

Acknowledgements

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A NOTE ON GERMINATION OF SESENDOK (*ENDOSPERMUM MALACCENSE*) SEEDS IN THREE DIFFERENT SOWING MEDIA

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Sesendok is a pioneer species. It produces useful timber for match splints, boxes, drawing boards, toys and clogs (Desh & Thomas 1940). Sesendok wildings grow fast in open planting, thus it has potential for future afforestation program in Peninsular Malaysia (Chew 1980, Wan Razali 1988, Darus *et al.* 1990). The lack of viable seed production for sesendok due to severe insect predation was recorded (Yap & Razali 1980). Several authors suggest that other alternative methods to overcome low viability of collected sesendok seeds for planting stock production can be through wildings collection or stem cuttings (Yap & Razali 1980, Darus *et al.* 1990).

Our experience with viability of sesendok seeds collected from one mother tree (Tree No. 6) in Gunung Tampin Forest Reserve, Negeri Sembilan showed otherwise. These seeds were extracted from the yellowish-green mature fruits. Not a single seed was observed to be attacked by seed predators. A total of 600 mature seeds (outer coat removed) were sown in three different sowing media, (1) a 1:1 mixture of sand and forest soils, (2) a 1:3 mixture of sand and forest soils, (3) a 1:3 mixture of sand and forest soils added with Triper superphosphate (1.2 kg m^{-3}) and ground magnesium limestone (1.6 kg m^{-3}). Fertiliser was added to enhance the growth of seedlings after germination and lime was added to reduce the acidity of forest soils.

Each sowing medium was considered as a treatment. Each treatment was sown with 50 sesendok seeds. The layout of sowing media was according to randomized block design. The light gradient from the side (brighter) to the centre of sowing bed was isolated in the analysis by blocking. The setup of the layout was under 50% direct sunlight. Percentage figures were transformed (arc sine transformation) before analysis of variance was done.

Figure 1 shows that sesendok seeds started to germinate 25 to 27 days after sowing in the three sowing media. The germination count of sesendok seeds remained constant

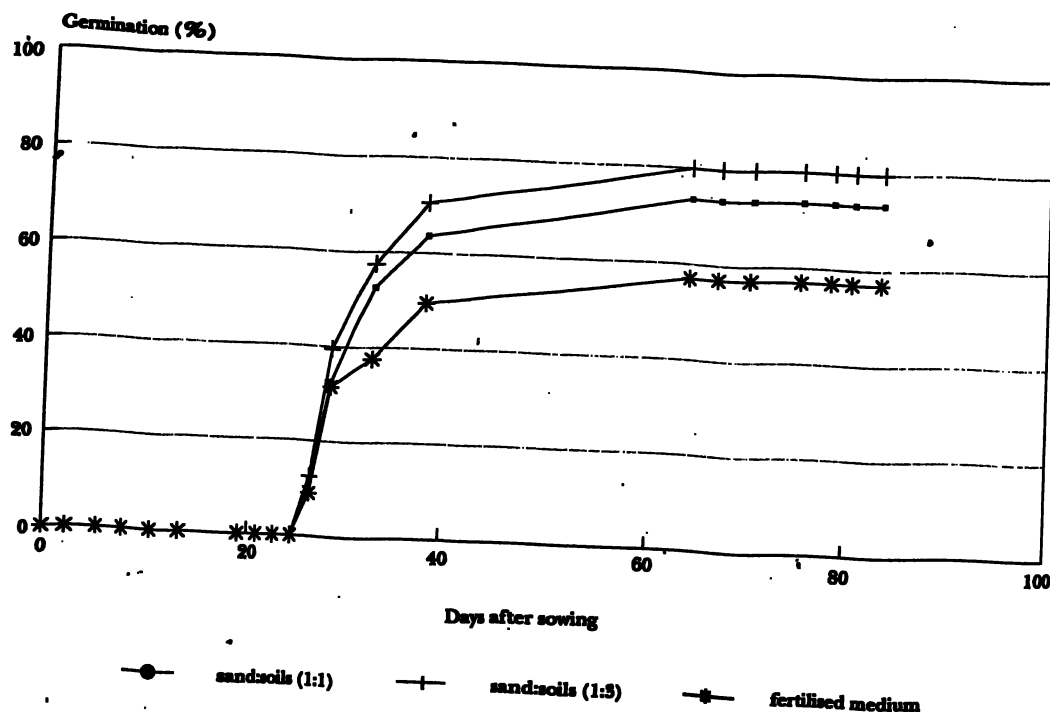


Figure 1. Germination percentage of sesendok seeds in three different sowing media under 50% direct sunlight

from 64 to 84 days after sowing. Hence, the experiment was terminated at 84 days after sowing. Germination of sesendok seeds was significantly highest in sowing medium consisting of one part of sand to three parts of forest soils and lowest germination (58%) was found in sowing media consisting of a 1:3 mixture of sand and fertilised soils (Tables 1 & 2).

