



## RESEARCH PAPER

# Preparation of “Masala tea essence”

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**Abstract :** We introduced a liquid masala tea essence which was made with a mix blend of natural herbs such as ginger, lemon grass, cardamom, cinnamon, *Tulsi*, mint, clove, etc. Essential oil was extracted by using steam distillation process from spices and herbs, then the essential oil from each ingredient was mixed in different proportions to make treatments (T<sub>1</sub> to T<sub>5</sub>). After preparation of treatments they were stored for the period of 15 days and then tested using microbial test IS 5887 (Part 3) for presence of bacteria *Salmonella* spp. According to the microbial test results *Salmonella* spp. was found to be absent upto 15 days from the date of production. Hence, it is concluded that essence can be stored upto 15 days in refrigerated condition. Similarly prepared essences were placed for sensory evaluation on the basis of 9 point hedonic scale. From the results of sensory evaluation T<sub>1</sub> treatment was found to be the best treatment which contained (2 ml of ginger, lemongrass and cardamom each and 1ml of cinnamon, *Tulsi*, clove and mint).

**Key Words :** Spices, Herb, Essence, Treatment, Microbial test, Sensory evaluation

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## INTRODUCTION

In India, most of the people preferred tea as their energy drink, 95 per cent people start their day with tea. People also prefer the flavoured tea such as ginger and lemon grass tea. Many of them are ought to preferred healthy way of tea such as green tea, black tea and excess flavors with benefits of natural herbs. But main problem with the natural herbs is that it is difficult to find out, mostly in big cities. Also the dehydrated products available in this ranges may leads to the residual waste after use and also not affordable for all economic classes. Natural herbs are plants that contain healing properties

and can treat a number of health problems. They do have exotic flavors and unique aroma – which is what enhance the taste and smell of your food. So we introduced a liquid masala tea essence which have made with a mix blend of natural herbs such as ginger, lemon grass, cardamom, cinnamon, *Tulsi*, mint, clove, etc. with benefits of all the herbal qualities in it without producing any residual waste.

The principal ingrident ginger (*Zingiber officinale*) contain about 80 calories per 100 g also contain moderate amount of vitamin B6 and diatory minerals thomas h. Everett (1982). Ginger help to alleviate nausea and vomiting Caldwell (1998). *Tulsi* consist of medicinal

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properties and that's why used in case of fever, cardiac disease, respiratory problem etc. Warriar (1995) lemon grass (*C. citratus*) used as both medicinal herb and in perfumes and also consumed as tea for anxiety in brazilian folk medicine Soenarko (1977). Cinamom is rich source of vit. K, calcium and iron with moderate amount of vit. B6 Iqbal (1993), flavour of cinnamon is due to aromatic essential oil that makes upto 0.5 to 1 per cent of its composition toussaint-samat 2009. Seed and oil from the cardamom seeds are used to make medicine for digestion problems batres, alexis (6 Aug., 2012) cardamom contains high contain of essential oil upto 8 per cent Williams (2014). Bisset (1994) state that clove are used as a carminative, to increase hydrochloric acid in stomach and to improve peristalsis. Clove containing eugenol is effective for tooth pain and other pain Turner (2004) methanol from mint essential oil (40-99%) is an ingredient of many cosmetics and Perfumes Ortiz (1992), mint oil can be used as an environmental friendly insecticide Jamila and Mostafa (2014). Taking all these points in consideration the research study was undertaken with the objectives, to prepare mix blend liquid essence of herbs to incorporate in tea to enhance its flavour and to evaluate the sensory characteristics of prepared essence.

## MATERIAL AND METHODS

The research project was carried out by the students of final year B. Tech. Agricultural Engineering during the academic year 2018-19.

### Spices and herbs:

To prepare masala tea essence, spices such as ginger (*Zingiber officinale*), *Tulsi* (*Ocimum tenuiflorum*), Lemongrass (*Cymbopogon schoenanthus* L.), Cinnamon (*Cinnamomum verum*),

Cardamom (*Elettaria cardamomum*), Clove (*Syzygium aromaticum* L.) and Mint (*Mentha spicata* L.) were procured from the local market.

### Equipment:

Steam distillation apparatus, grinder, cutting knives, weighing balance, refrigerator and plastic bottles were used to prepare the required essence.

### Experimental setup:

Different proportions of essences extracted from different spices and herbs are shown in the Table A.

### Detail procedure:

#### Raw material:

Ginger, lemongrass, cardamom, cinamon, *Tulsi*, mint and clove were procured from the local market.

#### Cleaning and washing:

All the spices and herbs were cleaned and washed properly to remove dirt and dust.

