

Summary

The response of *Acacia angustissima* to the application of potassium (K) was evaluated under greenhouse conditions, using a yellow Latosol of Rondônia, Brazil. A randomized block design with four replicates was used. Treatments consisted of 0, 15, 30, 45, and 60 mg/dm³ of K, applied as potassium chloride. In addition, 30 mg/kg of P was applied, in the form of triple superphosphate, at planting. The application of K significantly affected DM production and N and K contents, but not those of Ca or Mg. Maximum DM production and tissue N and K contents occurred with the application of 44.4, 24.4, and 35.1 mg/dm³ of K, respectively. The amount of K required by the plant to reach 90% of maximum DM production was estimated at 17.3 mg/dm³.