



# **COTTON INCORPORATED**

**USA COTTON QUALITY  
MEASUREMENTS AND ANALYSIS**

**2002 UPLAND CROP**

**Final Report**

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**FIBER QUALITY RESEARCH**

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# QUALITY SUMMARY 2002 USA UPLAND CROP

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The following table gives a summary of the quality of the 2002 USA upland cotton crop. These data were obtained from the weekly reports issued by the USDA (United States Quality of Cotton Classed under Smith-Doxey Act; Agricultural Marketing Service, Cotton Program, United States Department of Agriculture, Memphis, Tennessee).

Human classing of color was replaced by HVI colorimeter readings in 2000. The HVI reads the color in terms of "Rd, and "+b," and plots these values onto the standard color grading chart (see p. 10 for [chart](#)) to attain the color grades. The upper portion of each chart on the following pages list, by classing office, the percentage of bales that were placed in these various grades by the HVI. The "White Grades" section has three columns that give the percentages of bales placed into grades 11, 21, or 31 (MID+), 41 (SLM), and grades 51, 61, or 71 (LM-). The "TOTAl" column gives the total percentage of bales classified as "White" at each classing office. The "Light Spotted Grades" section gives percentages of bales classified into groups 12, 22, or 32 (MID+), 42 (SLM), and 52 or 62 (LM-). The "TOTAl" column gives the total percentage of bales classified as "Light Spotted" at each classing office. The "Other Grades" column includes all bales at each classing office that were classed as "Spotted", "Tinged", "Yellow Stained", or "Below Grade". The "% Barky Grades" column lists the percentage of bales from each classing office contained bark.

In 1993, the classer grading system was changed. Under the old system of grading, the classer determined a composite grade of color and trash content; and bales that contained bark and grass were reduced one or more grade levels. Under this system, the HVI determines a color grade, while a human classer determines a leaf (trash) grade and notes whether there is bark or grass present in the bale without any reduction in grade. Each color grade percentage listed includes all levels of leaf. For example, the 39.3% of the bales classed in Florence, SC in 2002 with SLM white color grade includes all bales at all leaf levels (2-7 leaf) with SLM white color.

The lower portion of the chart lists the average physical properties at each classing office. Micronaire (MIC), length (LEN), length uniformity index (LUI), strength (STR) and TRASH are measurements taken by the High Volume Instruments (HVI). The TRASH measurement is an estimate of the percent of the surface of the sample covered by the trash. The maturity ratio and fineness data are derived from random samples submitted each week by the classing offices and tested using the Shirley Fineness and Maturity Tester (FMT).

The number of bales graded at each classing office is also given.

The summary data for [2001](#) is also included for comparison purposes. Following the summary tables is a brief analysis of the trends and distributions in the US crop in yield, micronaire, length, length uniformity index, and color grade. Regional and classing office data are available in the Appendix.

# QUALITY SUMMARY OF USA UPLAND COTTON - 2002

CLASSING OFFICE	PERCENT OF BALES									
	WHITEGRADES				LIGHT SPOTTED GRADES				OTHER GRADES	BARKY GRADES
	MID+	SLM	LM-	TOT	MID+	SLM	LM-	TOT		
<b>Florence, SC</b>	3.6	39.3	20.8	63.7	0.9	17.0	13.6	31.5	4.8	0.6
<b>Macon, GA</b>	9.4	41.4	12.9	63.7	1.6	13.9	13.5	29.0	7.3	1.6
<b>Birmingham, AL</b>	6.3	23.5	13.7	43.5	2.0	19.7	22.6	44.3	12.2	2.9
<b>Rayville, LA</b>	20.2	33.6	12.0	65.8	3.0	11.2	14.0	28.2	6.0	1.0
<b>Memphis, TN</b>	21.5	49.6	4.1	75.2	6.4	14.6	1.3	22.3	2.5	0.7
<b>Dumas, AR</b>	17.2	45.2	13.4	75.8	2.0	12.0	8.1	22.1	2.1	1.0
<b>C. Christi, TX</b>	56.2	28.4	4.2	88.8	2.8	4.6	2.1	9.5	1.7	2.7
<b>Abilene, TX</b>	39.6	37.3	4.3	81.2	6.7	9.0	1.5	17.2	1.6	17.8
<b>Lubbock, TX</b>	45.3	34.5	0.8	80.6	9.2	8.0	0.4	17.6	1.8	17.3
<b>Lamesa, TX</b>	49.3	33.8	1.4	84.5	10.1	3.4	0.2	13.7	1.8	11.9
<b>Phoenix, AZ</b>	84.1	10.8	0.4	95.3	2.4	1.5	0.3	4.2	0.5	4.8
<b>Visalia, CA</b>	96.3	1.5	0.5	98.3	1.0	0.2	0.1	1.3	0.4	0.5
<b>AVERAGE</b>	35.1	34.9	6.9	77.0	4.4	10.1	5.4	19.9	3.1	

	MIC unit	LEN 32/in	L.UI (%)	STR g/t	TRASH (%)	MAT RAT	FIN mtex	LGRD INDEX	NO. BALES	LEN inch
<b>Florence, SC</b>	4.7	33.5	80.7	26.9	0.50	0.96	177	3.7	997,988	1.05
<b>Macon, GA</b>	4.9	33.9	81.0	27.5	0.47	1.00	186	3.6	1,579,967	1.06
<b>Birmingham, AL</b>	4.7	33.7	80.8	27.0	0.48	0.96	180	3.5	602,962	1.05
<b>Rayville, LA</b>	4.9	34.5	81.4	27.4	0.42	1.01	190	3.3	800,652	1.08
<b>Memphis, TN</b>	4.7	34.6	81.7	28.1	0.41	0.97	189	3.5	2,588,279	1.08
<b>Dumas, AR</b>	4.8	34.7	81.9	27.8	0.44	0.97	190	3.4	2,222,776	1.08
<b>C. Christi, TX</b>	4.6	34.7	81.3	29.4	0.38	1.05	170	3.2	836,810	1.08
<b>Abilene, TX</b>	4.3	33.2	80.4	28.8	0.43	0.97	166	3.5	1,065,816	1.04
<b>Lubbock, TX</b>	4.3	33.4	80.8	28.8	0.48	0.97	166	3.8	2,711,976	1.04
<b>Lamesa, TX</b>	4.3	33.3	80.5	29.2	0.41	0.96	162	3.4	565,195	1.04
<b>Phoenix, AZ</b>	4.6	35.4	80.6	28.9	0.21	1.00	182	2.2	736,612	1.11
<b>Visalia, CA</b>	4.2	37.0	82.1	33.2	0.19	1.01	157	2.4	1,343,895	1.16
<b>AVERAGE</b>	4.58	34.3	81.2	28.6	0.41	0.99	177	3.4	16,052,928	1.07

**FINAL 2002**

\*Number of physical bales, not calculated by weight. 16.0 million **physical bales** ~ 16.5 million **480-lb bales**.

# QUALITY SUMMARY OF USA UPLAND COTTON - 2001

CLASSING OFFICE	PERCENT OF BALES									
	WHITEGRADES				LIGHT SPOTTED GRADES				OTHER GRADES	BARKY GRADES
	MID+	SLM	LM-	TOT	MID+	SLM	LM-	TOT		
<b>Florence, SC</b>	78.2	18.9	1.3	98.4	0.6	0.6	0.2	1.4	0.2	0.8
<b>Macon, GA</b>	65.9	26.5	5.6	98.0	0.8	1.0	0.2	2.0	0.0	1.4
<b>Birmingham, AL</b>	67.2	25.0	4.0	96.2	1.5	1.4	0.3	3.2	0.6	3.9
<b>Rayville, LA</b>	17.7	45.6	3.9	67.2	2.9	19.9	5.7	28.5	4.3	0.7
<b>Memphis, TN</b>	45.4	33.5	4.8	83.7	4.9	8.6	1.5	15.0	1.3	0.4
<b>Dumas, AR</b>	33.4	34.0	1.3	68.7	5.5	20.4	2.4	28.3	3.0	0.8
<b>C. Christi, TX</b>	69.7	4.8	0.5	75.0	10.3	1.1	2.6	14.0	11.0	2.1
<b>Abilene, TX</b>	44.3	14.4	1.7	60.4	9.7	14.9	7.1	31.7	7.9	11.2
<b>Lubbock, TX</b>	74.5	2.8	0.0	77.3	16.2	3.1	0.1	19.4	3.3	6.3
<b>Lamesa, TX</b>	77.1	2.8	0.0	79.9	16.3	1.6	0.0	17.9	2.2	3.9
<b>Phoenix, AZ</b>	90.6	4.0	0.2	94.8	4.0	0.8	0.1	4.9	0.3	3.6
<b>Visalia, CA</b>	92.5	2.7	0.6	95.8	2.7	0.6	0.1	3.4	0.8	0.3
<b>AVERAGE</b>	60.6	21.0	2.3	83.9	5.5	6.8	1.4	13.7	2.3	

	MIC unit	LEN 32/in	L.UI (%)	STR g/t	TRASH (%)	MAT RAT	FIN mtex	LGRD INDEX	NO. BALES	LEN inch
<b>Florence, SC</b>	4.5	34.4	81.5	27.9	0.46	0.94	175	3.4	2,221,875	1.08
<b>Macon, GA</b>	4.4	34.1	81.0	27.9	0.37	0.95	171	3.1	2,191,412	1.07
<b>Birmingham, AL</b>	4.4	34.4	81.3	27.3	0.41	0.93	175	3.2	1,014,336	1.08
<b>Rayville, LA</b>	4.9	34.2	81.1	27.3	0.43	0.99	184	3.3	1,126,293	1.07
<b>Memphis, TN</b>	4.7	34.6	81.9	28.2	0.39	0.97	186	3.2	3,033,523	1.08
<b>Dumas, AR</b>	4.8	34.4	81.6	27.3	0.44	0.99	185	3.3	2,635,648	1.08
<b>C. Christi, TX</b>	4.4	34.4	81.2	28.8	0.34	0.98	165	2.7	956,135	1.08
<b>Abilene, TX</b>	4.6	34.0	80.7	28.2	0.35	0.99	176	3.0	826,639	1.06
<b>Lubbock, TX</b>	4.4	33.6	81.1	28.5	0.25	0.96	175	2.5	2,232,590	1.05
<b>Lamesa, TX</b>	4.5	33.7	80.9	28.5	0.24	0.97	173	2.5	318,315	1.05
<b>Phoenix, AZ</b>	4.6	35.4	80.6	28.0	0.22	1.01	177	2.1	868,666	1.11
<b>Visalia, CA</b>	4.3	36.2	81.6	31.9	0.22	1.00	157	2.4	1,613,643	1.13
<b>AVERAGE</b>	4.56	34.5	81.3	28.3	0.36	0.97	177	3.0	19,039,075	1.08

**FINAL 2001**

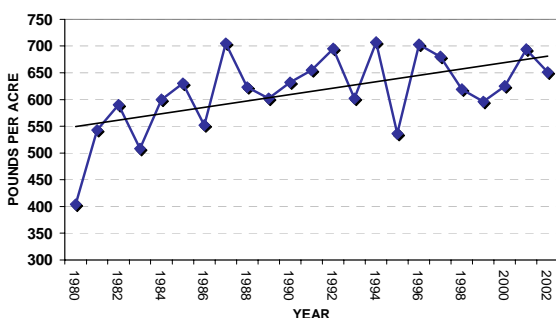
\*Number of physical bales, not calculated by weight. 19.0 million **physical bales** ~ 19.6 million **480-lb bales**.

