

TEXAS-OKLAHOMA PRODUCER COTTON

MARKET SUMMARY: 1999/2000

Jeannie Nelson, Kevin Hoelscher, Sukant Misra and Don Ethridge
Texas Tech University
Lubbock, TX

Abstract

The size of the Texas-Oklahoma spot market for the 1999/2000 marketing year increased considerably from the previous year and the average producer price declined for the fourth year in a row. The average price received by producers during the 1999/2000 marketing year was 37.82 cents/lb., which was 13.32 cents/lb. lower than the previous marketing year. The 1999 crop was generally of good quality, but the average for staple length and strength declined compared to the 1998 crop. The percentage of bales having level 2 bark, and level 1 and 2 other extraneous matter also increased marginally when compared to the 1998 crop. With the exception of the first digit of the color grade, level 1 bark, and level 2 other extraneous matter, price discounts for the 1999 crop decreased for all quality attributes. The premiums for the first digit of the color grade and staple both increased, while the premium for strength decreased.

Introduction

The Daily Price Estimation System (DPES) is maintained and operated by the Department of Agricultural and Applied Economics, Texas Tech University. The DPES is a computerized price analysis system that uses an econometric model to analyze producer cotton prices and estimate quality premiums and discounts for the West Texas and East Texas/Oklahoma cotton marketing regions on a daily basis (Brown et al.; Brown and Ethridge). The DPES receives data each day from electronic spot markets operating in these regions and uses these data for daily price analysis and estimation of premiums and discounts. These data represent only producer spot market transactions. The reported results are based on the official HVI grading standards used by the U.S. Dept. of Agriculture. The information presented here is a summary of results for the entire 1999/2000 marketing year (1999 crop).

1999/2000 Crop Statistics

For the 1999/2000 marketing year, a total of 896,788 bales (734,952 bales from West Texas and 161,836 bales from East Texas/Oklahoma) and 12,072 sales transactions were used in the DPES estimations. This represents about 31% of the producers' cash market sales for these regions. The number of sales transactions and bales sold received by the DPES for the 1999 crop year increased by about 12% from the previous year. This higher volume could be attributed to the increase in the 1999 crop size and a 23% decrease in forward contracting.

Table 1 provides the simple averages for the 1999/2000 and 1998/1999 marketing years. The 1999 crop was generally of good quality. In relative terms, all quality characteristics except for staple, strength, level 2 bark, level 1 other extraneous matter, and level 2 other extraneous matter showed improvement compared to the 1998 crop. In spite of this, the prices received by producers for the 1999 crop were significantly lower than in the previous year, continuing the steady decline observed during the past four years.

Tables 2 and 3 consist of weighted average base prices and quality premiums and discounts for West Texas and East Texas-Oklahoma. The base price is shown at staple length 34 and color grade 41.

Patterns of Sales Activities and Base Prices

The 1999 crop was characterized by an average length marketing year, running from the beginning of October to the beginning of April. Figure 1 illustrates the pattern of sales transactions during the 1999/2000 marketing year. After February 7, sales dropped off sharply. Several periods of little to no market activity occurred throughout the remainder of the season.

The average price received by producers declined for the fourth year in a row, falling to 37.82 cents/lb. (Table 1). In the previous year, there was a clear downward trend in the base price movement throughout the marketing year (Chakraborty et al.). In contrast, the pattern of the base price movements in the 1999/2000 marketing year fell during the first half, and then rose during the second half of the marketing year (Figure 2).

Patterns of Premiums and Discounts

When a specific quality attribute is being discussed, all other attributes are held at their base level. Seasonal patterns and comparisons are illustrated using the quality attribute premiums and discounts of the West Texas marketing region, which are not appreciably different from those of the East Texas/Oklahoma region.

Leaf Grade

Average premiums for leaf grade in 1999/2000 did not experience a significant change from the 1998/1999 marketing year (Figure 3). Discounts, however, appeared to decrease slightly for high leaf levels in the 1999/2000 marketing year. Variations in leaf grade premiums were similar to those of the 1998/1999 marketing year.

