

**VALUATION OF COTTON CHARACTERISTICS
BY U.S. TEXTILE MANUFACTURERS**

Changping Chen and Don Ethridge

Postdoctoral Research Associate,

Department of Agricultural and Applied Economics

The University of Georgia

Griffin, GA

Professor,

Department of Agricultural Economic

Texas Tech University

Lubbock, TX

Abstract

This study analyzed the prices paid by textile mill manufacturers for cotton quality attributes across production regions for the period 1992-1995. Results suggest that textile manufacturers paid different fiber attribute premiums/ discounts across production regions. All fiber premiums and discounts were significantly different between the West and South Central region. Staple premiums/discounts were different between the West and South. Micronaire discounts differed across all three regions. Textile manufacturers paid strength premiums only for Western cotton.

Introduction

The U.S. cotton industry consists of three segments--production, marketing, and textile manufacturing. Farmers grow cotton, textile mills use cotton, and the market connects cotton growers and users. The information on fiber demand from users and fiber supply from producers is carried through the market channel by price signals. The price formed at the beginning of the channel is referred to as a producer price, which reflects how much cotton growers receive (Chen, 1995). The price formed at the end of the market, referred to as a mill price, measures how much textile manufacturers pay. Knowledge of pricing structures in the producer and textile markets is essential to understand several aspects of the market. To cotton growers, accurate and reliable information of fiber premiums and discounts facilitates their decisions in producing cotton. To textile mill producers, accurate and reliable knowledge of fiber premiums and discounts helps them buy and use cotton more efficiently.

Over the past decade the bulk of literature on price-quality relationships in cotton has dealt with producer prices. Ethridge and Davis (1982), and Ethridge and Neeper (1987) found that the producer price of cotton was determined by cotton quality attributes. Bowman and Ethridge (1992) found that fiber premiums and discounts in the producer market varied across regions. At the end-

use point of the market, Hembree et al. (1986) examined mill pricing structures of cotton by using public price information (i.e., government official reports). However, the public data are highly aggregated and the reliability is uncertain (Hudson et al., 1995). Chen and Ethridge (1995) examined the pricing determination of cotton in the textile market and identified the patterns of fiber premiums and discounts across production regions. This study used updated information and analyzed mill pricing structures more thoroughly.

The general objective of this study was to analyze the patterns of market values paid by textile manufacturers for cotton attributes. Specific objectives were to investigate fiber premiums and discounts of U.S. cotton across regions of origin, determine the patterns of similarities and differences for the pricing structures, and explore the causes of these patterns.

Data Sources and Methods

Data used in this study were *bona fide* transactions specified in the contracts from eight cotton marketing--buying and selling--firms at the fiber end-use point of the market during the period 1992-1994 and part of 1995. The data represent an average of 25.52% of U.S. cotton production and 41.02% of U.S. mill consumption for cotton during the period 1992-1994. All information was converted to a consistent format for model estimations. Prices represent the values of cotton contracted rather than delivered.

Since cotton is a heterogeneous product in terms of its quality attributes, no single price can accurately reflect the market value of cotton as a composite commodity. Lancaster (1966) and Rosen (1974) developed the hedonic price theory to cope with price in terms of characteristics. In the framework of hedonic price theory, cotton is a vector of fiber characteristics. Consumers buy cotton because cotton fiber attributes give rise to utility for fiber users. In the cotton market, textile manufacturers are intermediate fiber consumers. They purchase fibers in the market, but use them as inputs to produce textile products for other industries. Cotton growers are fiber suppliers in the cotton market. Market transactions for fiber attributes take place when a cotton seller and a textile manufacturer are perfectly matched. That is, the price of cotton reflects the market value of cotton in which textile manufacturers are willing to pay and cotton growers are willing to accept for given amounts of fiber attributes.

