

## **Effect of mistletoe infestation on fruit quality of nutmeg (*Myristica fragrans*)**

**S.S. Yapa<sup>1,2</sup>, A.J. Mohotti<sup>3\*</sup> and M.A.P.K. Seneviratne<sup>2</sup>**

<sup>1</sup>Postgraduate Institute of Agriculture, University of Peradeniya, Sri Lanka,

<sup>2</sup>Department of Export Agriculture, Peradeniya, Sri Lanka, <sup>3</sup>Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Sri Lanka

\*mohottij@yahoo.com

Perennial spices were observed to be highly infested by parasitic plants lately in Sri Lanka. Nutmeg is an important export agricultural crop (EAC) mostly grown in the wet and intermediate zones of Sri Lanka, providing income for rural communities. It is prone to parasitic plant infestation, but their effects on fruit quality have not been studied. Hence, this study was carried out to elucidate the effect of mistletoes (shoot parasites) on the fruit quality of nutmeg (*Myristica fragrans*).

The study was conducted during January to June 2016. Samples were collected from Ambulpure, Harispaththuwa (Kandy district) and Matale district (both in agro ecological region WM3b). Approximately 20 years old nutmeg plants of which about 20% of the canopy parasitized by the mistletoe *Dendrophthoeaenilgherrensis* in the two locations were selected. Uninfested trees were taken as the control. Five each of mature fruits were collected from three trees from each category, from the proximal and distal ends of the infested branches. Length and width of fruits, fresh and dry weights of fruit, seed, mace and pericarp, thickness of pericarp were measured. Data were analyzed using analysis of variance and mean separation was done by least significant difference, using SAS statistical package. Visual quality was evaluated using a quality chart.

The infestation of nutmeg by the mistletoe *Dendrophthoeaenilgherrensis* drastically decreased the quality of nutmeg. The length, width and weight of the whole fruit, pericarp, mace and nut of nutmeg in the distal end were significantly smaller than in the proximal end, all of which were significantly smaller than that of the uninfested control. The colour of the nut and mace was not affected by the infestation. However, when the dimensions and colour of the nut and mace that are important in determining the export quality were considered, the nut and mace of the infested plants belonged to grade two whereas the nut and mace of uninfested control belonged to grade one. Hence, importance of control of the mistletoe parasitism in nutmeg is emphasized.

*Financial Assistance provided by the Research Facilitation Fund (RFF) of the Post Graduate institute of Agriculture University of Peradeniya (Grant No. PGIA 2015-379) is acknowledged.*