

EFFECTS OF DATE OF PLANTING AND
DATE OF TERMINATION ON YIELD OF COTTON

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In the Yuma area, soil temperatures often reach the minimum necessary for germination of cotton seed in late February or early March, but good growing weather cannot be depended upon this early. Whenever early growth is delayed by cold windy weather, any advantage from early planting is lost. In date-of-planting experiments carried on at Yuma since 1965 cotton planted the first week of March has been, on the average, less productive than cotton planted in mid- or late March.

At the end of the growing season, it is questionable whether it is worth the time and expense to produce the "top crop." In light of the present pink bollworm problem in Arizona, it may be more profitable to mature the main crop only and then plow the field as soon as possible.

This experiment was designed to test the effects of both date of planting and date of crop termination on yield of cotton.

Procedure

Deltapine 16 cotton was planted at approximately two-week intervals from March 6 to May 1. At the end of the growing season, half of the plots received their last irrigation at the onset of flowering cut-out, July 31, and the other half were irrigated for the last time at the resumption of growth following cut-out, August 21.

The experimental design was a split plot randomized block with ten replications. Whole plots were dates of planting and sub-plots were irrigation treatments.

Results

A summary of yields from the various treatments is presented in the following table. The top soil was Glendale silty clay loam which varied from 12 to 48 inches in depth, underlain with fine sand. Because of this condition, areas in many of the early termination plots stressed for water before all the bolls could mature. This gave an advantage to the plots irrigated 21 days later when the weather was cooler and the water requirement was less. Thus, these plots matured all the bolls set before cut-out as well as those set later.

Effects of Date of Planting and Irrigation Termination on Yield of Seed Cotton in Pounds Per Acre From Deltapine 16 at Yuma, Arizona, in 1968.

Planting Date	Last Irrigation ((July 31) at Cut-out	Last Irrigation (Aug. 21) at Resumption of Growth Following Cut-out	Average of Irrigation Treatments	Cotton Produced by Continuing Irrigation After Cut-out
March 6	3930 b*	4507 b	4218 c	577
March 22	4159 ab	4682 ab	4420 b	523
April 3	4618 a	5093 a	4855 a	475
April 17	3912 b	4468 b	4190 c	556
May 1	<u>2909</u> c	<u>3541</u> c	<u>3225</u> c	<u>632</u>
Ave.	3906 **	4458 **	4182	553

*Means followed by the same letter are not significantly different at the 0.05 level of probability.

**Means significantly different at 0.01 level of probability.