

National Seminar on

**“MOLECULAR BASIS OF CANCER &  
PREVENTION” [MBCP -2020]**

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“Science is a beautiful gift to humanity; we should not distort it”

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**A.P.J.Abdul Kalam**



**SOUVENIR**



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**OP.42. COMPARATIVE PROFILING OF ESSENTIAL OIL COMPOSITION FROM *CORIANDRUM SATIVUM*, *CUMINUM CYMINUM*, *FOENICULUM VULGARE* AND *BRASSICA JUNCEA* THROUGH GC-MS ANALYSIS**

**K. Ashokkumar**<sup>\*1</sup>, S. Vellaikumar<sup>2</sup>, M. Murugan<sup>1</sup>, M.K. Dhanya<sup>1</sup>, P. Arjun<sup>3</sup>, A. Karthikeyan<sup>4</sup>, M. Nimisha<sup>1</sup>, and S. Aiswarya<sup>1</sup>

<sup>1</sup>Cardamom Research Station, Kerala Agricultural University, Pampadumpara, Kerala, India

<sup>2</sup>Agricultural College and Research Institute, Tamil Nadu Agricultural University, Madurai, TN, India

<sup>3</sup>Department of Biotechnology, PRIST Deemed University, Thanjavur, Tamil Nadu, India

<sup>4</sup>Subtropical Horticulture Research Institute, Jeju National University, Jeju-63243, Republic of Korea

\* email: biotech.ashok@gmail.com

**Abstract**

The chemical composition of essential oils (EOs) isolated from dried seeds of coriander, cumin, fennel and mustard was evaluated by gas chromatography-mass spectrometry (GC-MS) analysis. The EOs extraction was performed in Clevenger apparatus by hydro-distillation method. The result showed that yield of essential oil was 0.7%, 4.5%, 1.3%, and 0.8% in coriander, cumin, fennel and brown mustard respectively. GC-MS analysis revealed total of 16, 19, 18 and 17 compounds in the essential oil isolated from dried seeds of coriander, cumin, fennel and brown mustard or Indian mustard respectively. Among the four seed spices, coriander essential oil had three major constituents, linalool (49.23%), cinnamaldehyde (15.01%) and  $\alpha$ -thujene (4.12), while cumin essential oil showed, five major constituents namely 1,4-p-menthadien-7-al, (31.48%), cumin aldehyde (26.65%),  $\gamma$ -terpinene (11.79%) and  $\beta$ -pinene (14.46%). Fennel oil had predominantly anethole followed by estragole, L-fenchone and D-limonen. Although, mustard showed two key constituents like 3-butenyl isothiocyanate (83.36%) and allyl-isothiocyanate (8.52%). The major constituents' linalool, cinnamaldehyde, cumin aldehyde and 3-butenyl isothiocyanate can be used in the food and pharmaceutical applications.

**Keywords:** coriander, cumin, fennel, Indian mustard; linalool, cinnamaldehyde, cumin aldehyde, anethole, 3-butenyl isothiocyanate, GC-MS analysis