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VERMICOMPOSTING AS A NITROGEN SOURCE IN GERMINATING KIDNEY BEAN IN TRAYS

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This study assessed the effectiveness of vermicompost as a germination media and nitrogen source for kidney bean Phaseolus vulgaris L. Five treatments were tested, based on the addition of increasing quantities of barren soil to vermicompost, and irrigated with four treatments of increasing urea-water solution. Chemical analysis of the different mixtures of vermicompost and barren soil were made. Percentage germination, plant growth, and foliar nitrogen assimilation were measured. Bean seeds in vermicompost germinated earlier than those planted in barren soil, but germination was less than 60% in trays with 85% and 100% vermicompost. Plants in vermicompost were taller and appeared to be healthier-looking. Plants with 0%, 50% and 85% vermicompost concentrations assimilated about 4 mg·L−1 more nitrogen than other treatments (25% and 100%). Plants in the 85% vermicompost mixture had the best response to nitrogen assimilation.

Keywords: Eisenia foetida, vermicompost, plant growth, organic matter, bean production