

## 杏棉间作棉花干物质积累分配与养分吸收的分析模拟

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Simulation of cotton dry matter accumulation and distribution and nutrient absorption in apricot-cotton intercropping system

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**摘要** 在南疆自然生态条件下, 研究了杏棉间作对棉花干物质积累及植株养分运移的影响。试验采用Logistic生长函数模拟, 拟合效果较好, 均成“s”型曲线。结果表明, 间作棉总干物质积累速率最快时刻在出苗后73~99d, 快速生长期为35~59d, 最大积累量平均为278.79 kg/d。间作棉对N、P<sub>2</sub>O<sub>5</sub>、K<sub>2</sub>O养分吸收强度最大的时刻分别在出苗后56~59、48~62、48~52d, 快速积累期为36~38、29~32、39~58d; 最大积累量平均分别为3.51、1.47、2.64 kg/d。间作棉盛铃后仍有一部分光合产物、养分输送给茎、叶等营养器官, 降低了向蕾铃的分配, 将会对产量和品质的产生负面影响。

**关键词:** 杏棉间作 棉花 干物质 养分

**Abstract:** With the aim of providing a theoretical basis for high efficiency fertilization of cotton in the fruit-cotton intercropping system, the influences of apricot-cotton intercropping cultivation models on the dry matter and nutrient accumulation of cotton were studied under natural ecological conditions in South Xinjiang. The dry matter and nutrient accumulation were fitted by using the Logistic equation. The results show that the fastest accumulation rate of total dry matter of the intercropped cotton is from 73 to 99 days after the emergence, and the rapid growth period of total dry matter accumulation is from 35 to 59 days. The maximum average accumulation rate is about 278.79 kg/d. The fastest accumulation rates of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O nutrients are 56 to 59d, 48 to 62d and 48 to 52d after the emergence, the rapid accumulation periods are 36–38, 29–32 and 39–58d, respectively, and the average accumulation rates of largest absorption intensity are 3.51 kg/d, 1.47 kg/d and 2.64 kg/d. The intercropped cotton transports part of the photosynthetic products and nutrients to stems and leaves, and then reduces the distribution to the buds and bolls, thus affecting the improvement of yield and quality.

**Keywords:** apricot-cotton intercropping cotton dry matter nutrient

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