

# Summary

The effect of fertilization and liming on the dry matter (DM) production and chemical composition of *Stylosanthes guianensis* cv. Cook and *Pueraria phaseoloides* was evaluated at Embrapa's Tracuateua experiment station (Pará, Brazil) in the eastern Amazon region (36 m above sea level, 1° 05' S and 47° W). Local climate is type Am (Köppen), with an average annual rainfall of 2000-2600 mm, an average temperature of 25 °C, and a relative humidity of 86%. Soils are yellow Latosols of medium texture, with pH = 5.2 and levels of 0.4 mE% Al<sup>+++</sup>, 1.4 mE% Ca<sup>++</sup> + Mg<sup>++</sup>, 1 ppm P, and 18 ppm K. A randomized block design was used with four replicates; separate trials were conducted for each legume specie. Treatments were arranged in split-split plots. Main plots included seven combinations of fertilizer: (T1) check; (T2) phosphorus (P); (T3) P + potassium (K); (T4) K; (T5) nitrogen (N); (T6) NPK; and (T7) NPK + micronutrients (M). Subplots included the levels of liming (0 and 2 t dolomitic lime/ha). Results showed that, although liming did not affect DM production, the level of Ca in both legumes increased. Crude protein and P also increased with fertilization. The application of micronutrients significantly increased their presence in legume tissues.