# QUALITY TRENDS IN USA UPLAND COTTON

The following is a brief analysis of the quality of USA upland cotton crop for the 2002 season. Data on fiber properties come from the USDA publication, "Quality of Cotton Classed under the Smith-Doxey Act," which is issued weekly during the harvest season. Information on yield and production is published by the USDA, Economics and Statistics System.

## YIELD and PRODUCTION

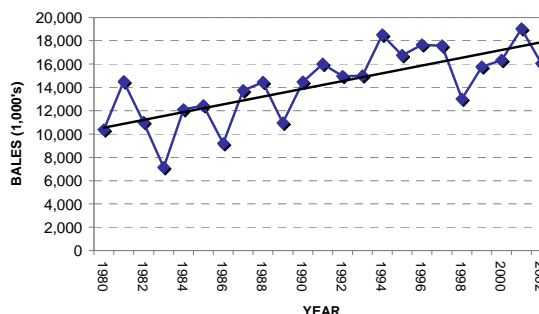
**LONG TERM YIELD TREND  
USA UPLAND**



The final 2002 crop yield estimate was placed at 651 pounds per acre-- a significant drop from last year's high yield of 694 pounds per acre, but not out of line with past years. Examining the trend since 1980, yields have been increasing at a rate of 6.0 pounds per year. However, yield improvements have leveled off recently, and the rate of increase over the past ten years is 2.5 pounds per year.

U.S. Production dropped in 2002, with approximately 16.5 million\* bales of upland cotton, about 3.1 million bales below 2001's record production. Decreased harvested acres, as well as yield, contributed to this difference from the previous crop year.

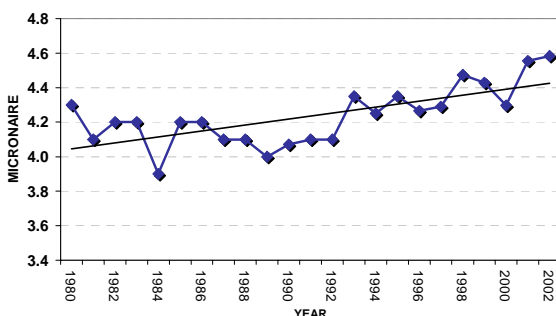
**LONG TERM PRODUCTION TREND  
USA UPLAND**



## MICRONAIRE

The final US micronaire average for 2002 is 4.58, continuing the upward trend that has been seen over the past ten years. While the West Texas and SJV regions have seen decreases in micronaire, the Memphis-Eastern region has seen significant increases in the past two crop seasons. In particular, the Southeast was plagued with a long drought in 2002, followed by heavy rains, which had a substantial impact on its fiber quality and yields.

**LONG TERM MICRONAIRE TREND  
USA UPLAND**



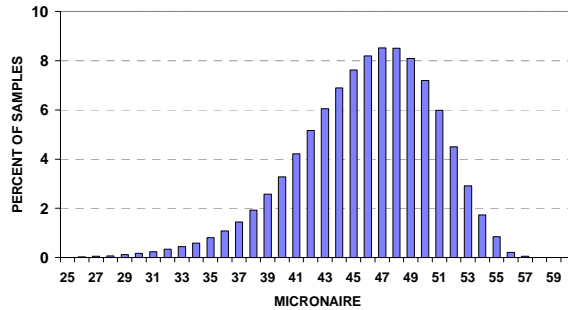
Low micronaire isn't a problem in the belt, with only 2.1% of the crop at or below the discount\* level of 3.4 micronaire. However, high

\*This value differs from what is reported on USDA's Smith-Doxey report. The Smith-Doxey (which supplies the information for our Crop Quality Report) reports the number of actual, or "running" bales classed. To enable long-term comparisons, bale totals are adjusted to 480-pound "statistical" bales.

micronaire was easy to find, with 23.5% of the crop at 5.0 or higher, and a full 40% of the crop at 4.8 or higher.

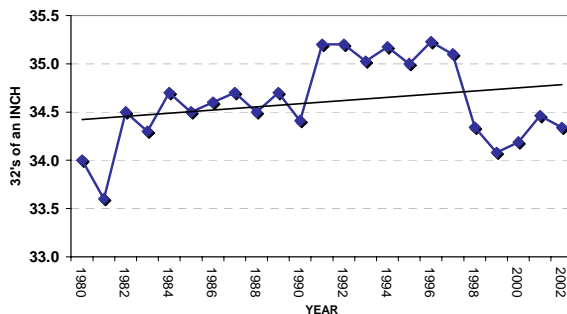
As is the case for all fiber properties, micronaire levels across the belt vary widely, so the US data is not necessarily indicative of what is occurring in a specific region. For regional trends and distributions, see the [Appendix](#).

**MICRONAIRE DISTRIBUTION  
USA UPLAND - FINAL 2002**



## LENGTH

**LONG TERM STAPLE LENGTH TREND  
USA UPLAND**

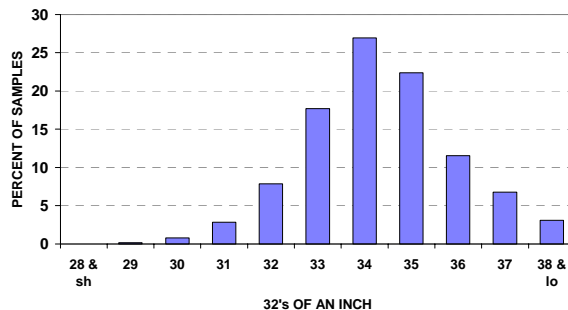


The 2002 crop has an average staple length of 34.3/32s of an inch. The average, while a drop from last year's average crop length of 34.5/32s, is not dissimilar from what has been seen in the past several crops. However, it is a departure from the length gains of the early nineties, where averages held at or above 35/32s for seven years straight.

Approximately 44% of the 2002 crop is 35 staple or longer ( $\geq 1.08$  inches), while over 29% of the crop is 33 staple or shorter ( $\leq 1.04$  inches).

For charts displaying the regional trends and distributions in staple length, see the [Appendix](#).

**STAPLE LENGTH DISTRIBUTION  
USA UPLAND - FINAL 2002**

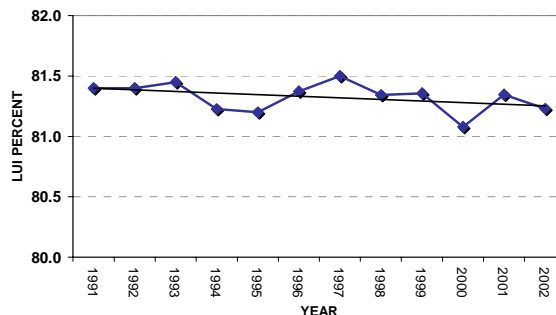


## LENGTH UNIFORMITY INDEX

The 2002 crop has an average length uniformity index of 81.2. Length uniformity has been relatively stable for as long as it has been reported, beginning in 1991.

A substantial portion of the US crop avoids a discount in terms of loan value for length uniformity, with the bulk of it being at the

**LONG TERM LUI TREND  
USA UPLAND**

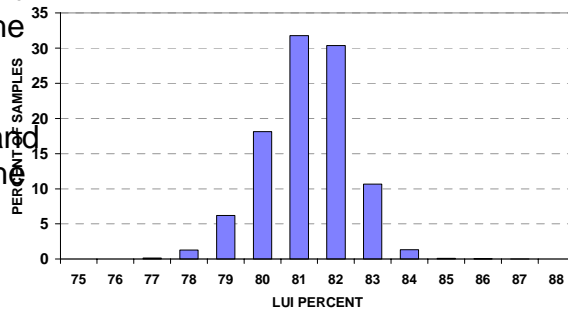


\*Based on 2002 CCC Cotton Loan Premium and Discount Schedule

“base”\* level of 80 to 82 length uniformity index. Just 7.6% of the crop is in the discount\* range of 79 or lower, while 12.2% is in the premium range of 83 or higher.

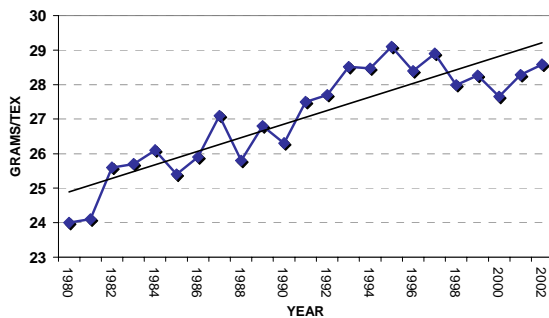
For charts displaying the regional trends and distributions in length uniformity index, see the [Appendix](#)

**LENGTH UNIFORMITY DISTRIBUTION  
USA UPLAND - FINAL 2002**



**STRENGTH**

**LONG TERM STRENGTH TREND  
USA UPLAND**



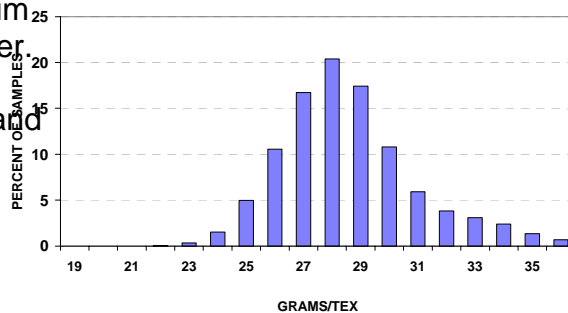
The average strength for the 2002 crop is 28.6 grams/tex, continuing the increases of the last crop year. Since HVI strength records began in 1980, the annual increase in strength has been 0.20 grams/tex per year, but appears to have hit a plateau since 1993.

