BUREAU OF AGRICULTURAL ECONOMICS UNITED STATES DEPARTMENT OF AGRICULTURE
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COTTON: FACTORS ACCOUNTING FOR REDUCTION FROM FULL YIELD, UNITED STATES, 1909-41


Since 1909 actual yielos of cotton have ranged from 23 to 53 percent below theoretical full yield: During the decade 1931-40 deficient moistupe ACCOUNTED FOR AN ESTIMATED REDUCTION OF 9.7 PERCENT FROM FULL YIELD; BOLL weevil for 8.3 percent; "other" climatic, 5.6 percent; excessive moisture, 3.2 percent; other insects, 2.8 percent, and all other, 4.0 percent.

In 1941 the reouction from boll weevil damage was 15.4 percent, the greatest singe 1927. Damage from excessive molsture was the greatest since 1920 and from deficient moisture the smallest since 1920. The total reduction from full yield was 38.6 percent, the highest since the drought year of 1934.

Sosfar this year the weather has been generally favorable. There have been numerous reports of boll weevil damage but for the cotton belt as a Whole damage to date appears to be considerably less than a year ago.

THECOTMONSITUATION

## Sumpry

As the 1942 cotton picking season gets undor way, farmers are confronted with grade and staple premiums and discounts entirely different from those in recent years. On July 24 last year, differences in value between 500-pound bales of Middling and Low Midding at Memphis were $\$ 8.25$ for lminch cotton, $\$ 9.25$ for 1-1/16-inch cotion, and $\$ 12.75$ for 1-I/S-inch cotton. By July 24, 1942 these differences had increascd to $\$ 1.8 .25 . \$ 24.50$ and $\$ 34.00$ respectively.

Since these differences will be reflected to a considerable extent in local markets, farmers have an unusuel opportunity to increase their returns this year by taling all practicable steps to insure a grod grade of cotton. War requirements of the textile industry have shifted demand heavily toward tho longer lengtis and higher grades, and the high rate of mill activity in depleting roscrve stocks of these qualities more rapidly than stocks of other cotton.

Presont indications are that acreages of long staple Upland and American- Gyptain cotton were expanded about as much this season as available supplies of suitable planting sced permitted. Consequently, substann tial increascs in production of both kinds of cotton are expected this year.

In addition to a domsstic consumption of Anerican cotton of about Il million bales this season (194I-42), about I-I/4 million are estinated to have been consumed in foreign countries. Thus, world consumption likem Iy was well in excoss of 1941 production, and the carrymovor of American cotton in the world may decline from about 12.8 million bales at the bom giming of the 194-42 season to about 10.9 million on Augrast 1,1942 .

World consumption of foreign cotton declined from 14.7 million bales in the 1940-41 season to about 13mi/2 million in 1941-42. Meanwhile, domestic consumption of foreign cotton increased from 146,000 bales to about 200,000 bales, the largest since 1929. Reduction in world consumption of foreign cotton more then offset the decline in 1941 world production. The world carrymover of foreign cotton on August I is expected to be about 11.3 million- -2 million bales larger than a year earlier.

Consumption totaled 10,169,000 bales from August 1941 through June 1942. In June, 966,900 bales were consumed, compared with 957,000 in May. Stocks of cotton in consuming establishments on June 30 totaled 2,441,000 bales - the largest for any June on record, and equivalent to $2-1 / 2$ months ${ }^{\text {s }}$ supply at the June consumption rate. The stocksmconsumption ratio for June was the highest for that month since 1938, when consumption was less than half of the current amount.
-wuly 30, 1942

## PRICES

## Cotton Prices Erratic

Cotton prices moved erratically during the past month, but on July 28 the 10 market average price for Midaling $15 / 16^{\prime \prime}$ cotton was 21 points lower than a month earlier. Prices ranged from 19.07 cents at the beginaling of the month to a high of 19.99 on July 9 ; since which time they have declined to 18.72 on July 29.