Color Grade

Discounts for color grade fluctuated widely throughout the 1999/2000 marketing year. Both average premiums and discounts increased from the 1998/1999 marketing year to the 1999/2000 marketing year (Figure 4). This implies that color grades 1, 2, or 3 received a higher premium than in the previous year, while levels of reflectance above the base level were discounted more severely in 1999/2000. The increased premium from the 1998 crop in relation to the 1999 crop could be linked to a change in the demand for higher quality cotton. The higher discounts could be attributed to ready availability of cotton with the first digit of the color grade of 4. Discounts for the second digit of the color grade (Figure 5) decreased compared to the 1998 crop year, even more so for high second digit values. Cotton with increasing levels of yellowness was less severely discounted than in the 1998/1999 marketing year.

Staple

The discounts for staple length 33 in the 1999/2000 marketing year were as stable as those from the 1998/1999 marketing year. They exhibited a slight downward trend from November to mid January, and became somewhat erratic from mid January to the end of the marketing season. Figure 6 illustrates that lower staple levels were discounted less severely in the 1999/2000 marketing year than in the 1998/1999 year, while higher staple levels received higher premiums than the previous year. This change in the discount and premium pattern can be attributed to the lower average staple experienced in the 1999 crop year.

Strength

Premiums for strength exhibited wide fluctuations during the 1999/2000 marketing year. There were several days during the 1999/2000 marketing year when strength did not have any impact on price. Lower levels of strength experienced less severe discounts than in the 1998/1999 marketing year, while higher levels of strength received lower premiums (Figure 7). This could indicate that the strength of the fiber was not of as much concern in the 1999/2000 marketing year as it was in the previous year.

Micronaire

Discounts for micronaire 3.35 in 1999/2000 showed an erratic pattern quite similar to that of the previous year. The discounts for both high and low ranges of micronaire were lower in the 1999/2000 marketing year compared to the previous year (Figure 8).

Bark

Discounts for level 1 bark fluctuated widely throughout the year. The 1999 crop discounts for level 1 bark were slightly higher than during the previous year, while the discounts for level 2 bark were lower in the 1999/2000 marketing year (Figure 9).

Other Extraneous Matter

The average discount for both level 1 and level 2 other extraneous matter decreased from those of the previous year. The incidence of other extraneous matter was particularly low (below 1% of bales per lot for both levels), which makes it difficult to interpret and draw conclusions on the patterns of these attributes.

Summary

The average price for the 1999/2000 marketing year was the lowest average price observed since the 1993/94 marketing year. The average price decreased by 13.32 cents/lb. from the 1998/1999 marketing year to 37.82 cents/lb. The volume of producer spot market sales, as recorded by the DPES, showed a 12% increase in 1999/2000 from the 1998/1999 marketing year. This was due to an increase in the Texas/Oklahoma crop size and a decrease in the percent of forward contracting.

Overall, the 1999 crop for Texas and Oklahoma was generally of good quality. In comparison to the 1998/1999 marketing year, discounts decreased for all quality attributes except for the first digit of the color grade, level 1 bark, and level 2 other extraneous matter, while premiums increased for all attributes except strength. The decrease in the average producer price experienced during the 1999/2000 marketing year cannot be strictly attributed to changes in cotton quality attributes or variations in these attributes; the decrease is likely due to external market forces. Although prices at the beginning of the 1999 season were at about the same level as the previous year's ending price, producer prices gradually increased towards the middle of the season. However, the availability of more cotton on the spot market due to a larger crop size and less forward contracting may have had a negative impact on cotton prices during the 1999 crop year.

Acknowledgements

The authors would like to thank Plains Cotton Cooperative Association and DTN Cotnet for cooperation in obtaining data, and Phil Johnson, Octavio Ramirez, and Man Yu for their comments and suggestions. This research is supported by Cotton Incorporated and the Texas State Support Committee. Texas Tech University, College of Agricultural Sciences and Natural Resources Pub. T-1-538 (CER-00-19).

