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Development of jam using Coconut Skimmed Milk (CSM)

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Coconut (*Cocous nucifera* L) is one of the major plantation crops which can yield many products like coconut oil. The study focused on developing a jam from Coconut Skimmed Milk (CSM) with good consumer preference and prolonged shelf life. CSM for jam production is obtained from pulverizing the coconut meal that is left after dry processing of Virgin Coconut Oil (VCO), in which oil is produced by drying the grinded coconut meat. Jam was produced using CSM and also incorporating wood apple (*Feronia limonida*) and ash gourd (*Benincasa hispida*). Preliminary studies were conducted to ascertain the ideal combination. Compositions of CSM and CSM based jams were analyzed. The shelf life was evaluated by measuring titratable acidity, thiobarbituric acid (TBA) number, peroxide value, yeast and mold count, while the consumer acceptability was evaluated using the 5 point Hedonic scale. 56 % CSM, 42 % liquid glucose, 0.002 % citric acid was identified as the best combination for producing a jam using only CSM. To prepare CSM - ash gourd jam 49 % CSM, 12.5 % ash guard, 12.5 % sugar, l2.5 % liquid glucose, 0.002 % citric acid and for the CSM - wood apple jam 49 % CSM, 12.3 % wood apple, 31 % sugar, 4 % liquid glucose, 0.002 % citric acid were found as the best ingredient combinations. Liquid glucose was added to avoid sugar crystallization. There was an apparent increase in carbohydrate level in jams compared to CSM due to the addition of sugar and liquid glucose. There was no significant difference in acceptability between commercially available jam and CSM - wood apple jam ($P>0.05$). There was a slight increment in titratable acidity and significant increment of TBA in all three types of jams with time ($P=0.000$). There was no significant growth of yeast and mold and peroxide value recorded until the fifth week. Further it was observed that none of the above parameters exceeded their upper limits until the twelfth week. There is no significant difference in total sugar contents in all three types of jam with time ($P>0.05$), while there is a significant decrease in reducing sugar content and a significant increase in the non-reducing sugar content with time. There was no surface mold growth and yeast and mold count up to twelfth week. Finally, the study concludes that CSM can be used to produce consumer preferred jam with a considerable shelf life.

Key Words: Ash gourd, Coconut Skim Milk, Jam, Virgin Coconut Oil, Wood apple