The Goverment cotton acreage roport showed a total of $24,005,000$ acres on July 1 , sigightly lareor than indicated by private estimates. June consumption was a littile less then expected in some quarters. Both of these reports wore only slightly depressing as price factors For some time, principal. influoñes on cotton prices have been chances in traders' judgmonts conceraing: (1) sale of Goverrmentmowned commodities, (2) proposed revisions of Government loaur rates, and (3) prico controls and other measures designed to curb a rising-prico level.

## Tarm Prices Decline in June

The farm price of cotton declined from 19.17 cents in nidmay to 18.26 in miduJune, a drop of about $9 / 10$ cent. This decline was only

54 percent as great as the drop in the 10 market spot price from mid-May to miduJune. The farm price was only 30 points below the 10 market price for June l5, this was the closest the two prices have been to each other since October 15 when the farm price was slightiy higher than the lomarket price. The June decline in the ferm price was the first since last November. The Arizona farm price of American Egyptian cotton also dropped for the first time since Novemoer, declining from 40.3 cents to 39.7 cents from midmay to midmune.

## Premium of Inl/gminch Ootton in <br> Mill Areas Recovers Recent Ioss

The premium on I-I/8minch Midding White and Extra White cotton at Memphis has been 450 points over the nearaactivs month futures at Now York since the latter part of March. The corresponding premium in the Group B mill area of the Carolinas was 175 points higher than at Memphis until mid-April when the margin widened to 200 points. After holding at this level for 2 months, it dropped back to 175 points in miduJune. On July 24 it again advancea to 200 points. The premium in the New England mill area has been 25 points above the Cmolina mill area.

## DEMAND AND CONSUMPTION

## Total Consumption Incroases in June: <br> Daily date Decines

During June consumption of cotton was $966,900 b a l e s_{\circ}$ This was about 10,000 bales more then in May, but 32,000 below the record consumption in April. For the 11 months Augustmune, consumption totaled 10,169,000 bales, an increasc of 1,4 million bales, or 16 percont over the previous record established last ycar for the 11 months.

Because of the larger number of working days in June the daily consumption rate declined from 45,572 bales in May to 43,952 bales in June. Practically all of this was consumed in mills since the Government mattress programs accounted for only 300 bales during the month, or 14 bales per day, which cormares with 81 bales per day in May and 2,286 beles in June 1941. Thus, daily consurption for all kinds of cotton during une was 105 percent of a year earlicr, compared with 111 percent for daily mill consuription (total consumption less cotton consurica in Government nattress prograns).

## 11 Months Consurntion of Arerican-Egyptian Highest Since 1922-23

The consumption of Anerican-mgytian cotton is running at the highest level for many years. For the first 11 months of 1941m42, monthly consurnption of Anerican-Egyptian cotton ranged from 2,430.bales to 4,951 bales per month, and totaled 41,880 bales. This is an increase of 76 percent over the corresponding period last year, and the largest consumption for the period since 1922-23. Druring the past 2 months consumption of Anerican-Egyptian cotton overaged alnost 4,300 bales per month compared with an average of alnost 4,600 boles during the preceding 4 nonths.

## Mill Stocks Large; Public Storage and

Compress Stocks Smaller than a Year Ago
Because of the higher level of domestic consumption this season, more than the normal volume of cotton is being carried in consuming establishments for this time of the year. On June 30, mills had 2,441,000 bales on hand a gain of 27 percent over. 1941, and the highest June stocks on record. Meanwhile, June consumption was only 10 percent larger than a year earlier and total consumption for the first 11 months of the season was 16 percent larger. In terms of the June rate of consumption, stocks in mills on June 30 constituted 2.5 months supply, the highest stocks-consumption ratio for the time of the year since 1938, when June consumption was less than half of the level this year.

The quantity of cotton in public storage and in compresses has declined considerably, totalling 8,459,000 bales on June 30 compared with 10,575,000 a year earlier, a drop of 20 percent.

## Record Domestic Consumption More than Offsets <br> Unfavorable Foreign Situation for American Cotton

Domestic consumption of American cotton will total about 11 million bales this season. This will be about 1.4 million more than last season and about 3.2 million more than any season before last.

