Tropentag, September 17-19, 2018, Ghent

"Global food security and food safety:
The role of universities"

Adoption of Local Organic Resources for Soil Fertility Improvement in Crop Production: Ghana

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Abstract

The Organic Resource Management for the improvement of Soil Fertility project (ORM4SOIL: www.orm4soil.net) funded by SDC and SNFS as part of the Swiss Program for Research on Global Issues for Development (r4d programme) at the University of Ghana aims at improving soil fertility with concentration on adoption of local organic resources and cost-effective ways of improving soil fertility. This study sought to determine factors that influence intensity of adoption of local organic resources for soil fertility improvement in Ada West District of Ghana. Preliminary data were analysed using descriptive statistics, Tobit model, partial budget and break-even analysis and showed that about 88.7 % of crop farmers use organic materials out of which 49.5 % use animal dropping other than cow dung and 39.2% use matured cow dung only as their local organic resource. Looking at the two-main local organic resources, the intensity (scale of 0-1) of use of other animal manure is 0.43 and the intensity of use of matured cow dung is 0.65. The factors that influence intensity of adoption of matured cow dung or animal manure are their cost, access to credit by farmers, educational level of farmers, farmers membership of farmer based organisations and farmers ownership of their lands.

The partial budget shows that, crop farmers who produced pepper recorded a net loss when they initially replaced inorganic fertiliser with matured cow dung. The break-even point for pepper farmers using matured cow dung in soil fertility improvement is approximately 48 kg of pepper at a selling price of GHS 1200. The most pressing constraint of crop farmers in the use of matured cow dung and other animal manure for soil fertility improvement is its labour intensiveness. It is recommended that extension agents concentrate on training farmers on how to combine the use of matured cow dung and other animal manure with inorganic fertiliser in the right quantity to maximize production. Both cattle farmers and crop farmers should be given technical training in compost preparation to reduce the bulkiness and labour intensiveness of dealing with cow dung and other animal manure in soil fertility improvement.

Keywords: Adoption, crop farmers, Ghana, local organic resources, soil fertility improvement

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