

21st International Conference on

Food & Nutrition

July 25-26, 2018 | Vancouver, Canada

Physicochemical changes in black carrot during growth and development of roots

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This research was carried out to demonstrate the changes that occur during growth of carrots till maturity. Black carrots have anthocyanin as major pigment and it also act as strong antioxidant. Black carrot (pusa asita and black wonder) seeds were grown in the experimental field in amritsar, punjab, india. Carrots were harvested after 45 days of sowing and at an interval of seven days till roots reached full maturity. Physical and chemical properties of carrots like root length, breadth, firmness, total soluble solids, moisture content, anthocyanin content, ascorbic acid, colour parameters and anti oxidant activity were determined using aoac methods. The anthocyanin content of pusa asita and black wonder varied from 11.46 to 519.39 mg/100g and 0.62 to 3.29mg/100g respectively. Same trend was observed in ascorbic acid content. Moisture content of carrots decreased with the growth whereas total soluble solids and total solid content increased with the development of roots. Antioxidant activity of pusa asita and black wonder varied from 28.69 to 91.08% and 4.55 to 15.62% respectively. Root weight, length and breadth of carrots increased with the growth. Pusa asita has higher anthocyanin content and antioxidant activity when compared to black wonder. Length and breadth of black wonder is higher than pusa asita. Anthocyanin from black carrot can be used as natural colourant in food industry.

Biography

Amritpal Kaur has done Graduation and Post graduation in food technology and pursuing PhD Food Technology from Guru Nanak Dev University under the supervision of Prof. Dalbir Singh Sogi. Her area of research is biosynthesis, stability and application of biopigment from carrot.

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