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滴水量对中熟大豆超高产田干物质积累和产量的影响

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摘要: 为探明超高产大豆的干物质积累和需水规律。田间研究了975 (W₁), 1 575 (W₂), 2 175 (W₃), 2 775 (W₄) m³·2hm⁻²共4种滴水量处理对中熟大豆品系10-4叶面积指数分布、干物质积累分配和产量的影响。结果表明: 随着滴水量的增加, 明显提高开花至成熟期间0~100 cm土层的含水量; 增大主茎6~15节叶面积、群体中上部叶面积指数和群体光合势; 显著增加总干物质积累量, W₄和W₃处理总干物质积累量分别较W₁增加了44.8%和34.7%; 增加植株6~16节位荚数、腔数和粒数, 显著增加产量, W₄和W₃处理产量分别为6 404.7和6 082.6 kg·2hm⁻², 分别较W₁增产27.6%和21.2%。新疆伊宁地区大豆获得6 000.0 kg·2hm⁻²产量, 其生育期间田间适宜总滴水量为2 175~2 775 m³·2hm⁻², 最大叶面积指数5.15~5.46, 总干物质积累量13 500.0~14 514.0 kg·2hm⁻², 经济系数为0.39。

Abstract: ?In order to make it clear the rule of dry matter accumulation and water requirement of the super-high - yielding production of soybeans, 4 different dripping amount of 975 (W₁), 1575 (W₂), 2175 (W₃) 2775m³·2ha⁻²(W₄) 4 treatments were used for the mid-mature soybean lines 10-4 to study the effect of different dripping amount on leaf area index, dry matter accumulation and yield. The results showed that with the increase of the dripping amount of water, the soil moisture of 0-100 cm soil was significantly improved from flowering stage to maturity; the leaf area of the 6-15 nodes on main stem, the leaf area index and leaf area duration of upper groups and total dry matter accumulation were significantly increased. The treatment of W₄, W₃ compared to the W₁ of total dry matter accumulation was increased by 44.8%, 34.7%, respectively; Increase in the number of pods of 6-16 nodes, cavities and grains, thus significantly increased the production. The yields of treatment W₄, W₃ were to 6 404.7 kg·2ha⁻¹, 6 082.6 kg·2ha⁻¹, respectively, compared with W₁ were increased of 27.6% and 21.2%. In Yining soybean get 6 000.0 kg·2ha⁻¹ production, the most appropriate total dripping amount of field in the whole growth period was 2 175-2 775 m³·2ha⁻¹, the maximum leaf area index was 5.15-5.46, total dry matter accumulation was 13 500.0-14 514.0 kg·2ha⁻¹, the harvest index was 0.39.

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