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Resource-use Efficiency in Tomato Production in the Dangme West District, Ghana

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Abstract

Tomato forms a very important component of food consumed in Ghana and this is evident in the fact that many Ghanaian dishes have tomatoes as a component ingredient. Tomato production in Ghana is mainly a smallholder activity. In a bid to help farmers increase productivity, the focus is usually on whether farmers are using better and improved technologies. It is however necessary to investigate whether these farmers are even making maximum use of what is available to them in terms of inputs so that the stakeholders involved in agriculture will be convinced that the new technologies they intend to introduce to farmers will be used efficiently and cost – effectively to boost output. Farmers might use resources rationally but not at the economic optimal level. As the aim of every agribusiness firm is to maximise profit while minimising cost, it is pertinent to determine the efficiency of resource-use.

This study was carried out in the Dangme West District of Ghana where tomato production is prevalent and highly consumed. The study focused on the socio-economic characteristics of tomato farmers, the farm production function and the efficiency of resource use in tomato production. Data was collected using multi-stage sampling technique from 60 tomato farmers in the study area with the aid of questionnaires. Data collected was for the 2007 farming season. It was analysed using descriptive statistics and least square regression technique. The results showed that 88 % of the farmers were males and 12 % were females. 87 % of the farmers had extension contact. Also, the average farm size was 2.5 acres. The Cobb-Douglas production function gave the best fit for the sample with adjusted R² of 70.8 % and it indicated that land, pesticide and hired labour significantly influenced tomato output. For the efficiency analysis; seed, land, hired labour, fertiliser and pesticide were the inputs being underutilised. The study concludes that profit could be improved by using more of seed, land and hired labour and the right quantity of pesticides and fertiliser.

Keywords: Dangme West District, efficiency, production function, resource use, tomato