

# COTTON GIN OPERATING COSTS IN WEST TEXAS— 1966-67 and 1967-68



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Findings on cotton gin operating costs in 1967-68 are based on a total of 39 gins compared with 36 in the first 2 seasons. Modifications and additions of ginning equipment affecting ginning capacities caused some shifting of the original plants among the four size groups. Voids were filled with alternate gins of like characteristics.

VOLUMES GINNED

Ginning volumes continued to decline, following the area trend. While not as pronounced as in the previous year, when the current cotton program started, volume reductions in 1967-68 were substantial, from 20 percent for Group 1 to 5 percent for Group 4 (table 1). One gin in Group 2 showed a total seasonal volume of 130 bales, lower than the 300 bales recorded at another sample gin during 1966-67.

Table 1.--Volume ginned, range, average, and change from previous season, for sample ginning firms, District 1, West Texas, 1966-67 and 1967-68 seasons

Ginning firm size 1/	1966-67 season			1967-68 season		
	Range	Average	Change	Range	Average	Change
	Bales	Bales	Percent	Bales	Bales	Percent
Group 1.....	1,452 - 5,786	3,144	-34	649 - 6,741	2,516	-20
Group 2.....	300 - 6,573	2,670	-45	130 - 5,290	2,152	-19
Group 3.....	1,525 - 9,031	5,460	-39	1,749 - 9,263	5,011	- 8
Group 4.....	2,776 - 13,136	6,448	-45	2,233 - 11,086	6,114	- 5

1/ Sample gins divided into 4 size groups based on manufacturers' hourly capacity rating for each gin stand complex: Group 1--8 bales or less; Group 2--9 through 11 bales; Group 3--12 through 20 bales; and Group 4--21 bales and over.

AVERAGE COST

Book and standardized book cost figures are shown for each size group. Book costs were taken directly from gin records or books with only minor adjustments 1/. Standardized book cost differs in only 2 cost items--depreciation and interest, as follows: To compensate for wide differences among gins in depreciation methods used and interest actually paid, uniform rates for each were adopted. The depreciation rate was set at 10 percent of the total investment carried on each depreciation schedule, regardless of age (excluding large trucks, trailers, and land). Interest rate was set at 6 percent of the estimated land value and 6 percent of half the investment in buildings, machinery, and equipment.

Despite the continuing decline in total ginning volumes and the long rise in cost of most items purchased, ginners in 3 groups managed fairly well to hold the line in unit operating cost during the 1967-68 season. Total book cost per bale for Group 3 advanced only 3 percent, and for Group 2 and 4 declined slightly (table 2). Under standardized book cost, the unit averages for Groups 2 and 3 increased 3 and 5 percent, while Group 4 remained essentially unchanged. During 1966-67, per bale cost for the Group 1 average failed to increase at the rate noted for the other three. In 1967-68, this situation reversed, bringing Group 1 into line with the other groups on the basis of the total percentage increase in unit cost for these 2 years.

1/ Adjustments were made to eliminate costs not directly associated with ginning.

Note: This is the second report based on a continuing study of operating costs in West Texas cotton gins being carried on by the Economic Research Service. The first, Marketing Research Report No. 831, covered 1965-66 and 1966-67 seasons. Cost studies of this type are planned for other areas of the Cotton Belt.

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Table 2.--Average cost per bale and percentage change from previous season, for sample ginning firms, by costing methods, items, and size groups, 1/ District 1, West Texas, 1966-67 and 1967-68 seasons

Cost items	Group 1		Group 2		Group 3		Group 4	
	Cost	Change <u>2/</u>	Cost	Change <u>2/</u>	Cost	Change <u>2/</u>	Cost	Change <u>2/</u>
	Dol.	Pct.	Dol.	Pct.	Dol.	Pct.	Dol.	Pct.
<u>1967-68 Season:</u>								
Book <u>3/</u>								
Management & office labor.:	4.21	10	4.28	9	2.90	5	2.71	0
Depreciation.....:	4.45	22	4.99	- 1	5.57	1	7.42	3
Interest.....:	.79	41	.97	- 8	.80	-25	.76	-16
Property insurance.....:	.41	32	.44	-10	.31	- 9	.41	5
Property taxes.....:	.53	66	.53	6	.36	- 5	.51	13
Energy.....:	2.21	26	2.00	- 9	2.29	29	2.33	8
Ginning labor.....:	4.76	28	4.50	15	4.54	19	4.28	11
Bagging & ties.....:	2.93	2	2.72	-10	2.69	- 6	2.87	- 4
Repair labor & materials..:	3.56	-15	3.64	-25	3.72	- 5	3.60	-20
Miscellaneous.....:	2.27	13	2.36	24	1.59	- 4	1.65	10
Total book.....:	26.12	13	26.43	- 2	24.77	3	26.54	- 1
Standardized book <u>4/</u>								
Depreciation.....:	6.29	25	8.92	10	7.62	6	10.52	2
Interest.....:	2.18	25	3.07	12	2.47	6	3.37	2
Total standardized book..:	29.35	14	32.46	3	28.49	5	32.25	0
<u>1966-67 Season:</u>								
Book <u>3/</u>								
Management & office labor.:	3.82	51	3.91	62	2.76	45	2.70	66
Depreciation.....:	3.65	46	5.03	68	5.51	59	7.22	85
Interest.....:	.56	14	1.05	59	1.07	53	.91	47
Property insurance.....:	.31	15	.49	63	.34	42	.39	44
Property taxes.....:	.32	68	.50	85	.38	65	.45	80
Energy.....:	1.76	28	2.20	24	1.77	12	2.15	19
Ginning labor.....:	3.72	4	3.92	16	3.82	6	3.85	1
Bagging & ties.....:	2.86	- 4	3.01	1	2.87	- 3	2.99	- 4
Repair labor & materials..:	4.20	38	4.84	52	3.92	35	4.52	57
Miscellaneous.....:	2.01	24	1.91	53	1.65	57	1.50	49
Total book.....:	23.21	25	26.86	40	24.09	29	26.68	38
Standardized book <u>4/</u>								
Depreciation.....:	5.05	53	8.13	82	7.22	67	10.34	83
Interest.....:	1.75	54	2.75	81	2.34	66	3.31	83
Total standardized book..:	25.80	29	31.66	47	27.07	34	32.20	45

