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Abst: Weed management is a major constraint in organic production. It can be expensive and time-consuming and severe crop yield losses may be incurred when weeds are not adequately controlled. Research on organic weed management (OWM) in herb and vegetable production is increasing internationally, although in Australia very little work has been done to assess current OWM knowledge among growers, and to test the efficacy and cost effectiveness of the weed management practices used by organic growers. The effect of hand weeding, tillage, hay mulch, pelletised paper mulch and an unweeded control treatment on weed growth, crop growth and cost effectiveness were evaluated in several field trials on the Northern Tablelands of New South Wales using lettuce (*Lactuca sativa* L.) and echinacea (*Echinacea purpurea* Moench. [L.]). Weed management in lettuce was cost-effectively achieved using cheaper weeding methods such as tillage. More expensive methods such as hand weeding and hay mulching controlled weeds well, but were less cost effective. For echinacea, cheaper in-crop weeding methods (e.g. tillage, unweeded control) had poor weed suppression and low crop yields, while the more expensive weeding methods, hand weeding and hay mulch, controlled weeds well and were cost effective. Paper mulch controlled weeds very well but, again, had lower yields and was therefore not cost effective. The results highlight several important advantages and disadvantages of currently used OWM methods in the field.