Abstract

The use of controlled release fertilizers (CRF) is emerging and there are no published results for their use in Chile. In this study, it was evaluated the use of a CRF at the time of establishment of Pinus radiata on an ultisol in Valdivia, Chile. The study was conducted in three different sites with soil variations (2006). Six CRF, a traditional water-soluble fertilizer and a control treatments were applied (10-20 g•plant-1). Data were analyzed in a randomized block design. The evaluation (2006-2010) considered survival, tree growth and weed covers. The survival was between 84 and 96 %, with no difference between treatments (P > 0.05). The CRF growth responses were higher than the control and similar to the water-soluble fertilizer. The highest yields of the trees during the fourth year were obtained with the CRF use (+42% input). The CRF gave better response with higher doses or more prolonged release periods. The response was different between sites, in both, soil structure and its nutrient supply. The growth was diminished with a weed cover higher than 30 % in the plantation.

Keywords

Plantation silviculture, fertilization, ultisol, forest crop