

ความเป็นกรดต่างในน้ำส้มเป็น 3.0 โดยการเติมกรด ซึ่งสามารถปรับปรุงคุณภาพของน้ำส้มสด
ระหว่างการเก็บที่อุณหภูมิต่ำได้



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Independent Study Title	Qualities of Fresh Orange Juice During Storage at Chilled Temperature
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ABSTRACT

Fresh orange juice has a good flavour and contains a high nutritional value, especially vitamin C. The problem of fresh orange juices is the juice has a shorter shelf life than pasteurized orange juices because of the growth of spoilage microorganisms. This experiment studied different factors that could affect the quality of fresh orange juice during storage at chilled temperature. Changing in the physical, chemical, microbiological and nutritional values of the orange juice were used to determine factors that could reduce the quality of the juice. From the first experiment, it was found that Keaw Wan Prae fresh orange juice contained higher vitamin C and carotenoid contents and lower microbial loads compared to those of Sai Namphung fresh orange juice. In the second experiment, an addition of sugar at a concentration of 5% (w/v) significantly produced a fresh orange juice with a lower number of microbial load. Although, at this sugar concentration, the orange juice had a lower vitamin C content compared to that in the orange juice added with 2.5% (w/v) sugar, the 5% (w/v) sugar added orange juice had carotenoid more than that of the 2.5% (w/v) sugar added orange juice. An addition of salt in the fresh orange juices gave a negative impact on

the microbial load and the nutritive value of the juices. For the factors of orange juice sacs and pH values, the experimental data showed that the orange juice without any addition of orange juice sacs significantly had lower microbial load and significantly contained more vitamin C content compared to those of the orange juice with 3% (w/v) orange juice sac. In addition, as the pH values of the orange juices were lower, the content of the vitamin C in the juice would be significantly higher. 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.