References

- Brown, J.E. and D.E. Ethridge. "Functional Form Model Specification: An Application to Hedonic Pricing." *Ag. and Res. Econ. Review*. 24(2), Oct., 1995: 166-173.
- Brown, J.E., D.E. Ethridge, D. Hudson, and C Engles. "An Automated Econometric Approach for Estimating and Reporting Daily Prices." *J. Agr and Applied Econ*. 27(2), Dec., 1995: 409-422.

Chakraborty, K., K. Hoelscher, S. Misra, and D. Ethridge. "Texas Oklahoma Producer Cotton Market Summary: 1998/1999." College of Agricultural Science and Natural Resources, Texas Tech University, CER-99-53, October 1999.

Table 1. Texas-Oklahoma Crop Statistics from the DPES, by Marketing Year.

Attribute	Average		95% Population Range ^a	
	1999/2000	1998/1999	1999/2000	1998/1999
				44.05 -
Price (cents/lb.)	37.82	51.14	29.15 - 46.49	58.23
Bales per Sale	74	82	1 - 286	1 - 281
Leaf Grade	2.74	3.29	0.88 - 4.60	1.40 - 5.19
Color Grade (1)	2.37	2.84	1.03 - 3.72	1.58 - 4.09
Color Grade (2)	1.19	1.37	1 - 1.91	1 - 2.25
Staple	32.58	33.21	29.94 - 35.22	30.86 - 35.56
Strength	27.62	27.70	24.55 - 30.69	25.30 - 30.06
Micronaire	4.17	4.17	3.13 - 5.22	3.25 - 5.10
Level 1 Bark(%)	6.03	11.90	0 - 39.72	0 - 49.67
Level 2 Bark(%)	0.02	0.00	0 - 2.00	0 - 0.37
Level 1 Other(%)	0.60	0.30	0 - 9.95	0 - 4.00
Level 2 Other(%)	0.03	0.00	0 - 2.30	0 - 0.47

^aThe range within which 95% of the population will fall.

Table 2. 1999/2000 DPES Weighted Average Price Estimates, West Texas. Dept. of Ag. and Applied Econ., Texas Tech Univ.; # Sales: 9573; Date: 1999 YEAR; Region: WEST TEXAS; # Bales: 734952; Color Grade and Staple Premiums and Discounts in Points/lb.

Color Grade	Staple Length												
	28	29	30	31	32	33	34	35	36	37	38		
11	-873	-688	-504	-321	-141	34	203	364	515	656	--		
21	-873	-688	-504	-321	-141	34	203	364	515	656	--		
31	-918	-735	-554	-373	-196	24	142	301	45	588	--		
41	-1021	-846	-670	-497	-326	-160	37.58*	153	296	430	--		
51	-1178	-1012	-847	-683	-522	-366	-215	-71	65	190	--		
61	-1378	-1225	-1072	-921	-773	-629	-489	-356	-231	-115	--		
71	--	--	--	--	--	--	--	--	--	--	--		
12	-951	-771	-591	-413	-238	-68	96	253	400	537	--		
22	-951	-771	-591	-413	-238	-68	96	253	400	537	--		
32	-994	-817	-640	-464	-292	-124	37	191	337	471	--		
42	-1095	-924	-754	-585	-419	-257	-101	47	187	317	--		
52	-1247	-1086	-925	-766	-610	-457	-310	-170	-38	84	--		
62	-1442	-1293	-1145	-998	-853	-713	-577	-448	-326	-214	--		
23	-1122	-953	-784	-617	-453	-293	-139	8	147	275	--		
33	-1163	-996	-830	-665	-503	-346	-194	-49	87	213	--		
43	-1257	-1097	-937	-778	-622	-470	-324	-185	-53	69	--		
53	-1400	-1249	-1098	-948	-801	-658	-520	-389	-265	-150	--		
63	-1583	-1443	-1304	-1166	-1030	-898	-771	-650	-536	-430	--		
34	-1406	-1255	-1105	-955	-809	-666	-528	-397	-274	-159	--		
44	-1492	-1347	-1201	-1058	-916	-779	-646	-520	-401	-290	--		
54	-1621	-1484	-1348	-1212	-1079	-949	-824	-705	-593	-489	--		
Micronaire Differences Points/lb.	Leaf Grade Differences Points/lb.		Bark Discounts Points/lb.		Strength Differences Points/lb.								
Mike Range	Leaf Grade	Disc./ Prem	Bark code	Disc.	Grams/ Tex.	Disc./ Prem.							
24&below	-851	1	--	Level 1	-208	18&below	--						
25-26	-724	2	97	Level 2	-522	19	--						
27-29	-528	3	75			20	--						
30-32	-325	4	0	Other		21	-163						
33-34	-188	5	-124	Discounts		22	-109						
35-49	0	6	-292	Points/lb.		23	-61						
50-52	-295	7	-497			24 & 25	0						
53&above	-421			Other		26	48						
				Code	Disc.	27	72						
						28	90						
						Level 1	-522	29	102				
						Level 2	-752	30	107				
						31&above	107						

