

Skip Row Planting

Says the Agronomist:

Warner D. Fisher

Agronomy Department

Skip-row planting of cotton has become a rather common practice in Arizona during the past two years. Several variations in skip-row planting have been used including (1) 2 rows of cotton with 4 rows fallow, (2) 4 rows cotton with 4 rows fallow, and (3) 8 rows cotton with 4 rows fallow.

These systems would require 3 acres, 2 acres, and 1½ acres of land respectively to plant 1 allotted acre of cotton. Since outside rows generally produce more cotton than inside rows, many farmers have been able to produce more cotton on their allotted acres than where it was planted in the conventional manner.

The main benefit of skip-row planting has been increased yields, but in 1955, when boll rots were generally prevalent, it was noted that boll rots were less severe in the skip-row plantings. This is generally attributed to better air movement and more light in the skip-row plantings. On the other hand it is recognized that the cost of production per allotted acre is somewhat higher under the skip row system of planting.

Two Experiments

In 1956 two experiments, one at the Yuma Experiment Station and one at the Cotton Research Center near Phoenix, were conducted by the Arizona Experiment Station in an attempt to evaluate more precisely the advantage in yield of skip-row planting. The system used was 4 rows of cotton with 4 rows fallow. Also included was one treatment in which soybeans were interplanted with the skip-row cotton. The soybeans at the Cotton

Research Center were completely eaten by jack-rabbits very early in the season. The following table shows the results of these two tests.

Effect of Skip-row Planting on Lint Yield

Method of Planting	Location of Test	
	Cotton Research Center	Yuma Exp. Station
	(Per Cent)	
Solid	100	100
Skip row (4 rows cotton— 4 rows fallow)	117	140
Skip row (4 rows cotton— 4 rows soybeans)	—	96
Calculated yield of lint from solid planting—		
Pounds per acre	1311	2008

Varies With Conditions

The increase in yield from skip-row planting was much greater in the Yuma test than in the test at the Cotton Research Center. The cotton at Yuma was in general more rank, and production was higher. Soybeans planted in the skip rows apparently offered as much competition to the outside rows of cotton as other rows of cotton would have been. This is evidenced by the fact that the yields of cotton interplanted with soybeans were essentially the same as for solid plantings. The soybeans in the Yuma test made excellent growth and were actually higher than the cotton until early in July. The soybeans were planted on April 3, the same date as the cotton.

These two tests demonstrate clearly that the increase in yield from skip-row planting varies considerably under different environmental conditions. From these tests and other observations it would appear that increased yield from skip-row planting is greater where the cotton tends to grow rank. It also appears to be necessary to water 5 middles for each 4 rows of cotton in most instances if any increase in yield is to be obtained.

Says the Economist:

**Andrew Vanvig
and Jack Woolley**

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It is generally agreed that skip-row planting of cotton will result in some increase of lint yield per acre over solid-planted cotton. It is also generally agreed that the practice of planting four rows and skipping four rows results in increased costs *per cotton acre*. The crucial question is—Does the *value* of the increase in yield more than offset the increase in costs? And in areas where alternative crops such as sorghums and vegetables can be grown profitably, does the value of that increased yield offset the returns that could be earned on the acreage which is necessarily fallowed when cotton is skip-row planted?

Actual Farm Comparisons

To help cotton growers answer these questions, the Arizona Experiment Station undertook an intensive search to locate growers who had both skip-row and solid-planted cotton during 1956 and who had kept accurate records of the *increase* in costs associated with skip-row planting of cotton. In the table below, comparisons are made of the costs that can be expected with solid-planted cotton and the increase associated with skip-row cotton.

