

## Potassium Efficiency of Different Cotton Varieties at Seedling Stage

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**Abstract** : This experiment is conducted to study the growing and potassium (K) nutrition of four cotton varieties (Guo Kang 1; E Kang 3; E Kang 8; E Kang 10) through water culturing. The research started on Aug 4th, 2000, and accomplished on Sep 2th. The experiment adopted H · C · АДОНИН ingredient water culturing and installed two K levels ( $1 \text{ mg} \cdot \text{L}^{-1}$  and  $5 \text{ mg} \cdot \text{L}^{-1}$ ), each level were three repetitions. Firstly, Cotton seeds were dipped into  $50 \sim 60^\circ\text{C}$  water for 30 minutes, then kepted them indoor of normal temperature. When bud emerged, they were put in the water culture and add nutrition elements. The pot bulk is 20 L, each plastic pot had 12 plants, which had been placed at the Lab terrace, and everyday added oxygen for 10 hours to the water culture through machine. During the course of growing, the water culture was changed once a week and much attention was paid to deal with plant illness and plant worm. We also observed color change of the root and water, besides recording the plant heights and

the number of leaf. Finally harvested the roots, the stems and the leaves apart, and placed them into oven at  $105^\circ\text{C}$  for 30 minutes, then dried at  $70^\circ\text{C}$  for 24 hours. After grinding the samples, analyses were done on them. The results manifested the K efficiency coefficients exist prominent difference (K efficiency is the rate of low K level plant weight to high K level plant weight). K efficiency coefficients of the four varieties are 0.12, 0.15, 0.18 and 0.13, respectively. The experiment showed different distinction to K deficiency from appearance, high-efficiency varieties grew much better than low-efficiency ones.

**Key words**: cotton; potassium efficiency; genotype