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ARGUMENTS FOR USING THE ALLELOPATHIC COMPOUND JUGLONE AS A NATURAL PESTICIDE

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Abstract

The *juglone* (5-hydroxy-1,4-naphthalenedione) can be found in the leaves and fruits of the black walnut (*Juglans nigra L.*). This substance has an inhibitory effect on the growth of the vegetal species, phenomenon which is named *allelopathy*. The inhibitory effect of the 50-100% concentration of this water extract, prepared from the black walnut fruits, on the seeds germination, plantlets growth and peroxidasic activity – registered in the seedlings roots – was poor, compared to the allelopatic action of the extract obtained from de black walnut young leaves, inhibition that was much stronger. Thus, the allelopathic phenomenon can be used as a natural pesticides in the vegetal world, which limit the negative effects of the synthetic pesticides on soil. The strongest negative reaction – the two types of aqueous extracts undergo tests – was highlighted on the red clover seedlings, lettuce, while on the awnless brome, ray grass, while the peas, cucumbers and wheat the inhibitory effect was lower.

Key words: allelopathy, natural pesticide, soil biodiversity

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