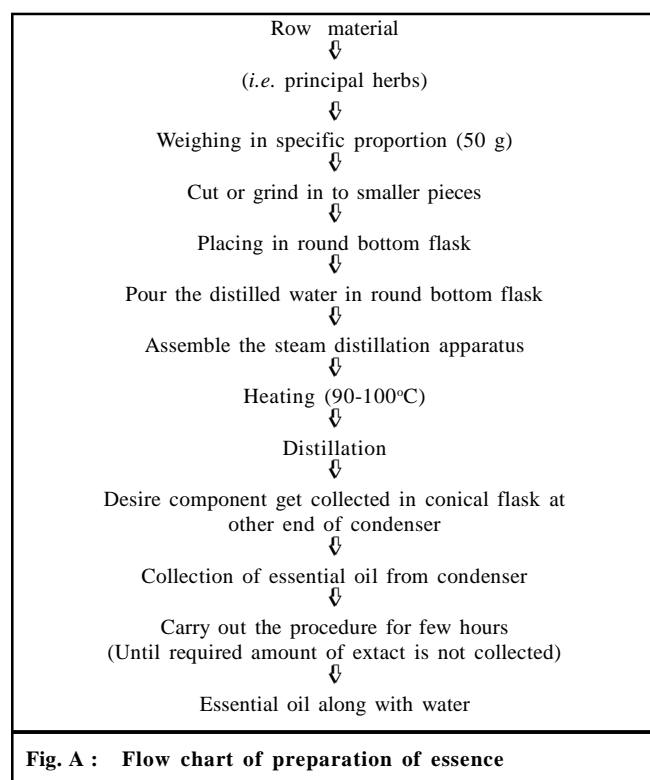
#### Cutting and chopping:

All the herbs such as (*i.e.* ginger, lemongrass, *Tulsi* and mint) were chopped in to a fine pieces and spices (*i.e.* cardamom, cinamon and clove ) were ground in to fine powder form.

### Extraction of essential oil:

For extraction of essential oil from the principal raw material (*i.e.* spices and herbs) steam distillation apparatus was used. In steam distillation, the distilling pot was infused with steam, which carried the Oil's vapor into the distilling head and then into the condenser, where the oil and water co-condensed. As an alternative, steam was generated *in situ* in the distilling pot.

Ingredients	T <sub>1</sub> (ml)	T <sub>2</sub> (ml)	T <sub>3</sub> (ml)	T <sub>4</sub> (ml)	T <sub>5</sub> (ml)
Ginger	2	3	1.5	2	3
Lemongrass	2	2	3	1.5	3
Cardamom	2	1.5	2	3	2
Cinnamon	1	0.5	0.5	0.5	0.5
<i>Tulsi</i>	1	1	1.5	1	0.5
Clove	1	0.5	0.5	0.5	0.5
Mint	1	0.5	1	1.5	0.5
Total quantity (ml)	10	10	10	10	10

**Flow chart:****RESULTS AND DISCUSSION**

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

**Sensory evaluation:**

Sensory evaluation of essence was done in the presence of the Principal of our college, project guide, all the staff members and students. The results were recorded by taking the reference of 9-point hedonic scale given by Gupta (1976). The Essence prepared from incorporation of various herb and spices were evaluated for taste, smell and overall acceptability (Krokida *et al.*, 1999). This panel was selected randomly on the basis of gender and age and was briefly acquainted with the sensory characteristics that were to be judged. The average values of the rating given by all the members were then calculated and used for further analysis. The sensory evaluation scale for rating the sensory qualities of essence prepared from ingredients was done on the basis of three main parameters *i.e.* taste, smell and overall acceptability and this quality characteristics of samples were examine by using rating scale.

**Fig. B : Treatments of masala tea essence****Fig. 1 : Sensory evaluation****Table 1 : Sensory evaluation of masala tea essence**

Parameter	Sensory score				
	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>
Taste	8.6	6.5	7.2	7.5	7.3
Smell	7.5	6.3	7.1	7.3	7.2
Overall acceptability	7.7	6.4	7.0	7.3	7.1

**Table 2 : Microbial test masala tea essence**

Sr. No.	Parameter	Result	Unit	Method
1.	<i>Salmonella</i> spp.	Absent	/25ml	IS 5887 (Part 3):1999 Reaffirmed 2009

The data on sensory evaluation of masala tea essence is presented in following Table 1.

#### Microbial test of masala tea essence:

The microbial tests of prepared samples were carried out after the period of 15 days. 4 bottles of essence (50 ml each) were tested for presence of *Salmonella* spp. Microbial test was carried out in microbiology test lab and the results are shown in the following Table 1.

From Table 1 it can be seen that the parameter *Salmonella* spp. was found absent in the prepared masala tea essence sample stored for the period of 15 days.

#### Conclusion:

Following conclusions were drawn from the research study:

– From the results of sensory evaluation it was concluded that T<sub>1</sub> treatment was the best treatment which contained (2 ml of ginger, lemongrass and cardamom each and 1ml of cinnamon, *Tulasi*, clove and mint).

– Average sensory score for T<sub>1</sub> treatment was found 8.6 for taste and 7.5 for smell.

– Score for overall acceptability for T<sub>1</sub> treatment was 7.7.

– From microbial test report it was concluded that the product was free of any harmful bacteria and micro-organism.

– It can also be concluded that essence can be stored upto 15 days in refrigerated condition.

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