The price-quality relationships for cotton can be estimated by a hedonic price model (Chen, 1995) as the following:

$$Pr = B_{0r} (DG1)^{B1r} (DG2)^{B2r} (L)^{B3r} (S)^{B4r} e^{B5r(M)} \\ e^{B6r(MM)} (GP_r)^{B7r} e^{B8r(cls+B9r(mch)+B10(exp))} \\ e^{B11(lm)+B12(Y93)+B13(Y94)+B14(Y95)} \varepsilon_r,$$

where:

P = FOB price (¢/lb.) of the cotton specified by or derived from the contract

r = regional indicator for the Western (WE), South Central (SC), and Southern (SO) regions, respectively;

DG1 = 8 - G1, indicating cleanness of fiber, G1 is the first digit of the composite grade;

DG2 = 9 - G2, representing whiteness of fiber, G2 is the second digit of the composite grade;

L = staple (32nds inch);

S = minimum strength (grams/tex.);

M = micronaire reading, an average of high and low micronaire, MM = micronaire squared;

GP_r = general price level of cotton (¢/lb.) at base quality in region r on the date of the transaction as reported in "Daily Spot Cotton Quotations" (U.S. Department of Agriculture);

cls = indicator variable for type of sale--if cls = 1, the price basis of the sale is to be called relative to the N.Y. futures contract at the discretion of the buyer, if cls = 0, the sale is fixed price;

mch = indicator variable for type of buyer--if mch = 1, the buyer is a merchant/shipper, 0 otherwise;

exp = indicator variable for type of buyer--if exp = 1, the buyer is a foreign country, 0 otherwise (If both mch and exp = 0, the buyer is a domestic mill);

lm = indicator variable for location--if lm = 1, the cotton is priced at mills (i.e., FOB mill), If lm = 0, the cotton is priced at sellers' warehouse (i.e., FOB warehouse);

Y93 = indicator variable for crop year--if Y93 = 1, the cotton is from 1993 crop, Y93 = 0 otherwise;

Y94 = indicator variable for crop year--if Y94 = 1, the cotton is from 1994 crop, Y94 = 0 otherwise, and

Y95 = indicator variable for crop year--if Y95 = 1, the cotton is from 1995 crop, Y95 = 0 otherwise (If Y93, Y94, and Y95 = 0, the cotton is from 1992 crop); and

ε = the random error for the model.

Nonlinear price-quality relationships for cotton were specified since marginal returns in using fiber attributes diminish (Chen, 1995). For region specification, West consists of California, Arizona, and New Mexico. The South Central region includes Texas and Oklahoma. South comprises all the cotton states in the Southeast and Mid-south. Transformations of trash as the difference of 9 - G1 and color as 8 - G2 allowed parameter interpretations of the two negative fiber attributes in the same fashion as positive

fiber attributes. Further, this treatment allowed logarithmic transformations. The introduction of GP_r into the model was to control for daily market price movements in the time-series data, leaving the remainder of price variations to be explained by fiber characteristics and other contract specifications.

The model was transformed into an additive form by taking a natural logarithm of both sides of the equation. It was estimated by ordinary least squares with the SAS computer program for the nation as a whole and for each individual production region. Variables with parameters with a *t*-statistic less than one or contradictory to theoretical expectations were excluded from the models.

Based on parameter estimates, premiums/discounts of each individual fiber attribute were estimated for further interpretations and comparisons across regions. The premiums/discounts measure how many points/lb. each unit of the fiber attribute deviated from the base quality price (base price is the price for grade 41, staple 34, micronaire 4.2, strength 24.5, and mean of GP_r).

Results and Discussion

Model estimates are summarized in Table 1. Results revealed no evidence of collinearity among explanatory variables for the national average or regional models. The Western equation explained the highest proportion of the price variations for cotton, in terms of R², followed by the South Central, national average, and Southern equations, respectively (Table 1). Premium/discount tables (Tables 2-5) generated from model estimates reflected the premium and discount for every level of each individual fiber attribute at the national average and the three regions.

