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Yield Performance of Commercial Topaz DxP Series 2 Oil Palm Plantings on Various Sites in Indonesia

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Based on results from breeding trials, Topaz DxP Series 2 progenies have a genetic yield potential of 33.5 tonnes fresh fruit bunch (FFB) per hectare, 9.3 tonnes crude palm oil (CPO) per hectare and estimated mill oil extraction rate (OER) of 27.8 per cent. However, actual performances in large scale commercial plantings can differ from trials due to variation in site characteristics (soil, topography, climate) and consistency in management inputs. This paper reports on the commercial performance of Topaz DxP Series 2 progenies planted over 11 032 hectares in six sites located over four provinces in Indonesia.

In spite of low to moderate rainfall and annual soil moisture deficits in Site 1 (North Sumatera), high FFB (32.8 tonnes/ha) and CPO (8.2 tonnes/ha) yield was still achieved. Site 2 (North Sumatera) having significantly higher rainfall attained even better yields (34.7 tonnes FFB/ha, 8.7 tonnes CPO/ha) over its entire 1 737 ha. Its smaller neighbouring sister estate (270 ha) recorded the highest yields (42.3 tonnes FFB/ha, 10.6 tonnes CPO/ha) as early as the fifth year of harvesting. At both sites, FFB yield more than 30 tonnes per hectare and CPO yield more than 7 tonnes per hectare had been consistently attained over the last 4 years.

The good adaptability of Topaz DxP Series 2 to marginal soils was observed in an oil palm to oil palm replant (1,350 ha) on second generation deep peat (Site 3, North Sumatera). FFB yield more than 30 tonnes per hectare and CPO yield more than 7 tonnes per hectare were attained as early as 5-6 years after planting. Equally impressive yields of 35.1 tonnes FFB per hectare and 8.7 tonnes CPO per hectare were recorded from Series 2 progenies planted over 1 892 hectares on sandy loam to loamy sand textured soils in Riau province (Site 4).

Slightly lower crop yields were recorded in Site 5 (Jambi) and Site 6 (Central Kalimantan) due to sub-optimal agricultural conditions at the early stages of development. Upon upgrading, FFB and CPO yields ranging from 29-32 tonnes per hectare and 7.2-7.4 tonnes per hectare respectively, have subsequently been attained.

Mill OERs of 25.0-25.5 per cent in three sites (1, 2, 6) have confirmed the good oil content in the Topaz Series 2 fruit bunches. The lower mill OERs (22.8-24.9%) recorded in Sites 4 and 5 were primarily due to the mills processing a mixed crop from Gen-1 (48%) and Gen-2 (52%) plantings.

Keywords : CPO, FFB, oil palm, Topaz.

