U. S. Forest Service

RESEARCH NOTE NO. ITF 9

INSTITUTE OF TROPICAL FORESTRY*
RIO PIEDRAS, PUERTO RICO

FOREST SERVICE – U.S DEPARTMENT OF AGRICULTURE

December 1966

MOWING UNDERSTORY VEGETATION IN A YOUNG TEAK PLANTATION

By
R. W. Nobles and C. B. Briscoe

Summary

Mowing competing grass and brush improved accessibility and appearance and reduced fire hazard, but neither height nor diameter growth of the teak was affected.

Resumen

En Santa Cruz, Islas Vírgenes, las plantaciones de teca normalmente mantienen un sotobosque vigoroso de yerba de guinea, tan tan (zarcilla), y acacia (tamarindo silvestre).

Para estudiar los efectos de esta competencia en el crecimiento de árboles se establecieron parcelas experimentales en una plantación de teca de 7 años. La mitad fué segada durante 3 años.

El segar la maleza y la yerba que competía, mejoró la accesibilidad y la apariencia y se redujo el peligro de fuegos, pero ni la altura ni el diámetro fueron afectados.

The rapid growth of guinea grass (Panicum maximum), tan tan (Leucaena glauca), and casha (Acacia macracantha) as understory in plantations of teak (Tectona grandis) in St. Croix, Virgin Islands, has stimulated concern about the effect of competition to the teak from these weed species. In 1963 a study was initiated in the Estate Thomas Experimental Forest.

---

* In cooperation with the University of Puerto Rico.

The site selected was planted to teak in 1956 after being in sugar cane for 35 years. The soils are alkaline with a maximum of 46 centimeters (18 inches) of top soil over marl. Elevation is 61 meters (200 feet). Rainfall for the years 1963-1966 averaged 1067, 584, 1016, and 737 millimeters (42, 23, 40 and 29 inches), respectively.

Four adjacent plots were laid out, each containing three rows of teak, and ten trees were selected for measurement in each plot. Mean true size at the beginning of treatment was 8 centimeters (3.3 inches) dbh and 7 meters (22 feet) tall. On two alternate plots all competing plants were mowed often enough to restrict maximum height between 8 centimeters (3 inches) and 0.6 meters (2 feet). Vegetation in the remaining two blocks was not restricted.

Mowing was done twice in 1963, once in 1964, once in 1965, and four times in 1966 (when a mechanical, walking mower was used). In 1964 the control plots were cut over once, by mistake. It seems unlikely that this single mowing affected the 3-year results.

The trees were re-measured after three years, in 1966. Mean 3-year dbh growth averaged 1.2 centimeters (0.7 inches) for both treatments. Mean height growth was 2.3 meters (7.6 feet) and 2.5 meters (8.3 feet), for mowed and non-mowed, respectively; the difference was not statistically significant.