# DECOMPOSITION AND NUTRIENT RELEASE PATTERNS OF THE GREEN MANURE PHYTOMASS IN A IRRIGATED MANGO ORCHARD[1]

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This study has investigated the decomposition rate and N, P, K, Ca and Mg release patterns from phytomass of *Crotalaria juncea*, *Pennisetum typhoides* (pearl millet) and *Sorghum sudanensis* in a mango orchard irrigated by microsprinkler, in Northeast Brazil. The litterbag method was used and 20 g of dry weight from whole plants or fresh leaves of the three species were collected in nylon screen bags. The litterbags were distributed in the soil surface under the mango trees. Three bags of each material were collected after 1, 2, 4, 6, 8, and 12 weeks after the deposition. All species presented a fast decomposition phase during the first four to six weeks, followed by a slower phase. The decomposition constants (k) of leaves and whole plants were, respectively 4.59 and 3.88 $yr^{-1}$ for sorghum, 6.34 and 3.71 $yr^{-1}$ for the pearl millet and 7.01 and 5.30 $yr^{-1}$ for to *C. juncea*. Potassium was the element more quickly released. About 90% of K contained in the leaves of all species and *C. juncea* whole plants were released during the first two weeks of decomposition. It was observed a strong immobilization of Mg and Ca during the decomposition of the whole plants.