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The Influence of Agricultural Practices on Occurrence of Weed Species and Soil Properties in the Peruvian Amazon

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Abstract

Inga edulis Mart. is popular with agroforesters for its rapid growth, tolerance of acid soils and high production of leafy biomass to control weeds and erosion. The objective of this research was to determine if it is possible to reduce growth of weed species (e.g. *Imperata brasiliensis*) through the cultivation of *Inga edulis*. The impact of agricultural practices on weed occurrence was also analyzed. The treatment was established on experimental plot 19 km from Pucallpa in the year 2006. Four fallow systems were evaluated during the study: (1) natural fallow; (2) planted fallow with cassava; (3) planted fallow with inga (*Inga edulis*); (4) inga + cudzu (*Pueraria phaseoloides*), replicated four times in a completely randomised block design in 12 m × 12 m subplots. On each subplot were collected three biomass samples (1m²) of weed species. Most spread species were determined and number of individuals were counted. First results shows, that utilisation of inga could be promising for reducing of *Imperata*, but on the other hand occurrence of other weed species (e.g. *Baccharis* sp.) are increasing. Soil samples were also collected. The first collection was done in the beginning of the trial and than after each harvest of cassava (approx. after 9 months). First mixed samples were collected from each quarter of the plot. Next collection was collected from each subplot. This data are used for estimation of impact of agricultural practices on soil properties and content of basic elements. For detailed results will be necessary continue with this study at least more two years. These results will be evaluated and than will be usable for next agroforestry utilisation of *Inga edulis* in this region.

Keywords: *Imperata brasiliensis*, *Inga edulis*, Peruvian Amazon, weed control