

The following table shows the lint yields obtained.  
 Calculated lint yield of DpSL and Hopicala cotton grown with three application treatments and three irrigation levels. Cotton Research Center, Phoenix, 1966.

Treatment*	Variety	
	DpSL Lbs Lint/A	Hopicala Lbs Lint/A
A-1	1240	797
A-2	1377	922
A-3	1354	927
B-1	1377	905
B-2	1309	923
B-3	1281	955
C-1	1100	772
C-2	1198	746
C-3	1351	866

- \* A - Irrigate at 45% moisture depletion.  
 B - Irrigate at 60% moisture depletion.  
 C - Irrigate at 75% moisture depletion.  
 1 - Irrigate every row.  
 2 - Irrigate every other row, twice as long.  
 3 - Irrigate every other row, twice as often.

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COTTON PRODUCTION EFFICIENCY THROUGH TIMELY TERMINATION OF IRRIGATION

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The present pink-bollworm problem in Arizona is only one of several good reasons for managing cotton to produce a good main crop, without trying for a late or "top" crop. Normally, approximately 80% to 85% of the total yield is obtained from bolls set before "cut-out," and can be harvested in the first picking. Timely termination of irrigation, without trying for a "top" crop, would permit savings, not only in irrigation costs, but also in weed, insect, and disease control, which might more than offset the loss of the top crop, which is usually of inferior quality.

Efficiency in the use of irrigation water, e.g., lbs. of seed cotton per inch of water, is highest when irrigation is terminated at an appropriate early date. The appropriate final-irrigation date at any given location would be influenced by the ability of the soil to retain moisture and by climatic conditions.

An experiment to evaluate the effect of 5 different final-irrigation dates on the yield of Acala 4-42 and Delta Pine Smooth Leaf cotton was conducted in 1966. Results, as summarized in Table 1, indicate that relatively good yields of either variety were obtained when irrigations were terminated in July.

Table 1. Summary of Results Obtained at Yuma Valley Experiment Station, 1966.

Final Irrigation	Seed Cotton Pounds per Acre	Percent in First Picking	Inches of Water Applied	Pounds of Seed Cotton per Inch of Water
<u>Acala 4-42</u>				
July 11	4702	86.1	25	188
July 29	4627	82.7	31	149
Aug. 15	4404	85.2	36	122
Sept. 5	4385	80.4	43	102
Sept. 24	4665	87.2	48	97
<u>Delta Pine Smooth Leaf</u>				
July 11	5169	86.6	25	207
July 29	5392	85.8	31	174
Aug. 15	5654	86.1	36	157
Sept. 5	5523	86.1	43	128
Sept. 24	5075	86.0	48	106

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IRRIGATION CUT-OFF EFFECT ON YIELDS

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Fear of reducing lint yield may cause many growers to continue irrigation later than desirable where pink bollworm problems are severe. Irrigation cut-off dates were alternated in two forty-acre fields in 1965.

These dates show that plants on Gila loam made very profitable crops with an August 20 cut-off.