Over the last decade, various studies have linked pomegranate (Punica granatum Linn), a fruit native to the Middle East, with type 2 diabetes prevention and treatment. This review focuses on current laboratory and clinical research related to the effects of pomegranate fractions (peels, flowers, and seeds) and some of their active components on biochemical and metabolic variables associated with the pathologic markers of type 2 diabetes. This review systematically presents findings from cell culture and animal studies as well as clinical human research. One key mechanism by which pomegranate fractions affect the type 2 diabetic condition is by reducing oxidative stress and lipid peroxidation. This reduction may occur by directly neutralizing the generated reactive oxygen species, increasing certain antioxidant enzyme activities, inducing metal chelation activity, and inhibiting or activating certain transcriptional factors, such as nuclear factor κB and peroxisome proliferator-activated receptor γ. Fasting blood glucose levels were decreased significantly by punicic acid, methanolic seed extract, and pomegranate peel extract. Known compounds in pomegranate, such as punicalagin and ellagic, gallic, oleanolic, ursolic, and uallic acids, have been identified as having anti-diabetic actions. Furthermore, the juice sugar fraction was found to have unique antioxidant polyphenols (tannins and anthocyanins), which could be beneficial to control conditions in type 2 diabetes. These findings provide evidence for the anti-diabetic activity of pomegranate fruit; however, before pomegranate or any of its extracts can be medically recommended for the management of type 2 diabetes, controlled, clinical studies, are needed [Saleem Banihani*, Samer Swedan, and Ziyad Alguraan (Department of Medical Laboratory Sciences, Jordan University of Science and Technology, Irbid 22110, Jordan), Nutrition Research, 2013, 33(5), 341-348].

Influence of chemical and bio-fertilizers on growth, flowering, fruit yield and quality of guava (Psidium guajava L.) cv. Allahabad Safeda

Treatment of 75% N + 75% P₂O₅ +100% K₂O+ Azotobacter 5ml/tree + PSB 5ml/tree resulted significantly maximum tree height (3.80 m), East West tree spread (5.20 m), North South tree spread (5.13 m) at harvesting stage, minimum number of days for flowering (32.33 days), maximum number of flowers per branch (25.33), fruit set per branch (90.20%) and fruit retention (92.96%), fruit diameter (10.07 cm), fruit weight (215.06 g) and pulp weight (193.44 g), yield attributing characters, number of fruits per tree (144.33), fruit yield per tree (32.13 kg) and per hectare (89.01 q) and shelf life of fruit (12.50 days) [Godage S. S, Parekh N. S, Nehete D. S, Jagtap V. M. (Department of Horticulture, B. A. College of Agriculture, Anand Agricultural University, Anand (India), 388 110), BIOINFOLET, 2013, 10(2a),480-485].

Preparation of guava jam blended with sapota

Jam is prepared from fruit pulp by boiling with sufficient quantity of sugar to a moderately thick consistency. There are different types of fruit jams like strawberry jam, mango jam, pineapple jam, apple jam and mixed fruit jam. Hence an attempt was made to find out the possibilities of mixing guava and sapota for making jam and utilizing a major portion of marketable surplus of guava. Guava and Sapota pulp was blended in the ratios of 100:0, 90:10, 80:20, 70:30, and 60:40 respectively to prepare blended jams. The treatment of T₄, 60% guava pulp and 40% sapota pulp, showed significantly less titrable acidity (1.05%), higher TSS (74.2°Brix) and total sugar (67.28%). Among the blended jams, the highest score for colour (8.64),
flavor (8.88), consistency (8.97), taste (8.12), and overall acceptability (8.78) was judged in the treatment 60% guava pulp and 40% sapota pulp. Treatment T₄, 60% guava pulp and 40% sapota pulp was more in red color [Er. Patil M. M.*, Er. S. B. Kalse and Er. A. A. Sawant (College of Agriculture Engineering and technology, Dist-Ratnagiri-415 712, India), *Agricultural Engineering International: CIGR Journal, 2013, 15(1), 167-172].