



## Shayne S. Reano

BSc Agriculture, MSc Horticulture

[shayne.reano@griffithuni.edu.au](mailto:shayne.reano@griffithuni.edu.au)

[orcid.org/0009-0003-3288-0110](https://orcid.org/0009-0003-3288-0110)

### Summary

Matured rubber trees are tapped for latex production until they reach 25 to 40 years old. The sustainability of its production is a composite effect of different environmental variables, with stress regulation imposed from different tapping regimes and soil nutrition as two of the important factors at play. To ensure optimum yield and to protect the sustainability of the system, adaptive and coping mechanisms from stress through soil nutrition management is pivotal.

Tapping, as a form of physical wounding to release latex from the bark is a stress-rendering activity to the tree. Combined with poor soil nutrition, as organic content gradually gets depleted and soil properties change over time, these conditions can lead to a dramatic decline or even a stop in latex flow. The physiological and biochemical processes controlling latex flow and its capacity to re-synthesize latex and other organic constituents to replace that which had been drained off through tapping are mostly associated with the dynamics of soil nutrition and its availability for uptake.

As these aforementioned factors affect the sustainable latex production in mature rubber trees, this study will seek: 1) to evaluate the general impact of stress levels imposed from different tapping types and intensity 2) to assess the response of different soil nutrient management treatments 3) to establish identification techniques of levels of stress and 4) to identify appropriate rehabilitation measures for each stress classification.

### Research Expertise

- Embryonic Tissue Culture (Ground Orchid)
- Plant Physiology
- Stress Physiology
- Nitrogen Level and Secondary Metabolite Production (*Euphorbia hirta*)
- Azolla Production and Extension