At the national average all fiber attributes except strength affected cotton prices significantly. Estimated staple price flexibility was larger than the other price flexibilities. That is, price is more responsive to variations in length than to variations in other attributes across regions. As staple length increased by 1%, textile manufacturers on average paid the market 0.69% more, *ceteris paribus* (Table 1). As fiber cleanness decreased by 1% (i.e., larger G1), textile manufacturers discounted the cotton by 0.13%, other things constant. Similarly, textile mills paid about 0.13% less as G2 increased by 1% in cotton. For micronaire cotton was discounted as micronaire reading deviated from the conventional optimal range.

At the national level, cotton price in the textile mill market was also responsive to the movement of base price level in the reported daily spot cotton market, but it does not move in a 1:1 proportion with the spot price quotations. Cotton price paid by textile mills on average changed by 0.56% as the general price level as reported in the daily spot market changed by 1%, other factors constant. This may be attributed to the fact that GP reported by U.S. Department

of Agriculture is a mixture of different prices (i.e., producer, merchant-to-merchant, and mill prices). It may also suggest that the price reported in the daily spot quotations is not a highly accurate indicator of the market situation for U.S. cotton at any given point in time. Results also show that call sales (cls) averaged 0.024% higher than fixed price sales. The price difference between call and fixed sales was probably due to the fact that call sales bear more marketing costs to sellers than fixed sales. For type of buyer, merchant (mch) paid on average 0.02% less, and foreign buyers paid 0.01% less than domestic mills. Lower prices for merchant sales may be because merchant sales had lower marketing costs. Lower prices of export sales may be explained by the existence of export subsidy programs in the U.S. over the study period.

For the regional models, all fiber attributes except strength significantly affected cotton prices. Textile manufacturers only paid for strength for West-ern cotton. However, mill base prices and fiber premiums/discounts both differed across regions. Comparisons of cotton price-quality relationships in Table 1 reveal the similarities and differences.

Given that the general level of market price movement and fiber characteristics were constant, the base mill prices (Tables 3-5) were 64.2 ¢/lb. for Southern cotton, 63.75 ¢/lb. for Western cotton, and 62.89 ¢/lb. for South Central cotton. The differences in base mill prices across the three regions suggest that the textile industry differentiates U.S. cotton by region of origin, perhaps on the basis of attributes, known or assumed, that are not measured by the HVI system.

To facilitate interpretations for fiber premiums/discounts, part of premium and discount schedules in Tables 3-5 were plotted. Statistical tests of differences were also conducted (Chen, 1995). G1 premiums and discounts among the three regions (Figure 1) indicated that Western cotton had smaller trash premiums and discounts than cotton grown in the other regions, which were not significantly different. Western cotton also had smaller premiums and discounts for G2 than the other regions, which were not different (Figure 2). Western cotton had larger premiums and discounts for staple than the other two regions (Figure 3), which were not significantly different in their staple premiums/discounts. Micronaire discounts varied across all the production regions (Figure 4). South Central cotton had smaller discounts for low micronaire than the cotton grown in the other two regions and Southern cotton had lower high micronaire discounts. With all other attributes at base quality, the highest value for South Central cotton was in the 3.3-3.4 range. This may be explained by the uses for the cotton from that region--rotor spinning and coarse yarns. On the other hand, high micronaire cotton from the South was discounted much less than cotton from other regions. Cotton produced in the South Central region also had an average micronaire of 3.8, which was much

lower than the cottons grown in the West and South. Overall, these results are similar to the results from those presented last year (Chen and Ethridge, 1995). One major difference is that strength premiums/ discounts disappeared in the South Central region with the updated data set.

Summary and Conclusions

This study investigated price-quality relationships for U.S. cotton in the textile mill market. The pricing structures of cotton at the user-end of the market appear to be substantially different between the Western and South Central regions for all fiber attributes. Differences also exist for the pricing structures of cotton between the West and South, but the differences were only for micronaire and staple. There is, however, little difference for any fiber attributes except micronaire between the Southern and South Central regions.

