Vidéo

A germination bioassay was developed to screen for potential phytotoxicity of soil amendment products from organic waste recycling. In phase 1, nine soil amendment products were applied as mulches on 3- to 5-week-old tomato seedlings. Using lettuce as the test species, a laboratory germination test was developed in phase 2 with aqueous extracts from a non-phytotoxic and a phytotoxic product identified in phase 1. Diluted extracts were applied to lettuce seeds sown on filter paper in petri-dishes and germination was monitored for 5 days, confirming the results from phase 1. In phase 3, the bioassay developed in phase 2 was used to test three previously untested local products and one imported product. Results obtained in phase 3 were confirmed using the mulch test. Hence, the germination bioassay can be a useful tool for quality control in the production of soil amendment products from organic waste recycling.

LOPEZ, FRANCIS (19..-.... ; DOCTEUR EN SCIENCES BIOLOGIQUES ET MÉDICALES) Le Gosier 2016

Résumé

A germination bioassay was developed to screen for potential phytotoxicity of soil amendment products from organic waste recycling. In phase 1 of the study, nine soil amendment products were applied as mulches on 3- to 5-week-old tomato seedlings planted in 4L pots. Using lettuce as the test species, a laboratory germination test was developed in phase 2 with aqueous extracts from a non-phytotoxic and a phytotoxic product identified in phase 1. Diluted extracts (0, 25, 50, 75 and 100%) were applied to lettuce seeds sown on filter paper in petri-dishes and germination was monitored for 5 days, confirming the results from phase 1. In phase 3, the bioassay developed in phase 2 was used to test three previously untested local products and one imported product. Results obtained in phase 3 were confirmed using the mulch test. Hence, the germination bioassay can be a useful tool for quality control in the production of soil amendment products from organic waste recycling.

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