

## Differential Expression of Salinity Resistance Gene on Cotton

YE Wu-wei, YU Shu-xun

*(Cotton Research Institute, Chinese Academy of Agricultural Sciences; Key Laboratory of Cotton Genetic Improvement, Ministry of Agriculture, Anyang, Henan 455000, China)*

Salinity resistance and differential gene expression associated with salinity in cotton germplasm were studied, because of the large scale area of salinity in China, and its significant negative effects on the cotton production. The salinity-resisted genes and their differential expression were studied under the stress of NaCl on cotton. There were found, under the NaCl stress, 1644 genes differentially expressed from the salinity-sensitive cotton and only 817 genes differentially expressed from the salinity-resisted cotton. The differentially expressed genes could be divided into five groups according to the expressed levels by the cluster analysis. A group; 32 up-regulated genes, differentially expressed only in the salinity-resisted cotton; B group, 548 up-regulated genes, differentially expressed only in the salinity-sensitive cotton; C group, 176 down-regulated genes, differentially expressed only in the salinity-resisted cotton; D group, 487 up-regulated genes, differentially expressed only in the salinity-sensitive cotton; E group, 609 down-regulated genes, differentially expressed both in the salinity-sensitive and salinity-resistant cotton. The salinity-resisted differential genes could also be divided into 4 groups according to the known functions of the expressed protein; 96 osmotin genes, 48 toxicity-reduced genes, 136 transcription factors, and 98 signal transmitted genes.

**Key words:** cotton; salinity resistance; differential expressed gene