IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 7, May 2022
Impact Factor: 6.252

Extraction and Formation of Natural Perfume from Lemon Grass

Pratik Narute, Pramod Thorve, Sagar Shinde and Prfo. B. B. Tambe
Department of Chemical Engineering
Pravara Engineering College, Loni, Ahmednagar, Maharashtra, India

Abstract: *Three methods are used for oil extraction namely solvent extraction, hydro distillation and enfleurage. Distillation based recovery processes such as steam and vacuum distillation are preferred for the extraction of essential oils from plant materials. Essential oils are very complex in their chemical nature. Fragrance extraction refers to the extraction of aromatic compounds from raw materials and using methods such as distillation, solvent extraction, expression or enfleurage. All of these techniques tend to distort the odor of the aromatic compounds obtain from raw materials. Heat, chemical solvents or exposure to oxygen in the extraction process denature the aromatic compounds either changing their odor character or rendering them odorless. Before perfumes can be composed the odorants used in various perfume compositions must first be obtained. Synthetic odorants are produced through organic synthesis and purified. Odorants from natural sources require the use of various methods to extract the aromatics from the raw materials. Solvent extraction most used and economically important technique for extracting aromatics in modern perfume industry. Raw materials are submerged in a solvent that can dissolve the desired aromatic compounds. % Yield for using Ethyl Acetate at various feed to solvent ratio like 1:2 can be calculated by experimental analysis. As per literatures and observations Ethyl Acetate is the best suitable for extraction of Lemongrass Oil from the lemongrass. Ethyl Acetate can easily separate after extraction and has higher yield than other with low cost. Maximum yield and recovery of perfume oil from lemongrass is 2 % and 80 % for feed to solvent ration 1:2.*

Keywords: Lemongrass Oil, Ethyl Acetate, Solvent Extraction Process, Perfume Oil

REFERENCES

[1]. Aayush Parab , Kashmira Salgaonkar, Omkar Padwekar and Dr. S.J. Purohit, Extraction and Formulation of Perfume from Lemongrass, Student, Chemical Engineering, Thadomal Shahani Engineering College, Mumbai, Maharashtra, India, International Journal of Environmental & Agriculture Research, IJOEAR, ISSN-2454-1850, Vol-6, Issue-12, December- 2020.

[2]. Amol Joshi , Vamsee Sonti, Samiksha Rahate and Prof. Vivek Nagnath, Extraction of Perfumery Oil from Lemon Grass, Department of Engineering Sciences and Humanities, Vishwakarma Institute of Technology, (India), International Research Journal of Engineering and Technology (IRJET), Vol: 03 Issue: 08 Aug-2016.

[3]. Atitegeb Abera, Department of Chemistry, Extraction and Physicochemical Analysis of Essential Oils in Lemongrass leaves grown in Arbaminch, Arba Minch University, Arba Minch, Ethiopia, International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181 IJERTV9IS100033, Vol. 9 Issue 10, October-2020.

[4]. Dilip D Rajguru, Prajakta R. Pawar, Rukhsar G. Shaikh and Venkat S. Mane, Formulation of Perfume From Lemongrass, Students of B. E. Chemical and Professor and Head of Department of Chemical Engineering, K. K. Wagh Institute of Engineering Education and Research, Nashik– 422003, Maharashtra, India, Proceedings of 28th IRF International Conference, Pune, India, ISBN: 978-93-85465-29, 17th June 2015.

[5]. Hamad Alwani, Anggi Nuritasari and Dwi Hartanti, Chemical Composition and Antimicrobial Study of Essential Oil of Lemongrass (Cymbopogon citratus), Department of Chemical Engineering, Universitas Muhammadiyah Purwokerto, Indonesia, Scholars Research Library Der Pharmacia Lettre, 9 [5]:109-116, 2017.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 7, May 2022
Impact Factor: 6.252

[6]. Orji Onyinyechi A., Extraction and Formulation of Perfume From Lemongrass Leaves, A Research Project Submitted to the Department of Chemical Engineering in Partial Fulfillment of the Requirements for the Award of A Bachelor Degree in Engineering (B.Eng.) Caritas University, Amorji-Nike, Enugu State August, 2012.

[7]. Parvez. M. Tamboli, Nihal. G. Undire, Mohammed Raihan A. Shaikh, Manoj B. Mandake, Extraction And Formulation Of Perfume From Plants: A Review ,Undergraduate Students at Bharati Vidyapeeth College of Engineering and Assistant Professor at Bharati Vidyapeeth College of Engineering, Journal of Emerging Technologies and Innovative Research (JETIR)Department of Chemical Engineering, 1Bharati Vidyapeeth College of Engineering, Navi Mumbai, India, Volume 8, Issue 5, May 2021.

[8]. Ronak R. Shetty, Ketan B. Bagade and Prajwal

[9]. K. Shetty, Laboratory Scale Oil Extraction and Perfume Formulation from Locally Available Lemongrass Leaves, Datta Meghe College of Engineering, Airoli, Navi Mumbai, Maharashtra, India, Galore International Journal of Applied Sciences and Humanities Vol.1; Issue-1 Jan.-March 2017.

[10]. Suleiman M., Alhassan M., Lawal A., Nasiru Y., Safiya A.M. and Bello, N., Extraction and Formulation of Perfume from Locally Available Lemon Grass Leaves, Department of Chemistry, Sokoto State University, P.M.B. 2134-Birnin Kebbi Road, Sokoto-Nigeria, Chem Search Journal 9(2): 40 – 44, December, 2018 Publication of Chemical Society of Nigeria, Kano Chapter, CSJ 9(2): ISSN: 2276 -707X, December, 2018.

[11]. Shafaq Nisar, Asma Saeed, Rafia Rehman and Mahouachi Wifek ,, Lemongrass: a review on its botany, properties, applications and active components, Department of Chemistry, University of Agriculture, Faisalabad, Pakistan and Laboratory of management and valorization of forest resources, Institute National de la Recherche Engg Génie Rural, Eaux et Forest (INRGREF)- University of Carthage, Ariana, Tunisia, International Journal of Chemical and Biochemical Sciences, ISSN 2226- 9614.

[12]. S. J. Kulkarni, Oil Extraction and Perfume Formulation from Plants: A Review, Datta Meghe College of Engineering, Airoli, Navi Mumbai, Maharashtra, India, International Journal of Research & Review, 56 Vol.3; Issue: 11; November 2016.

[13]. Samson Okpo and Otaraku Ipeghan, Department of Chemical Engineering Technology, Delta State Polytechnic, Ozoro and Department of Chemical Engineering, University of Port Harcourt, GC-FID and FT-IR Characterization of Lemongrass Oil Extracted With Soxhlet Extraction Apparatus Using Ethanol as Solvent, IOSR Journal of Engineering (IOSRJEN), ISSN (e): 2250-3021, ISSN (p): 2278-8719 Vol. 10, Issue 5, May 2020.

[14]. Samiksha Rahate, Amol Joshi and Vamsee Sonti, Extraction of Perfumery Oil from Lemon Grass, Department of Engineering Sciences and Humanities, Vishwakarma Institute of Technology, (India), IJARSE, Vol-07, Feb. 2018.

[15]. Safaa E. Aly, A.R. Mohamed Hana and Y.I. Sallam, Lemongrass (Cymbopogon citratus) essential oil as affected by drying methods, Food Technology Research Institute, Giza, Egypt, Annals of Agricultural Science, 57-16,113-116, 2012.