

Soil Microorganisms for Weed Management

A. C. Kennedy

SUMMARY. Traditional methods of weed management have not considered the microbial or other biological factors that influence plant growth; however, incorporating this knowledge may expand weed management possibilities to develop weed-suppressive soils. Alternative weed management strategies are needed to expand the capability of weed control as weed pressures continue to limit optimum yield and the use of synthetic chemical herbicides for weed control becomes more restricted. Biotic factors can influence the distribution, abundance, and competitive abilities of plant species. It has been shown that soil microorganisms are capable of suppressing weeds in the field, and seed decay phenomena are most likely microbial. It is imperative that an understanding of soil microorganisms and their ecology be developed, so that they may be used to benefit agriculture, especially weed management. Further study is required so that the ecological and biological effects of the resident soil microbial population on weed growth can be used effectively in weed management strategies to assist in reducing inputs.

[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworthpressinc.com]

KEYWORDS. Weed-suppressive soils, biocontrol