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磷酸二铵对超高产和普通大豆品种根系形态的影响

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摘要： 在大田条件下，对不同磷酸二铵施用量下超高产和普通大豆品种的根系干重、根系总长度、根系直径、根系表面积、根系体积、根尖数、产量及倒伏指数进行了比较研究。结果表明：在全生育期，除大豆根系直径外，其他根系形态指标都呈单峰曲线变化；适量的磷酸二铵可显著提高大豆植株根系干重、根系总长度、根系直径、根系表面积、根系体积和根尖数，其中超高产大豆品种根干重上升幅度更大；根系形态指标的提高有利于促进根系干物质积累，提高产量。不同施肥处理对超高产大豆品种倒伏指数影响较小，超高产大豆品种在不同施肥处理下产量显著高于普通大豆。

Abstract: Super-high-yielding soybean cultivar needs more nutrients and water than common cultivar to produce more biomass for high grain yield. The super high-yielding soybean may have specific root morphology to coordinate high yield. Comparative study on super-high-yielding cultivar and common soybean cultivar's root length, root diameter, root dry weight, root surface area, root volume, root tips area, yield and lodging score was carried out under field condition. The results showed that root length, root dry weight, root surface area, root volume, root tips area of soybean cultivar showed the single peak curve in soybean growth stage. The right amount of fertilizer significantly increased root length, root dry weight, root surface area, root volume, root tips area of soybean cultivar, which super-high yield soybean had higher root dry weight. The better root morphology improved more dry matter accumulation, whereas these did not caused significant high yield. The different levels of fertilizer had no effect on lodging score of super-high yield soybean, and super-high yield soybean had higher yield of all levels of fertilizer in experiment.....

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