

Soil Fertility Management and Compost Use in Senegal's Peanut Basin

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Abstract

*The Jóór (Dior) soils of Senegal's Peanut Basin are inherently low in OM, limiting yields of millet and other crops and threatening the food security of smallholders. A series of focus groups and interviews were conducted in eight villages to characterize the site-specific fertility management practiced by farmers in the Peanut Basin. Results of the qualitative survey revealed that farmers base management decisions on a series of fertility indicators that include type, color, and texture of soil, presence of vegetation such as the beneficial tree *Acacia albida* or parasitic witchweed (*Striga hermonthica*), and productivity in previous years. In an effort to equalize fertility across the field, farmers amend areas they classify as less fertile with decomposed manure plus household waste from the family *sëntaare* (traditional pile) or with compost from managed piles. On-site measurements of soil in areas of fields amended with compost or *sëntaare* material revealed significant increases in peanut and millet growth over unamended areas, but little significant difference between the effects of compost and manure. Similarly, chemical analysis revealed increased effective cation exchange capacity and nutrient concentrations (K, Mg, and Al) in soils amended with compost or manure. Similarities in the chemical characteristics of compost and *sëntaare* material suggest that development workers could emphasize improved pile management rather than promoting more labor-intensive composting.*

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