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● RESEARCH ARTICLE ●

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Changes in chemical constituents of ashwagandha Shrikhand during storage period

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ABSTRACT

Throughout research, the ashwagandha powder @ 0.3%, 0.5% and 0.7% with 40% cane sugar (by weight of chakka), was mixed in chakka for manufacture of *Shrikhand*. The prepared product was stored at 7^0C in refrigerator and chemically was monitored at regular interval. The moisture content decreased with increase in ashwagandha powder level. Fat increased slightly with increasing storage period up to 22 days. After 22 days, fat percentage indicated decreasing trend. Among all treated samples, T_2 was superior to T_1 and T_3. Increase in protein content was due to ashwagandha powder. Total sugar in all treatment samples and control sample indicated decreasing pattern. Total solids significantly indicated increasing trend during storage period because total solids are correlated with moisture per cent. Acidity indicated increasing trend in storage period because acidity depends on presence of lactic acid bacteria in *Shrikhand* samples. pH was also useful for indication of deterioration of sample.

Key words : Ashwagandha, Chakka, Shrikhand, Chemical quality

INTRODUCTION

Shrikhand is a semi solid, sweetish-sour fermented milk product prepared from dahi, whey is drained off from dahi to yield *Chakka*. Sugar, flavour, colour and spices are mixed into *Chakka* to form a soft homogenous mass that resembles sweetened quarge of Germany. *Shrikhand* is popular desert and forms part of meal on festive occasion in India, particularly in the state of Maharashtra, Gujarat, Karnataka and some part of South India (Aneja *et al.,* 2002).

Several attempts have been made to incorporate different additives into *Shrikhand* to address the growing interest in the diversification of food products to attract a wider range of consumers. The pulp of fruits such as apple, mango, papaya, banana, guava and sapota (Bardale *et al.*, 1986; Dadarwal *et al.*, 2005), cocoa powder with and without papaya pulp and incorporation of probiotic organisms (Geetha *et al.*, 2003) have been tried in *Shrikhand*. Now a day's use of pulp of different fruits in *Shrikhand* is gaining popularity. *Shrikhand* mixed with mango, strawberry, sapota, pulp are also becoming popular day by day. Ashwagandha (*Withania sominfera* L.) is one of the medicinal plant could be incorporated in *Shrikhand*. It is revered for its positive influence on overall physiology of human being. It is consider one of the most important medicinal plants in Ayurveda system of medicine. It is also known as winter cherry and is considering increasing all the seven body nutrients. The plant is consider to be one of the best virilifics, vitaliser, rejuvenator and hence known as Indian ginseng. Ashwagandha is used in medicine as anti-inflammatory, adoptogenic, aphrodisiac, restorative, hypnotic diuretic and immunostimulatory.

In India, large number of human population is in fond of *Shrikhand*. In addition, we export this product to Middle East countries, USA and European nations. Considering the therapeutic importance, this positively affects on the health of human being. Hence, this study has been planned with the objective to examine chemical composition of ashwagandha *Shrikhand* during storage period.

MATERIALS AND METHODS

Fresh cow milk was used for product preparation during investigation. Freeze-dried LF-40 (*Lactic fermentii*) culture obtained from Division of Dairy Microbiology, NDRI, Karnal was used for investigation. Third activated culture was maintained as per the directives given by NDRI, Karnal. In order to keep the culture active, it was propagated once in a week. It was stored at 5^0C in a refrigerator and at most, care was taken to avoid contamination to culture. Ashwagandha powder of

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