

International Conference on Agricultural & Horticultural Sciences

September 14-15, 2012 Hyderabad International Convention Centre, India

Utilization of apple pomace for extraction of pectin

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Suitability of utilizing apple pomace from apple juice processing industries for extraction of pectin was optimized. Fresh pomace without any pre-treatment contained 13.3% pectin on dry weight basis (dwb). Drying of fresh pomace at 50°C after blanching (boiling at 95°C for 5 minutes followed by cooling) was considered as a necessary step before pectin extraction to enable bulk handling during apple season. Among different methods of pectin extraction and precipitation, extraction of rehydrated apple pomace in 0.05N HCl solution (in 1:2 proportion) at 95°C for one hour followed by precipitation in 95% ethanol was found most appropriate with 10.5% pectin yield on dry weight basis (dwb). Water and ammonium oxalate extractions as well as water followed by acid or ammonium oxalate-oxalic acid extractions on the other hand yielded very low pectin and were considered unsuitable. Among precipitation methods, precipitation of extract in 95% ethanol resulted in higher pectin yield, with comparable quality to the pectin obtained by using aluminium chloride precipitation. The resultant pectin from acid extraction and alcohol precipitation contained 59.1% anhydrogalacturonic acid content, 71.2% degree of esertification and 110 jelly grade which indicates its suitability in preparation of different products like jam ,jellies beverages and other pharmaceutical preparations. The method of pectin extraction can be followed commercially for establishment of ancillary units in the apple pressing industries.

Biography

P C Sharma working as Professor in the Department of Food Science and Technology, Dr YS Parmar University of Horticulture and Forestry, Solan HP has about 30 years of experience in the field of post harvest technology. He has handled six externally funded projects on post harvest technology of Horticultural crops as Principal Investigator. Presently he is Sectoral PI (Horticultural crops) in the All India Coordinated Research Project on Post Harvest Technology of ICAR. A recipient of five best research paper awards, Dr Sharma has about 120 publications to his credit. He is serving as an expert member in LSRB (DRDO), FADC (BIS), external examiner for different universities and reviewer of different journals of repute.

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