherbicide discussed.

BIOHERBICIDAL ACTIVITY OF AN ISOLATED SAPONIN MOLECULE FROM *XANTHIUM STRUMARIUM* L.

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Xanthium strumarium is an extremely harmful weed, especially in soyabean crops, and can cause up to 60% yield reduction. It belongs to the Asteraceae family and is of cosmopolitan distribution. This plant is rough to touch and causes itching, and is known for its pharmacological properties. In the present investigation, we isolated a bioactive saponin from the methanolic extract of *Xanthium* fruits. The saponin molecule was identified by TLC and purified through silica gel columns. The saponin molecule was tested for bio-herbicidal properties against *Echinochloa colonum* and *Vecia saliva*. It was found that the saponin molecule had a significant inhibitory effect on both of these weeds.