1/ Sample gins were divided into 4 size groups based on manufacturers' hourly capacity rating for each gin stand complex as follows: Group 1--8 bales or less; Group 2--9 through 11 bales; Group 3--12 through 20 bales; and Group 4--21 bales and over.

2/ No sign before number indicates increase; minus sign, decrease from previous season.

3/ Taken directly from firm accounting records and modified slightly to achieve uniformity for making meaningful averages and comparisons of total costs and individual cost items. Includes only costs associated with ginning--processing and handling seed cotton from the time of delivery to gin yard until stacked on the loading dock as baled lint, to await shipment.

4/ To overcome disparities among ginning firms in depreciation and interest, uniform rates were adopted for these 2 items. Depreciation was set at 10 percent of total cost of capital items on depreciation schedule; and interest at 6 percent of estimated average land value and 6 percent on half the investment in buildings, machinery, and equipment. All other cost items are the same as those under book costs above.

Individual cost items for Group 1, which showed the greatest relative decrease in average volume, were all higher, except repairs were down 15 percent. During 1967-68 about as many items declined as advanced among the other three groups. Unit repair cost was down for all group averages--from 5 to 25 percent lower, compared with 1966-67. The extent and cost of repairs are determined largely by the volumes ginned during the previous season. Thus, the higher unit repair cost in 1966-67 reflected the larger volumes in 1965-66. Depreciation ranged from a 22-percent increase per bale in Group 1 to a 1-percent drop for Group 2. Interest revealed a similar pattern, although the spread was much greater--from a 41-percent increase for Group 1 to a 25-percent decline for Group 3. Unit insurance and tax costs varied among groups; some increased and other decreased. Most utility rate schedules are graduated to favor large volume users. Also, a minimum charge is normally assessed to partially compensate the utility firm for its idle equipment when little or no service is demanded. Some volumes were so low that minimum demands were not met, resulting in an excessively high unit cost for energy. Such increases for three groups ranged from 8 to 29 percent, while Group 2 declined 9 percent. This departure from the trend could not be explained, but may have resulted from more efficient ginning. Increases in minimum wages, fringe benefits, and other factors substantially increased labor cost per bale for all groups. Unit cost of bagging and ties declined for all except the Group 2 average, which increased 2 percent. Miscellaneous cost per bale was higher for all but the Group 3 average which declined 4 percent. Depreciation and interest, the only cost items which differ between book and standardized book costs, were higher under standardized book costs.

To emphasize the adverse effects of recent declines in ginning volumes, the operating costs were estimated with rate of seasonal capacity utilization adjusted upward to a uniform 70 percent, using the techniques employed in the development of model gins (table 3) 2/.

Table 3.--Estimated average cost per bale for sample ginning firms at 70 percent capacity utilization, by costing methods, items, and size groups, 1/ District 1, West Texas, 1967-68 season

Cost items	Volume in bales			
	Group 1, 4,204	Group 2, 5,013	Group 3, 8,678	Group 4, 15,254
	-----Dollars-----			
Book 3/				
Management & office labor....	2.69	2.05	1.83	1.25
Depreciation.....	2.66	2.14	3.22	2.97
Interest.....	.47	.42	.46	.30
Property insurance.....	.29	.25	.21	.22
Property taxes.....	.32	.23	.21	.20
Energy.....	1.97	1.62	2.01	1.79
Ginning labor.....	4.31	3.80	3.26	3.28
Bagging & ties.....	2.93	2.72	2.69	2.87
Repair labor & materials.....	3.50	3.55	3.59	3.32
Miscellaneous.....	2.22	2.29	1.53	1.54
Total book.....	21.36	19.07	19.01	17.74
Standardized book 4/				
Depreciation.....	3.76	3.83	4.40	4.22
Interest.....	1.30	1.32	1.43	1.35
Total standardized book....	23.29	21.66	21.16	20.04

See table 2 for footnote references.

Spreading such costs as management and office labor, depreciation, interest, plant insurance, and taxes over more bales substantially reduces total ginning cost per bale. Greater volumes may also reduce per bale cost of such variable costs as labor and energy. Total estimated reductions in adjusted costs compared with the actual averages for sample gins ranged from almost \$5 per bale for small plants to \$9 for the largest plants.

2/ Wilmot, Charles A., Victor L. Stedronsky, Zolon M. Looney, and Vernon P. Moore, Engineering and Economic Aspects of Cotton Gin Operations--Midsouth, West Texas, Far West, U.S. Dept. Agr., Agr. Econ. Rpt. 116, July 1967.