An estimated decline in the foreign consumption of American cotton partially offsets this increase in domestic consumption. Most of the countries to which the United States normally supplies large quantities are no longer accessible to American cotton. In some countries still able to import raw cotton, export outlets for cotton textiles are so limited, or domestic needs for other lines of production are so large, that it was necessary to shrink the cotton textile industry. This took various forms such as rationing both of raw cotton to mills and of textiles to consumers and exercising strict control over imports to make the most advantageous use of limited shipping facilities and foreign exchange. Another factor which contributed to the law level of domestic exports was increased price competition from other growers of cotton.

It is tentatively estimated by the New York Cotton Exchange Service that about 1-1/4 miliion bales of American cotton have been consumed in foreign countries in 1941-42 despite the low carry-over of American cotton in foreign countries at the beginning of the season and the unfavorable export situation. This compares with about 2.3 million bales consumed in 1940-41 and a 1935-39 average more than four times as large as this year. Thus, world consumption of American cotton in 1941 - 42 is tentatively estimated at about 12-1/4 million bales, which will reduce the world carry-over on August 1, 1942 to about 11 million bales. At the beginning of 1941-42 the world carrymover of American cotton totaled about 12.8 million bales.

## World Consumption of Foreign Cotton Declines; <br> Carry-over Increases

Many of the same factors responsible for the decline in foreign consumption of American cotton have also contributed to the decline in foreign consumption of foreign cotton from about 14-1/2 million bales last season to about 13-1/4 million this year. This decline much more than offsets the decrease in foreign production from $16,378,000$ bales in 1940.41 to $15,468,000$ bales in $1941-42$ and the increase in the consumption of foreign cotton in this country (from 146,000 bales last year to about 200,000 bales this season, the largest since 1929). World carry-over of foreign cotton on August 1,1942 is estimated at about 11.3 million bales, or nearly 2 million bales larger than August 1, 1941.

## ACREAGE AND PRODUCTION

## 1942 Acreage Up 3.8 Percent Over 1941

Most States shared in the increase in cotton acreage this year, which for the entire country totaled 873,000 acres, or 3.8 percent above 1941. In general, the largest percentage gains occurred in those States where cotton is usually grown only in restricted areas. This is an indication that the higher prices this season promise to make profitable the production of cotton in areas where cotton was unable to compete as successfuliy at lower prices.

The greatest percentage increase in acreage was in Virginia where the gain was 22 percent. However, the actual increase was small, from 36,000 acres last year to 44,000 in 1942. Largely as a result of the sharp expansion in American- Fgyptian cotton, the acreage of cotton in Arizona and in New Mexico increased 13 percent. A large actual gain occurred in Oklahoma where cotton acreage increased from 1,173,000 acres to $1,904,000$ acres, a gain of 173,000 acres or 10 percent. This acreage gain was exceeded only in lexas where the increase was from 8,119,000 to $8,525,000$, a gain of 406,000 acres or 5 percent. Florida and Georgia were the only two States in which acreage declined. These deciines, amounting to 8 and 2 percent of their respective 1941 acreages, were attribw uted by the Crop Reporting Board to the shift from cotton to peanuts. A decline in the acreage of Sea Island cotton was also a factor.

Grop conditions have been generally favorable so far this year for the Cotton Belt as a whole. Although there have been numerous reports of boll-weevil, present indications are that boll-weevil damage to date is less than a year ago when it was the most serious since 1927.

The first official production report for 1942 will not be made until August 8 , but the acreage report offers some basis for preliminary analysis. If the acreage on July 1 is reduced by the $1937 \sim 41$ weighted percentage abondonment from all causes, the area to be harvested would be slightly below 23,300,000 acres compared with a harvesting acreage of 22,238,000 in 1941 and 23,861,000 in 1940. Assuming this harvested acreage of 23,300,000 acres and the 1941 average yield of 231.9 pounds per acre (the smallest during
the past 5 fears), the indicated crop would be about 11.3 million bales ( 500 pounds gross weight). If the yield were 245.6 pounds. (the 1937-41 average), the indicated crop would be slightly under l? million bales. The 1937-4I period includes the two highest yields on record - 269.9 pounds in 1937 and 252.5 pounds in 1940 . Fiven with a crop of almost 12 million bales, however, production would still be below expected disappearance in 1943. Thus, for the second successive year it appears likely that we can anticipate a decline in carry-over.