The empirical results of this study are useful for all market participants. Knowledge of market valuation of the end-use point of the fiber market may be the most relevant pricing point. Prices at other pricing points are derived from the end-use point if the market conveys price information effectively. If the correct price signals are not available or understood throughout the marketing channel, then all parties are more likely to make poor production and marketing decisions.

Additionally, the difference in fiber premiums and discounts across regions raises questions about the effectiveness of a single premium/discount schedule for the Commodity Credit Corporation loan schedule for all regions. Without considering the market differences in premiums and discounts across the regions, the cotton loan structure may mislead market participants and cause inefficiency in the industry.

Acknowledgements

This study was supported by the Committee for Cotton Research, Inc. The authors thank Sukant Misra, Emmett Elam, and Roger Troub for assistance with the study and this manuscript. The authors also thank the six textile firms and two marketing associations that provided the primary market data. Texas Tech University College of Agricultural Sciences and Natural Resources Manuscript No. T-1-424.

References

1. Bowman, Kenneth and Don Ethridge. "Characteristic Supplies and Demands in a Hedonic Framework: U.S. Market for Cotton Attributes." Amer. J. Agr. Econ. 74(1992): 991-1002.

2. Chen, Changping. "U.S. Textile Mill Manufacturers' Valuation of Cotton Quality Attributes." Ph.D. dissertation, Texas Tech University, August, 1995.

3. Chen, Changping and Don Ethridge. "Premiums and Discounts Paid for Fiber Quality Attributes by U.S. Textile Manufacturers." 1995 Beltwide Cotton Conferences Proceedings (Addendum), Cotton Economics and Marketing Conference, National Cotton Council, Memphis, TN, pp. 92-96.

4. Ethridge, Don and Bob Davis. "Hedonic Price Estimation for Com-modities: An Application to Cotton." West. J. Agr. Econ. 7(1982): 293-300.

5. Ethridge, Don and Jarral Neepser. "Producer Returns from Cotton Strength and Uniformity: An Hedonic Approach." South. J. Agr. Econ. 19(1987): 91-97.

6. Hembree, Joel, Don Ethridge, and Jarral Neepser. "Market Value of Fiber Properties in Southeastern Textile Mills." Textile Research J. 56(1986): 140-44.

7. Hudson, Darren, Don Ethridge, and Jeff Brown. "Producer Prices in Cotton Markets: An Evaluation of Reported Price Information Accuracy." Agribusiness: An International J., 1995, (in press).

8. Lancaster, Kelvin. "A New Approach to Consumer Theory." J. Pol. Econ. 74(1966): 132-157.

9. Rosen, Sherwin. "Hedonic Prices and Implicit Markets: Product Differentiation." J. Pol. Econ. 82(1974): 34-55.

10. U.S. Department of Agriculture. "Daily Spot Price Quotations." Agricultural Marketing Service, Cotton Division, various issues: 1992-1995.

Table 1. Hedonic Price Model Estimates for Cotton iber Attributes for the National Average and Three Production Regions.

