USE OF TOMATO POWDER DERIVED UNDER DIFFERENT DEHYDRATION METHODS IN TOMATO SAUCE INDUSTRY

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ABSTRACT

Tomato (Solanum lycopersicum) is an important vegetable which is produced in Sri Lanka in large quantities during season where post-harvest losses get increased. Tomato sauce is the most prominent industrial product of fresh tomato. Sri Lankan sauce producers import fresh pulp from foreign countries as fresh tomatoes are not available all the time for the production of tomato sauce. This problem can be solved if we can use powdered tomato. Idea of this study is to check the effectiveness of tomato powder to produce sauce under two main dehydration methods. Fresh tomatoes at same maturity stage were taken (Thilina variety) and dehydrated using vacuum (V) dryer and conventional (C) dryer as with seed (S+) and without seed (S-) samples. Powdered samples were prepared using dehydrated tomato and tomato sauce was produced using above 4 powder samples (VS+, VS-, CS+, CS-) with a control sample which is made using fresh pulp according to the specifications given by Sri Lanka Standards for tomato sauce (SLS 260:1989) and stored in glass bottles up to 3 months. Physicochemical, phytochemical and sensory properties were analyzed monthly for powder and sauce samples. VS+ chosen as the best sauce sample in all sensory attributes. Nutrients were highly retained in VS+ and VS- samples than CS+ and CS- in both powder and sauce samples. Powder and sauce antioxidant activity was higher in VS+ and CS+ samples. No significant differences were observed in physicochemical properties including pH, brix, titratable acidity, ascorbic acid, lycopene content, total phenolic content, and antioxidant activity of sauce prepared using VS+ and control. VS+ sample can be effectively improved and used in tomato sauce industry in Sri Lanka.

Key words: Tomato sauce, Powdered tomato, Vacuum drying