

Horticulture Innovation Australia

Final Report

Maximising yield potential and persistence in pyrethrum through an enhanced understanding of abiotic and biotic stresses

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PUBLIC SUMMARY

This project consisted of a number of component studies each addressing the general aim of improving the persistence and productivity of pyrethrum, a perennial, herbaceous crop grown for the extraction of pyrethrins, which are natural insecticides. The need for this project arose because of the continued sensitivity of pyrethrum to many biotic (e.g. pests, diseases, weeds) and abiotic (e.g. waterlogging, multiple herbicides) stresses. The component studies included studies on the potential for plant growth regulators to enhance crop vigour, on the effects of waterlogging and plant density on crop yield and persistence, and a study assessing the extent and control of slug and snail damage in pyrethrum. In addition, several studies on improved weed management were conducted, as was a study assessing the relative importance of a range of factors that have potential to affect crop yield. The recommendations of this report are:

1. There is insufficient evidence to recommend ComCat® for pyrethrum
2. While waterlogging remains a problem, raised beds do not offer any advantage that would warrant their installation.
3. The pyrethrum industry continue to plant crops at densities of 30-40 plants per m² provided fungicides are also applied as recommended.
4. Evaluate the autumn application of snail and slug bait in a new project.
5. In a new project, continue to evaluate the drivers of yield variation in pyrethrum using a more focused set of measures
6. In a new project, further evaluate weed seed destruction in field trials of windrow burning.

KEYWORDS

pyrethrum, plant growth regulators, plant density, waterlogging, yield drivers, slugs, snails, herbicide x frost interactions, weed seed transfer

INTRODUCTION

This project consisted of a number of component studies each addressing the general aim of improving the persistence and productivity of pyrethrum. The need for such a focus arose because of the continued sensitivity of pyrethrum to many biotic (e.g. pests, diseases, weeds) and abiotic (e.g. waterlogging, multiple herbicides) stresses.

