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Short Communication

OCCURRENCE OF TRUNK ROT IN SOME *oleifera* BACKCROSSES

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Several (dura × oleifera) × dura *backcrosses planted in August 1982 at Pusat Perkhidmatan Pertanian Tun Razak (PPPTR) in Pahang were found to show a high incidence of trunk rot in January 1991. This short communication is to document the occurrence of trunk rot in* oleifera *backcrosses, a phenomenon which has not been reported before. The backcrosses originated from crossing the hybrids of Deli* dura* *of SOCFIN origin and the Kuala Lumpur* Melanococca *(KLM), an* oleifera+ *palm believed to be of Brazilian origin (Ooi* et al., *1981), with Deli* duras *of Serdang and Ulu Remis origins,* i.e. *(D × O) × D.*

Many palms in the affected field showed yellowing and desiccation of the fronds, and some had toppled over and died. Closer examination of the palms showed severe trunk rot. All the affected palms were from *oleifera* backcrosses. The frond bases of these palms were already rotten and detached, exposing the stem, in contrast to normal oil palms where the frond bases were still firm and intact.

The trunks of affected palms showed old rotting which caused girdling and hollowing (*Figure 1*). External examination of palms with only foliar symptoms showed no active or freshly rotting tissue. Affected tissues had dried up and the internal tissue was healthy. The lower fronds of palms with severe trunk rot also showed yellowing of pinnae and progressive desiccation from the distal end (*Figure 2*). Some frond petioles showed longitudinal cracks and the internal tissue was corky and dry.

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*dura form of *Elaeis guineensis*
+*Elaeis oleifera*

Figure 1. Palm with large cavity in the trunk due to rotting.

A census was carried out on palms in the affected field to identify the number of palms showing this disorder. The results, summarized in *Table 1*, confirmed that only the *oleifera* backcrosses were prone to trunk rot. Palms which were not severely affected continued to give normal FFB production, showing that the process of trunk rotting was slow. None of the *dura* × *dura* or *dura* × *pisifera* palms showed this disorder.

It is postulated that the rapid rotting and detachment of the frond bases and subsequent exposure of the stem have predisposed for infection by other microorganisms which caused the trunk rot in these *oleifera* backcrosses. These pathogenic microorganisms were believed to be abundant in the planting area, which had a high water table and occasional minor flooding.

Isolation of infected tissues yielded *Thielaviopsis* sp., a common fungus found on cut frond bases. Singh (1977) reported that this

TABLE 1. TRUNK ROT CENSUS FOR VARIOUS TYPES OF CROSSES

Pedigree	Type	Total No. of Palms	No. of Palms Affected	% of Total Palms
10592 × 8781	(D × O) × D	95	8	8.4
10517 × 8781	(D × O) × D	72	19	26.4
10538 × 8781	(D × O) × D	107	14	13.1
10637 × 9757	(D × O) × D	74	23	31.1
10659 × 8781	(D × O) × D	97	26	26.8
10579 × 8781	(D × O) × D	106	25	23.6
10532 × 9757	(D × O) × D	55	7	12.7
10508 × 9757	(D × O) × D	44	3	6.8
Total for backcrosses		650	125	19.2
4130 × AQK 24	D × P	11	0	0
8784 × 9762	D × D	41	0	0
8781 × 9822	D × D	36	0	0

Figure 2. Palm with symptoms of desiccated and yellowing fronds.

pathogen caused petiole and stem rot. Turner (1981) listed it as causing Dry Basal Rot. Results from artificial inoculation indicated that the fungus was not readily infectious even through open wounds using either pure culture or infected tissue. The incidence observed could thus be due to softer tissue of the frond bases accumulating an immense amount of inoculum potential for successful infection of the stem tissue.

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