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Comparative identification of market samples of Suduru (*Cuminum cyminum* L.) & Sathakuppa (*Anithum sowa* Roxb)

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Adulteration of market samples of *Cuminum cyminum* Linn (“Suduru”) with *Anithum sowa* Roxb fruits (“Sathakuppa”) has become a common practice in the trade due to commercial benefits. A quick and cost effective method for identification of such adulteration is an urgent need. Samples of these two species were studied to highlight the diagnostic identification morphologically, microscopically and by Thin Layer Chromatographic pattern as per the standard protocol of WHO guidelines on quality control and standardization of medicinal plant materials. Three samples were subjected to the above in the present study. Fruits of *Anithum sowa* can be identified morphologically by its persistent stalk with an angled attachment to the body of the fruit, fruit length (3 - 3.5 mm long), presence of three longitudinal ridges on each half of the fruit, often split fruits and their winged nature. Fruits of *Cuminum cyminum* can be identified by its comparatively shorter stalk that is attached straight, 4 – 5 cm long fruit, partly separated mericarps, and 4 ridges on the dorsal side of each mericarp. Presence of multicellular trichomes on the epicarp and presence of a group of thick walled sclereids in the mesocarp are the microscopic identification characteristics of Suduru (*Cuminum cyminum*). Multicellular trichomes on the epicarp and thick walled sclereids in the mesocarp are absent in *Anithum sowa*. In addition, endocarp cells are wavy and the number of anisocytic stomata in the epicarp of *Anithum sowa* is less. TLC studies on dichloromethane: methanol (1:1) extract of *Cuminum cyminum* showed 13 spots and *Anithum sowa* showed 11 spots with vanillin sulfate. The green coloured spot at R_f 0.70 can be used as an indicator for the identification of *Cuminum cyminum* Linn. From the present study it can be concluded that the fruits of *Cuminum cyminum* Linn can be distinguished easily from the fruit of *Anithum sowa* Roxb by referring to their morphological, microscopic and TLC data.

Keywords: Adulteration, suduru, sathakuppa, covering trichomes

Acknowledgement: Consumers Affairs Authority of Sri Lanka for supplying genuine samples of “suduru” & “sathakuppa”.