Variations in Extractable Boron Using Three Extraction Methods on Sandy and Silt Loam Soils Treated and Incubated with 10 Levels of Boron. (S04-carter062356-Poster)

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Abstract:

Pressurized hot water compared favorably to the more difficult hot water extraction on 40 untreated western soils and predicted B uptake in three Rosaceae species in Utah soils. DTPA-Sorbitol was also reported to compare favorably to hot water extraction. No work has compared these extractants on incubated soils treated with B. These three soil tests were used to extract B from sandy and silt loam soils previously treated with 10 levels of B and incubated for 7 and 28 d. Boron extraction was higher as rate of B increased regardless of extractant used. Coefficients of determination for regression equations relating B extraction to application rates for individual soil/extractant/incubation period ranged from 0.93 to 0.99. In general, hot water extracted the least and pressurized hot water extracted the most B regardless of soil type, rate of B or length of incubation. Impact of incubation on extractable B varied among extractants. The results with these two Btreated soils suggest that the three soil extractants are equally effective in extracting added B and support the acceptance of the alternative methods.

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