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## Use of chlorophyll meter to monitoring soybean inoculants

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Soybean inoculation technology with *Bradyrhizobium japonicum* has been widely used in Brazilian soy production. This association allows the atmospheric nitrogen used by plants, to eliminate the need of using mineral nitrogen. However, factors such as high temperature and occurrence of dry spells can interfere negatively in this relation, reducing or eliminating this association in the soybean root. On field, it is important to observe whether the inoculation was efficient or not, to avoid losses of productivity due the lack of nitrogen. Thus, different types of inoculants and modes of application were monitored, using a portable chlorophyll meter (SPAD-502, Konica Minolta, Osaka, Japan) to verify the inoculation efficiency of via relative chlorophyll content (soil plant analysis development – SPAD value). Twelve treatments were performed with *Bradyrhizobium* and *Azospirillum* strains as follows: 1-uninoculated control, 2-uninoculated control + mineral N (200 kg of N.ha<sup>-1</sup>), 3-SEMIA 5079+5080 (peat, 1.2×10<sup>6</sup> cells seed<sup>-1</sup>), 4-SEMIA 5079+5080 (peat, 2.4×10<sup>6</sup> cells seed<sup>-1</sup>), 5-SEMIA 5079+5080 (peat, 3.6×10<sup>6</sup> cells seed<sup>-1</sup>), 6-SEMIA 5079+5080 (peat, 4.8×10<sup>6</sup> cells seed<sup>-1</sup>), 7-SEMIA 5079+5080 (peat, 6.0×10<sup>6</sup> cells seed<sup>-1</sup>), 8-SEMIA 5079+5080(liquid, 2.4×10<sup>6</sup> cells seed<sup>-1</sup>)+*Azospirillum* (liquid, 2.4×10<sup>6</sup> cells seed<sup>-1</sup>), 9-SEMIA 5079+5080 (liquid, 2.4×10<sup>6</sup> cells seed<sup>-1</sup>+ liquid, 2.4×10<sup>6</sup> cells seed<sup>-1</sup>on V1), 10-SEMIA 5079+5080 (groove, 3.6×10<sup>6</sup> cells seed<sup>-1</sup>), 11-SEMIA 5079+5080 (groove, 7.2×10<sup>6</sup> cells seed<sup>-1</sup>), 12- Commercial inoculant Lastro (at least 2.4×10<sup>6</sup> cells seed<sup>-1</sup>). The measurements were carried out 65 days after sowing, with R5 soybean stage. No significant differences were found between the chlorophyll content of the treatments. The chlorophyll content was not efficient in detecting differences between the inoculant types and modes of inoculation.

### Biography:

Leonardo José Motta Campos had his PhD in Plant Biology/Plant Physiology from the Federal University of Minas Gerais – UFMG (2007). He is expert in Plant Production, Plant Physiology and Ecophysiology, working mainly in the fields of plant production, abiotic stress in plants, recovery of degraded areas and soil use and conservation. He is currently a Embrapa Soy researcher.