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# **Agric. Econ. – Czech**

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E.E., Al-Hassan R.M.,  
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## **Meta-frontier analysis of organic and conventional cocoa production in Ghana**

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280

This study considers the meta-frontier technique to compare the efficiency level of organic and conventional cocoa production systems in Ghana using a

cross sectional data of 390 farms. The results reveal that the organic systems exhibit an increasing return to scale whilst, the conventional system exhibit decreasing returns to scale. All the inputs variables positively influence the production except the age of trees. The combined effects of operational and farm specific factors are identified to influence the technical efficiency although the individual effects of some variables are not significant. The mean technical efficiency relative to the meta-frontier is estimated to be 0.59 for the organic and 0.71 for the conventional farms. The study concludes that the conventional system of cocoa production is more technically efficient than the organic system. However, the increase in the scale of production in the organic system to take advantage of the economies of scale may enhance the efficiency of production.

**Keywords:**

returns to scale, stochastic frontier, technical efficiency, technology gap ratio

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