

Integrated Weed Management in Zimbabwe's Smallholder Sector, Where Are We? : A Review

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Abstract

The introduction of the Integrated weed Management (IWM) in Zimbabwe's small holder sector seemed to be the answer to the weed management problem in the sector. However up to the present moment the drudgery associated with weeding still dominate in the sector. Research in Zimbabwe has investigated various techniques varying from cultural, chemical to mechanical weed management techniques. Despite the fact that some of them have produced excellent results, the integration of these techniques into a weed suppressive cropping system still lags behind. Research information accessibility by both extension personnel and the smallholder sector constitutes one of the major challenges.

Keywords: Integrated weed management, Cultural, Mechanical, Chemical, Adoption, Weed management, Smallholder farmers

1. Introduction

Integrated weed management (IWM) can be defined as the use of 'many little hammers', that on their own are not stand alone weed control measures but, if applied in a systematic way will control weeds (Swanton *et al.*, 2008). This technique utilises all suitable methods in as compatible a manner as possible. It involves the tactical use of multiple tools for weed management, including combinations of herbicides, crop rotation, mechanical and biological controls as well as other cultural practices designed to reduce damage by weeds (Cardina *et al.*, 1999). It is about putting components together and integrating them into existing crop production systems to produce a cropping system that resist weed invasion, tolerate weed presence and decrease population, survival and persistence of weeds. This approach recognises that single-tactic management has often been ineffective in the long-term weed management and that reliance on a single tactic has resulted in shifts among weed species or to herbicide resistant biotypes (Gressel and Segel, 1990). The multiple control tools can exploit