Independent Variables	National Average		West		South Central		South	
	Est. b	t-ratio	Est. b	t-ratio	Est. b	t-ratio	Est. b	t-ratio
ln(B _{o,i})	-1.76 0 ^a	-12.38	-3.784 ^a	-10.37	-0.863 ^b	-2.28	-0.890 ^b	-1.93
DG1	0.125 ^a	16.33	0.124 ^a	6.99	0.174 ^a	13.19	0.159 ^a	6.15
DG2	0.137 ^a	9.23	0.121 ^a	3.29	0.240 ^a	9.55	0.190 ^a	4.58
L	0.689 ^a	16.55	1.095 ^a	10.06	0.181 ^b	1.88	0.232 ^c	1.58
S	NA	NA	0.065 ^c	1.53	NA	NA	NA	NA
M	0.320 ^a	10.11	0.576 ^a	5.46	0.388 ^a	3.64	0.363 ^a	5.12
MM	-0.03 8 ^a	-9.91	-0.072 ^a	-5.44	-0.054 ^a	-3.98	-0.043 ^a	-5.13
GP	0.562 ^a	49.42	0.541 ^a	22.46	0.719 ^a	37.52	0.678 ^a	40.42
cls	0.024 ^a	9.60	0.023 ^a	4.28	0.058 ^a	12.37	0.080 ^a	12.99
mch	-0.02 0 ^a	-4.09	0.023 ^c	1.43	NA	NA	-0.036 ^b	-2.23
exp	-0.01 3 ^a	-3.60	-0.009	-1.18	NA	NA	-0.123 ^a	-6.82
lm	0.054 ^a	15.28	0.083 ^a	10.69	NA	NA	0.028 ^a	5.02
Y93	0.003	1.18	0.028 ^a	4.22	-0.013 ^a	-2.58	-0.018 ^a	-3.37
Y94	0.029 ^a	6.60	0.027 ^a	2.76	-0.010	-1.18	NA	NA
Y95	-0.03 6 ^a	-4.16	-0.073 ^a	4.12	-0.086 ^a	-4.47	-0.071 ^a	-6.47
R-Squared	0.700		0.861		0.808		0.637	
No. Observations	5288		749		923		1495	

^a indicates significance at 1% level, ^b indicates significance at 5% level, and ^c indicates significance at 10% level. One-tailed tests on scaler variables and two-tailed testson indicator variables.

Table 2. Estimated Cotton Prices (¢/lb.) and Fiber Premiums and Discounts (points/lb.), National Average.

Staple	Composite Grades												
	11	21	30	31	40	41	50	51	60	61	70	71	12
28	-471	-570	-575	-683	-709	-814	-868	-970	-1066	-1165	-1334	-1428	-597
29	-323	-425	-431	-541	-567	-675	-730	-835	-933	-1034	-1208	-1304	-452
30	-177	-281	-287	-400	-427	-537	-593	-701	-802	-905	-1083	-1181	-309
31	-33	-139	-145	-260	-288	-401	-459	-568	-671	-777	-959	-1059	-168
32	110	1	-5	-122	-151	-266	-325	-437	-543	-651	-836	-939	-28
33	252	141	135	14	-15	-132	-193	-307	-415	-525	-715	-820	111
34	392	279	272	149	120	65.01	-62	-178	-288	-401	-595	-702	248
35	531	415	409	284	254	131	68	-51	-163	-278	-476	-585	384
36	669	551	544	417	386	261	197	75	-39	-156	-358	-469	519
37	806	685	679	548	517	390	325	201	84	-35	-241	-354	653
38	941	818	812	679	647	518	451	325	206	84	-125	-240	786

Staple	Composite Grades												
	22	32	42	52	62	23	33	43	53	63	34	44	54
28	-694	-805	-933	-1086	-1276	-838	-945	-1070	-1219	-1405	-1113	-1234	-1378
29	-552	-665	-797	-953	-1149	-699	-809	-937	-1090	-1281	-981	-1105	-1253
30	-412	-527	-662	-822	-1022	-562	-675	-806	-962	-1157	-851	-978	-1129
31	-272	-391	-528	-692	-897	-426	-542	-676	-836	-1035	-722	-851	-1006
32	-135	-256	-396	-564	-773	-292	-410	-547	-710	-915	-594	-727	-885
33	2	-122	-266	-437	-650	-159	-280	-420	-586	-795	-467	-603	-765
34	137	10	-136	-311	-529	-27	-150	-293	-464	-676	-342	-480	-645
35	271	142	-8	-186	-408	103	-22	-168	-342	-559	-218	-359	-527
36	403	272	120	-62	-289	233	105	-44	-221	-442	-94	-238	-410
37	535	401	246	61	-171	361	230	79	-101	-327	28	-119	-294
38	665	529	371	182	-53	488	355	201	17	-212	149	-1	-179

