

Comparative study of Floral tisane and green tea

Rathi Shikha*, Jalwal Pawan*, Kharb Manju*, Kumar Vivek*

Shri Baba Mastnath Institute of Pharmaceutical and Research, Rohatk

ABSTRACT: In recent times interest in nutrition and preventive health care with the active constituents from plant materials is growing very fast. This paper is about the comparative study of bundle of antioxidants and nutrients, floral tisane made from dried mixture of flowers with green tea. For this study "Organic India green tea" is used in form of tea bags, one can easily get them from supermarkets. The detailed information about the plants used is also included and after consuming the floral tisane was found with better responses as that of normal green tea. Demonstrating the possible precautions, researchers still continue to examine and vouch the health benefits of tisanes.

INTRODUCTION

Although the English term "TEA" is used to denote the infusion made from the leaves or seeds of plant *Camellia sinensis*. The technical term "Tisanes", also called herbal teas are not actually teas but these are infusion or decoction made from taxa other than *Camellia sinensis* (tea plant), from which true teas are made. The word "tisane" comes through Latin "tisana" and Greek "ptisane" give rise to archaic French and English word "tisane" that refers to any type of herbal tea. Most of these brews are caffeine free, so one can consume 6-8 cups daily without any side effects. Tisanes are one of the most consumed beverages of the world after water. Tisanes are actually the aqueous extracts of herbal ingredients that are made form combination of seeds, flowers, grass, nuts, roots and rhizomes etc. These are on e of the most popular and cheap non-alcoholic beverage around the world. Most of these are caffeine free. For better results a fair blend of ingredients is used for intended effects. Now a day's flowers are most commonly used for the fragrance and freshness they have, apart from that they can give us a variety of health benefits. Floral teas are blended with flower buds, petals and leaves to enjoy and flavour with health benefits. Some floral tea brands like "tea forte" and "ten ren teas" etc are world famous just for their freshness, aroma and taste. This paper will cover the comparative study of a combination of floral blend with regular green tea. Organoleptic properties are mainly kept in limelight of both the samples.

PLANT PROFILES:

- **Chamomile:** Dried flower heads of *Matricaria Chamomila* L. are used, belongs to botanical family, Asteraceae (compositae).



Common names: Anthemis nobilis
German chamomile
Roman chamomile

Plant Description: It is also called "physician herb", just because of its beneficial effects. One blossom grows on each stem. Flowers have a small yellow cone surrounded white rays having feathery appearance. Flower's cone has a hemispherical shape with aromatic pleasant fragrance that is yellowish brown in colour.

Chemical composition: Active principles of chamomile are terpenoids, bisobolol, chamazulene, sesquiterpenes, coumarins, flavonoids, apigenin and quercetin etc.

- **Lavender:** Two varieties of lavender are most common, *Lavandula angustifolia* and *lavendulan latifolia*, belongs to biological family, Lamiaceae.



Plant description: Essential oil is the main reason of benefits of this fragrant and bushy shrub. Its flowers grow in whorl of tiny, tubular and mauve blue blossoms. The whorls are 6-10 flowers along a terminal spike of 12-18 inch high.

Chemical composition: The plants contain phytochemicals like volatile oils, tannins, coumarins, flavonoids and triterpenoids etc.

- **Calendula:** Herbal products of calendula are derived from *C. officinalis*, belongs to botanical family, Asteraceae.



Common names: Garden marigold, Holligold, Gold bloom

Bull's eye, Mary bud.

Plant description: This gold flowering herb opens its gold blossoms in the morning and closes at dusk or when it rains. Their yellowish or golden orange blossoms has a specific fragrance.

Chemical composition: Saponins, carotenoids, resin, sterols, flavonoids and mucilage are the main active principles of the herb.

- **Lemon balm:** Dried leaves of *Melissa officinalis*, that belongs to family, *lamiaceae*.



Plant description: This is a citrus scented aromatic herb that grows in bushy clumps up to one feet and branches to 18inch long. Partial shade dries leaves are used that exudes a pleasant lemon fragrance when crushed.

Chemical composition: Lemon balm contains volatile oils like citral. Citronella, eugenol and other components like flavonoids, triterpenoids, rosemarinic acid, polyphenols and tannins etc.

Organoleptic properties: Organoleptic means, being perceivable by the senses like smell, appearance, taste and touch. These properties are the sensory experiences of distinctive qualities of a product.

- **Premonition with herbal teas:** Most herbal teas reaches in market in attractive and nifty packaging in form of tea bags that are disposable too and people generally uses the herbal formulation but no one thinks about the conventional method that is used for the manufacturing of tea bags, that utilizes the bleaching agent, chlorine dioxide, which bring about the by-products like dioxin, that can cause birth defects because it can enters the placenta of pregnant women as well as can enter the breast milk and thus passed along to the child. Dioxin can also cause cancer and other debilitating diseases. That’s why being mindful about the use of herbal teas is very crucial. So, if possible, we should go for loose herbs and parts of plants and should opt for stainless steel tea infusers rather than bleached tea bags. Never use an aluminium pot to prepare these recreational teas because aluminium is a reactive metal, so it can react with the herb and, depending on the plant type, it may produce a very toxic beverage as aluminium can dissolve during brewing of tisane that goes into bloodstream and accumulates in different organs, thus shows the negative effects.

