

Further Yield Increases in Ghana Oil Palm Plantations

When Best Management Practices (BMP) were introduced in Ghana in 2012, oil palm yields were rapidly declining despite an immense increase of area under cultivation over the past 10 years, and a large demand for palm oil.

The main focus of the project was therefore to develop and disseminate knowledge on sustainable yield intensification at three oil palm plantations and 20 smallholder farms in Ghana. This was done by identifying, then implementing BMPs that meet site-specific needs in order to intensify yields.

Attention was particularly given to field maintenance issues related to drainage, soil conservation, woody weed removal and nutrient management. Strategies for rolling out BMPs from experimental plots to plantation scale were also evaluated. Other components of the Ghana BMP project looked at quantifying yield gaps caused by nutritional- and water deficiencies; two of the major constraints in oil palm production in Ghana.

Over the course of this project, plantations and smallholder farmers have increased their capacity and knowledge on BMP intensification practices, and have embraced some of its components in the overall plantation and farm management scheme.

As a result, the BMP work over the past two years has shown good potential to increase yields. At plantations, BMP plot yields increased from 8.4 t ha⁻¹ in year 1 to 14.1 t ha⁻¹ in year 2 (+68%), while control plots increased from 7.2 t ha⁻¹ to 11.6 t ha⁻¹ (+61%). Over the same period, smallholder farm yields increased from 6.9 t ha⁻¹ to 12.6 t ha⁻¹ (+83%) with BMP, and from 5.1 t ha⁻¹ to 8.3 t ha⁻¹ (+63%) for control plots (Figure 1). Treatment effects also become greater in the second year, and increased from a yield difference of 1.2 t ha⁻¹ to 2.5 t ha⁻¹ for plantations, and from 1.8 t ha⁻¹ to 4.3 t ha⁻¹ for smallholder farmers (Figure 1).

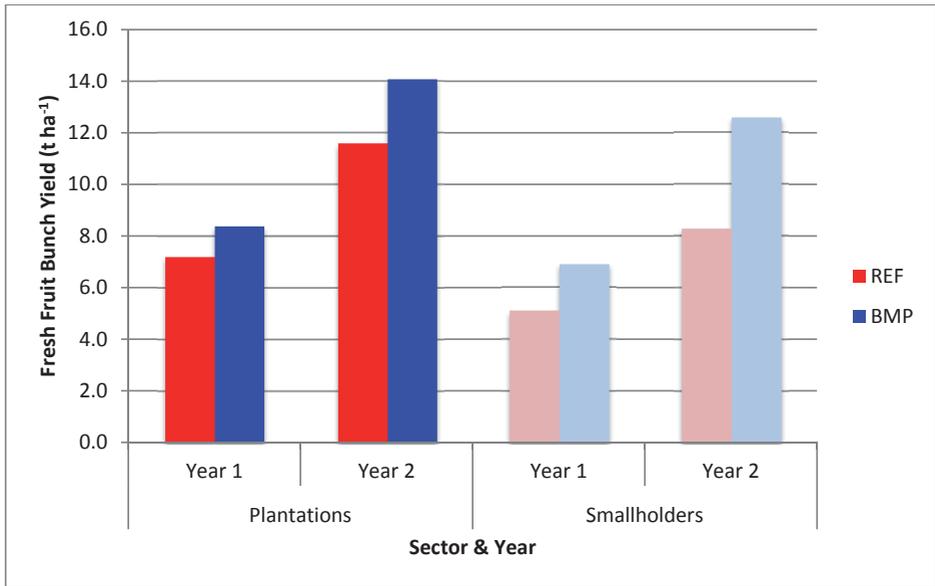


Figure 1. Yield increases after 1 and 2 years of BMP implementation at oil palm plantations and smallholder farms.

Yield differences at all sites are partly explained by a higher crop recovery after the installation of proper access. Yields are expected to increase further by the end of 2016 due to the implementation of an improved nutritional program and drainage in the BMP blocks.