



## **STUDIES ON GC-MS ANALYSIS OF BLACK PEPPER (*Piper nigrum*) AND PAWPAW (*Carica papaya*) SEEDS USING METHYLATED SPIRIT AND HEXANE EXTRACT**

**Abdurrahman, M., Tijjani, A., Zaharaddeen, S. and Aliyu, M.**

Department of Crop Production, Faculty of Agriculture and Agricultural Technology,  
Abubakar Tafawa Balewa University, Bauchi PMB 0248, Bauchi, Nigeria

**Corresponding Authors' E-mail:** [abdurrahmanmuhammad39@gmail.com](mailto:abdurrahmanmuhammad39@gmail.com) **Tel.:** 08032450667

### **ABSTRACT**

The study was carried out to determine the phytochemical compounds present in the black pepper and pawpaw seeds extract using gas chromatography analytical techniques. Interpretation of each compounds identified from GC-MS analysis was conducted using the database of National Institute Standard and Technology (NIST) library. Identification of compounds was done by comparing the mass spectrum fragmentation pattern of each of the constituents in the methylated spirit and hexane fraction with those stored in the NIST library. The result revealed presences of compounds like Oleic Acid (29.43%), piperine (3.19%), Caryophyllene (1.24%), n-Hexadecanoic acid (21.12%), 1-(+)-Ascorbic acid 2,6-dihexadecanoate (1.15%), Naphthalene, 1,2,3,4,4a,5,6,8a-octahydro- (2.68%), Hexadecanoic acid (0.82%), 9-Octadecenamide (39.87%), Heptadecanoic acid (15.65%) and 9,12-Octadecadienoic acid (*Z,Z*)- (4.79%) in methylated spirit and hexane extract of black pepper and pawpaw seeds. These compounds have potential anti-microbial, anti-oxidant, pesticide and anticancer activity. The study provided a detailed comparison of detection and identification of various bioactive phytochemicals from of black pepper and pawpaw seeds. The study recommended the use of these plants (black pepper and pawpaw seeds) for the pest control and pharmaceutical.

**Keywords:** Black pepper, G.C-MS analysis, Hexane extract, Methylated spirit extract, Pawpaw.