The majority of the crop is above the discount\* level, with only 6.9% of the crop at 25

grams/tex (rounded) or weaker. A large portion, 28% of the crop, is at the premium strength of 30 grams/tex (rounded) or stronger.

Charts displaying regional strength trends and distributions are located in the [Appendix](#)

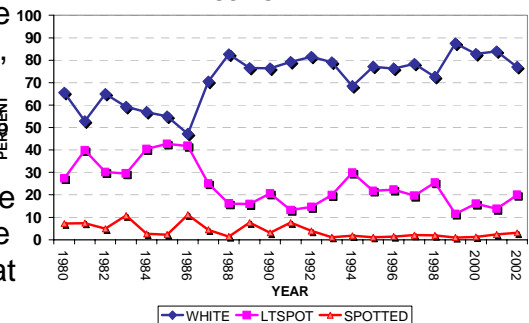
**STRENGTH DISTRIBUTION  
USA UPLAND - FINAL 2002**



**COLOR GRADES**

The chart on the left illustrates the color grades of USA upland cotton crops since 1980. The 2002 final crop had 77% classified as White, and 86% classified as Strict Low Middling or better, compared with 2001 which had 84% White, and 94% Strict Low Middling or better. Much of the decline this year is due to the large percentage drop in white grades in the Southeast, which suffered from heavy rains at

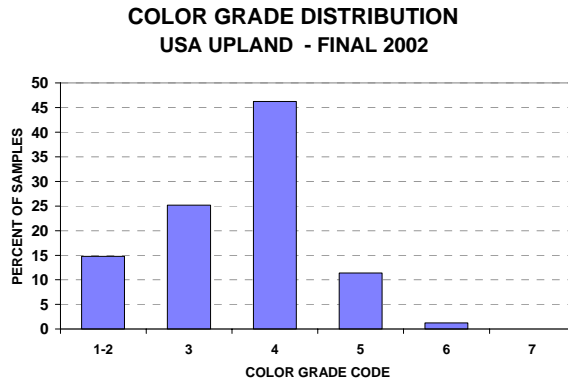
**LONG TERM COLOR GRADE TREND  
USA UPLAND**



\*Based on 2002 CCC Cotton Loan Premium and Discount Schedule

harvest time. The other regions of the cotton belt remained stable or improved in color.

Note: Beginning in 1993, the classer grade was split into color grade and leaf grade. The grade is not reduced because of the presence of extraneous materials such as bark or grass. The percentages given in the graph above for the crops beginning in 1993 are for the color grades, but each color grade includes all leaf grades in that color group. In the trend chart, the data for the last ten years are biased from data for the previous years because there are no reductions in color grade for extraneous matter.



## MOST POPULAR VARIETIES FOR 2002

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LOCATION	VARIETY	PERCENT OF ACREAGE
<i>(SOUTHEAST)</i>		
Florence	Deltapine DP 451 B/RR	21
Macon	Deltapine DP 458 B/RR	19
Birmingham	Deltapine DP 5415 RR / DP 451 B/RR*	13
<i>(MIDSOUTH)</i>		
Rayville	Deltapine DP 458 B/RR / DP 451 B/RR*	18
Memphis	Paymaster PM 1218 BG/RR	33
Dumas	Stoneville ST 4892BR	20
<i>(SOUTH TEXAS)</i>		
Corpus Christi	Aventis Fibermax FM 832	50
<i>(WEST TEXAS)</i>		
Abilene	Paymaster PM 2200 RR	10
Lubbock	Paymaster PM 2326 RR	23
Lamesa	Paymaster PM 2326 RR	18
<i>(CA-AZ)</i>		
Phoenix	Deltapine NuCOTN 33 B	9
<i>(SJV)</i>		
Visalia	Phytogen PHY 72 Acala	36

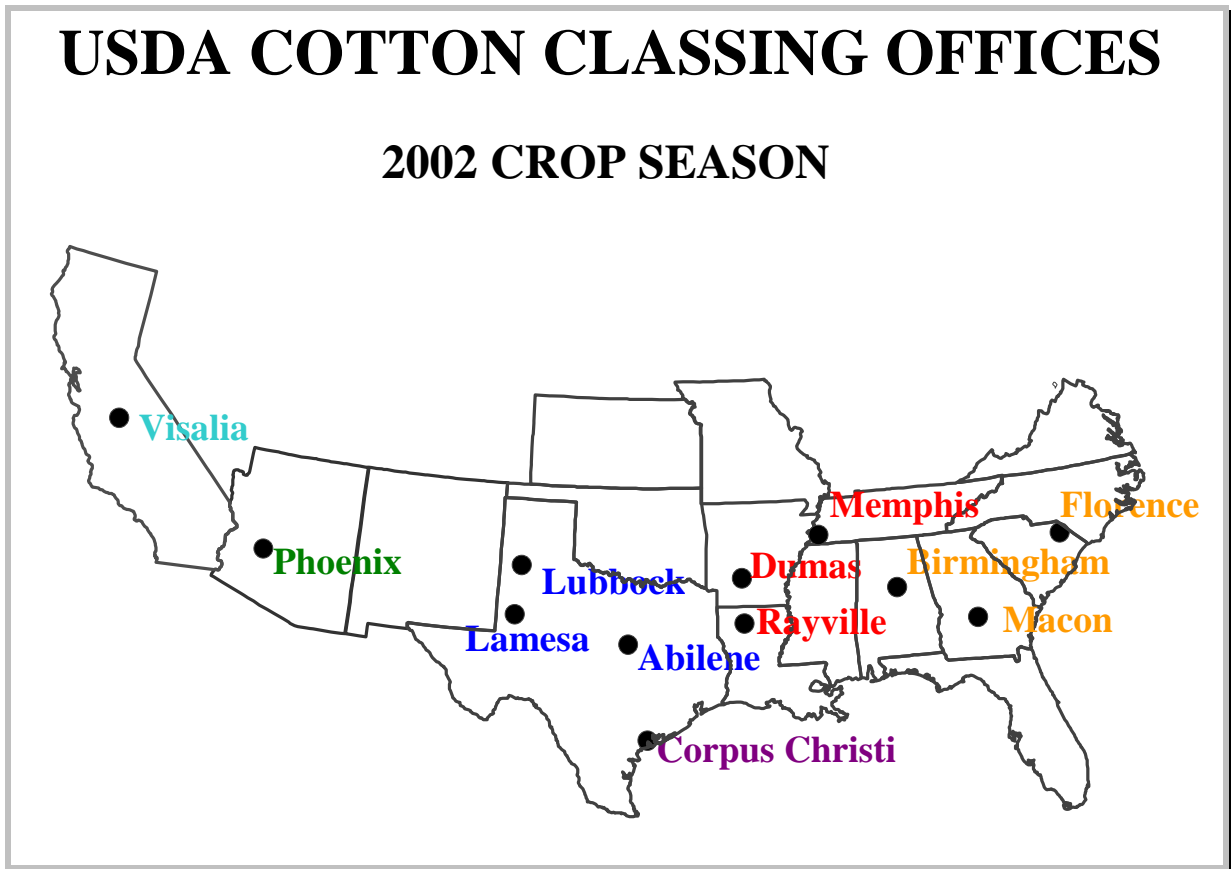
\* Varieties are tied for percent of acreage (when rounded). Percent reflects each variety's contribution (e.g., DP 458 B/RR and DP 451 B/RR each have 18% of the acreage planted in the area classed at Rayville, LA)

Source: USDA AMS – Cotton Program

Estimates of the percentage of the various varieties of cotton planted in the United States for 2002 were based on informal surveys made by the Cotton Program Classing Offices. Those surveyed included ginners, seed dealers, extension agents, and other knowledgeable sources.

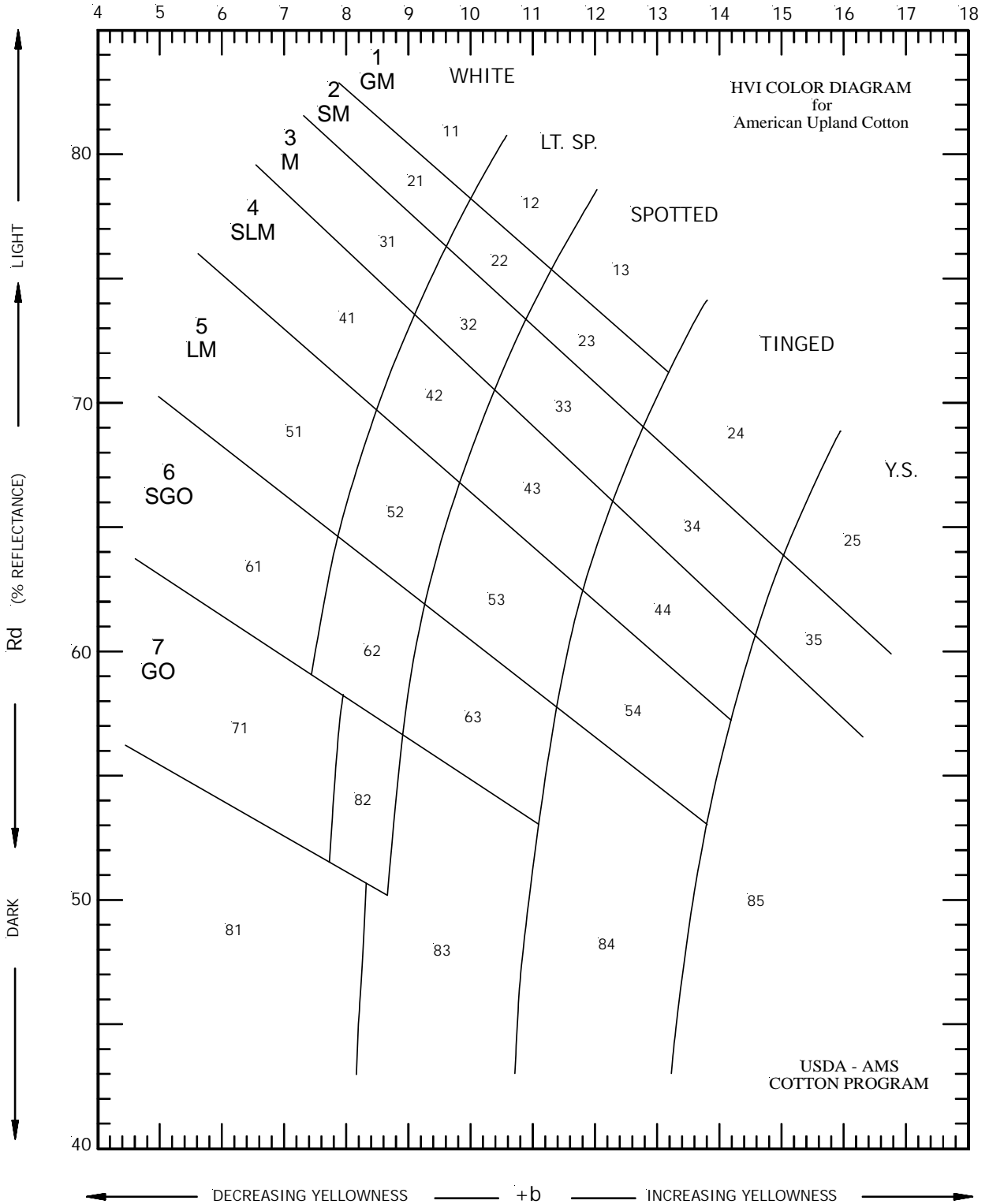
# USDA COTTON CLASSING OFFICES – 2002

For the 2002 season, there are 12 USDA classing offices located throughout the cotton production regions of the USA.



