ABSTRACT

Soft drinks are simply defined as any non-alcoholic beverage containing syrups, essence or fruit concentrates that are mixed with water or carbonated water. Basic raw materials of carbonated soft drinks are purified water, sweeteners, carbon dioxide, permitted colours and flavours, acidulants, emulsions, heading agents, preservatives (SLS, 183:1997). These are not consumed for their food value, but rather for their thirst quenching properties or for their stimulating effect.

Soft drinks are more susceptible to microbial spoilage than other food products, due to both intrinsic and extrinsic factors. Microbial spoilage occurs due to three different kinds of microorganisms yeasts, moulds and bacteria (Varnnum, 1994). Yeasts are the dominant spoilage organisms in soft drinks. Spoilage pattern typically involve film formation, fermentation with gas production, turbidity and sediments and 'fruity' flavours. Mould spoilage involves visible growth together with bitter flavour and discoloration.

The study involves the identification of places that are highly vulnerable to contamination by yeasts and moulds. Pour plate method, 3M^{TM} Petrifilm, swabs testing were used to count the yeasts and moulds. Mouthpiece of filler, Production environment, and stock syrup filter showed high count of yeasts and moulds.

Genus *Aspergillus* was isolated in the production environment by using streak method and confirms it by using slide culture technique. Concentration of Benzioc acid, a preservative for yeasts and moulds, measured by HPLC method was comparable with Sri Lanka standard (160 ppm).

Yeasts and moulds present in mouthpieces were studied for their tolerance by using a rinse with different concentration of chlorine solutions (175, 250, 400, and 500) ppm and the effectiveness was measured by using swab testing and finished product testing. Results showed that no yeast and moulds count was observed after washing with 400 ppm and higher chlorine solutions. According to the results analyzed by one way ANOVA, yeast and mould counts were nil in 1ml of finished product of Soda after the proposed pretreatment of mouth pieces ($p=0.011<0.05$).