EFFICACY OF MECHANICAL WEED MANAGEMENT IN ORGANIC PROCESS VEGETABLES

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Most weed management research has been based on synthetic chemicals since the introduction of synthetic herbicides in the 1940s. In organic agriculture, mechanical methods are often used in place of chemicals. The work described here concerns a three-year field programme in which three methods of mechanical weed control were compared. The work took place on the Heinz Wattie's Organic Farm at Lincoln University ("Kowhai Farm"). The experiment took place in each of the four cropped paddocks and comprised a linear randomised complete block design with three treatments and a control replicated five times (20 plots/paddocks). The treatments were tine, spoon and inter-row weeding. The yield of borage seed did not differ significantly between the three treatments. However, for linseed, both spoon and tine weeding improved yield compared with the control. In beans, highest yields were obtained with the spoon weeder and inter-row hoe.

KOIORA-BIOASSIST™: AN APPLICATION FOR BIODIVERSITY AND ENVIRONMENTAL ASSESSMENT

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KOIORA-BIOASSIST™ was developed in response to a greater demand for researchers to provide accurate, reliable and cost-effective information for biodiversity protection and ecological restoration. KOIORA-BIOASSIST™ offers a suite of field survey, sorting, data management protocols and associated IT solutions that target every step in the biodiversity or environmental assessment area, from survey design and sampling methodology to data analysis and interpretation. The system is loosely based on the BioTrack™ model developed by Macquarie University in Sydney, the only other system of this type in the world. However, KOIORA-BIOASSIST™ offers more developed rapid diagnostics and data management protocols, and is supported by a team of expert systematists and the nationally significant biological collections housed by Landcare Research. KOIORA-BIOASSIST™ uses a virtual collection, in addition to the specimen-based collection. A specialist distance-diagnostics service could conceivably be set up using KOIORA-BIOASSIST™ where images could be captured by non-experts, for example at customs ports, and delivered to the KOIORA-BIOASSIST™ facility via the Internet for an immediate assessment by systematists. This could eliminate at least part of the cumbersome traffic of physical specimens between laboratories and provide rapid preliminary assessments and advice.