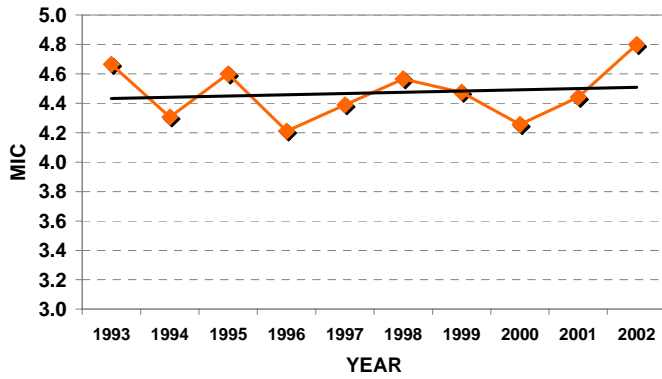
<u>Region</u>	<u>Classing Offices</u>
<b>SJV</b>	Visalia
<b>CA-AZ</b>	Phoenix
<b>WT</b>	Lamesa, Lubbock, Abilene
<b>ST</b>	Corpus Christi
<b>MS</b>	Dumas, Rayville, Memphis
<b>SE</b>	Birmingham, Macon, Florence

# HVI COLOR GRADES FOR USA UPLAND COTTON

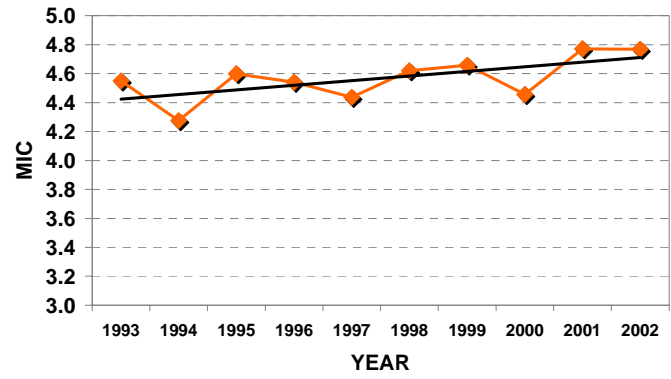


# REGIONAL TRENDS IN USA UPLAND COTTON

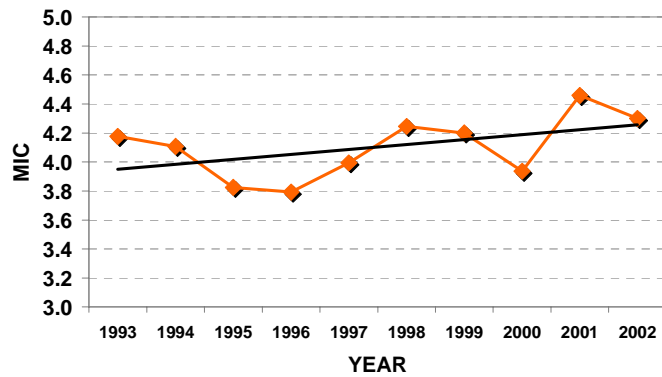
TEN YEAR MICRONAIRE TREND  
SOUTHEAST



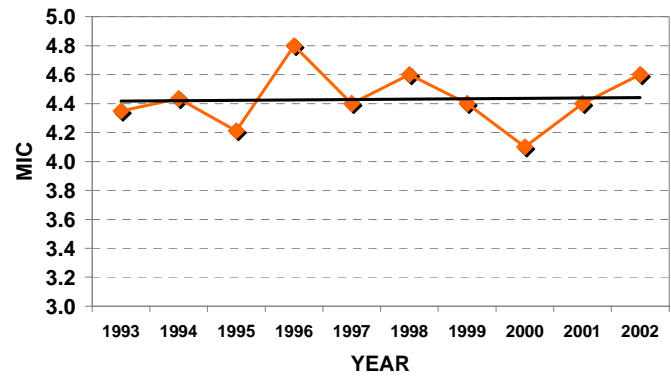
TEN YEAR MICRONAIRE TREND  
MIDSOUTH



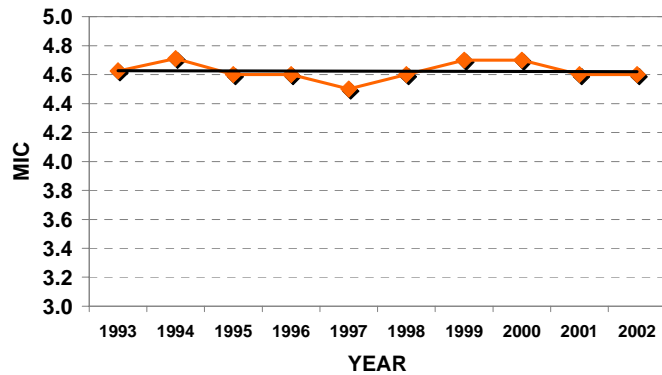
TEN YEAR MICRONAIRE TREND  
WEST TEXAS



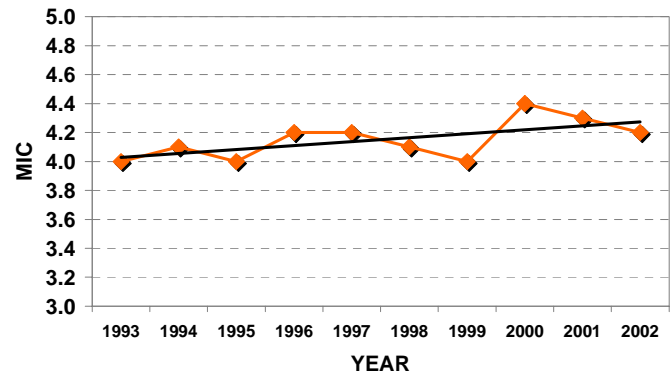
TEN YEAR MICRONAIRE TREND  
SOUTH TEXAS



TEN YEAR MICRONAIRE TREND  
California-Arizona -- "C-A"

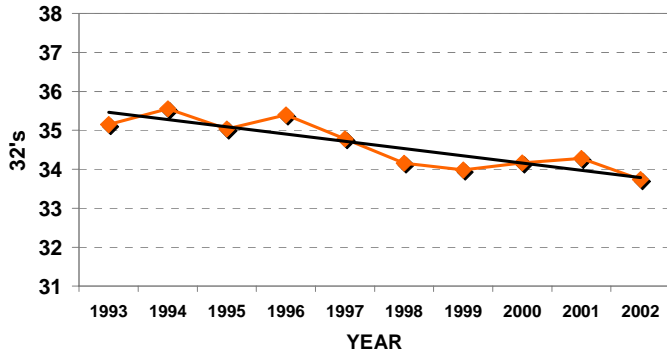


TEN YEAR MICRONAIRE TREND  
SJV

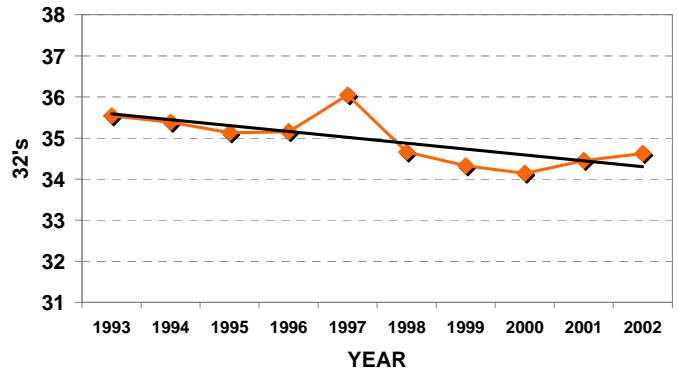


# REGIONAL TRENDS IN USA UPLAND COTTON

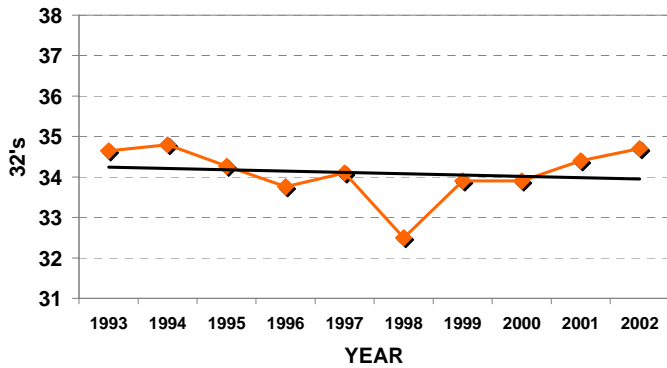
TEN YEAR STAPLE LENGTH TREND  
SOUTHEAST