Mike Differences--Points/lb.		Strength Differences--Points/lb.			
Mike Ranges	Discount	Strength	Discount	Strength	Premium
26 & Below	-597	18 & Below	-	26	-
27-29	-461	19	-	27	-
30-32	-341	20	-	28	-
33-34	-172	21	-	29	-
35-49	-0	22	-	30	-
50-52	-203	23	-	31 & Above	-
53 & Above	-299	24 & 25	-		

Note: type of sale--average of fixed and call prices; type of buyer--domestic mills; location--mill; and crop year--average of 1992-1995 crops.

Table 3. Estimated Cotton Prices (¢/lb.) and Fiber Premiums and Discounts (points/lb.) Western Region.

Composite Grades													
Staple	11	21	30	31	40	41	50	51	60	61	70	71	12
28	-911	-1001	-1017	-1103	-1137	-1221	-1281	-1362	-1460	-1539	-1702	-1777	-1011
29	-697	-790	-807	-896	-932	-1019	-1081	-1166	-1268	-1349	-1519	-1597	-801
30	-482	-579	-597	-689	-726	-817	-881	-969	-1074	-1159	-1335	-1416	-590
31	-266	-367	-385	-481	-520	-613	-680	-771	-881	-968	-1151	-1234	-379
32	-50	-154	-173	-273	-313	-410	-479	-573	-686	-777	-966	-1053	-167
33	167	59	39	-63	-105	-205	-277	-374	-491	-585	-781	-870	46
34	384	273	252	146	104	63.75	-74	-175	-296	-393	-595	-687	260
35	602	487	466	357	313	206	129	25	-99	-200	-408	-504	474
36	821	702	680	568	522	412	333	226	97	-6	-221	-320	688
37	1040	918	895	779	732	619	537	427	294	188	-34	-135	903
38	1260	1134	1111	991	943	826	742	629	492	382	154	50	1119

Composite Grades													
Staple	22	32	42	52	62	23	33	43	53	63	34	44	54
28	-1100	-1200	-1316	-1455	-1628	-1215	-1313	-1426	-1562	-1731	-1447	-1558	-1690
29	-893	-997	-1118	-1262	-1442	-1012	-1114	-1232	-1373	-1549	-1254	-1369	-1506
30	-686	-794	-919	-1069	-1255	-810	-915	-1038	-1184	-1367	-1060	-1180	-1322
31	-478	-590	-720	-875	-1068	-606	-716	-843	-994	-1184	-866	-990	-1137
32	-269	-385	-519	-680	-880	-402	-515	-647	-804	-1000	-671	-799	-952
33	-60	-180	-319	-485	-692	-197	-315	-451	-613	-816	-476	-608	-766
34	150	26	-117	-289	-503	8	-113	-254	-421	-631	-280	-416	-580
35	361	233	84	-93	-314	214	89	-56	-229	-446	-83	-224	-393
36	572	440	287	104	-124	421	291	142	-37	-260	114	-31	-205
37	783	647	490	302	67	628	494	340	156	-73	312	162	-17
38	995	855	693	500	258	835	698	539	350	113	510	356	171

Mike Differences--Points/lb.	Strength Differences--Points/lb.		Strength		Premium
Mike Ranges	Discount	Strength	Discount	Strength	
26 & Below	-807	18 & Below	-127	26	25
27-29	-596	19	-105	27	41
30-32	-412	20	-84	28	56
33-34	-163	21	-64	29	71
35-49	-0	22	-45	30	85
50-52	-528	23	-26	31 & Above	99
53 & Above	-729	24 & 25	-0		

Note: type of sale--average of fixed and call prices; type of buyer--domestic mills; location--mill; and crop year--average of 1992-1995 crops.

Table 4. Estimated Cotton Prices (¢/lb.) and Fiber Premiums and Discounts (points/lb.), South Central Region.