*Base Price in cents/lb.

Table 3: 1999/2000 Weighted Average Price Estimates from the DPES, East Texas/Oklahoma. Dept. of Ag. and Applied Econ., Texas Tech Univ.; # Sales: 2499; Date: 1999 YEAR; Region: EAST TEXAS/OKLA.; # Bales: 161836; Color Grade and Staple Premiums and Discounts in Points/lb.

Color Grade	Staple Length												
	28	29	30	31	32	33	34	35	36	37	38		
11	-882	-695	-508	-324	-142	35	205	367	520	662	--		
21	-882	-695	-508	-324	-142	35	205	367	520	662	--		
31	-926	-742	-559	-377	-198	-24	144	304	454	594	--		
41	-1031	-854	-677	-502	-329	-162	37.94*	154	299	434	--		
51	-1189	-1022	-855	-690	-527	-369	-217	-72	65	192	--		
61	-1391	-1236	-1083	-930	-780	-634	-494	-360	-234	-117	--		
71	--	--	--	--	--	--	--	--	--	--	--		
12	-960	-778	-597	-417	-240	-68	97	255	404	542	--		
22	-960	-778	-597	-417	-240	-68	97	255	404	542	--		
32	-1003	-825	-646	-469	-295	-126	38	193	340	476	--		
42	-1259	-933	-761	-590	-423	-259	-102	48	189	320	--		
52	-1259	-1096	-934	-773	-615	-461	-313	-172	-39	85	--		
62	-1455	-1305	-1156	-1007	-861	-719	-583	-452	-329	-216	--		
23	-1133	-962	-792	-623	-457	-296	-140	8	148	278	--		
33	-1174	-1006	-838	-672	-508	-349	-196	-50	88	215	--		
43	-1269	-1107	-946	-785	-628	-475	-327	-186	-54	69	--		
53	-1414	-1261	-1108	-957	-809	-665	-525	-393	-268	-152	--		
63	-1598	-1457	-1316	-1177	-1040	-907	-778	-656	-541	-434	--		
34	-1419	-1267	-1115	-965	-817	-672	-534	-401	-276	-161	--		
44	-1506	-1359	-1213	-1068	-925	-786	-652	-525	-405	-293	--		
54	-1637	-1499	-1360	-1224	-1089	-958	-832	-712	-599	-493	--		
Micronaire Differences Points/lb.	Leaf Grade Differences Points/lb.		Bark Discounts Points/lb.		Strength Differences Points/lb.								
Mike Range	Leaf Grade	Disc./ Prem	Bark Code	Disc.	Grams/ Tex	Disc./ Prem							
24&below	-859	1	--	Level 1	-210	18&below	--						
25-26	-731	2	98	Level 2	-527	19	--						
27-29	-533	3	75			20	--						
30-32	-328	4	0	Other		21	-164						
33-34	-190	5	-125	Discounts		22	-110						
35-49	0	6	-295	Points/lb.		23	-62						
50-52	-298	7	-502			24&25	0						
53&above	-425			Other		26	48						
				Code	Disc	27	73						
						28	91						
						Level 1	-527	29	102				
						Level 2	-759	30	108				
						31&above	108						

*Base Price in cents/lb.