Table 1. Germination percentage of sesendok seeds in three sowing media

Block	Ratio of sand to forest soils		
	1:1	1:3	1:3 with fertiliser and limestone
I	70	70	56
II	70	70	64
III	70	84	50
IV	84	94	62
Treatment mean	73.5(7.0)	79.5(11.7)	58(4.0)

Parenthesis denotes standard deviation

Table 2. ANOVA

	Degrees of freedom	SS	MSS	F-ratio
Total		854.9		
Treatment	2	473.9	236.96	7.99**
Block	3	203.2	67.75	2.28ns
Error	6	177.8	29.63	
Total	11			

ns denotes not significant at $P=0.05$; ** denotes significant at $P=0.01$; Note: ANOVA is based on arc sine transformed values of Table 1

This study showed that sound and mature sesendok seeds from Gunung Tampin Forest Reserve, Negeri Sembilan had high germination percentage in one part of sand and three parts of forest soils without fertiliser and lime application.

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OBITUARY

DR. THO YOW PONG

Dr. Tho Yow Pong passed away on 13th December after a period of illness, at the age of 46. At the time of his death Dr. Tho held the post of Director of the Environmental Science Division of the Forest Research Institute Malaysia (FRIM).

Dr. Tho joined FRIM in 1973 as an entomologist after three years of duty with the University of Malaya as a tutor and temporary Assistant Lecturer. Two years later, in 1975,

he was appointed the head of the Entomology Section. In September 1986 while still the Senior Forest Entomologist, he was appointed the Director of the newly formed Techno-Economics Division. In December 1988 he assumed responsibility of yet another newly formed Division, the Environmental Science Division as its Director.

Dr. Tho distinguished himself as a scientist, a leader and most of all perhaps as a nature lover and conservationist.

As a scientist he had published more than 40 papers on entomology, insect taxonomy, forest biology, conservation of forest resources and biodiversity. This is in addition to the many papers presented at conferences, seminars and workshops. His work on termites, as an example, had earned him recognition as an authority in this particular field.

For his various scientific efforts he was duly honoured both within the country and internationally. In 1982 he was awarded the Forest Department's Excellent Service Award. In 1986, he became, and remains, the only Asian outside of Japan to receive the Scientific Achievement Award from the International Union of Forest Research Organisations.

The development of his career in FRI and later FRIM was apt recognition of his many faceted talents. He demonstrated a sensitivity to the changing environment of forestry and the challenges that kept arising as national and international scenarios changed. He played a significant role in helping FRIM remain focussed on the more important issues of research and conservation that face us today. He was largely responsible for the present awareness and emphasis on tropical forest conservation, biodiversity and the environment in FRIM's current research programme.

However, Dr. Tho was first and foremost a conservationist and nature lover, one who was pragmatic in his approach to the issues in this arena which are so often clouded with emotions, half-truths and vested interests. He pushed for practical conservation whenever an opportunity availed itself, whether it was within FRIM, at the national level or internationally.

As a conservationist he took an active interest in many organisations. Of note is his participation in the activities of the Malayan Nature Society. It is here that he combined his leadership qualities and commitment to nature to achieve his best for the nation. Perhaps the most notable achievement of the Society while he was its Honorary Secretary was the Society's Endau-Rompin and Rompin-Endau expeditions which became an essential step in the progress towards the gazetting of these areas as two contiguous states national parks. Dr. Tho played a key role in initiating, organising and following through this important matter, up to the time of his death.

His sensitivity to the issues of conservation and biodiversity and his familiarity with the challenges facing Malaysia internationally in the area of forest conservation and the environment finally led to his secondment to ISIS to help chart the nation's course in matters pertaining to the environment. His loss came while he was still engaged in this duty.

His early and untimely demise is a loss to the Nation, to Conservation both nationally and internationally and finally to FRIM on whose development and progress he has left an indelible mark.

He leaves behind his wife, Mah Shook Ying and two sons Tho Lye Mun and Tho Lye Wye.