MATERIALS AND METHOD:

- **Herbs and spices:** Two different samples (code A and code B) were prepared for this study. The herbs and flowers used for codeA are chamomile, lavender, calendula and lemon balm whereas codeB is the tulsi flavoured green tea leaves. In this study “organic India Green tea” is used as codeB. The composition for codeA is also given here and all the herbs are used as shade dries form.

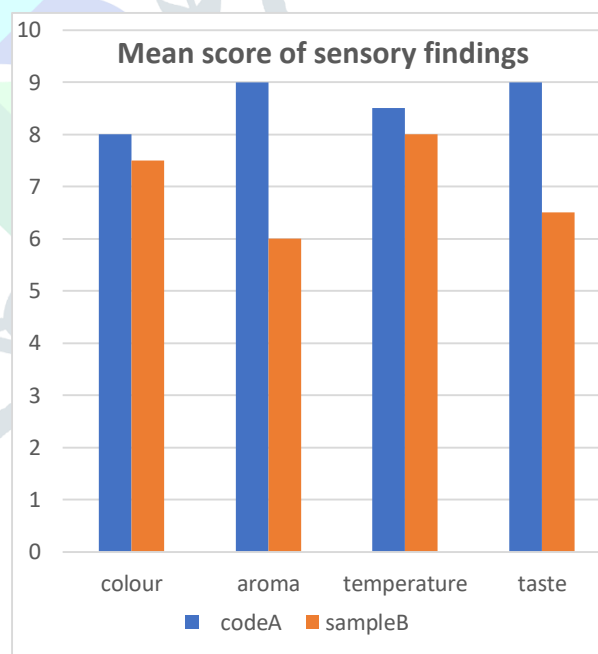
Composition of tisane with herbal proportions

Herb	Quantity
Chamomile (dried flowers)	4gm
Lavender (dried flowers)	2gm
Calendula (dried flowers)	2gm
Lemon balm (dried leaves)	2gm

- **Preparation of tisanes:** For making codeA a teaspoon of hand crushed mixture is brewed with a steeping time of 4-5 minutes. The container must keep covered while brewing, to keep the aroma intact. For codeB normal green tea is brewed for same time. Here we used the organic india tea bags having tulsi flavour, which is liked most by the people.
- **Sensory evaluation:** we generally rely on our senses’ response for analysis of food and this technique is widely used. Evaluation is done by odour, colour, taste and temperature etc. acceptance level of both the samples were experienced with friends, family and faculty members of Baba Mast Nath University, Rohtak, Haryana, India. A questionnaire cum consent form was completed by the subjects, that is also attached here and score was given by subjects out of ten in each sensory finding. 125 ml sample was served at a time at temperature of 60°C to 70°C and second sample was served after an hour of first one. Mean of all the evaluations got from all the participants was calculated and given here.

Mean score of both samples

Sensory finding	Code A	Code B
Colour	8	7.5
Aroma	9	6
Temperature	8.5	7.5
Taste	8.5	6



- **Result and discussion:** sensory evaluation was done by subjects. Tisane from floral blend comes out to more delightful having improved organoleptic properties. Brewed green tea has lower taste and aroma as compared to the floral tisane. Code A came out with more favourable colour impact.

- **Conclusion:** In the above study two healthy drinks (CodeA and CodeB) were prepared and the sensory evaluation was done with them with the help of a questionnaire cum consent form. Higher sensory score was there for codeA, that was a blend of flowers with their buds, petals and leaves etc. and brewed with a steeping time of 4-5 minutes as compared with codeB, which was normal tulsi flavour green tea, brewed in same way as codeA. Bronchial muscle relaxation and calmness properties were also found to some extent with codeA.

- **REFERENCES:**

1. Herb tea. [Internet]. [cited 2016 April 22] Available from: www.ictionary.com/browse/herbal-tea
2. Lindsey Goodwin, Tisane /Herbal Infusion Basics. [cited 2016 March 10] Available from: <http://coffeetea.about.com/od/teaandtisanebasics/a/TisaneBasics.html>
3. Dan Bolton. Researchers Validate Tisane Health Benefits, World Tea News. [updated 2011; cited 2016 March 20] Available from: <http://worldteanews.com/news/researchersvalidate-tisane-health-benefits>
4. Tisanes. [cited 2016 March 8]. Available FROM <http://www.oilsandplants.com/tisanes.html>.
5. FAO. Food and Energy- Methods of analysis and conversion factors. Report of a Technical Workshop, Rome. 2002; Chapter 3.
6. AOAC Association of Official Agriculture Chemists. Washington Dc, USA. 1984.
7. Victor C. Myers and Hilda M. Croll. The Determination of Carbohydrates in Vegetable Foods. Journal of Biol.Chem. 1921;46:537-551.
8. International Standard- ISO 14502-1, Ed.1. 2005.
9. A. Kumar, A.G.C. Nair, A.V.R. Reddy, A.N. Garg 2005. Analysis of essential elements in Pragya-peya—A herbal drink and its constituents by neutron activation. Journal of Pharmaceutical and Biomedical Analysis. 37 (4): 631–828.
10. Lindsay Goodwin, n.da. What are Herbal Teas / Tisanes / Herbal Infusions?
11. Aoshima, H; Hirata, S; Ayabe, S., 2007. Anti-oxidative and antihydrogen peroxide activities of various herbal teas. Food Chemistry 103 (2): 617–622.
12. Anonymous, 2008. Herbal tea benefits.
13. Anonymous, 2011b. 10 Most Popular Herbal Tea Types and Their Benefits
14. Anonymous, 2011a. Introduction to Herbal Teas.