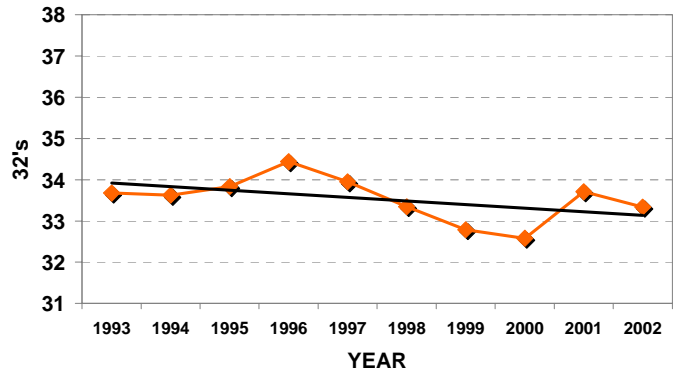
TEN YEAR STAPLE LENGTH TREND  
MIDSOUTH



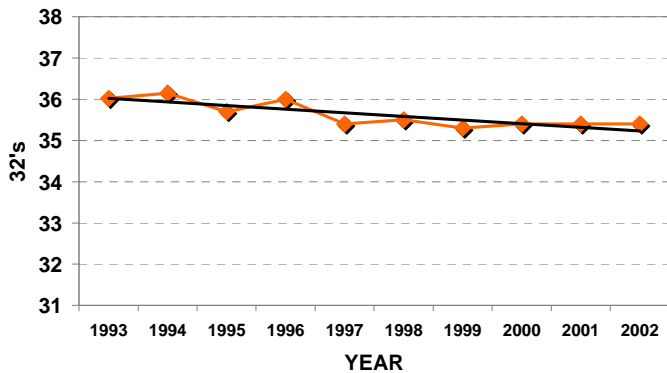
TEN YEAR STAPLE LENGTH TREND  
SOUTH TEXAS



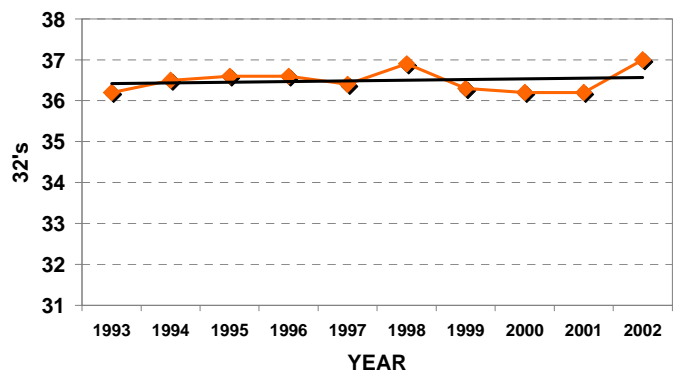
TEN YEAR STAPLE LENGTH TREND  
WEST TEXAS



TEN YEAR STAPLE LENGTH TREND  
California / Arizona "C-A"

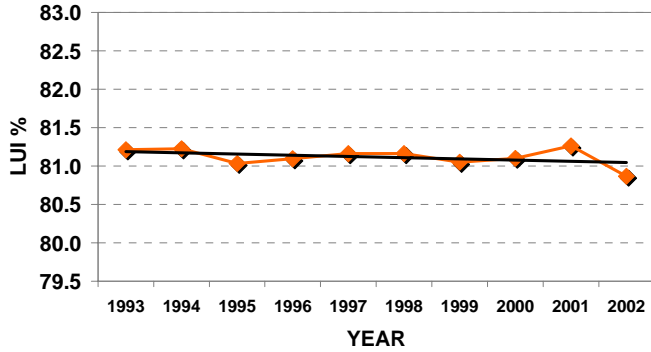


TEN YEAR STAPLE LENGTH TREND  
San Joaquin Valley "SJV"

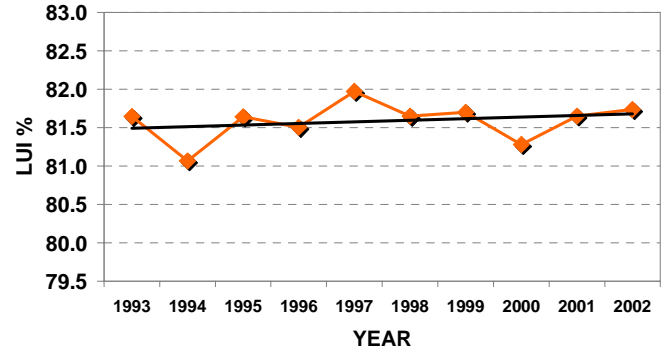


# REGIONAL TRENDS IN USA UPLAND COTTON

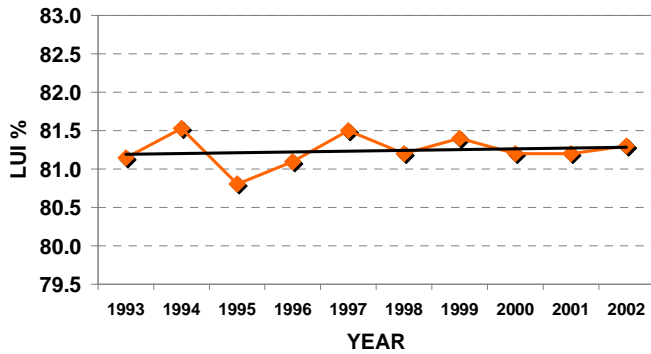
**TEN YEAR LUI TREND**  
**SOUTHEAST**



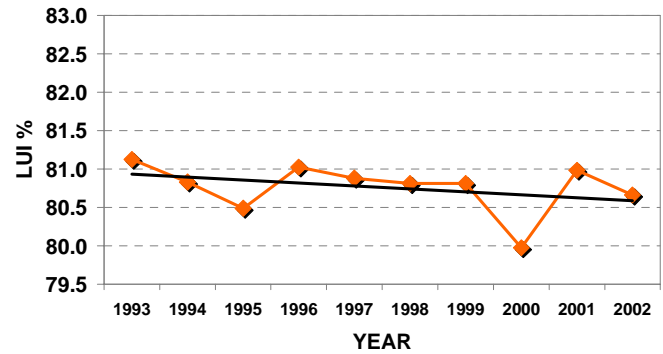
**TEN YEAR LUI TREND**  
**MIDSOUTH**



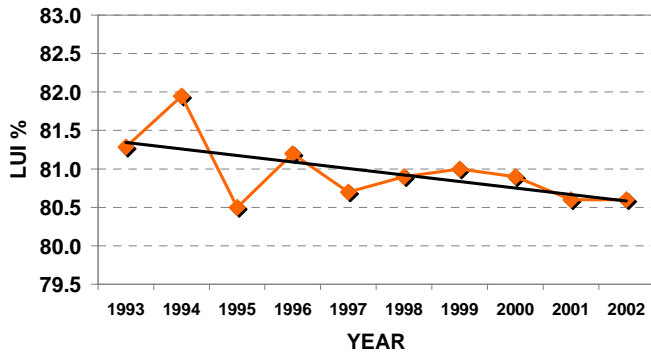
**TEN YEAR LUI TREND**  
**SOUTH TEXAS**



