

RESEARCH NOTES

ON THE LEAF ANATOMY OF YELLOW LEAF DISEASED
ARECA PALM *Areca catechu* L.

Nair and Aravindakshan (1970) reported the effect of the yellow leaf disease on the various plant characters of areca palms. The disease was noted to produce some effects on certain anatomical features of the plant also and results of studies made on these are presented in this note.

Table 1 below gives a comparison of the anatomical features observed in healthy and diseased leaves of the palms. It may be seen that the epidermal cells, stomatal structure as a whole, guard cells, stomatal pore and mid-rib parenchyma cells were of larger size in healthy palms than in diseased palms. The stomatal index (transformation of epidermal cells into stomata) and life (functioning period) of stomata also were greater in the healthy than in the diseased palms. The mid-rib xylem cell on the other hand was of larger size in diseased palms than in the healthy palms.

Further anatomical deformities observed in diseased leaves were the disarray of the contents of the epidermal cells and non-turgidity of mid-rib phloem cells,

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Table 1

Comparison of anatomical features of healthy and diseased areca leaves

Anatomical features	Healthy	Diseased
Mean size of epidermal cell (Sq. U)	671.01	627.88
» „ Stomatal apparatus „	4151.00	4060.00
„ „ Guard Cells „»	625.97	604.50
„ „ Stomatal pore „	119.00	85.00
Mean area occupied by a mid-rib xylem cell	1960.00	2024.70
Mean area occupied by a mid-rib phloem cell	122.80	109.00
Mean area occupied by a paranchyma cell (largest)	2250.00	2016.00
Stomatal index	12.50	10.20

References

Nair R. B. and M. Aravindakshan. 1970. On the occurrence of tyloses in the yellow leaf disease affected areca palms. *Agri. Res., J. Kerala* 8 (1): 58

Nair R. B. and M. Aravindakshan. 1970. Effect of the yellow leaf disease on the plant characters of *Areca catechu* L. *Agri. Res. Kerala* 8 (1) : 61-62

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