

**Title** Microbial ecology of litchi fruit surface

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### **Abstract**

Microbial phyllosphere communities are diverse and include bacterial, fungal and yeast genera, which are pathogenic or nonpathogenic to the host plants. Investigating the dynamics between these communities is crucial in understanding the relationship between epiphytic microorganisms and plant diseases. In view of this, the microbial dynamics of the litchi fruit were studied from flowering till harvest. The study was carried out on cultivar 'Mauritius' in Malelane, South Africa (2004 and 2005 seasons) and 'McLean's Red' in Tzaneen, South Africa (2005 and 2006 seasons). Samples were collected from flowering till harvest from three and four orchards respectively every second week. Total fungal, yeast and bacterial counts were taken of all samples. Results indicate that population density gradually increased from flower bud stage to full bloom and to senescence stage. A population density decrease was observed for both cultivars during both seasons. Although the total *Penicillium* counts fluctuated between samplings, a relatively higher number was observed between flowering and fruit set and at maturity. This could possibly be attributed to the amount of nutrients released from the flowers and the developing fruit and the change in weather conditions during the seasons.