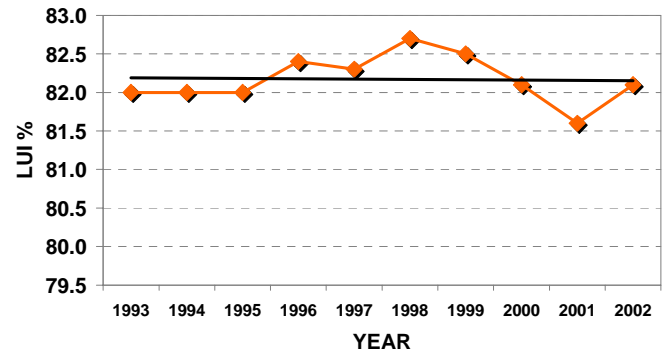
**TEN YEAR LUI TREND**  
**WEST TEXAS**



**TEN YEAR LUI TREND**  
**California-Arizona -- "C-A"**

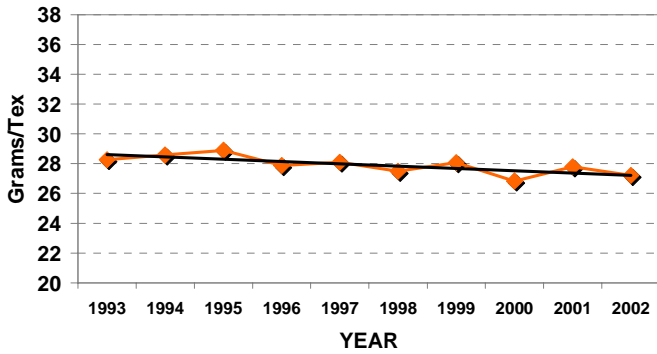


**TEN YEAR LUI TREND**  
**SJV**

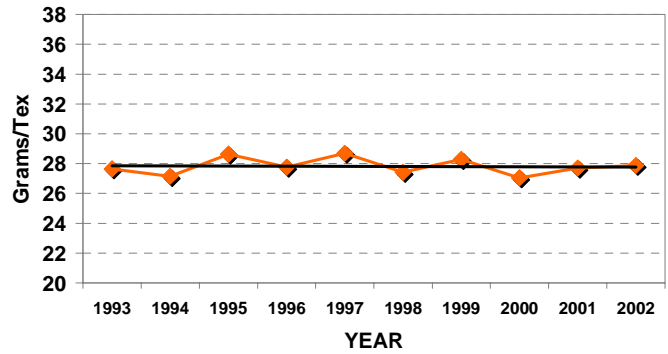


# REGIONAL TRENDS IN USA UPLAND COTTON

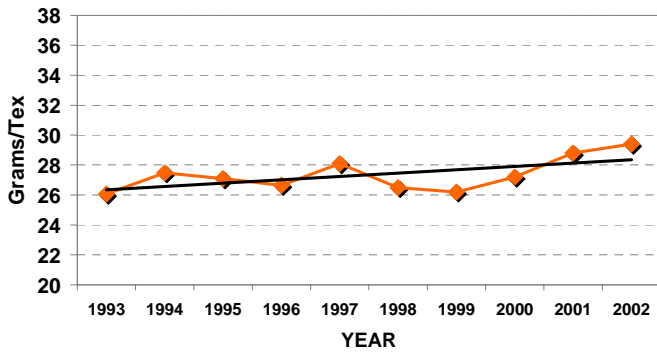
TEN YEAR STRENGTH TREND  
SOUTHEAST



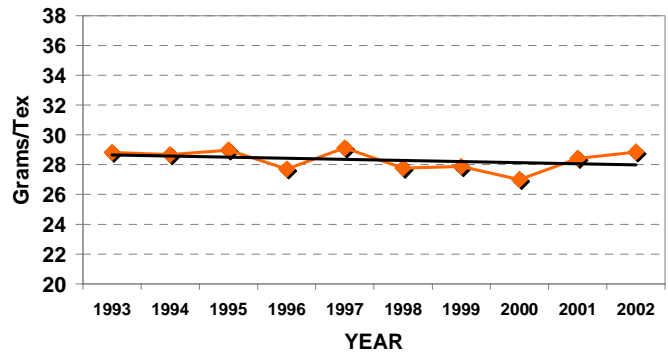
TEN YEAR STRENGTH TREND  
MIDSOUTH



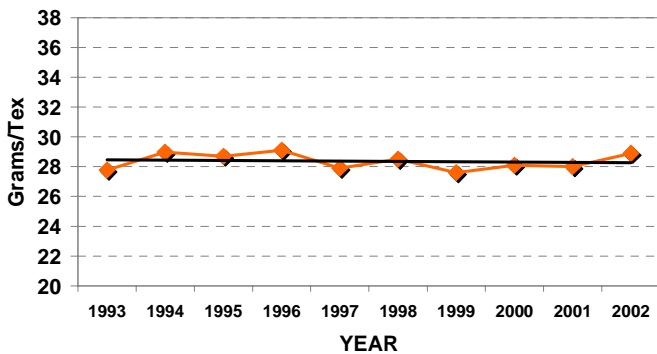
TEN YEAR STRENGTH TREND  
SOUTH TEXAS



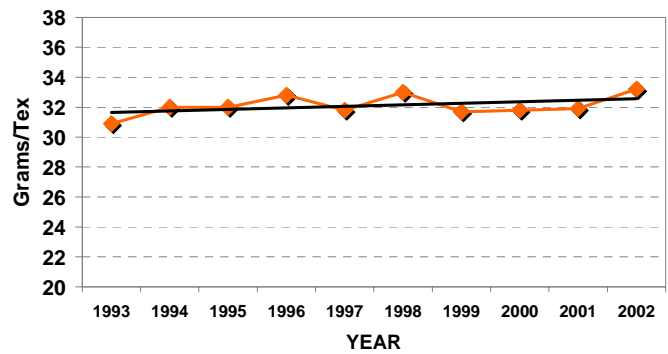
TEN YEAR STRENGTH TREND  
WEST TEXAS



TEN YEAR STRENGTH TREND  
California-Arizona -- "C-A"

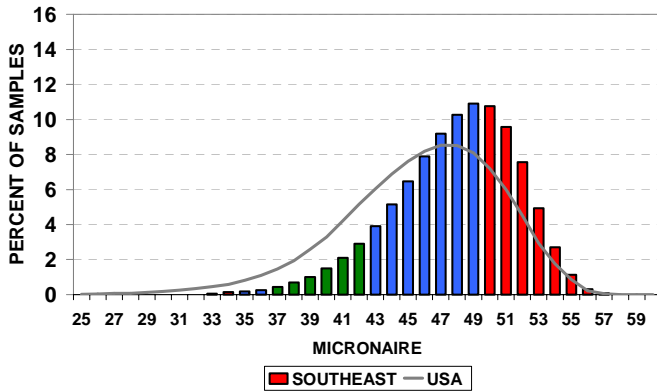


TEN YEAR STRENGTH TREND  
SJV

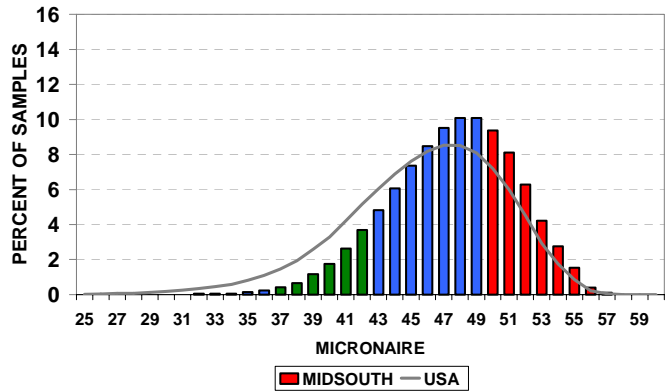


# REGIONAL DISTRIBUTIONS IN USA UPLAND COTTON

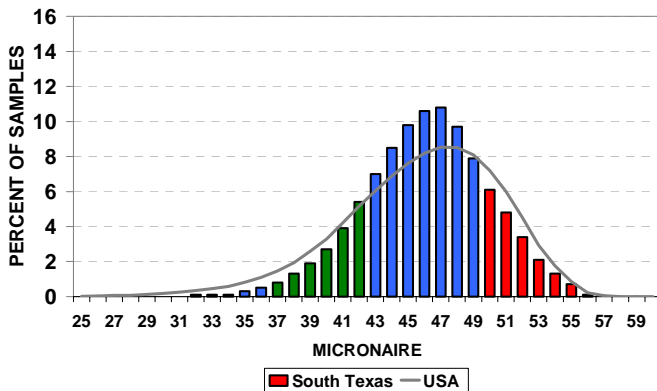
**MICRONAIRE DISTRIBUTION  
SOUTHEAST**



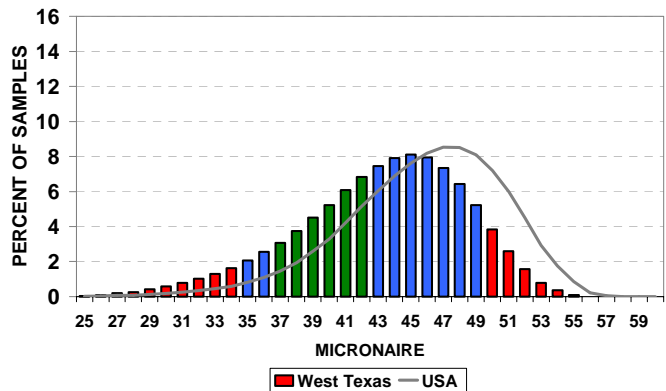
**MICRONAIRE DISTRIBUTION  
MIDSOUTH**



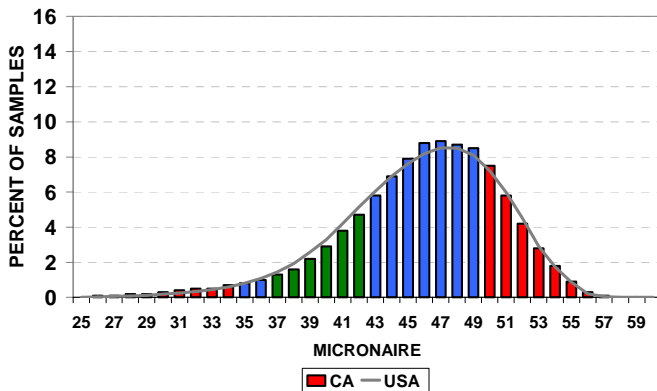
**MICRONAIRE DISTRIBUTION  
SOUTH TEXAS**



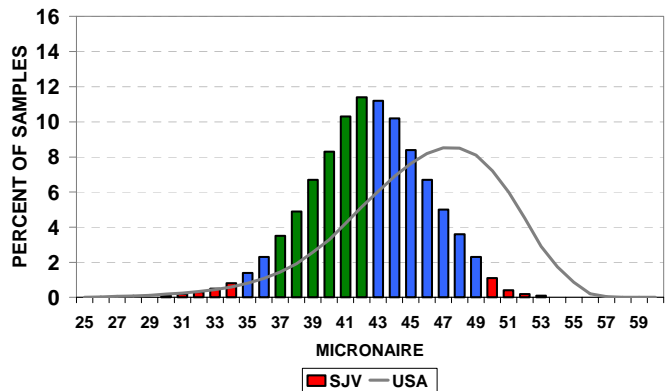
**MICRONAIRE DISTRIBUTION  
WEST TEXAS**



**MICRONAIRE DISTRIBUTION  
California-Arizona "C-A"**



**MICRONAIRE DISTRIBUTION  
SAN JOAQUIN VALLEY "SJV"**

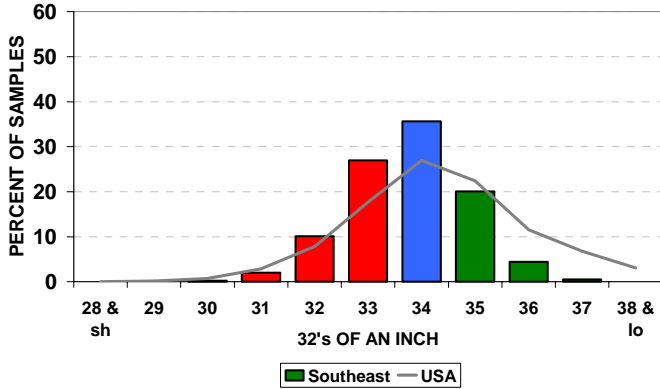


DISCOUNT\* (41-4)    
  BASE\* (41-4)    
  PREMIUM\* (41-4)

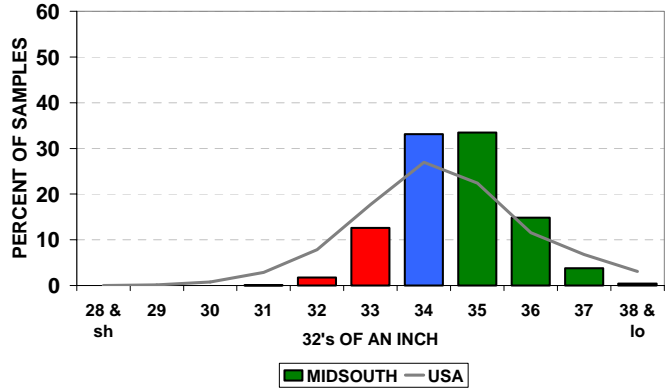
\*Based on 2002 CCC Cotton Loan Premium and Discount Schedule

# REGIONAL DISTRIBUTIONS IN USA UPLAND COTTON

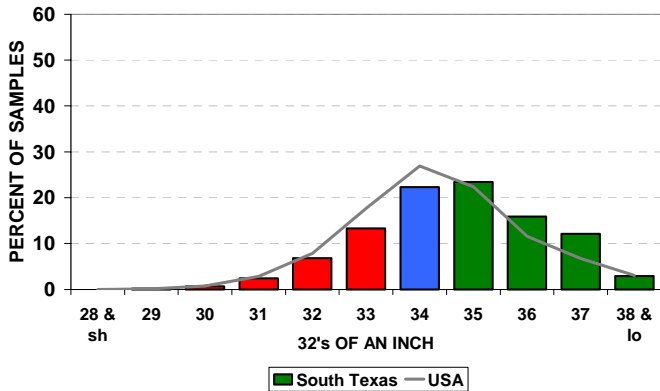
**STAPLE LENGTH DISTRIBUTION  
SOUTHEAST**



