## A REVIEW ON PROCESSING OF TURMERIC RHIZOME

## **Ranjeet Kumar\***

RMD College of Agriculture and Research Station, Ambikapur, C.G. (India) Email: <u>ranjeet29330@gmail.com</u>

Received-28.01.2021, Revised-17.02.2021, Accepted-25.02.2021

Abstract: Turmeric is the most ancient medicinal species found in the world. It is grown in most of the Asian countries. The quality of turmeric powder depends upon the initial quality of rhizomes and processing of turmeric rhizomes which effects curcumin content, organoleptic characteristics, size and general appearance of the dried turmeric rhizomes. Processing of turmeric rhizome is done 2 or 3 days after harvesting. Maintaining the curcumin content in turmeric is important during processing and it depends upon the methods used for processing the turmeric. Curing is a process of cooking the raw rhizomes in hot water to obtain attractive colour, characteristic aroma, destroy the viability of the fresh rhizomes and remove the raw odour, reduces the time of drying, ensures an even distribution of colour in the rhizomes and gives a better quality product. Conventionally rhizomes are boiled in water which results in less retention of curcumin content and essential oil. Also there is no engineering and thermal background in designing of conventional turmeric boiling system due to this system was very bulky and there is large amount of heat losses. Processing time of turmeric rhizome is also very large in conventional system. Hence modification is done and improved system has been developed for processing of turmeric. Improved systems are smaller in size and time required for the processing is also less. When turmeric is processed with improved systems higher turmeric curcumin is retained as compare to conventional system. Various methods are used to cure the turmeric effects its quality. Processing of turmeric rhizome involves curing, drying, polishing, grinding and packaging. For drying of turmeric rhizome, solar dryer was evaluated which reduces the drying time for turmeric. It is reported that solar drying is the most efficient method for the processing of turmeric rhizome.

Keywords: Processing, Rhizome, Solar drying, Turmeric

## REFERENCES

Almeida, Mariana Correa, Sampaio, Geni Rodrigues and Bastos, Deborah Helena Marcowicz (2018). "Effect of gamma radiation processing on turmeric: Antioxidant activity and curcumin content", Radiation Physics and Chemistry 152, 12–16.

Athmaselvi, K. A. and Varadharaju, N. (2003). "Heat utilization in different methods of turmeric boiling". Madras Agric. J., 90(4-6), 332-335.

**Bambirra, Maria Lucia A., Junqueira, Roberto G. and Gloria, Maria Beatriz A.** (2002). "Influence of Post Harvest Processing Conditions on Yield and Quality of Ground Turmeric (Curcuma Longa L.)", Brazilian Archives of Biology and Technology, 45(4), 423-429.

**Blasco, M., Garcia-Perez, J.V., Bon, J., Carreres, J.E. and Mulet, A.** (2006). "Effect of Blanching and Air Flow Rate on Turmeric Drying", Food Science and Technology International, , 12(4), 315-323.

Chandrasekaran, Indu Rani and Singh, Chandra Bhan (2018). "Effect of processing of turmeric (Curcuma longa rhizomes L.) on the concentrations of bioactive constituents", CSBE/SCGAB 2018 Annual Conference University of Guelph, Guelph, 1-18.

**Ettannil, Jayashree and Zachariah, Thondiath John** (2016). "Processing of turmeric (Curcuma longa) by different curing methods and its effect on quality", Indian Journal of Agricultural Sciences 86 (5), 696–698. **Gunàsekar, J. Jhon, Kaleemullah, S., Doraisamy, P. and Kamaraj, S.** (2006). "Evaluation of Solar Drying for Post Harvest Curing of Turemric (Curvuma longa L.)", Agricultural mechanization in Asia, 37(1), 9-13.

**Hmar, Baby Z., Kalita, Dipsikha and Srivastava, Brijesh** (2017). "Optimization of microwave power and curing time of turmeric rhizome (Curcuma Longa L.) based on textural degradation", LWT -Food Science and Technology, 76, 48-56.

Jose, K. P. and Joy, C. M. (2009). "Solar Tunnel Drying Of Turmeric (Curcuma Longa Linn. Syn. C. Domestica Val.) For Quality Improvement", Journal of Food Processing and Preservation 33, 121–135.

**Kamble, K. J. and Soni, S. B.** (2009). "A study of improving turmeric processing", Karnataka J. Agric. Sci., 22(1), 137-139.

**Padma, M., Sreenivasula, B. and Reddy, M. Madhava,** (2016). "Evaluation of the quality parameters of the turmeric rhizomes dried on different floors and conditions", International Journal of Agricultural Sciences, 12(2), 302-308.

**Patil, P. Chhapkhane, M. and N. K.** (2013). "Improving Design and Operation of Steam Based Turmeric Cooking Process", International Journal of Engineering Research and Applications (IJERA), 3(4), 933-935.

Prathapan, A., Lukhman, M., Arumughan, C., Sundaresan, A. and Raghu, K. G. (2009). "Effect of heat treatment on curcuminoid, colour value and total polyphenols of fresh turmeric rhizome",

\*Corresponding Author

International Journal of Food Science and Technology, 44(7), 1438-1444.

Ranveer, Rahul C., Lokhande, Siddharth Madhukar, Kale, Ravindra and Sahoo, A. K. (2013). "Effect of curing and drying methods on recovery, curcumin and essential oil content of different cultivars of turmeric (Curcuma longa L)", International Food Research Journal 20(2), 745-749. Shaikh, Sameer D., Yadav, Prof. R. H. and Shaikh, Prof. S. M. (2017). "Performance Analysis Of Forced Convection Solar Dryer For Turmeric", International Research Journal of Engineering and Technology (IRJET), 4(11), 592-595.