MULCHING, PLANT POPULATION DENSITY AND INDIGENOUS KNOWLEDGE OF WILD GINGER (*SIPHONOCHILUS AETHIOPICUS*)

BY

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DECLARATION

I declare that this thesis, for the degree of M INST AGRAR (Agronomy): Plant Production, has never been submitted for any degree at any university. The research work reported is the result of my own original investigation, except where acknowledged.

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24-05-04

Date

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Abstract

The benefits of mulching for moisture retention and weed control as well as the effect of spacing on yield and quality of wild ginger was investigated. A survey on indigenous knowledge of wild ginger was also conducted. The field experiment was conducted at Hatfield Experimental Farm, University of Pretoria and the questionnaire survey was done in Venda.

Treatments used in the field experiment were mulching or non-mulching in combination with three levels of spacing. Wheat straw mulch was applied at a thickness of about 6cm and rhizomes were spaced at 15, 30 and 45cm apart.

Mulching was effective in reducing the soil temperature, keeping the soil moisture content for a longer period, and suppressing weed growth. The main effects of mulching and spacing did not affect wild ginger growth, but interactions between mulching and spacing were significant. Plant spacing of 30cm with non-mulching was better than both 15cm and 45cm spacings. On the other hand, 15cm spacing with mulching was better than both 30cm and 45cm spacings. This experiment demonstrated that 30cm spacing is ideal if no mulch is used. However, when mulch is used, a spacing of 15cm is recommended.

Respondents interviewed were traditional healers (30%), sellers (29%) and indigenous knowledge bearers (41%). Also, most of the respondents indicated that they had gone

through formal education, so they were able to read and write. All of the respondents knew wild ginger as *tshirungulu*.

Results from the survey indicated that wild ginger is used mainly for stomach pains. It was encouraging to learn that people who use this plant feel that even home-grown wild ginger is as effective as the wild one for medicine. The plant is currently so scarce that some of the respondents were travelling as far as Zimbabwe to find it.

If continued use of this important medicinal plant is to be realized, users will need to be taught on how best to grow the plant and how to harvest the plant without destroying the mother tuber or rhizome. This will ensure sustainable use of wild ginger.

Keywords: Wild ginger, mulching, spacing, indigenous knowledge, questionnaire survey