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不同水肥管理对川滇桤木萌条生长及热值的影响

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Effects on Growth and Heat Value of Alnus ferdinandi coburgii in Different Water and Fertilizer Managements

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摘要 对不同水肥管理下川滇桤木伐桩的萌发、生长、生物量和热值的变异及其生理特性的差异进行研究。研究结果表明：①不同水肥管理条件对川滇桤木伐桩萌条生长量影响显著，浇水施肥处理对萌条的数量、长度和基径的生长量都有明显的促进作用，萌条生物总量最高，是最佳的管理措施。②川滇桤木萌条各器官间生物量分配比例顺序为：枝>叶。③水肥管理具有提高萌条热值的作用，萌条器官热值的分配结果为：叶>枝。④施肥和浇水管理主要是通过提高了萌条的光合速率，从而提高了萌条的生长。⑤川滇桤木萌条矿质元素在叶片中积累量大小顺序依次为K>Ca>Mg>N>P。

关键词： 川滇桤木 水肥管理 生物量 热值 营养元素

Abstract： Alnus ferdinandi coburgii is a kind of important energy species spread in the central part of Yunnan province, characterized by short seeding period，fast growing，strong spouting and big biomass. To determine management measure in sprout forest of Alnus ferdinandi coburgii , in this study, three different water and fertilizer managements were treated. Variations of germination，growth，biomass and heat value in the sprout as well as the diversity of physiological characteristics were examined.The results show that the effect of different managements on growth of stumps sprouting is significant. Water and fertilization management was the best, in which total biomass was the highest and it had significant promotion on sprouting number, length and basal diameter and heat value. This management improved sprouting growth mainly by enhancing the sprouting of the photosynthetic rate. The order of biomass allocation between different organs of Alnus ferdinandicoburgiiwas branch> leaf and the distribution of heat value between different organs was leaf > branch. The order of mineral elements accumulation in the sprouting leaves of Alnus ferdinandicoburgiiwas K> Ca> Mg> N> P

Keywords： Alnus ferdinandi coburgii water and fertilizer management biomass heat value mineral elements

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