

STUDIES CONCERNING THE "BUILDING BLOCKS" OF COTTON

A. D. Deutschman, Jr., Agricultural Biochemist

The nature of our work on cotton has been fundamental and chemical. We have done no actual chemical studies on cotton as such, but have done a considerable amount of work on cottonseed oil, cellulose, and methyl glucoside. The latter would be considered a "building block" of cotton.

The cottonseed oil work has been centered around the synthesis of cyclopropene compounds which are found in cottonseed oil. This particular structure is harmful when fed in quantity to nonruminants.

We have succeeded in synthesizing these compounds and have tested them in chickens. Our work is continuing and is in the direction of trying to understand the mechanism of its action in the metabolic processes.

We have completed studies on the reaction of acetylene with cellulose. In this work we determined the optimum conditions for introduction of acetylene into the cellulose molecule. It is conceivable that the reaction product of acetylene and cellulose could be a valuable ingredient in the cross-linking of cotton or other cellulosic materials for use in wash-and-wear fabrics.

Finally, we have carried out extensive studies on the reactions of acetylene and methyl glucoside. We have defined the optimum operating conditions for producing vinyl ethers of methyl glucoside. These vinyl ethers in turn have possible application in the fields of sizing agents and cross-linking agents for cotton or other cellulosic products.

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DISTORTIONS IN RELATIVE PRICES  
CAUSED BY  
COMMODITY CREDIT CORPORATION

Robert S. Firch, Associate Agricultural Economist

The government has 16 different basic loan prices for middling, one-inch cotton by geographic areas. These locational differentials have traditionally reflected directly the rail cost of shipping cotton from common origins to Greenville, South Carolina, a major processing center for raw cotton. From the basic loan price for middling, one-inch cotton, the government establishes premiums and discounts for upland cotton to arrive at prices for 14 different staple lengths, 38 grades and seven micronaire categories.

In addition to these characteristics of cotton represented in government support prices, the market commonly makes additional price distinctions by variety, particularly favoring Acala varieties grown in the West. Also, the strength of the fiber often affects market prices; however, it is not a factor in determining government loan values.