**WEED BIOCONTROL AGENT MASS REARING AND IMPLEMENTATION IN NSW**

Fritz Heystek1, Andrew McConnachie2, David Officer1, Nathan Pugh1 and Paddy Stanton1

1New South Wales Department of Primary Industries, 16 Experiment Farm Road Trenayr, NSW 2460, Australia.

 Fritz.Heystekr@dpi.nsw.gov.au

**SUMMARY**

The New South Wales Department of Primary Industries (NSW DPI) maintains and operates a state biocontrol mass-rearing facility at the Grafton Primary Industries Institute (GPII) and, in collaboration with the Castlereagh Macquarie County Council (CMCC), supports operations at the Don Mackenzie Weed Biocontrol facility at Lightning Ridge. Here we discuss the range of weed biocontrol agent species that are currently reared, released and evaluated at these facilities, including solutions for aquatic weeds (*Pontederia crassipes*, *Salvinia molesta, Pistia stratiotes, Sagittaria* spp*.*, *Cabomba caroliniana*), climbing weeds (*Dolichandra unguis-cati* and *Anredera cordifolia*), and several cactus species (*Harrisia* spp., *Opuntia monacantha*, *Cylindropuntia* spp*.*). Over the last year, the two most released biocontrol agents from the GPII facility were the Salvinia weevil (*Cyrtobagous salviniae*, 13,000 adults at 20 sites), and the cat’s claw jewel beetle (*Hedwigiella jureceki*, 3,000 adults at seven sites). The Lightning Ridge facility has focussed on releasing lineages of *Dactylopius tomentosus*, primarily for *Cylindropuntia pallida*, *Cylindropuntia tunicata* and *Cylindropuntia fulgida* var. *mamillata*. So far, over 80,000 cochineal-infested cactus segments have been reared and released from this facility. At the GPII facility, the bulk of all releases were facilitated through various council weed officers, followed by releases from DPI staff, but also by posting starter colonies directly to affected landholders that requested assistance. Post-release evaluation studies are conducted for several targets (e.g., *C. pallida, S.molesta, Sagittaria platyphylla* and *Harrisia martinii*) to more fully understand agent establishment, dispersal and impact. With new prospects primed in DPI’s biocontrol pipeline, additional species will be reared through both mass-rearing facilities in the future.

**Keywords:** Invasive plants, impact, biological control, releases, evaluation.