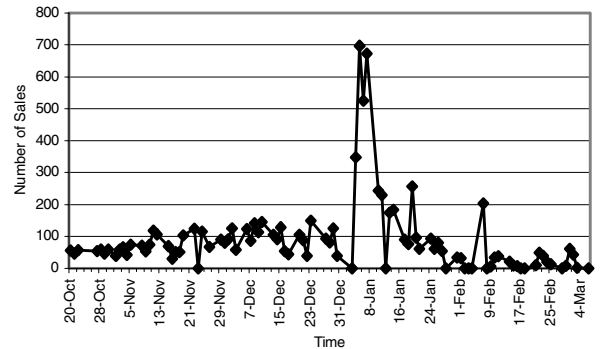


Figure 1. Daily Volume of Transactions for the 1999/2000 Marketing Year.

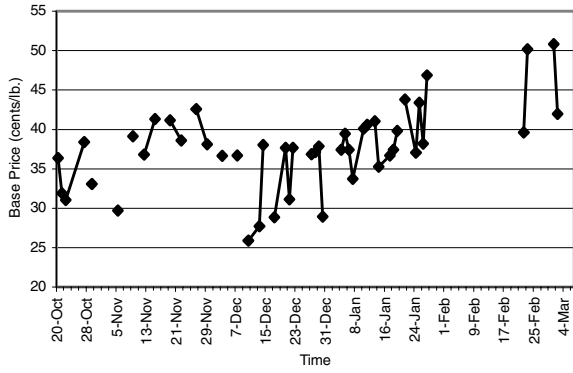


Figure 2. Movement of Base Prices for the 1999/2000 Marketing Year, West Texas.

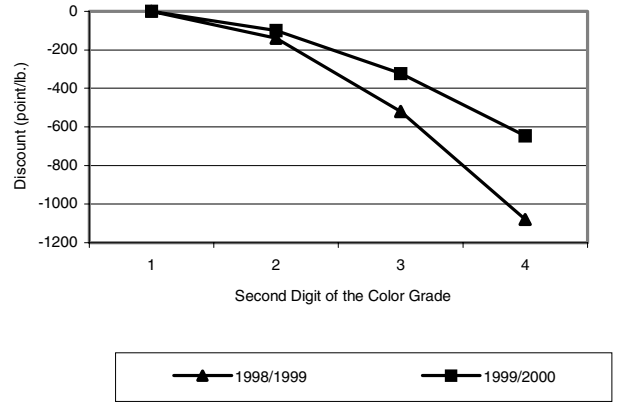


Figure 5. Second Digit of the Color Grade Discounts, 1998/1999 and 1999/2000, West Texas.

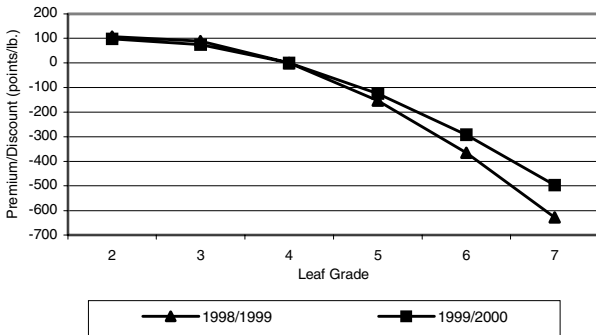


Figure 3. Leaf Grade Premiums/Discounts, 1998/1999 and 1999/2000, West Texas.

