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Salle de réunion

CLASSICAL BIOLOGICAL CONTROL RESEARCH AT CSIRO:
NEW DIRECTIONS FOR VERTEBRATES, INVERTEBRATES AND
WEEDS

par

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- 📌 Biologically based solutions to the management of widespread weeds and pests started in CSIRO over 100 years ago with the first classical biological control programs against *Opuntia cacti*. This led to complete control within a generation and spurred over 70 other weed biocontrol programs and a research field that is still very active today. Biological control of invertebrate pests soon followed with now >150 pests targeted.
- 📌 Australia tackled its first vertebrate pest with the release of the myxo-virus against European rabbits in the 1950's with great if ephemeral impacts and this program continues to deliver benefits today. Biological control was the main form of ecological weed and pest management until the arrival of chemical pesticides in the 1950's, nonetheless its application continued grow until a peak into the 1990's, despite chemicals becoming the main basis for pest and weed management in agricultural settings.
- 📌 17 years into the new millennium, it is now the turn of chemical options to fade as understanding of their environmental and health impacts are recognized and as pests and weeds evolve resistance to most of the remaining active ingredients. CSIRO continued to pioneer novel biological control approaches, such as virally-vectored immuno-contraception for vertebrates and GM-based "daughterless" and viral biocontrol agent approaches for pest fish. Biological control continues to generate benefits, not limited by resistance, and ground breaking new genetic approaches like RNAi and gene-drive open new possibilities for tackling the current generation of intractable invasive species and resistant genotypes.
- 📌 This talk will briefly review this history and future opportunities to provide a context for the research currently being undertaken at CSIRO's European Laboratory.