

**EFFECT OF (+)- AND (-)-GOSSYPOL
IN COTTONSEED ON THE PERFORMANCE
OF THREE-WEEK-OLD BROILER CHICKENS**

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A glanded cottonseed which contained 62% of (+)-gossypol and 38% of (-)-gossypol, and a glanded cottonseed which contained 83% of (+)-gossypol and 17% of (-)-gossypol were fed to three-week-old broilers. Growth performance and cumulative feed conversion ratios (CFCR) of these broilers were compared both to broilers raised on glandless cottonseed and to broilers raised on a diet containing no cottonseed. Cottonseed was added to the diets at either 5% or 10%, and total levels of gossypol in the glanded cottonseed was 0.1% and 0.2%. Broilers raised on the diet containing the highest level of the (-)-isomer, gained less weight and exhibited the highest CFCR. Furthermore, broilers fed the highest level of the (-)-isomer had relative liver weights higher than other birds in the study. Birds fed the 5% cottonseed with the higher level of the (+)-gossypol were not different with respect to weight gain or CFCR than the control birds fed the glandless cottonseed or the birds fed the diet with no cottonseed. However, the birds fed the 5% cottonseed with the lower level of (+)-gossypol weighted less and had a higher CFCR than the control birds. This study showed an apparent link between toxicity and the (-)-isomer of gossypol to broilers. Developing a cotton with a high percentage of (+)-gossypol in the seed, could offer a new market for cottonseed.