There is considerable interest at the present time in the portion of the new crop in the longer staple lengths. One reason for this is the fact that domestic mills for many years have used a better-than-average quality of domestic cotton, the remainder moving out through export channels. The sharp curtailment of our exports reduced the demand for the poorer quality cotton and made it highly desirable that there be a shift in production from kinds of cotton formerly exported to those most in demand for domestic consumption.

More recently, the initiation of our National Defense Program and its developinent into the full wartime production program of today introduced two new but related elements into the textile situation: the high specifications which military goods must meet, and the heavy demands on the cotton textile industry for a large output. Both add greatly to the current demand for longer staple and higher grade cotton.

Department Encourages Production
of Longer Staple Cotton
Recognizing these new elements in the demand for kigh quality cotton, the Department of Agriculture adopted several means to augment the supply this season. Direct appeals were made to farmers urging them to shift where practicable to longer staple varieties, particularly those of staple lengths l-l/8 inches and longer. Field agencies of the Department were instructed to offer all possible assistance in advising farmers as to suitable varieties and sources of seed.

As a means of helping farmers to anticipate the relative income from cotton of various grades and staple lengths, the Commodity Credit Corporation in early February announced the grade and staple premiums and discounts which are to be allowed under the 1942 Government Ioan Progran. At the same time the Commodity Credit Corporation announced rates at which it would purchase American-Egyptian and Sea Island cotton.

Iong Staple Upland Cotton Acreage Believed Increased By full Extent of Available Seed Supply

Except in Arizona and New Mexico where there was a marked expansion in American-Egyptian acreage, most of the increase in cotton acreage this year occurred in outlying States of the Cotton Belt which produced mostly short and medium staple cotton. Present indications are that much of this increase is offset by a shift in the longer staple areas from short and medium length cotton to longer lengths. This shift was so pronounced that, except for occasional quantities of seed held in reserve for possible roplanting, the entire supply of available longer staple seed was utilized. Consequently a marked increase is expected in the production of long staple cotton this season.

## American- $\operatorname{syptian}$ Acreage up 51 Percent; <br> Full Sced Supply Utilized

The other extramstaple cotton producod in this country is AmericanEgyptian. Arizona is the principal producer of Americanmegyptian cotton, but in recent years production has extended into Mexas New Mexico, and California. From 1940 to 1941 the acreage and production of Americanmegytian cotton approximately doubled and reached a level second only to the record established in 1920. Producers of American-Egrptian cotton were asked this spring to expand production up to the limit of the seed supply, and present indications are that the response was complete. As a result, the July 1 acreage was 207:500 acres, a 51 percent increase over 1941, and a 202 percent increase over 1940.

American cotion producers thus appear to have cooperated well with the Government's effort to obtain increased production of long staple cotton this season. A more adequate seed supply retained this fall should permit an even greater shlft to longer lengths in 1943.

Sea Island, the longest staple cotton grown in this country, requires a. long growing season and it is especially susceptible to boll-weevil damage. Last season oollwevvil camage for the Cotton Belt as a whole was the heaviest since 1927 and the axerage yield of Sea Island cotton was only 41 pounds. Because of fear that the yield might be low again this year and because of the incressed profitablity of other crops, the acreage of Sea Island cotton declined fron 38,900 last season to 9,500 this year.

## Important to Protect Grace of 1042 Production; <br> Prive Incentive Prescnt

With the picking season just getting under way, farmers are confronted with a problem of completing the quality improvement job they have so well begun. IVo further steps can be taken by farmers to increase the staple length of this crop, but they can exert consideraile influence over the grade of the cotton they produce. Demand. for lowigrade cotton is much weaker than a year ago, just as is the demand for the shorter staple lengths. This lessening in demand for both short and low-grade cotton is refiected in grade and steple plemiums and discounts which have widened materially compared with last year. On July 24,1941 a 500 pound bale of 1-inch Iow licicalir, cotton at Memphis vould have sold at a discount of $\$ 8.25$ per bale from Midding l-inet cotivin Fo $1-1 /=6$ minch cotton the dirference between the two grades was $\$ 9.25$ and for ImI/8rinch cotton $\$ 12.75$ per bale. The sitwition is quite changed this year, for on July 24,1942 the differences vere 418.25 for l-incir cotron, $\$ 24.50$ for $1-1 / 16$-inch, and $\$ 34.00$ for 1-1/8minch cotton. Other comperisons are show in tables 1 and 2.

