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## 442-7 Magnesium-Manganese Interaction in Soybean Varieties with Different Nutritional Requirements.

Poster Number **1314**

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Long Beach Convention Center, Exhibit Hall ABC

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Manganese (Mn) deficiency in soybean has occurred mainly in soils with surface dolomite lime application, which increased pH and the magnesium (Mg) concentration in the surface layer. This objective of this study was to investigate the influence of Mg on the Mn uptake in four soybean varieties with different nutritional requirements. The experiment was conducted under greenhouse conditions in a completely randomized design, in 4x2x4 factorial arrangement (four soybean varieties, two rates of Mg (0.1 and 1.0 mmol L<sup>-1</sup>) and four rates of Mn (0, 1, 2 and 5 μmol L<sup>-1</sup>), with four replicates. The varieties used in the experiment were: IAC 17 and FT Estrela (very demanding for soil fertility) and IAC 15-1 and DM Nobre (tolerant to soils partially corrected or of average fertility). The root dry weight (RDW) and aerial part (AP), APRDW ratio, chlorophyll content, grain yield and foliar concentrations of N, P, K, Mg, Ca, Fe, Mn, and Zn were determined. The application of the highest Mg rate increased grain yield. This was also observed with a Mn rate up to 3.0 mmol L<sup>-1</sup>. There was an interaction of Mg and Mn in the plant, and it was found that the IAC 17 variety was the most sensitive to Mn, while FT Estrela had the lowest performance. N, P, K, and Zn contents were significantly influenced by Mn rates. The concentrations of Mg and Mn had a significant effect on Mg foliar content. The concentration of 1.0 mmol L<sup>-1</sup> of Mg provided higher levels of nutrients to the plant and increased dry weight and grain yield, regardless of the nutritional requirement of each variety.

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