



THE CHEMICAL COMPOSITION OF NIGELLA SATIVAL. IN DURING  
SEED MATURATION

Fatemeh Mohammadi<sup>1</sup>, Amir Mohamad Najji<sup>2\*</sup>, Zohre Ghanavi<sup>3</sup>

<sup>1</sup>Department of Agricultural Biotechnology, Shahed University, Tehran, Iran

<sup>2</sup>Department of Plant Breeding and Agronomy, Shahed University, Tehran, Iran

<sup>3</sup>Department of Horticulture, Science and Research Branch Islamic Azad University, Tehran, Iran  
E-mail: annaji1970@hotmail.com

*Nigella Sativa* L. belongs to the botanical family of *Ranunculaceae* is a valued medicinal herb used in many countries for the treatment of a number of diseases. The extensive researches have been carried out by various researchers on *N. sativa* and the therapeutic effects of the extracts of the seeds (and some of its active constituents, volatile oil and thymoquinone) have been reported which include, antidiabetic, anticancer, immunomodulator, analgesic, etc. This study was performed to identify biochemical composition in developmental stages of *N. sativa* seeds. For this purpose, the samples of inflorescences were collected in 5 steps at 0, 10, 30, 50 and 60 days after anthesis and their extracts were prepared. The composition of the volatile oil was investigated by gas chromatography–mass spectrometry. After oil analysis by GC/MS, 20 compounds were identified in the volatile oil of *Nigella Sativa* in which p-cymene, Thymoquinone, carvacrol,  $\alpha$ -thujene,  $\alpha$ -pinene were the main constituents. Among them, p-cymene was the major component, reaching its maximal levels at 50 days after anthesis (DAA). monoterpene amounts changed during seed maturation.  $\alpha$ -thujene and c-terpinene display constant accumulation trends starting at 10 DAA and reaching their maximal level at 50 DAA. Thymoquinone also starts to accumulate at 30 DAA, reaching its maximal levels at 65 DAA. which approximately indicate constant accumulation trends in the stages of seed development. It would appear that the major compounds of the volatile oil are in the final stages of flowering.

**References**

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