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Evaluation of Nitrogen Availability Based on the Ar Extractable Soil Organic Nitrogen and Suggestion fo Fertilization in Rain Shelter-grown Spinach

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Absorbance at 280 nm in soil extracts with 0.4 M sulfate solution w the concentration of total N in the extracts of different soils. Theref easy detection procedure for evaluating available N in soil. To estin of spinach grown triannually under a rain shelter, the amount of 0.4 organic nitrogen in the soil was determined before cultivation in the

prefecture, Japan. Total nitrogen uptake of spinach grown without fe
sites showed a tendency to increase when the amount of 0.4 M sulf
nitrogen in soil was increased, while N uptake efficiency tended to
over 540 mg•kg^{-1} of the extractable organic N in soil. Application
was2 effective in increasing the yield, while reducing internal nitrate
spinach. However, the internal nitrate concentration in spinach exce
(3,000 mg•kg^{-1}) when there was over 540 mg•kg^{-1} of 0.4 M sulfa
nitrogen in soil. These findings indicate that the determination of 0.4
organic nitrogen in soil might contribute to the fertilization of rain she
spinach.

Key Words: fertilization, manure compost, nitrogen uptake, sulfat
nitrogen

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