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**CHEMICAL AND BIOLOGICAL ACTIVITY OF SELECTED
VARIETIES OF SPRING CANOLA (*Brassica napus*) AND MUSTARD
(*Brassica juncea*) AND INTRODUCTION OF A HIGH CONTENT OF
FAVOURABLE FATTY ACIDS TO MUSTARD**

A PROJECT REPORT PRESENTED BY

MALIKA VINODANE GAMLATHGE

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ABSTRACT**CHEMICAL AND BIOLOGICAL ACTIVITY OF SELECTED VARIETIES OF SPRING CANOLA (*Brassica napus*) AND MUSTARD (*Brassica juncea*) AND INTRODUCTION OF A HIGH CONTENT OF FAVOURABLE FATTY ACIDS TO MUSTARD****M. V. Gamlathge**

Post Graduate Institute of Science

University of Peradeniya

Peradeniya

Sri Lanka

The analysis of fatty acid profiles by gas chromatography performed on ester derivatives indicated that erucic acid content in selected spring canola (*B. napus*) varieties, Narendra, Oscar, Hyola, Karoo and Outback grown in Western Australia was very low compared to that of *B. juncea* (mustard). The nutritionally favourable oleic acid content was very high in canola varieties compared to that of mustard. The F₁ hybrids between *B. napus* and *B. juncea* showed a moderate amount of erucic acid content compared to that of *B. juncea* and low content of oleic acid than that of *B. napus* varieties.

The TLC-Bioassay method used for anti-fungal activity indicated that Oscar, and Karoo had anti-fungal properties against *Cladosporium* spp., *Aspergillus* spp. and *Mucor* spp.. The disc method for anti-bacterial activity test of different *B. napus* varieties and *B. juncea* indicated that Narendra, Oscar, Outback and Karoo were active against *Streptococcus* spp., *E. coli*, *Staphylococcus* spp. and *Pseudomonas* spp.. Mustard did not show anti-fungal or anti-bacterial activity. The results indicated that if the traits of anti-fungal and anti-bacterial properties of canola could be transferred to mustard, it would be possible to produce fungal and bacterial resistant mustard varieties of high nutrition value.