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SUMITRA PHANIJKUL : CORRELATIVE STUDY OF TEAK RING
WIDTH AND CLIMATOLOGICAL DATA FROM SRISATCHANALAI AREA,
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This research was carried out to investigate the relationship between ring width of teak (*Tectona grandis*) and rainfall and temperature in the Srisatchanalai area, Sukhothai Province. It was conducted on old teak timbers from houses in Ban Koh Noi and living teak trees from Srisatchanalai National Park. This study also aimed to establish chronologies for old timbers and living teak trees, which were established by ARSTAN program. After that, the correlation of teak ring width and climate were analysed using program RESPO. Moreover, this study was also the first pioneering of tree-ring analysis on old teak timbers in Thailand.

The results revealed that tree-ring indices from both old timbers and living teak trees showed distinctly narrow rings in the same year, such as 1868, 1878, 1905, 1929, 1957, 1962, and 1965. Teak ring widths from old timbers positively correlated with the amount of rainfall in May, July, and August at Uttaradit, Lampang, and Phrae weather stations, respectively. Ring widths from living teak trees were positively correlated with the amount of rainfall in July at Lampang station and in May at Phrae station. On the other hand, most of teak ring width had a slightly negative correlation with temperature. Teak ring width indices from old timbers correlated 19-21 % with indices of teak living trees.

In addition, further studies should be conducted on teak stump, another objects from teak, or historical building and also another dendrochronological potential tree species.