

Effect of pomegranate juice filtrate on textural, physicochemical and microbial quality of chevon from mature goat

Nikheel B. Rathod¹, Mohini R. Jadhav¹, Rahul C. Ranveer¹, Anil S. Nandane², Surendra B. Patange¹

¹ PostGraduate Institute of Post Harvest Management, Roha, Raigad, Maharashtra, India

² Dept. of Food Processing Tech. A. D. Patel Institute of Technology, Anand, Gujarat, India

Introduction: Tenderness is a major factor to affect the eating quality as well as consumer satisfaction for meat. Effect of pomegranate juice filtrate (PJF) on textural profile, physiochemical quality and microbiological stability of goat meat were evaluated

Materials and methods: Prior to treatment PJF was evaluated for their phytochemical (total tannins - 24.32 µg GAE/ml & phenols- saponin, phlobatanin, alkaloid & tannin) composition and antimicrobial effect

Results and discussion: PJF exhibited antimicrobial effect against potential spoilage indicator organisms (Inhibition zone - *Bacillus subtilis* 17 ± 0.35 mm, *Staphylococcus aureus* 23 ± 0.14 mm, *Escherichia coli* 12 ± 0.15 mm, *Proteus vulgaris* 10 ± 0.05 mm, *Aspergillus niger* 20 ± 0.08 mm and *Candida albicans* 15 ± 0.36 mm). Results suggested PJF enhanced textural properties of meat, by reducing hardness from 19.7 to 13.23 (N), chewiness from 8.59 to 6.26 (g), springiness from 0.74 to 0.57 (mm), adhesiveness from -0.22 to -0.33 (N mm) and cohesiveness from 0.72 to 0.53. The changes in textural profile were related to probable tenderisation effect, with enhanced water holding capacity from 25.6 to 43.87 %, reduced cooking loss from 30.25 to 21.18 % and changed colour values with an improved lightness (L*), reduced redness (a*) and yellowness (b*). PJF inhibited the microbial growth (total plate count, *Escherichia coli* and Yeast & mould) suggesting the preservative effect of PJF

Conclusion: Treating goat meat with PJF containing phenols and tannins proved to be an effective tenderising & preservative agent with improved textural attributes.