

# Lint Cleaning of Arizona Cotton

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Higher trash and moisture content of seed cotton arriving at Arizona gins has resulted from the increase in machine harvesting and hand-snapping of cotton in the state. In an attempt to improve the grade of such cotton the gins have installed (a) additional overhead cleaning and drying machinery and (b) lint cleaners.

A study conducted by the Department of Agricultural Economics of the U of A College of Agriculture, in cooperation with the U. S. Department of Agriculture, indicates the effectiveness of this equipment. (See *Quality and Cost of Ginning Arizona Upland Cotton*, Arizona Agricultural Experiment Station Bulletin 277). In terms of the grade index, cotton ginned in the most elaborately equipped Arizona gins averaged a third to two-thirds of a grade above that ginned in simply equipped gins (See Table at right).

## Cleaners Cut Bale Weight

Lint cleaners alone can sometimes result in average improvement of a third of a grade, in terms of the grade index. The loss in bale weight, however, makes it unprofitable for farmers to lint clean cotton which without cleaning would grade Strict Low Middling white or better. On the other hand, lint cleaning of the lower grades appears to bring producers a profit.

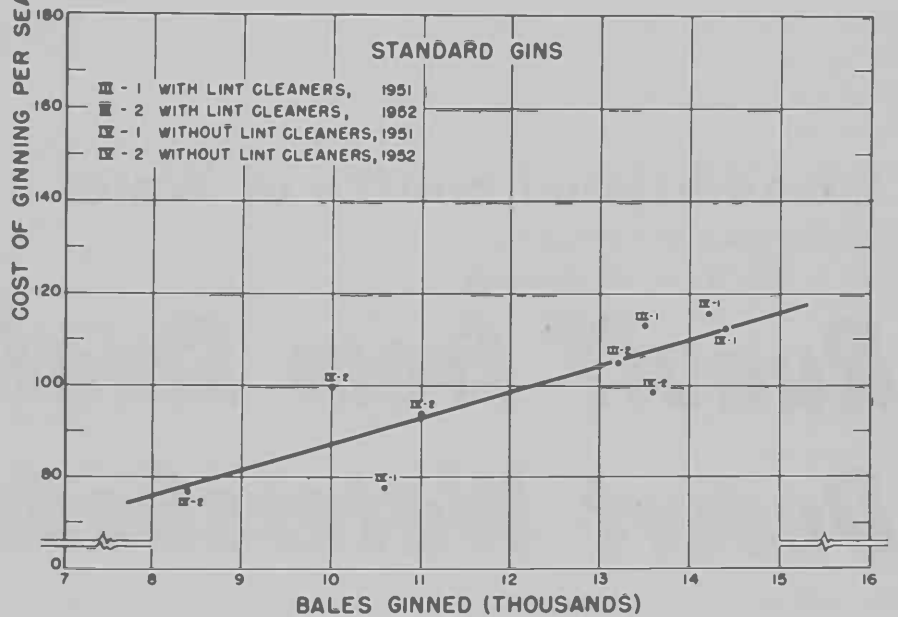
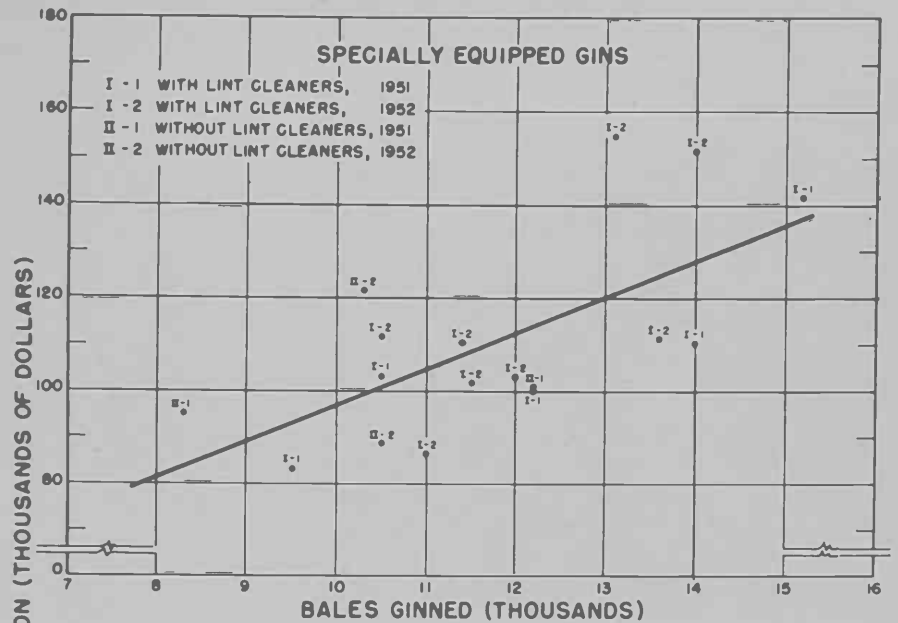
Another way of stating the comparison between performances of gins with different amounts of cleaning and conditioning equipment is to point out that the grades of machine-harvested cotton processed in the specially equipped gins with lint cleaners almost (but not quite) equal those of hand harvested cotton processed in standard gins without lint cleaners.

Since most Arizona ginners have to handle some machine picked and hand-snapped cotton and some "bollies" they have had no alternative but to adopt the more elaborate equipment. Some companies held off longer than others before installing lint cleaners, but by the 1956 season competition had forced adoption of this equipment by most ginners.

Gins have adopted additional cleaning equipment at considerable increase in ginning costs, as can be seen in the chart at right. In the main, this is because of the higher capitalization of specially equipped plants, which cost over \$150,000 compared to about \$100,000 for standard gins. In addition, the specially equipped gins require more power and bigger crews. This is somewhat offset by the greater capacity per hour of the specially equipped plants, but still puts the big gins in a vulnerable financial position when volumes are reduced by allotments or other causes.

## Avoid "Over-Machining"

Now that elaborate equipment is available in almost all gins, both farmers and ginners must exercise caution in order to avoid "over-machining." It can be avoided since almost any piece of cleaning or drying equipment in the plant can be by-passed. Higher economic returns result to farmers in the



RELATIONSHIP BETWEEN VOLUME AND COST OF GINNING, CENTRAL ARIZONA, SEASONS OF 1951-52 AND 1952-53

## GRADE INDEX<sup>a</sup> OF COTTON BY SPECIFIED GIN GROUPS, CROPS OF 1951 AND 1952

Crop Year and Method of Harvest	Specially Equipped Gins		Standard Gins	
	With Lint Cleaners	Without Lint Cleaners	With Lint Cleaners	Without Lint Cleaners
	Index	Index	Index	Index
<b>1951:</b>				
Hand Harvested	100.1	97.6	96.8	96.6
Machine Harvested	96.3	95.5	94.9	95.1
<b>1952:</b>				
Hand Harvested	100.4	98.4	100.4	98.1
Machine Harvested	96.4	95.3	92.9	89.7

<sup>a</sup>104=Strict Middling; 100=Middling; 94=Strict Low Middling; 85=Low Middling

case of clean, hand-picked cotton if less cleaning equipment is used and high drying temperatures are avoided. This is because extensive cleaning and drying are always accomplished at the expense of some loss in turnout. The full cleaning capacity of the specially equipped plants with lint cleaners should be used only when necessary to restore the grades of roughly harvested seed cotton.

As a practical matter, Arizona ginners seek to accomplish this by grouping trailers of seed cotton of similar trash and moisture content, rather than ginning always on a first-come, first-served basis.