

### Availability of crop residues and soil fertility in communities Pontal Project, Petrolina-PE, in the dry season.

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#### Abstract

Organic fertilization using residues found in the properties for soil fertilization and improvement of growth of plant species is one of the internationally recommended practices for a sustainable ecologically-based agriculture. The soils of most of the rain-dependent areas farms of the semiarid region of northeastern Brazil have low levels of elements such as nitrogen and phosphorus and difficult the achievement of results of production to the satisfactory maintenance of agricultural activity in these areas. As a result, year after year expected yields become increasingly rare and, with the aggravating water deficit, many farmers no longer believe in the viability of cultivation of some species, even those that have historically occupied spaces in these important properties, such as maize, beans and cassava. This study aimed to identify the main waste generating activities and soil fertility in communities in Projeto Pontal, in the dry season, between August and November 2013. Semistructured interviews and collection of soil were held in the communities Vira Beiju, Lajedo and Amargosa. Soil analyzes were carried out at Embrapa Semiarid and revealed the need to correct soil acidity in all communities (pH between 4,2 and 5,5), adding sources of phosphorus ( $P < 3,8 \text{ mg.dm}^{-3}$ ), organic matter ( $< 5,5 \text{ g.kg}^{-1}$ ) and zinc ( $< 6,95 \text{ mg.dm}^{-3}$ ), especially in community Vira Beiju. Various activities that generate agricultural waste that can be used in local agriculture were identified, but in this study period (drought) only goat manure was found in greater quantity ( $5,0 \text{ m}^{-3}$  per month), in all communities, being sold for income obtaining. Livestock was the most waste generating activity at the interview, and cote the most generation place of agricultural waste on the property during the study period (88.9 %). Although the crops were the most frequently reported as major generators of agricultural waste for most of respondents (89%), can only be used if stored in generation, in the rainy season. Other residues were also found, but in some significant quantities and require more detailed analysis in order to know its chemical composition and reaction in soil. Same assessment in the rainy season is also required when waste generation is more intense.

#### Keywords

Soil fertility, agricultural waste generation, soil characterization, dependent on rain area