

## Response of eucalyptus to glyphosate increasing rates

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### Workshop Information

I Workshop of Plant Biology (I Workshop de Biologia Vegetal) was held in the Bioscience Institute – UNESP, campus of Rio Claro, Brazil, during August 20 and 21, 2012. Workshop was a scientific event organized by Post-graduate students from that Institute aiming to integrate Post-graduate and Graduate students from different areas related to Plant Biology (Anatomy, Ecology, Evolution, Morphology, Physiology, and transitional areas) from different Universities. Workshop Organization offered a large number of speaking activities, scientific discussions, and extra short-courses to improve the knowledge and formation of students in Plant Biology.

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Hormesis can be defined as a behavior in which a biological characteristic can be enhanced by low doses of a compound, but can also be inhibited by high doses of same compound. The aim of this study was to evaluate the response of eucalyptus plants submitted to the application of doses: 0.0, 3.6, 7.2, 18, 36, 72 and 180 g of glyphosate acid equivalent (a.e.) ha<sup>-1</sup> on eucalyptus plants. Was adopted a randomized block design with four replications. Each experimental unit consisted of one plant per pot. At 22 and 42 days after applications (DAA), height and stem diameter were determined. These dates were transformed to percentage, considering the check 100%. These variables were fitted to the model described by the Gauss equation. For plants height, doses up 123 and 94 g a.e. ha<sup>-1</sup> of glyphosate provided higher values than the controls at 22 and 42 DAA. At 22 DAA, for doses 3.6 and 93.7 g a.e. ha<sup>-1</sup> de glyphosate was increased by up to 7.7% when compared to control. Already, at 42 DAA, even for these doses, the increases in plants height reached up to 11%. Since doses from 130 to 100 g a.e. ha<sup>-1</sup> de glyphosate were responsible for the plants intoxication at 22 and 42 DAA. At 22 DAA increments in stem diameter were

observed, ranging between 1.1 and 4.2% for doses 3.6 and 18 g a.e. ha<sup>-1</sup> de glyphosate, respectively. Already at 42 DAA, and for doses up to 41.9 g a.e. ha<sup>-1</sup> de glyphosate, stem diameter of eucalyptus trees was increased, which surpassed the check up to 5.9% with application of 18 g a.e. ha<sup>-1</sup> de glyphosate. The doses 21.4 g a.e. ha<sup>-1</sup> de glyphosate was responsible for the maximum increase in stem diameter at 42 DAA.