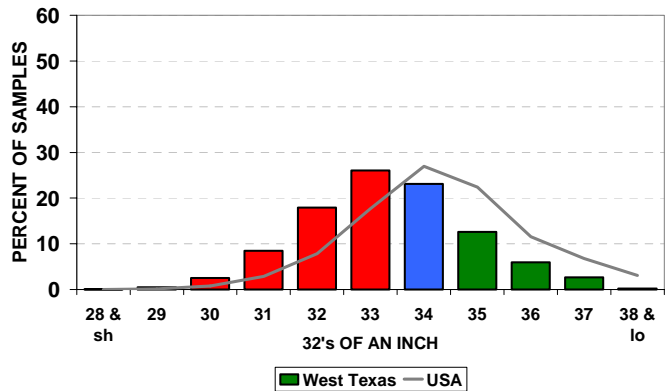
**STAPLE LENGTH DISTRIBUTION  
MIDSOUTH**



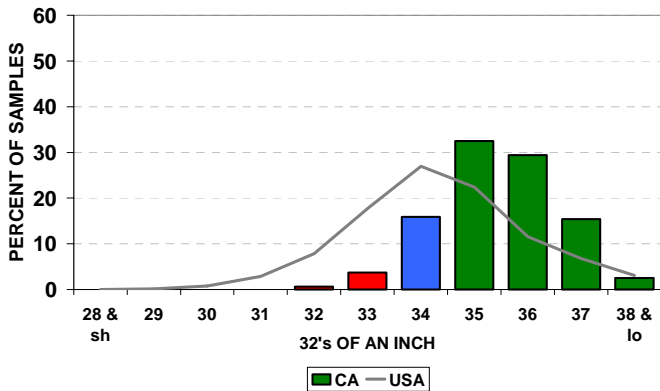
**STAPLE LENGTH DISTRIBUTION  
SOUTH TEXAS**



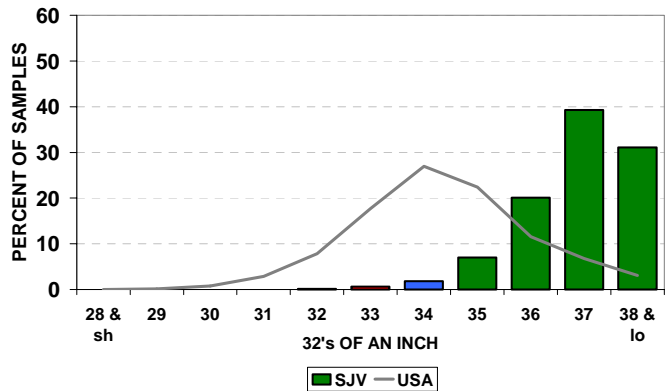
**STAPLE LENGTH DISTRIBUTION  
WEST TEXAS**



**STAPLE LENGTH DISTRIBUTION  
CALIFORNIA/ARIZONA "C-A"**



**STAPLE LENGTH DISTRIBUTION  
SAN JOAQUIN VALLEY "SJV"**



■ DISCOUNT\*

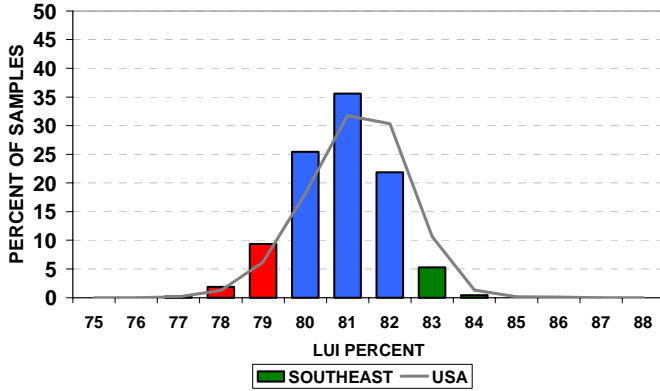
■ BASE\*

■ PREMIUM\*

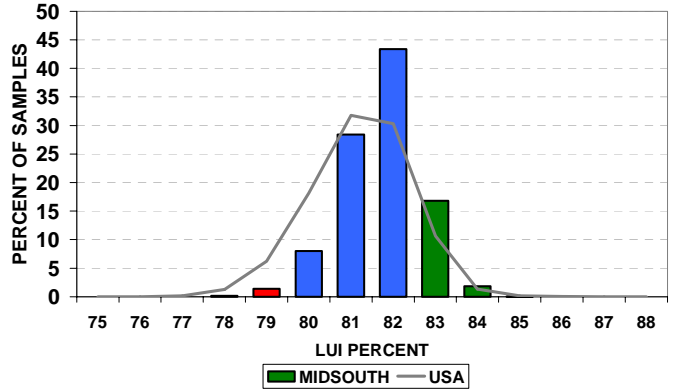
\*Based on 2002 CCC Cotton Loan Premium and Discount Schedule

# REGIONAL DISTRIBUTIONS IN USA UPLAND COTTON

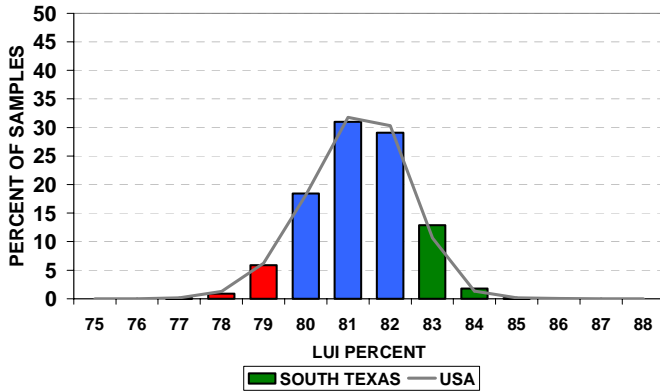
**LENGTH UNIFORMITY DISTRIBUTION  
SOUTHEAST**



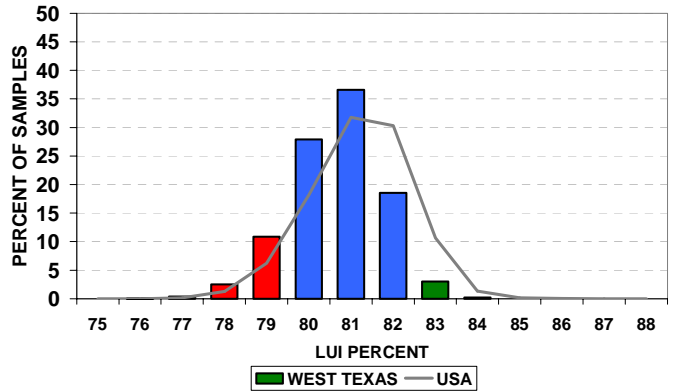
**LENGTH UNIFORMITY DISTRIBUTION  
MIDSOUTH**



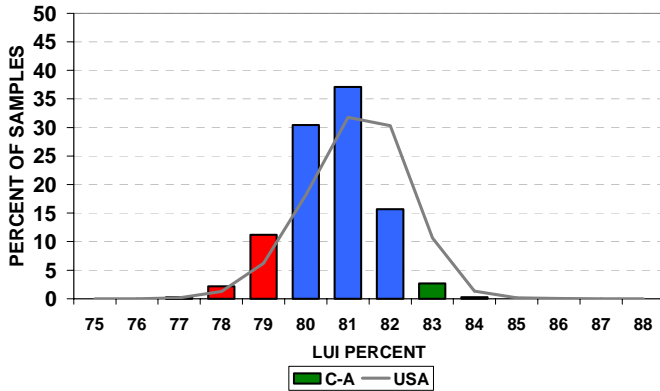
**LENGTH UNIFORMITY DISTRIBUTION  
SOUTH TEXAS**



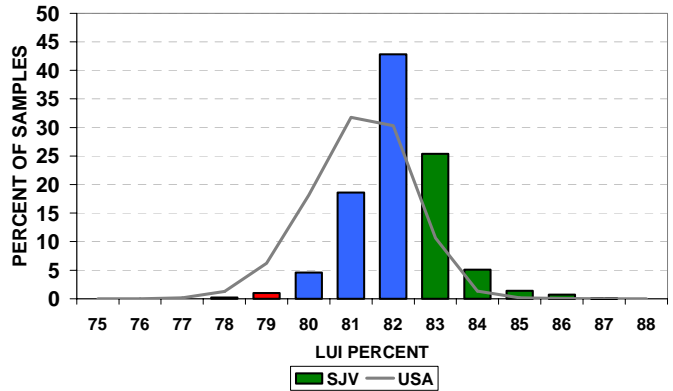
**LENGTH UNIFORMITY DISTRIBUTION  
WEST TEXAS**



**LENGTH UNIFORMITY DISTRIBUTION  
CALIFORNIA-ARIZONA "C-A"**



**LENGTH UNIFORMITY DISTRIBUTION  
SAN JOAQUIN VALLEY "SJV"**

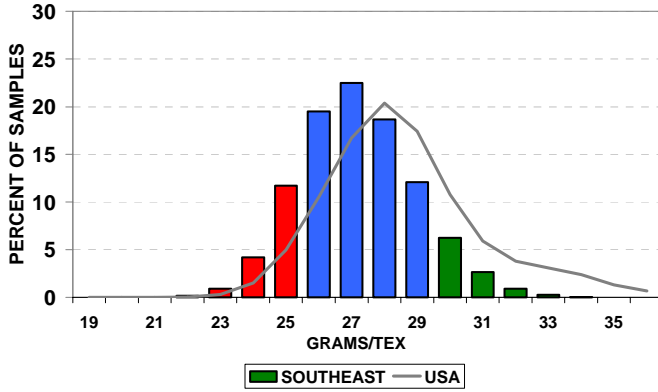


DISCOUNT\*
  BASE\*
  PREMIUM\*

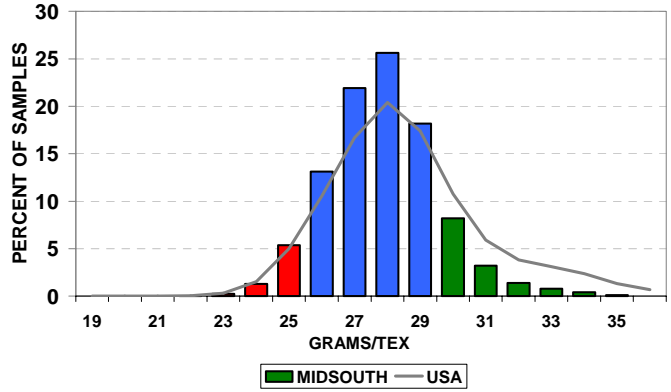
\*Based on 2002 CCC Cotton Loan Premium and Discount Schedule