Composite Grades													
Staple	11	21	30	31	40	41	50	51	60	61	70	71	12
28	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-
31	424	269	304	95	97	-104	-147	-340	-447	-632	-846	-1018	180
32	463	307	342	132	134	-69	-111	-306	-413	-599	-815	-987	217
33	500	344	379	168	170	-34	-77	-273	-381	-567	-784	-958	254
34	537	380	415	203	205	62.89	-43	-240	-349	-536	-754	-929	289
35	573	415	450	237	239	33	-10	-208	-317	-506	-725	-901	324
36	608	450	485	271	273	66	22	-177	-287	-476	-696	-873	358
37	-	-	-	-	-	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-	-	-	-

Composite Grades													
Staple	22	32	42	52	62	23	33	43	53	63	34	44	54
28	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-
31	31	-137	-329	-557	-837	-240	-400	-585	-802	-1071	-708	-882	-1089
32	67	-101	-295	-524	-806	-205	-366	-552	-771	-1041	-676	-851	-1059
33	103	-67	-261	-491	-775	-171	-333	-520	-740	-1011	-644	-821	-1030
34	138	-33	-229	-460	-745	-138	-301	-488	-710	-983	-614	-791	-1001
35	171	0	-197	-429	-716	-105	-269	-458	-680	-955	-584	-762	-973
36	205	32	-166	-399	-687	-74	-239	-428	-652	-928	-554	-734	-946
37	-	-	-	-	-	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-	-	-	-

Mike Differences--Points/lb.				Strength Differences--Points/lb.			
Mike Ranges	Discount		Strength	Discount	Strength	Premium	
26 & Below	-200	-279	18 & Below	-	26	-	
27-29	-82	-171	19	-	27	-	
30-32	11	-86	20	-	28	-	
33-34	110	0	21	-	29	-	
35-49	0	-124	22	-	30	-	
50-52	-619	-732	23	-	31 & Above	-	
53 & Above	-813	-921	24 & 25	-			

Note: type of sale--average of fixed and call rices; type of buyer--domestic mills; location--mill; and crop year--average of 1992-1995 crops.

Table 5. Estimated Cotton Prices (¢/lb.) and Fiber Premiums and Discounts (points/lb.), Southern Region.

Composite Grades													
Staple	11	21	30	31	40	41	50	51	60	61	70	71	12
28	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-
31	354	211	216	49	25	-137	-201	-357	-480	-630	-853	-993	157
32	404	260	265	97	73	-90	-154	-312	-436	-587	-812	-953	206
33	453	308	314	144	120	-45	-109	-268	-393	-545	-772	-914	254
34	501	355	361	190	166	64.42	-65	-225	-351	-504	-732	-875	301
35	548	401	406	235	210	44	-22	-183	-310	-464	-694	-838	346
36	594	446	451	279	254	86	20	-142	-270	-424	-656	-801	391
37	-	-	-	-	-	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-	-	-	-

Composite Grades													
Staple	22	32	42	52	62	23	33	43	53	63	34	44	54
28	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-
31	18	-138	-319	-533	-798	-202	-353	-528	-734	-990	-606	-773	-971
32	66	-92	-274	-489	-756	-156	-308	-484	-692	-950	-563	-731	-931
33	113	-46	-229	-446	-715	-110	-264	-441	-651	-910	-521	-690	-891
34	159	-2	-186	-405	-675	-66	-221	-399	-610	-872	-480	-650	-853
35	203	42	-144	-364	-636	-23	-179	-358	-571	-834	-439	-611	-815
36	247	84	-103	-324	-598	19	-138	-319	-533	-797	-400	-573	-778
37	-	-	-	-	-	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-	-	-	-

Mike Differences--Points/lb.		Strength Differences--Points/lb.			
Mike Ranges	Discount	Strength	Discount	Strength Premium	
26 & Below	-677	18 & Below	-	26	-
27-29	-525	19	-	27	-
30-32	-390	20	-	28	-
33-34	-199	21	-	29	-
35-49	-0	22	-	30	-
50-52	-220	23	-	31 & Above	-
53 & Above	-327	24 & 25	-		

Note: type of sale--average of fixed and call prices; type of buyer--domestic mills; location--mill; and crop year--average of 1992-1995 crops.

