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EFFECTS OF DIFFERENT INTERPLANTED LEGUMES WITH CASSAVA ON MAJOR SOIL NUTRIENTS, WEED BIOMASS, AND PERFORMANCE OF CASSAVA (*MANIHOT ESCULENTA* CRANTZ*)* IN THE SOUTHWESTERN NIGERIA

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ABSTRACT

A two - year field experiment was carried out at the Teaching and Research Farm of the University of Ibadan, Nigeria, during 2003 / 2004 and 2004 / 2005 to appraise the influence of interplanted legumes with cassava on major soil nutrients, weed biomass, and performance of cassava. The experiment was laid out in a randomized complete block design, with three replications. The different crop associations included: sole cropped cassava (control), cassava + cowpea, cassava + groundnut, cassava + pigeon pea and cassava + soybean. The results obtained indicated that there were significant differences ($P \leq 0.05$) among the various crop associations in yield and yield components of cassava, as well as weed biomass. Organic carbon decreased by 24% in sole cassava, contrasting increases of 42, 39, 35 and 33% for cassava + cowpea, cassava + groundnut, cassava + pigeon pea and cassava + soybean, respectively. Similarly, sole cassava decreased total nitrogen by 33%, compared to increases of 52, 49, 46 and 43% for cassava + cowpea, cassava + groundnut, cassava + pigeon pea and cassava + soybean, respectively. The percentage decreases in exchangeable potassium were 13, 27, 30, 30 and 33% for sole cassava, cassava + cowpea, cassava + groundnut, cassava + pigeon pea and cassava + soybean, respectively. The two – year average values indicated that crop association increased cassava tuber yield from 6.95 t ha^{-1} for sole cassava (control) to 8.70, 8.62, 8.66 and 8.62 t ha^{-1} for cassava + cowpea, cassava + groundnut, cassava + pigeon pea and cassava + soybean, respectively. The values of weed population density, adduced to different crop associations were 132, 94, 96, 97, and 96 weeds/ m^2 for sole cassava, cassava + cowpea, cassava + groundnut, cassava + pigeon pea and cassava + soybean, respectively.

Keywords: Cassava, legumes, soil nutrients, weed biomass.