

variety in the ensiling of the second harvest. In fact, the second harvest does not appear to be undergoing the fermentation necessary for ensiling, and the pH value of the first harvest was such that ensiling in an open pit would be questionable.

It is also of interest to note that the total dry matter produced per acre did not change greatly between September 6, and November 15, for any variety-- just a moisture change.

At this point, there is nothing to indicate that cotton can be successfully ensiled commercially or that it will make a quality feed for livestock.

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#### COTTONSEED MEAL STUDIES

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This year the research involved the effect of iron sulphate upon inactivation of gossypol in cottonseed meal and the effect of cottonseed oil upon egg production and egg quality.

In the research on gossypol, 9 cottonseed meals containing 0.02 to 0.05% free gossypol and 0.74 to 1.24% total gossypol were added to rations at levels of 5, 10, and 15%. Laying hens were fed these rations with no iron sulphate added and with 0.1% iron sulphate added. The eggs produced were cold stored three months and yolk discoloration caused by gossypol ascertained. At a dietary level of 5%, none of the meals caused discoloration. At a level of 10%, two meals without added iron sulphate caused discoloration, but when 0.1% iron sulphate was added no discoloration was produced. At a dietary level of 15%, six meals without added iron sulphate produced discoloration, but when 0.1% iron sulphate was added, only one meal produced discoloration.

From this research the following is suggested for laying hens: With a maximum dietary level of 10% cottonseed meal addition of 500 parts per million iron in the form of a suitable salt such as ferrous sulphate.

Crude cottonseed oil, with gossypol removed, at a level of 2% in the diet reduced egg production approximately 4% and with 5% in the diet reduced egg production 7%. In eggs cold stored three months, egg quality was significantly reduced with 1, 2, and 5% dietary levels of cottonseed oil.

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