

INFLUENCE OF TIME OF WEEDING AND TERMITE INFESTATION ON FIELD SURVIVAL OF BUDDED STUMPS OF *HEVEA*

Establishment of rubber plantations in Nigeria is at present largely through budded stumps (Wan *et al.*, 1985). Heavy casualties in the early growth phase of field planted budded stumps have been reported (Ooi *et al.*, 1976). Besides the weather conditions and planting materials, incidence of root diseases, termite infestation and competition from weeds pose serious constraints in the establishment of budded stumps (Opeke, 1987; Omokhafa, 1992). This study was aimed at an empirical estimate of the influence of time of weeding and termite attack on plant survival.

The experiment was laid out in a secondary forest clearing in the rainforest belt of Nigeria. Budded stumps of nine *Hevea brasiliensis* clones, six developed by the Rubber Research Institute of Nigeria and three exotic, were planted at a spacing of 3.4 x 6.7 m. The experiment was laid out in randomised complete block design with four replicates and nearly 500 plants per plot. The planting was carried out in June 1991. One row of plants in each plot was weeded in October 1991 while the other rows were weeded only in January 1992. Observations were recorded from five rows in each plot including the rows weeded earlier (October). The percentage of plants that survived upto June 1992 was calculated. The number of plants lost by termite infestation was recorded and their percentage worked out. The data were subjected to statistical analysis.

The overall plant survival at the end of the first year was only 20 per cent in the experimental area. The rows weeded earlier (October 1991) had higher plant survival (50%) compared to those weeded later which had only 23 to 35 per cent survival.

The casualty observed in the early weeded plots is to a large extent due to termite infestation. The average infestation of termites was 17 per cent with late weeded area having almost double (23.97 per cent) the infestation of that in the early weeded (12.30 per cent) area (Table 1).

Table 1. Mean survival and termite infestation of budded stumps after the first year

Time of weeding	Survival (% of total)	Termite infested (% of casualty)
October	50	12.30
January	28	23.97

χ^2 9.22 with 1 df ; Significant at $P = 0.01$

The severe casualty observed in 1991 could also be due to extended drought period in that year. The mean monthly rainfall for August to December (post planting period) was only 189.92 mm as against 282.92 in the previous year (1990). Only about 50 mm rain was received during November-December, thus extending the drought period. Nevertheless protection from termites through timely application of insecticides (Omokhafa, 1992) along with timely weed control not later than October would help in the better establishment of plants.