D-39 Rhizosphere microflora of *Sesamum indicum* L in relation to variety and plant age

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Sesame(*Sesamum indicum* L.) is an important oil seed crop in the tropics, including Sri Lanka. Sesame is subjected to many pathological diseases and largest crop losses are due to soil borne pathogens. Control of diseases by antagonistic rhizosphere organisms had been attempted for many temperate crops and the findings are encouraging. However, since the rhizosphere appears to be a very complex habitat, only limited success on disease control could be expected if the studies of rhizosphere microflora are neglected.

Therefore as a first step, the rhizosphere organisms of 3 genotypes of sesame *viz.* MI3, MB29W and 83-14 at different stages of growth were studied. Plants were uprooted carefully at 7, 21 and 45 days after sowing representing seedlings, growing plants and mature plants. Endorhizophere samples were prepared by macerating surface sterilized roots in sterile distilled water, serially diluted and plated in 5 different culture media. Purified isolates were identified to the species level and further characterized by electro- typing SDS-PAGE of total lysate.

62 bacterial isolates obtained belonged to 21 species and 10 were Gram positive rods. The use of different culture media revealed that any single medium would have resulted in only about 50% of the total species isolated. Two of these media resulted in only a few isolates but contributed species that would have been otherwise overlooked. Only 9 species were common to all 3 genotypes. Similarly only few (2-3) species per genotype were present throughout the growing season. These differences at plant genotype level and evolution of the microflora with age may be associated with changes in root oxidation. Attention must be paid to this phenomenon when attempting biocontrol of soil diseases.