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## Preparation of Wine from *Garcinia xanthochymus* fruit and Determination of Potential Antioxidant Activity

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**Background:** *Garcinia xanthochymus* (yellow mangosteen) is a fruit with good nutritional attributes and medicinal values. However, it is a seasonal fruit which has a short shelf-life under the prevailing weather conditions in tropical country such as Sri Lanka. Therefore, production of wine from this fruit can help to increase wine variety in the country and reduce post-harvest losses. Also, wine from this fruit can be used as a medicinal drink.

**Objectives:** To prepare a wine using *Garcinia xanthochymus* fruit and to conduct sensory evaluation and to determine antioxidant activity.

**Methodology:** *Garcinia* wine was prepared by fermentation of fruit pulp of *G. xanthochymus* using *Saccharomyces cerevisiae*. Initially three wine samples of *G. xanthochymus* were prepared only by changing the sugar percentage, as 0%, 25% and 50%. Primary (21 days) and secondary fermentation (30 days) were carried out for each sample. To select consumer preferred sample sensory evaluation was conducted using 30 untrained panelists for six-point hedonic scale on appearance, color, aroma, texture, taste and overall likeness. Biochemical parameters (titratable acidity, pH and alcohol content) were measured for the selected samples. The prepared wine sample was subjected to preliminary qualitative phytochemical screening and antioxidant activity was determined using 2, 2 - diphenyl, 1- picrylhydrazyl (DPPH) radical scavenging activity, where ascorbic acid was used as the standard.

**Results:** Sensory analysis indicated that, the wine sample with 0% sugar added had the highest acceptable score (94.7 %) for overall quality. The titratable acidity of the selected wine was 4.65 g/L, the pH value of the wine was 3.4 and it was higher than the natural fruit pH (3.0). *G. xanthochymus* wine had 6.65 % alcohol content. *G. xanthochymus* wine was positive for most of tested phytochemicals; alkaloids, flavonoids, phenols and tannin, terpenoids coumarin, and cardiac glycosides. The antioxidant assay revealed 74.9% of DPPH scavenging activity.

**Conclusions:** The present study showed that the *G. xanthochymus* fruit can be used to produce acceptable wine associated with rich antioxidant activity.

**Keywords:** *Antioxidant, Garcinia xanthochymus, Phytochemicals, Wine*