

B-37: Preliminary investigations on the effect of "Goraka" on the growth of bacteria

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Goraka (*Garcinia cambogia*) is used as preservative in traditional fish preparations such as *jaadi* and *ambul thiyal*. Chemical preservatives are used in improving the shelf life of fish products. In this study the inhibitory effect of Goraka on bacteria was investigated with a view to use Goraka (a natural product) in the preservation of fish.

The growth of bacteria, naturally found on raw fish, on media (nutrient-agar and tryptic-soy broth-agar) incorporated separately with Goraka extract (GE), Tartaric acid (TA) and Sorbate (0.2%) were examined. Six lots of treatments were obtained by adjusting the pH (range 4.0-6.0) using GE (200g goraka in 1l water extracted for 1 h) and TA. A combined effect of sorbate (0.2%) with Goraka and TA was investigated.

GE caused total inhibition at pH 4.0. A similar effect was observed with TA, the main acid in Goraka. Sorbate alone, at the maximum recommended limit (0.2%), was not inhibitory to bacteria on raw fish. Sorbate combined with Goraka (reduced pH) demonstrated a synergistic effect. A total inhibition of bacteria was observed with 0.2% sorbate together with GE at pH 5.7. A synergistic effect was observed with TA and sorbate (0.2% and pH 6.0) as well.

These preliminary investigations demonstrate that Goraka could be used to inhibit the natural bacterial flora on fish.