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两种枣树矿质营养元素累积特性研究

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Accumulation properties of mineral elements in two types of Chinese jujube

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摘要 为探明枣树矿质营养元素的累积分配特征，以3年生骏枣树和灰枣树为试材，采用彻底刨根、分解取样的方法，研究了生物量的构成特点、各器官矿质元素含量和累积分配特性。结果表明，骏枣树总干质量为2694.3 g/plant，其中营养器官占68.0%，分别比灰枣高27.6%和21.9%。其N、P、K、Ca、Mg总累积量为33.91、3.43、22.20、31.25和5.53 g/plant，分别比灰枣树高50.1%、22.5%、24.7%、51.0%和88.7%。其中，N主要分配到叶片和果实，P、K主要分配到果实和叶片，Ca、Mg主要分配到叶片和主干；新生营养器官N、P、K的吸收比例为1: 0.063～0.083: 0.41～0.46，果实N、P、K的吸收比例为1: 0.19～0.20: 1.34～1.48。每生产1000 kg干质量骏枣需吸收N 32.83、P 3.41、K 23.14、Ca 29.06、Mg 5.32 kg；灰枣需吸收N 20.53、P 2.66、K 17.71、Ca 18.01、Mg 2.49 kg。骏枣生产单位干质量果实需吸收的养分比灰枣多，养分利用效率比灰枣低。骏枣树养分在叶片中的分配率显著高于灰枣树，在果实中的分配率则显著低于灰枣树。

关键词： 枣树 器官 矿质元素 累积特性

Abstract: Aim to find out absorption and distribution properties of mineral elements in jujube trees, and to provide a reasonable fertilization system, field experiments were conducted to analyze the composition of the characteristics of biomass, mineral elements content and its accumulation at different parts of jujube trees (Jun jujube, Hui jujube), which are cultivated about 3 years. The results show that jujube fruit dry matter accumulation is the biggest, followed by the trunk, leaves and fine roots again. N were mainly assigned to the leaves and fruit. P, K were mainly assigned to the fruit and leaves. Ca, Mg were mainly assigned to the leaves and trunk. The absorption ratio of N:P:K is 1:0.063-0.083:0.41-0.46 in new vegetative organs and 1:0.19-0.20:1.34-1.48 in fruit. To attain 1000 kg dry matter fruit, Jun jujube trees should uptake N 32.8 kg, P 3.4 kg and K 23.1 kg, and N 20.5 kg、P 2.7 kg and K 17.7 kg should be absorbed by Hui jujube trees to produce so much dry fruit. Jun jujube trees need to absorb more nutrients than Hui jujube trees to produce the same dry fruit, and the proportion of N, Ca, Mg was higher either. Nutrient distribution rate of Jun jujube trees in the leaves was significantly higher than that of Hui jujube trees, but it was significantly lower than Hui jujube trees in fruit. Fertilization in vegetative growth stage should be N fertilizer primarily, supplemented by a small amount of P and K fertilizer. In the fruit growth period, the application proportion of N fertilizer should be reduced to increase the proportion of P and K fertilizer.

Keywords: jujube organs mineral elements accumulation properties

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