

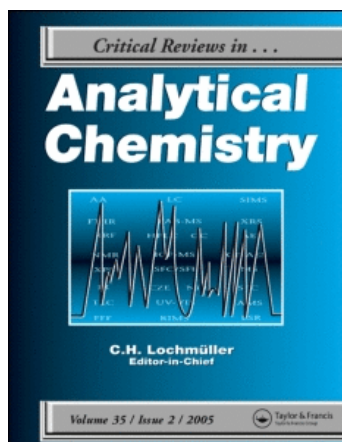
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Publisher *Taylor & Francis*

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Critical Reviews in Analytical Chemistry

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713400837>

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Online publication date: 03 June 2010

To cite this Article Veitienė, Rima and Janušienė, Valerija(1998) 'INFLUENCE OF HUMUS AND ITS COMPOSITION TO THE AMOUNT OF ACTIVE MICROELEMENTS IN THE SOIL', *Critical Reviews in Analytical Chemistry*, 28: 2, 160

To link to this Article: DOI: 10.1080/10408349891194603

URL: <http://dx.doi.org/10.1080/10408349891194603>

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INFLUENCE OF HUMUS AND ITS COMPOSITION TO THE AMOUNT OF ACTIVE MICROELEMENTS IN THE SOIL

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In limed and acid soddy podzolic light loam soil fields of the Vėžaičiai Branch manuring influence to increasing of humus in the soil was researched. Giving to the soil 20,40,80 and 120 t/ha dung the amount of humus increased accordingly from 1,62% till 2,00% and from 1,82% till 2,33%. In this case humus made up 85-90% amount of general organic matter. The increased amount of humus improved all agrochemical characteristics of the soil because during process of mineralisation all nutritive matters as well as microelements were released.

Giving 80-120 t/ha dung to acid soil and limed soil it was found 5 mg/kg and 11 mg/kg active manganese, 0,13 mg/kg and 0,04 mg/kg active copper more than in control. The amount of active zinc after manuring acid soil became 0,41 mg/kg less of the soil. Dung in the limed soil had no influence to lessening of the amount of zinc because the amount of active zinc was approximately already 50% less than in the soil which was not limed.

The analysis of the composition of humus was carried out two years after manuring. It was found out that there was a direct correlation between humus and general amount of organic matter on one side and zinc in the limed soil and copper in the acid soil on the other side: $r=0,78-0,99$. For boron and manganese amount of humus and general quantity of organic matter had no noticeable influence. The correlation connection in many cases was weak to manganese and middle to boron. But under influence of manuring and liming relations between humus and fulvo acidities became changeable and this had influence to microelements. The amount of copper as chemically active element depended on the amount of humus and fulvo acidities. Between these indices in the nonlimed soil it was found a strong correlational connection: $r=0,77-0,94$. In the limed soil the correlational connection between humus acid and copper was strong: $r=0,87$, but correlational connection between acid of fulvo and copper was not found. Correlational connection between acid of fulvo and boron in the limed soil was $r=0,81$. In the nonlimed soil such connection was also found between acidities of humus. The least influence humus and its composition had to manganese. In the nonlimed soil correlational connection was $r=0,23-0,53$. In the limed soil connection between the mentioned indices was not ascertained.

Liming and manuring with big norms of dung was not very strong factor influencing increase or lessening the amount of microelements in the soddy podzolic light loam soils of Western Lithuania. So we can state that these elements so far are not harmful to the environment.