

CHAPTER VI

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Study of the effect of additives on limonin content and quality in full bottle of lime juice that stored at refrigerator temperature and room temperature, the effect of incorporated air on preserved lime juice, the results were as follows.

Potassium metabisulfite and potassium sorbate were shown to have no significant effects on limonin content during 4 months of storage time. Most of limonin content had been formed from precursor, limonoate A-ring lactone after pasteurization. There was variable change in this constituents during storage time.

The full-bottle of lime juice treated with 300 ppm of potassium metabisulfite stored at refrigerator temperature had better quality than others. Vitamin C retention was 54-65% at refrigerator temperature at the end of 4 months, and about 40-42.5% at room temperature. All of the treated samples stored at refrigerator temperature were acceptable at the end of 4 months in view of appearance and vitamin C retention. But at room temperature they were acceptable at the end of 14 weeks, the controlled lime juice were acceptable only up to 10 weeks. The additives had no effect on the acidity, total soluble solid, pH at both temperatures. This is accordance with results from Shaker et al (1966).

It is certain that incorporated air had the effect on the quality of lime juice, especially on color and vitamin C. At refrigerator temperature the samples treated with additives or controlled were still acceptable in view of appearance at the end of 4 months but vitamin C retention were reduced to about 5% at the end of 6 weeks. Higher temperature enhanced the browning reaction. The samples stored at room temperature turned brown at the end of 1 month and vitamin C content was reduced to 5%. The addition of 200 ppm of stannous chloride retarded the vitamin C content at the end of 1 month to 88%, 14.5% at refrigerator temperature, room temperature respectively.

From these results it should be recommended that after utilization of full bottle lime juice the rest should be transferred into a small bottle to exclude as much air as possible or it should be used within 2-3 weeks while the juice is still nutritious with vitamin C. Alternatively small bottles should be used for small portion in order to avoid air which is introduced during utilization.

6.2 Recommendation

The study of lime juice should be further carried on in various aspects as follows. The debittering of preserved lime juice by chemical method can be further investigated. Since the stannous chloride gave promising results, the experiments to find the most suitable amount of stannous chloride should be continued. Also the procedure in obtaining the juice can be varied to find the best quality of the juice.