Eradication of red witchweed – it is never going to be easy!

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Summary The parasitic weed, red witchweed (RWW) (*Striga asiatica* (L.) Kuntze) was first recorded at Habana, near Mackay in July 2013, the only known infestation to have established in Australia. An eradication response program was endorsed and commenced 1 July 2015 involving a treatment period of three years. A '*targeted adaptive three zone approach'* was adopted, utilising the integration of three treatment methods (planting of false host crops, herbicides and ethylene fumigation) to specific sections, or zones, within each infested property to expedite RWW soil seedbank depletion and minimise emergence.

This presentation will outline the treatment progress made to date and challenges encountered. The planting of the false host, soybean, in the high priority zone was completed in January. 1000 mm of rainfall in the RWW area during January and March 2016, necessitated an active weed control program within the soybean crop. Potential grass hosts amongst the soybean needed to be destroyed before RWW could germinate, establish and set seed. To accelerate RWW soil seed bank run-down, ethylene gas will also be injected into the soil at 1.5 to 2.0 kg ha^{-1} using custom-made equipment during the autumn period. Ethylene gas disperses readily through the soil from the point of injection, saturating the soil profile and initiating germination of all seed in the soil that are in a pre-conditioned state. An integrated field trial (efficacy trial) has also been established on an infested property that will yield adaptive results to help govern the management strategies utilised within the RWW eradication program.

Keywords *Striga asiatica*, red witchweed, eradication, treatment.