

Chapter 5

Conclusion

From the first experiment, it could be concluded that Keaw Wan Prae orange juices had a better microbial and nutritional content than those of Sai Namphung orange juices. The total microorganism of the Keaw Wan Prae orange juices was 2.83 ± 0.18 log CFU/ml and the vitamin C and carotenoid contents of the juices were 30.71 ± 8.13 mg/100ml and 6.61 ± 0.61 µg/ml, respectively.

A study about the effects of sugar and salt addition on the quality of Keaw Wan Prae fresh orange juices during storage at chilled temperature showed that an addition of 5% (w/v) sugar produced the best quality of orange juices based on the microbiological and nutritional assessment. The amounts of total microorganisms and lactic acid in the orange juices were 4.38 ± 0.34 log CFU/ml and 2.83 ± 1.10 log CFU/ml, respectively, at the end of storage time. In addition, the orange juice had a vitamin C content of 22.74 ± 3.82 mg/100 ml after 15 days at refrigerated storage. The presence of salt in the orange juices contributed to higher microbial counts and lower vitamin C contents.

In the last experiment section, the result data showed that Keaw Wan Prae fresh orange juices had a better quality at a pH value of 3.0 and without any addition of orange juice sacs. Applying this condition, the fresh orange juice had a total microbial load of 4.51 ± 0.08 log CFU/ml and a vitamin C content of 29.77 ± 0.10 mg/100 ml at the end of 15 day storage at chilled temperature.

Result from this study concluded that an addition of 5% (w/v) sugar could improve the microbial quality of fresh orange juice compared to that in the no-added sugar orange juices. For orange juices that had pH values more than 3.5, reduction in

the orange juice pH value to be 3.0 by adding food grade acids could also improve the qualities of the juice during refrigerated storage.



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