# REGIONAL DISTRIBUTIONS IN USA UPLAND COTTON

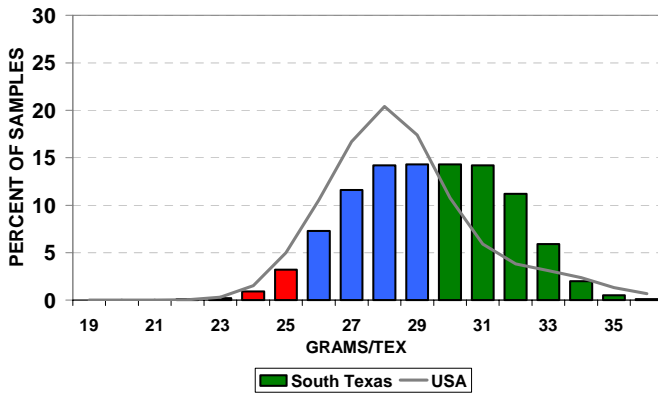
**STRENGTH DISTRIBUTION  
SOUTHEAST**



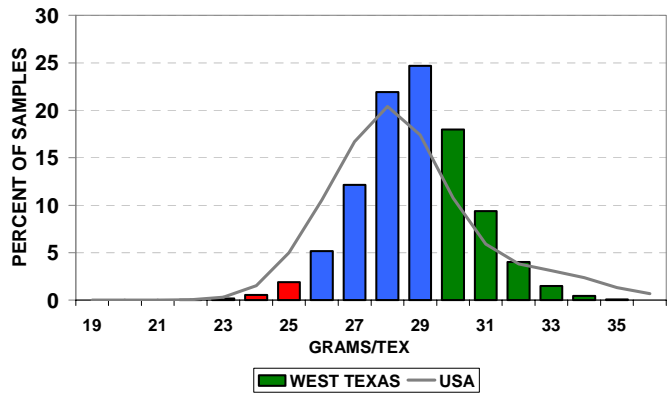
**STRENGTH DISTRIBUTION  
MIDSOUTH**



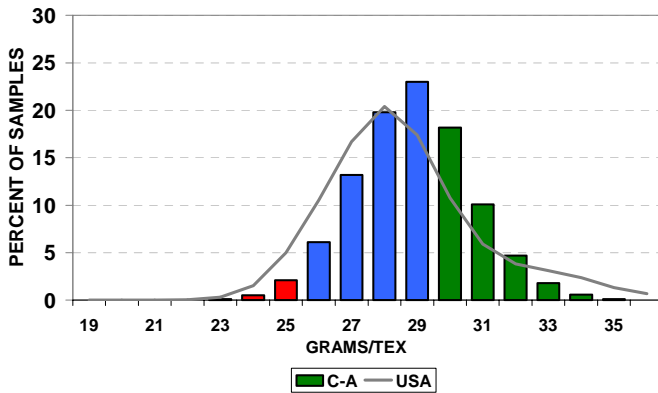
**STRENGTH DISTRIBUTION  
SOUTH TEXAS**



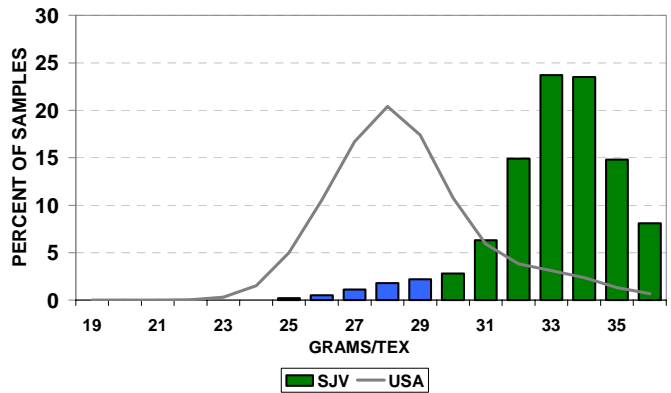
**STRENGTH DISTRIBUTION  
WEST TEXAS**



**STRENGTH DISTRIBUTION  
CALIFORNIA-ARIZONA "C-A"**



**STRENGTH DISTRIBUTION  
SAN JOAQUIN VALLEY "SJV"**

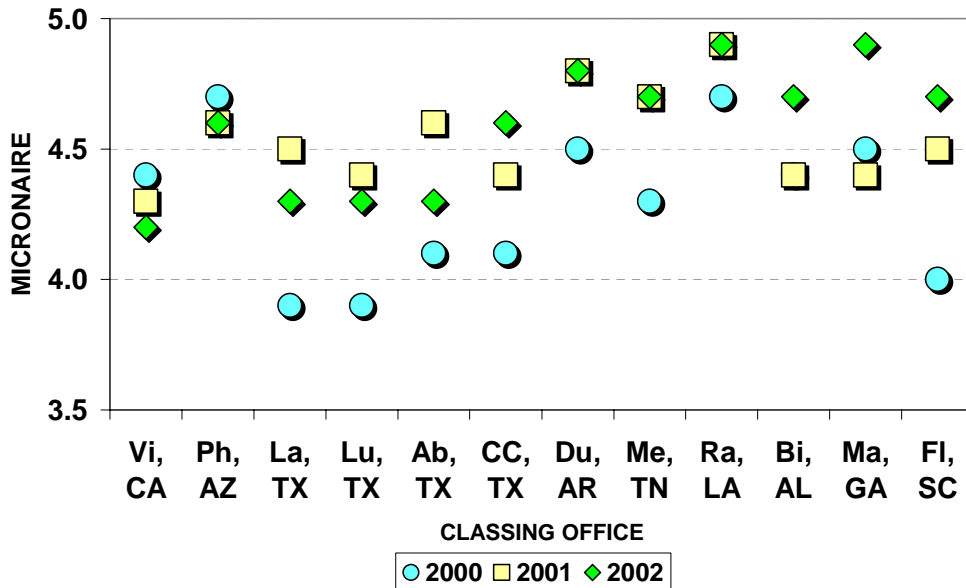


DISCOUNT\*
  BASE\*
  PREMIUM\*

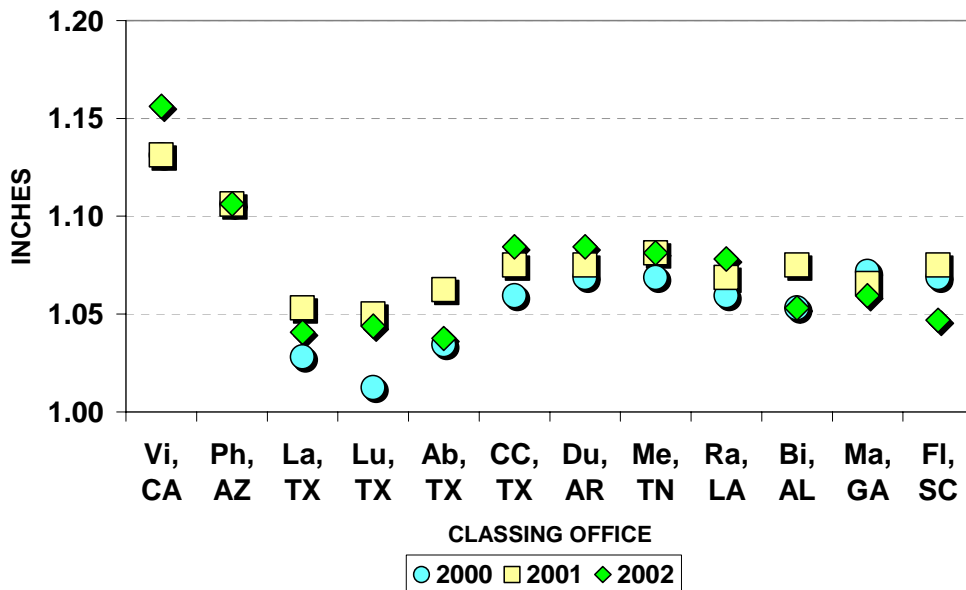
\*Based on 2002 CCC Cotton Loan Premium and Discount Schedule

# AVERAGE FIBER PROPERTIES BY CLASSING OFFICE

## AVERAGE MICRONAIRE USA UPLAND - FINAL 2002

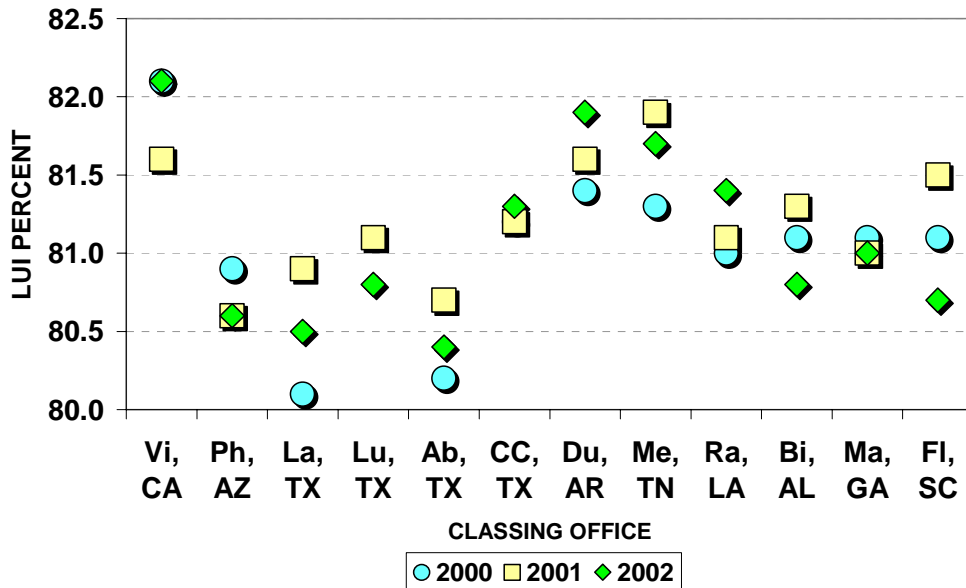


## AVERAGE STAPLE LENGTH USA UPLAND - FINAL 2002



# AVERAGE FIBER PROPERTIES BY CLASSING OFFICE

## AVERAGE LENGTH UNIFORMITY USA UPLAND - FINAL 2002



## AVERAGE STRENGTH USA UPLAND - FINAL 2002

