

**Title** Evaluation of wall materials for encapsulation of natural colourant from senduduk (*Melastoma malabthricum*) fruits

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**Citation** Abstracts of 7<sup>th</sup> International Postharvest Symposium 2012 (IPS2012). 25-29 June, 2012. Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia. 238 pages.

**Keywords** senduduk; maltodextrin; resistant maltodextrin; spray drying; physical properties

### **Abstract**

Resistant maltodextrin (RMD) and maltodextrin (MD) were tested for their ability to serve as wall materials for encapsulating colourant extracted from Senduduk (*Melastoma malabthricum*) fruits. Spray dried powder of the extract encapsulated with RMD had a significantly ( $p < 0.05$ ) higher bulk density value compared to powder of the extract prepared using MD. True density, tapped density and intergranular porosity values, compressibility index and glass transition temperature ( $T_g$ ) of the powder with RMD were significantly ( $p < 0.05$ ) lower than that of the powder with MD. There was no significant ( $p \sim 0.05$ ) difference between the particle sizes of the two powders and morphology of microcapsules of these powders showed irregular spherical shapes with extensively dented surfaces due to particle shrinkage during the spray drying process. Understanding of powder properties of the natural colourant from Senduduk (*Melastoma malabthricum*) fruit extract spray dried using RMD and MD as wall materials will allow for their applications in food, pharmaceutical and cosmetic products.