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Effect of anaerobic digestate on seed germination of perennial ryegrass seeds

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Abstract

This experiments were conducted to investigate seed germination to evaluate the influence of anaerobic digestate on seed germination of perennial ryegrass seeds. The study conducted a germination experiment in petri-dishes, using perennial ryegrass seeds. The treatments were compared: non-treated control treated with distilled water, different concentration of anaerobic digestate. The germination percentage of perennial ryegrass seeds was highest in the fermented anaerobic digestate treatment. Root length of perennial ryegrass seeds was long by 4~5cm in the fermented anaerobic digestate with unfermented anaerobic digestate. In the relative root length ratio was by 30% higher in the in the fermented anaerobic digestate with unfermented anaerobic digestate. The germination index of perennial ryegrass seeds was high by 113% in the fermented anaerobic digestate compared to no treatment. The fermented anaerobic digestate have shown stimulatory effects in germination and development of root. Use of fermented anaerobic digestate can be recommended to farmers as a ecofriendly practice for better germination and growth.

Keywords : digestate, fermented anaerobic digestate, perennial ryegrass seeds. germination, root length

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