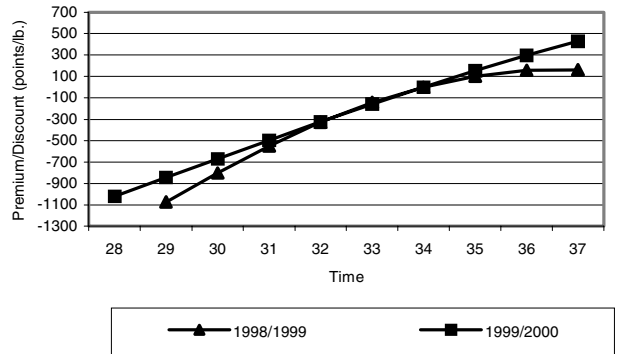


Figure 6. Staple Length Premiums/Discounts, 1998/1999 and 1999/2000, West Texas.

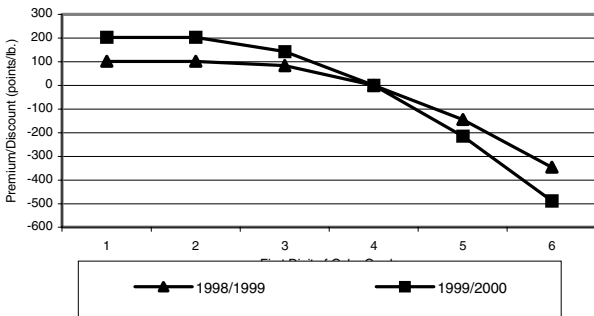


Figure 4. First Digit of the Color Grade Premiums/Discounts, 1998/1999 and 1999/2000, West Texas.

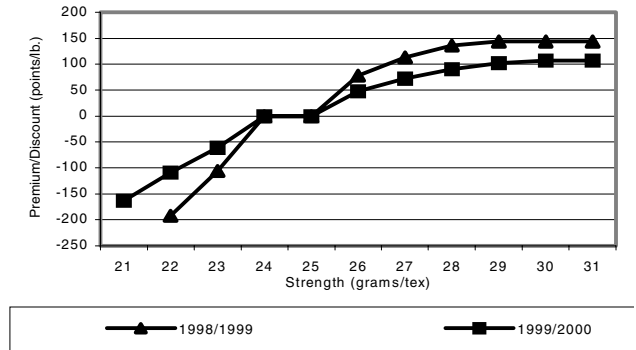


Figure 7. Strength Premiums/Discounts, 1998/1999 and 1999/2000, West Texas.

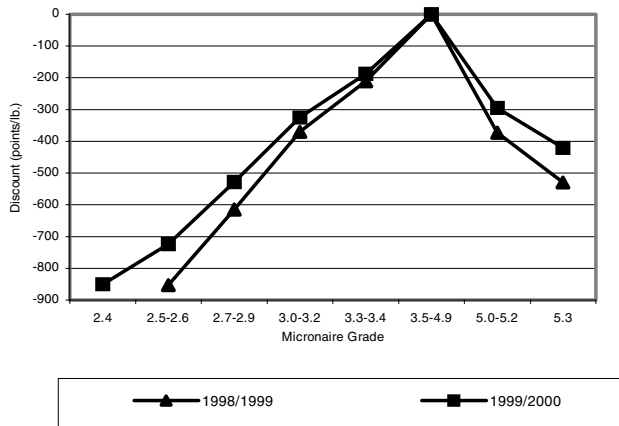


Figure 8. Micronaire Discounts, 1998/1999 and 1999/2000, West Texas.

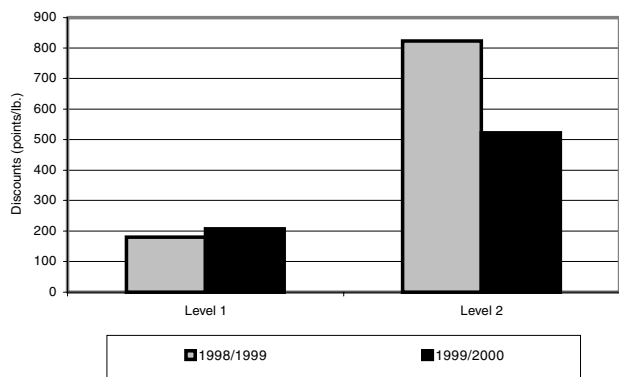


Figure 9. Bark Discounts, 1998/1999 and 1999/2000, West Texas.