B-118: Development of protein rich soft drink

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Soft drinks are considered as a non food item, which carries simple sugars for sweetening purposes. However the amount of sugar cannot be calculated as a nutritive item. Whey is a product containing minimum of 13% protein and carrying excellent sources of amino acid and could be a vehicle for overcoming protein malnutrition. Almost 100% of the whey production in Sri Lanka are not being utilized and have become a problem in effluent discharge. Higher solubility and low pH associated with protein make them suitable in enrichment of soft drinks.

In this experiment 3^2 factorial design was used, selecting levels of sweetness and flavours as factors keeping all the other factors constant. Nine different treatments were subjected to sensory evaluation using Friedman nonparametric statistical package. Subjected levels were Orange, Vanilla, Strawberry flavours and 10%, 12%, 14% Sucrose equivalents.

The results demonstrate orange colour, orange flavour, and sweetness of 14% sucrose equivalent is the best combination out of all the treatments. According to overall results, the new product tested for general quality parameters of soft drink was accepted; but is requires some improvements for commercial scale production. The required improvements can be suggested as reduction of lactose in whey to prevent sedimentation, addition of an antifoaming agent to prevent excessive foaming which is undesirable to soft drink manufacturing and selection of microbiologically free raw materials to prevent fermentation.