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## Yield, labour use, and hybrid cocoa adoption in Ahafo Ano south-west district, Ghana

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### Abstract

This study focused firstly on how hybrid cocoa affects yield and secondly on how access to labour affects the adoption of hybrid cocoa. Hybrid cocoa varieties are known to have better yields than traditional varieties. However, adoption of hybrid cocoa is extremely low and low cocoa yields remain a major challenge for cocoa production. To maximise the yield of hybrid cocoa, farmers need to weed, prune and apply agrochemicals in a timely manner. All this requires labour. Because of the low yields and low adoption of hybrid cocoa, this study aimed to investigate how farmers' yields are affected by the adoption of hybrid cocoa and how access to labour affects hybrid cocoa adoption. To do this, we collected household level data from 416 smallholder cocoa farmers in the Ahafo Ano South-West District of Ghana. We used a multistage sampling technique, purposive and simple random sampling, to collect the data. The ordinary least square (OLS) and seemingly unrelated regression (SUR) econometric estimation frameworks were used for the analysis. The SUR results showed that adoption of hybrid cocoa increased cocoa yield by 9.91 kg ha<sup>-1</sup> ( $p < 0.01$ ). Access to labour increased adoption of hybrid cocoa by 1% ( $p < 0.01$ ). We conclude that improved varieties such as hybrid cocoa are important in determining farmer productivity. In addition, access to labour improves the adoption of hybrid cocoa. Based on the results, we recommend agricultural extension programmes that raise awareness of the benefits of hybrid cocoa. Hybrid cocoa development programmes need to be strengthened to improve farmers' access to hybrid cocoa seedlings. Improved access to subsidised inputs such as fertilisers is needed to encourage adoption. Government and the private sector should support farmers with small-scale mechanisation equipment to reduce the use of human labour. All this will increase productivity, income and adoption of hybrid cocoa by smallholder cocoa farmers.

**Keywords:** Ghana, hybrid cocoa, labour, productivity, smallholder cocoa farmers