



ASEAD
EUROASIA SOCIO-ECONOMIC RESEARCH ASSOCIATION

5TH INTERNATIONAL KAYES CONGRESS

GREEN ECONOMY
in **AGRICULTURE, TOURISM and ENERGY**

BURSA
TÜRKİYE



15 - 17
SEPTEMBER



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ABSTRACT BOOK

ISBN: 978-605-74919-4-7

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EVALUATING CANOLA PHYSIOLOGICAL PARAMETERS UNDER "*BREVICORYNE BRASSICAE*" INFESTATION IN DIFFERENT NITROGEN FERTILIZATION LEVELS

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Abstract

*Cabbage aphid is one of the most important pests of canola in temperate regions. Nitrogen fertilization with the purpose of increasing canola yield may indirectly influence the aphid population and the related damage. We investigated the effect of nitrogen (N) fertilization (0, 75, 150, and 225 kgN.ha⁻¹) on nutritional plant quality and physiological parameters of non-infested and infested canola (*Brassica napus* L.) with cabbage aphid (*Brevicoryne brassicae* L.). The results indicated that N fertilization significantly increased plant nitrogen content, chlorophyll content and net photosynthesis where their maximum were observed in the plants treated with 150 and 225 kgN.ha⁻¹. On the other hand, higher N application resulted in increasing aphid population growth rate and density which negatively influenced on physiological parameters and N content of canola. Feedbacks of aphids on plant net photosynthesis interacted with plant nutritional level in complex ways depending on the relative magnitude of the effects on plant parameters and aphid numbers. In the basic and moderate fertilization levels, canola plants profited from increased N availability by compensating damage due to aphid infestation. Our results suggested that optimizing plant nutritional management could both increase the yield and reduce the aphid damage which are important in sustainable agricultural production.*

Keywords: *Aphid Population, Chlorophyll, Leaf Nitrogen Content, Cabbage Aphid, Photosynthesis*

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