

1328 Early production of biomass in high retention cotton

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The higher sink demand on a smaller plant has lead to early cut-out and lower yields of the high retention BollgardII cotton compared with the equivalent conventional variety. Irrigation programs in Australia have been tailored to the lower retention conventional varieties. While proven for these varieties, may not produce sufficient early biomass to support the higher boll load due to high retention of BollgardII. The objective was to compare whether higher biomass produced in early stages can supply assimilates for higher number of fruits. The study was conducted in southeast Queensland, with BollgardII. Treatments were: full irrigation with two rates of Nitrogen, Water stress until squaring and flowering followed both by full irrigation. Significant increases in TDM were produced by well water treatments compared with stress ones. N application under well water conditions in TDM production was significant after flowering. There was positive correlation between number of retained bolls and biomass at fruiting and maturity. This indicates that early inputs (water and N) in BollgardII may be important to overcome the limitation of small biomass.