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QUALITY EVALUATION AND PREPARATION OF OLIVE PICKLE

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Abstract: Olive tree (*Olea europaea* L.) is one of the most important fruit trees in Mediterranean countries. The fruits are important components in the daily diet of a large part of the world's population. Olive fruit was used to develop olive pickle. The product was evaluated by a panel of semi trained judges for sensory characteristics like colour, appearance, texture, aroma, taste and overall acceptability on nine point hedonic scale. The overall mean score of pickle was 8.8. The developed product can be stored safely upto 60 days of storage period and score 8.4. The developed product "liked very much" on the organoleptic parameter.

***Index Terms*: Organoleptic evaluation, Pickle, shelf life**

1. INTRODUCTION

The olive tree (*Olea europaea*) belongs to the family of *Oleaceae* and it is a traditional symbol of abundance, glory, peace and its leafy branches were historically used to crown the victorious in friendly games and bloody war. The worldwide consumption of olives and olive products has increased significantly (Vinha *et al.*, 2005). The olive fruit, its oil and the leaves of the olive tree have a rich history of nutritional, medicinal and ceremonial uses (Soni *et al.*, 2006). The plant is also cultivated widely in the Arabian Peninsula, the Indian subcontinent and Asia (Somova *et al.*, 2003). They tolerate drought well. Olives are harvested in the autumn and winter. (Oteros *et al*., 2013). Olive is an egg shaped fruit, with sizes varying from 2 to 3 cm and flesh to stone ratio of 3 to 6.5. Olive is famous for its nutritious edible oil with a lot of health benefits. Other constituents are water, sugar, protein, oleouropein and anthocyanins. Bitterness must be removed due to Oleouropein. Composition of olive fruit, moisture 65 to 75%, lipids 10-15%, reducing sugar 3-6%, non reducing sugar < 0.3%, fiber 1- 4% and protein 1-2 %. Olive fruit also contain1-3% phenolic compounds, 1.5% inorganic matters and 5.8% cellulose organic acid, pectin and pigments in small amount. The olives have antimicrobial properties to different parts of the plant and are also responsible for the extent of browning in the fruit.

II. MATERIAL AND METHODS

2.1 Procurement of olive: For present investigation raw green olives were procured from a farm of Momasar near Bikaner.

2.2 Processing of olive: Olive has a bitter taste, thus in order to reduce its bitterness the process of pre-treatment was standardized.

2.3 Traditional treatment: Two kg of olive variety were placed in plastic jars and pickling brine solution (12 % Sodium chloride + 0.5% Citric acid). The jars were closed tightly and left for 60 days until the end of the pickling process (Ibrahim, 2002 and Ross *et al., 2002*).

2.4 Method of evaluation: Threshold test was used for selection of the panel member (Potter, 1987). Convenience, experience, knowledge, willingness, interest and sincerity were the criteria for consideration of panel members. Ten members were enlisted in the panel comprised of staff of the College of Home Science, SKRAU, Bikaner. Nine-point hedonic ranking scale was provided to the judges for scoring as suggested by Ranganna (1986). Standardization of the developed product was carried out through organoleptic evaluation. The developed product evaluated for their sensory characteristics like colour, appearance, aroma, texture, taste and overall acceptability by selected panel of ten semi trained panel members.

III. STATISTICAL ANALYSIS:

The data of the organoleptic acceptability and shelf life study was statistically analyzed to fine out significance of the results (Chandel.1997). Differences were considered statistically significant at 1% and 5% level of significance.

IV. RESULT AND DISCUSSION

4.1 Development and standardization of value added product: Olive pickle were developed, standardized and evaluated for various sensory characteristics by a panel of semi trained judges for sensory characteristics like colour, appearance, aroma, texture, taste and overall acceptability on nine point hedonic scale. Results of sensory evaluation of developed products are depicted in Table 4.1.

- **Olive pickle:** Pickle is a traditional preparation consumed by people all over the world as a side dish. Therefore, pickle was developed by using oil. Table 4.1 depicts that the mean scores for the colour, appearance, aroma, texture and taste were 8.0, 8.3, 8.7, 8.8, 8.8 and 8.8 respectively and was liked very much by the panel members.

Table 4.1: Organoleptic acceptability of Olive pickle

Sr. No.	Olive pickle	Mean score of sensory characteristics on nine point hedonic ranking scale					
		Colour	Appearance	Aroma	Texture	Taste	Overall Acceptability
1.	Control	8.0± 0.81	8.3 ± 0.62	8.7 ± 0.44	8.8 ± 0.51	8.8 ± 0.51	8.8 ± 0.60

Values are mean ± SD of ten panelists

4.2 Shelf life evaluation of developed products: The shelf life of the developed product was judged on the basis of sensory characteristics after every 15 days interval during the storage period of 60 days. Table 4.2 represents the value of sensory evaluation of sour pickle. The data suggests that the mean scores obtained by the product for various sensory attributes were 8.0, 8.2, 8.6, 8.3 and 8.5 on 0 day, which decreased slightly during storage i.e. 8.0, 8.1, 8.1, 8.0 and 8.4 on 60 days for colour, appearance, aroma, texture and taste respectively. Further, the score for mean overall acceptability were in range of "liked very much" and the difference was non significant.

Table 4.2: Effect of storage on organoleptic acceptability of olive pickle

Sr. No.	Olive pickle	Mean score of sensory characteristics on nine point hedonic ranking scale					
		Colour	Appearance	Aroma	Texture	Taste	Overall Acceptability
1	0	8.0±0.47	8.2±0.63	8.6±0.10	8.3±0.25	8.5±0.75	8.6±0.25
2	15	8.0±0.01	8.2±0.78	8.4±0.34	8.3±0.10	8.5±0.60	8.6±0.17
3	30	8.0±0.78	8.2±0.47	8.2±0.56	8.2±0.81	8.5±0.53	8.4 ± 0.45
4	45	8.0±0.63	8.02±0.66	8.1±0.73	8.0±0.66	8.5±0.58	8.4 ± 0.41
5	60	8.0±0.63	8.1±0.47	8.1±0.56	8.0±0.81	8.4±0.58	8.4 ± 0.45
6	F value	NS	NS	NS	NS	NS	NS
7	CD	-	-	-	-	-	-

Values are mean ± SD of ten panelists NS= Non Significant

CONCLUSION:

Olive pickle was developed by supplementation of olive fruit. Developed product was "liked very much" on the Hedonic Ranking scale. Result of sensory evaluation of olive pickle found to be most acceptable and scored 8.8 on 9 point scale by the panel of judges.

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