



DEVELOPMENT OF LYCOPENE CONTENT IN TOMATOES AT COLOUR BREAK AND VARIATION OF IT DURING STORAGE AND PROCESSING

G.E.D.A.M. Jayarathna^{1,2}✉, S.B.Navaratne², I. Wickramasinghe²

¹National Institute of Post Harvest Management, Jayanthi Mawatha, Anuradhapura, Sri Lanka.

²Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.

✉shani.ash86@sci.sjp.ac.lk; shani.ash86@gmail.com

<https://doi.org/10.34302/crpjfst/2023.15.3.9>

Article history:

Complete by editor

Keywords:

Lycopene

Maturity stage

Tomatoes

Storage condition

Food colorant

ABSTRACT

Lycopene is a natural pigment present in tomatoes and is responsible for red colour, Lycopene content in tomatoes is varied based on the variety, climatic condition, soil type and rainfall pattern in cultivated areas and also on the maturity stage of the fruit. So also, it is varied with the stage of harvest, harvesting season, storage condition, storage period and different types of processing. Harvesting at the colour break stage and storing at low temperatures (22^o C – 30^oC) is favourable for lycopene development rather than storing at high temperatures. Ethylene gas treatment can be used to enhance the lycopene content and it accelerates the ripening process in tomatoes. Processing at high temperatures for long periods and exposure to bright lights causes to decrease the lycopene content. Further, processing of tomatoes increases the lycopene bioavailability and many health benefits according to the results of previous studies. Processing waste of tomato skin and pericarp can be used as a lycopene source for the food industry as well as to the formation of many tablets which are enriched with many vitamins and nutrients. Extracted lycopene can be used as a natural food colorant for artificial colorants in avoiding harmful effects. There is an emerging future trend in preparing many products by increasing the lycopene content in the natural product on the well-being of the consumers.