The practice of skip-row planting has come about as a result of acreage allotments on cotton. Scarcely any skip-row planting was practiced prior to 1954 (the first year of acreage controls) and only a very small percentage that year. However, in 1955 about 10 per cent was skip-row planted and this proportion jumped to about 40 per cent in 1956.

ing of Cotton

Comparison of Growing Costs of Solid vs. Skip-Row Planted Cotton

ITEM	Cost Per Acre of Cotton		Increase (skip-row over solid)
	Solid	Skip-row	
Land preparation	\$ 12	\$ 24	Double
Seed & planting	4	4	Same
Cult., hoe & thin	20	28	Up 40%
Irrig. & ditch labor	8	10	Up 1/4
Fertilizer & application	18	18	Same
Insecticide & application	15	25	Up 2/3
Water	20	27	Up 1/3
Int. on crop loan, Soc. Sec., Ind. Ins.	6	8	Up 1/3
Total Growing Costs	\$103	\$144	Up 40%

This comparison shows an increase in growing costs of skip-row over solid-planted cotton of \$41 per acre, or about 40 per cent. Major increases are accounted for by higher land preparation costs, when all of a field is prepared yet only half is planted to cotton, and by increased costs for insecticides and application where aerial application is practiced. Most of the growers contacted did not increase fertilizer use on skip-row over solid in 1956 but in some cases this may be profitable.

Growers contacted in this study said yield increases of skip-row over solid planting ranged from 1/4 to 3/4 bales per acre in 1956. (The difference in yield between skip-row and solid-planted cotton was somewhat greater in 1955.) Using a net value of \$110 per bale of lint (500

pounds x 30 cents = \$150 less \$40 net harvesting and ginning costs and allowing for seed credits), returns are compared below for three levels of yield increases (a) 1/4 bale, (b) 1/2 bale, and (c) 3/4 bale per acre of skip-row as compared to a yield of two bales per acre from solid-planted cotton.

Comparison of Returns of Solid-Planted Cotton with Skip-Row Assuming Three Levels of Yield Increase

	Solid	Skip-row		
		2 1/4	2 1/2	2 3/4
Yield, bales per acre	2	2 1/4	2 1/2	2 3/4
Net Value of lint (figuring harvest & ginning costs & seed credits)	\$220	\$248	\$275	\$302
Less growing costs	103	144	144	144
Return for land & mgt.	\$117	\$104	\$131	\$158
Advantage for skip-row		-\$13	+\$14	+\$41

On the basis of the above, it appears that skip-row planting of cotton is profitable where a yield increase of half a bale or more is possible and where no profitable alternative crops exist. This is the case in some of the higher lift pumping areas. If a farmer has sufficient water to crop all his land, his decision on skip-row must depend on whether the net returns possible on alternative crops exceed the net returns of skip-row over solid-planted cotton.

tory. Here these college girls take charge of story-telling time, supervise working with clay, finger-painting and other creative activities, watch over playtime outside as pre-school children first learn to play on swings, teeter-totters and other play equipment.

The students learn how to arbitrate childhood disputes, how to comfort little ones away from mother for the first time, how to control the small boy who wants to throw blocks and balls at his playmates or through a window. In future professional life as home management consultants—or with their own children in their own homes—these girls will find valuable use for such training.

Points to Remember

In general, however, what should we advise about stories for young children? When you are selecting stories for little children here are some points to remember:

1. The story should be short and simple, about things with which the child is familiar, and in language which he can understand.
 2. Children like action stories.
 3. Children like stories about other children doing the same things they do.
 4. Children enjoy rhythm, repetition, and humor which is understandable to them.
 5. If the story includes animals, be sure they behave as animals really do. (Avoid big, bad wolves that climb down chimneys, talking snakes, etc.)
 6. Avoid stories about machines or other inanimate objects which talk and think like people.
 7. Avoid stories with a "moral". Pre-schoolers don't learn morals and manners from stories.
- Have fun reading, telling, and listening to stories with your youngsters!

STORIES FOR SMALL FRY

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advantage of these "here and now" stories is that it is so much easier for a child to tell this kind of story. After all, it is just a step further on from his own conversation.

As the child's understanding of the world increases, so will the topics of interest to him in stories. As for humor, a child must have some understanding

of what really and truly is, before he can appreciate the humor of what is fantastically different from the real state of affairs. An older child may be amused if you say you threw a ball up to the moon, but a three-year-old might work away trying to throw a ball so it would go to the moon and be very upset when he couldn't accomplish it.

To learn about these lovable and amazing little tots, University of Arizona students in Home Economics use the university's nursery school as their labora-