

## Lunar Rhythmicities in Properties of Water interacting with Plants

Ernst Zürcher

---

The question of the influence of moon phases upon the organic world, and particularly upon the vegetation, has always been of interest to man. In different countries (especially in the old cultures), this has led to agronomical and forestry practices ("*phytopractices*") which consider these phases in the different operations.

The phenomenon is presented here in its general aspects, considering empiry, traditions and more recent research works. Sowing trials and measurement of the subsequent growth of several tropical tree species have shown obvious rhythmic variations. In tree electrophysiology, the synodic moon cycle is even measurable (visualization as "*electrodendrograms*") at the daily level, in synchronicity with gravimetric tides.

Another form of lunar rhythm and its implications can also be mentioned: the discovery of the tidal dimension of reversible daily diameter fluctuations on trees held under constant conditions. At the level of wood as an organic material, rhythmic and reversible changes in drying behavior and in hygroscopicity, related to synodic and sidereal lunar cycles, brings an interesting hypothesis of short-time variations in water configuration (degree of aggregation / coherence) modulated by lunar cycles.

The importance of such results is emphasized by the large scale international forestry plantation programs, which will need an optimum use of available resources, nursery surfaces, funds and time. These results show that traditional practices, combined with a novel water approach, can inspire research and lead to new, unexpected applications.

*Key words:* *germination, growth rhythms, wood properties, lunar phases, tropical trees, fluctuating water properties*