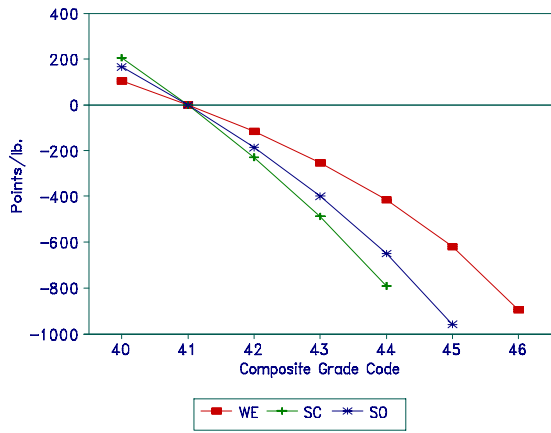


Figure 1. Premiums/Discounts for Composite Grade (G1) Across Regions.

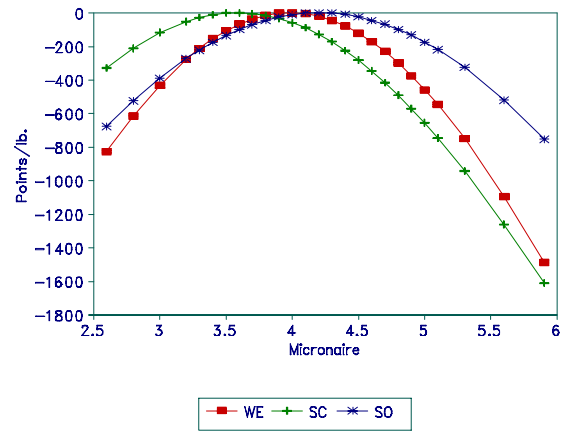


Figure 4. Micronaire Discounts Across Regions.

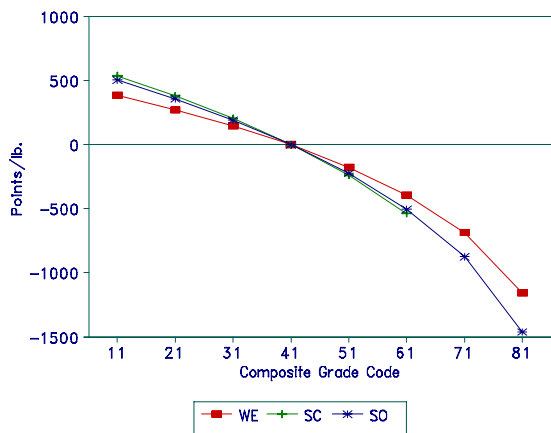


Figure 2. Premiums/Discounts for Composite Grade (G2) Across Regions.

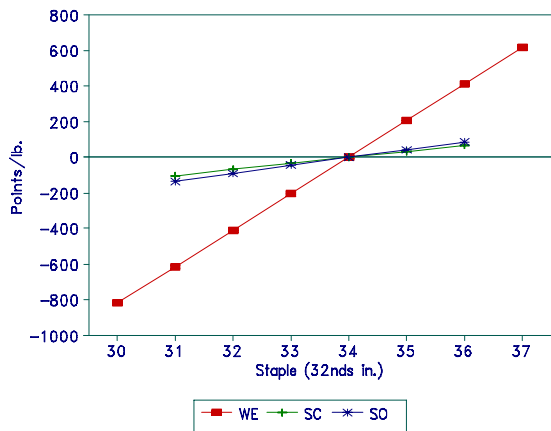


Figure 3. Premiums/Discounts for Staple Across Regions.