

Influence of mycorrhiza, systemic fungicide (Tebuconazole), and added fertilizer-P on phosphorus utilization by *Camelia sinensis* (Tea)

Studies undertaken to examine the role of Vesicular Arbuscular Mycorrhiza (VAM) in different crop species indicate positive relations between VAM and their P nutrition

VAM being a fungi, have also been reported to show a range of responses to the fungicides added to rhizosphere soil.

Based on previous experimental evidence, this study tested eight pre-determined treatment combinations, to include two levels of VAM (with and without), two levels of P (TRI recommended rate and half of its rate) and three levels of the fungicide Tebuconazole (zero, half, and full recommended rate).

This experiment was done outdoors in a completely randomized design, and each treatment was replicated three times. The duration of the experiment was three years. At the end of this period the growth measurements, root and shoot dry weights, plant and soil P levels, rhizosphere VAM spore count and the percentage VAM infections of tea roots were recorded. The data were analysed using Behrens Fisher test.

Uptake of P by tea plant, with different treatments was compared by a ratio called "*P utilization efficiency*". From the main treatment was treatment effects it was revealed that at half the rate of standard P fertilizer, there is a significant gain in P uptake and at zero level of fungicide a significant increase in root weight associated with the highest mycorrhizal root infections. The individual treatment effects indicate that for optimum plant growth and efficiency of P utilization, a combination of half the rate (0.05%) of fungicide and half the rate of standard P fertilizer, with added VAM could be used.