

Reply to RE: Use of regression analysis in plant cell, tissue and organ culture experiments (44(3): 229–232)

J. C. Lorenzo · M. García-Borroto

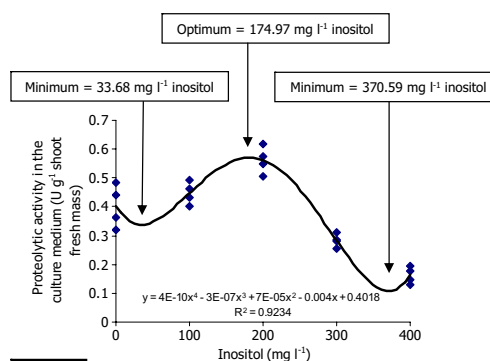
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First of all, we would like to thank Dr. Jeffrey Adelberg for letting us know his opinion about our paper “Use of regression analysis in plant cell, tissue, and organ culture experiments” (44(3):229–232). Dr. Adelberg suggested two main re-analyses of the experimental data. We carried them out (Figures a, b).

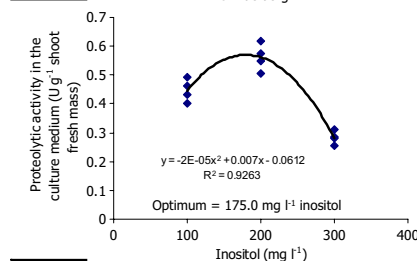
Figure a shows a complex fourth degree polynomial function. We cannot find any biological explanation for it. What do the minimum values represent? According to this function, the optimum inositol concentration is 174.97 mg l^{-1} . Why should we make such a conclusion from this sophisticated function?

A modified experimental analysis is shown in Figure b. Why should we discard two experimental treatments? One of them, the control (0 mg l^{-1} inositol), is extremely important.

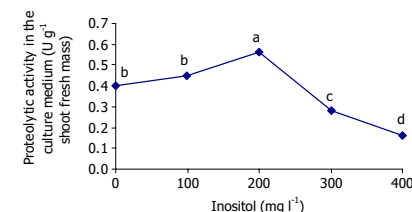
We therefore have to emphasize that, to our best understanding, Figure c shows the most adequate statistical strategy. It provides a clearer biological response for the original data (points in Figure a). The original data showed that 200 mg l^{-1} inositol was the best treatment to increase proteolytic activity. This concentration was an experimental treatment, not a prediction generated from a complicated mathematical function.



a Fourth degree polynomial function suggested by Dr. J. Adelberg



b Second degree polynomial function suggested by Dr. J. Adelberg



Media with the same letter are not statistically different (One-Way ANOVA, Tukey HSD, p greater than 0.05)

c Strategy recommended by Dr. Lorenzo and Dr. García-Borroto

J. C. Lorenzo (✉) · M. García-Borroto
Bioplant Centre, University of Ciego de Avila,
Ciego de Avila, Cuba
e-mail: jclorenzo@bioplantascu