

# **EVALUATION OF PROXIMATE AND ANTI-NUTRITIONAL CONTENTS OF SPROUTED AND FERMENTED COTTONSEED (*GOSSYPIUM HIRSUTUM* L)**

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## **Abstract**

The effect of fermentation and sprouting on the nutrient content and anti-nutritional factors of cottonseed were investigated. Cottonseed samples were anaerobically fermented for four (4) days and sprouting was done for two (2) days at ambient temperature (32°C). Treated and untreated seeds were analyzed for proximate parameters and anti-nutritional factors (gossypol, tannins, phytate and oxalate). The results indicated that the moisture content of the sprouted sample (76.54%) was significantly higher than that of the fermented and untreated samples (43.55% and 9.26%) respectively ( $p < 0.01$ ). Protein (26.41%) and ash (4.02%) content of fermented cottonseed samples were significantly higher ( $p < 0.01$ ) than that of the untreated (24.81% and 3.90%) and sprouted samples (8.49% and 2.64%) respectively. Fat, fibre and carbohydrate contents of treated samples were significantly lower ( $p < 0.01$ ) than that of the untreated samples. The anti-nutritional factor gossypol was significantly reduced ( $p < 0.01$ ) from 1.65% to 0.42% and 0.09% for sprouted and fermented samples respectively.

**Keywords:** Cottonseed, nutrient, anti-nutrient, fermentation, sprouting.