

PORIM SERIES 1 - PORIM ELITE OIL PALM PLANTING MATERIALS

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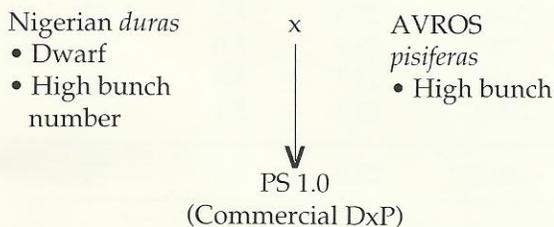
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PORIM INFORMATION SERIES

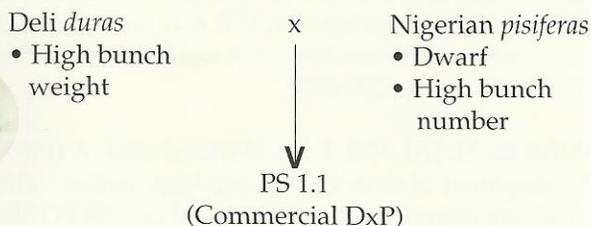
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Current oil palm planting materials grow at a rate of 40 – 75 cm/yr. The palms are too tall after 20 years and harvesting is difficult. Breeding for short oil palms is one of the main priorities. PORIM has developed PORIM Series I (PS1) planting materials with slower height increment in PORIM-Nigerian germplasm collection (Rajanaidu *et al.*, 1998; 1999). PS1 is produced through the following schemes:

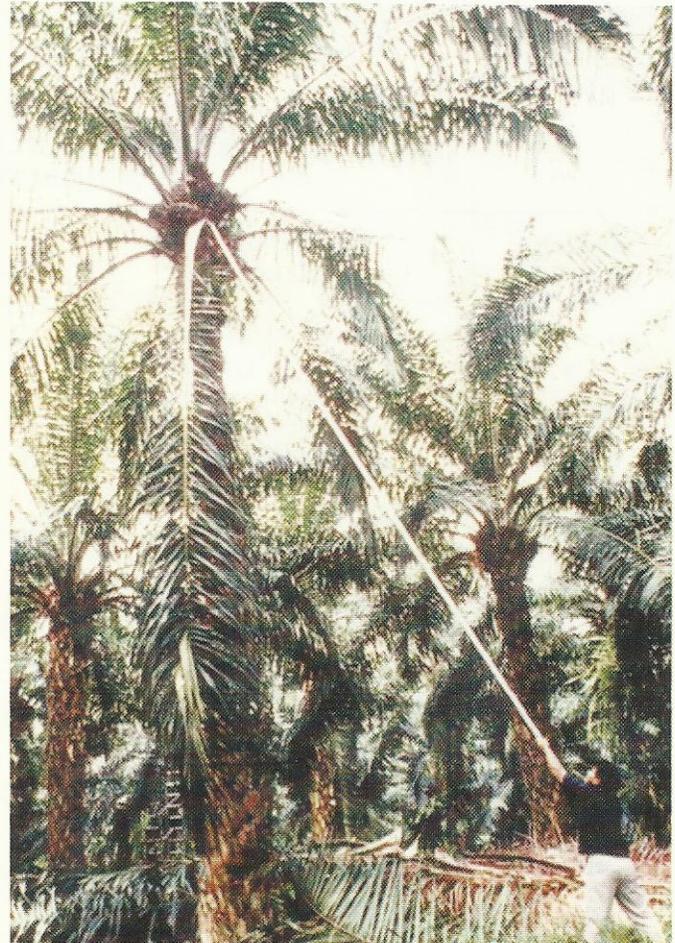
Scheme 1:



Scheme 2:



Seven *dura* families from PORIM-Nigerian germplasm collection were selected as mother palms of PORIM Series 1.0 (PS1.0) (Table 1). The high yielding dwarf palms have also been distributed to members of the industry. Outstanding dwarf PORIM-Nigerian *teneras* from the collection were crossed with the industry Deli *duras* for progeny testing. Population 12 of the PORIM-Nigerian germplasm was noted for high FFB and dwarfness. Nigerian *tenera* palms involved in the crossings were selfed to produce dwarf *pisiferas* which are being used to produce PORIM Series 1.1 (PS1.1). Deli *dura* x PORIM-Nigerian *tenera*, crosses yield more than 200 kg/p/yr as compared to the DxP control with 180 kg/p/yr (Table 2) (Rajanaidu *et al.*, 1998; 1999). The oil to bunch of *tenera* is about 28 %



Harvesting difficulty for current planting materials. PS1 can prolong the economic life of oil palm by lengthening replanting period.

and the palms are at least 30 % shorter than the Deli x AVROS control.

SPECIAL CHARACTERISTICS OF PS1

- Dwarf. Slow height increment (20 – 45 cm/yr).
- High fresh fruit bunch (FFB) yield (30 – 33 t/ha/yr).
- High oil to bunch (O/B) ratio which is about 28 %.

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TABLE 1. PORIM- NIGERIAN *DURA* FAMILIES SELECTED FOR HIGH YIELD AND LOW HEIGHT INCREMENT.

Family	FFB		BNO (No./p/yr)	ABWT (kg)	Height increment (HI) (cm/yr)
	(kg/p/yr)	(t/ha/yr)			
1	204	30.3	20	10.08	16
2	217	32.2	17	13.63	15
3	226	33.5	13	17.64	19
4	207	30.7	19	11.94	15
5	211	31.3	17	12.28	18
6	225	33.4	22	10.46	18
7	218	32.3	23	9.92	19

FFB=fresh fruit bunch, BNO=bunch number, ABWT=average bunch weight.

TABLE 2. PERFORMANCE OF DELI *DURA* X PORIM-NIGERIAN *TENERA* IN SUNGAI TEKAM, PAHANG.

Progeny	Pedigree (URD x NGA)	FFB (kg/p/yr)		O/B (%)	K/B (%)	HI (cm/yr)
		1992 - 1997	1997			
DT 5	FK 41 x 150/1269 (10-15)	158.8	211.8	28.0	5.0	46
E 23	FK 41 x 150/3207 (19-06)	170.0	218.5	27.5	4.1	42
E 25	FK 40 x 150/3207 (19-06)	172.3	230.3	25.7	5.0	44
E 27	GA 27 x 150/1791 (18-08)	153.9	224.8	27.7	3.9	46
E	29 FR 48 x 150/2793 (9-03)	169.0	230.4	28.2	5.1	45
DxP			180.0	25.0	4.0	75

Planted in 1989/90. URD=Ulu Remis *Dura*, NGA=PORIM-Nigerian germplasm.
FFB=fresh fruit bunch, O/B=oil to bunch, K/B=kernel to bunch.

COMMERCIALIZATION OPPORTUNITY

- Lease of *dura* mother palms.
- DxP germinated seeds.

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