The changes in the grade and staple premiums and discounts reflect basic changes in the supply and demand conditions for cotton of the various grades and ataple lengths. Alert farmers will pick and prepare their cotton for market in such a maner as will insure its grading as high as practicable. In addition to increasing their income, they also will make a greater contribution to war production by turning out a rore useful bale of cotton.

Table I.- Cotton, White and Extra White: Price per 500 pound bale of Strict Middling, Middlings, Strict Low Middling, Low Middling and Strict Good Ordinary; and changes, by staple lengths, Memphis, July 24, 1941, and July 24, 1942


Compiled fram records of the Agricultural marketing Administration.

Table 2.- Cotton, White and Kxtra White: Premium per 500-pound bale of Strict Middling over Midding, and Middling over Strict Low Middling, Low Middling and Strict Good Ordinary; and changes;
by staple lengths, Memphis, July 24, 1941 and July 24, 1942


Compiled from records of the Agricultural Marketing Administration.

| Item | Unit or base period | $: \frac{1241}{\text { June }}$ | $\mathrm{A} 3 \mathrm{r} .$ | $\frac{1942}{\text { May }}$ | : June | Pct.of year ago 1/ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Prices: |  |  |  |  |  |  |
| Midding 15/16-inch, 10 ma | Cent | : 13.79 | 20.23 | 20.01 | 1.8 .94 | 137 |
| Farm, United States | Cent | : 12.81 | 19.03 | 19.17 | 18.26 | 142 |
| arity | Cent | 16.37 | 18.72 | 18.85 | 18.85 | 115 |
| Farm, percentage of parity | Percent |  | 102 | 102 | 97 | 124 |
| Premium of 1-1/8-inch over basis_2/: |  |  |  |  |  |  |
| Memphis | oint | 13 | 450 | 450 | 450 | 328 |
| Carolina "B" mill | Point | 296 | 638 | 650 | 638 | 216 |
| New England mill | Point | 321 | 662 | 675 | 662 | 206 |
| American-Egyptian, farm | Cent | 30.0 | 39.7 | 40.3 | 39.7 | 132 |
| SXP, New England mill points 3/ | Cent | : 35.25 | 43.68 | 44.35 | 44.41 | 126 |
| Cloth, 17 constructions | Cent. | : 35.74 | 40.50 | 40.82 | 41.02 | 115 |
| Mill margin (17 constructions) | Cent | : 21.84 | 20.29 | 20.88 | 22.15 | 101 |
| Cottonseed, farm price | Dollar | : 29.58 | 43.90 | 43.99 | 43.87 | 148 |
| Cottonseed, parity | Dollar | : 29.77 | 34.05 | 34.28 | 34.28 | 115 |
| Cottonseed, farm, pc | Fercent | : 99 | 129 | 128 | 128 | 129 |
| Onsumption: |  |  |  |  |  |  |
| Total, during month |  |  |  |  |  |  |
| Total, cumulative | , 000 bal | :'8,792 | 8,245 | 9,203 | 10,169 | 116 |
| Mattress programs, total ..........il,000 bales: 48.0 4.9 1.7 0.3 |  |  |  |  |  |  |
| Mattress prozrams, cumulative .....il, 000 bales:371.0 $66.7 \quad 68.4 \quad 68.7$ |  |  |  |  |  |  |
| Mills, total 5/ ....................11,000 bales:827.8 993 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Per day, total .....................: Bale : 41,705 46,089 45,572 43,952 105 |  |  |  |  |  |  |
| Per day, in mills 5/ | Eale | : 39,420 | 45.363 | 45,491 | 43,938 | 111 |
| American-Egypitian cotton, total | Bale | : 2,441 | 4.533 | 4,209 | 4,383 | 180 |
| pindle activity: $\quad$ : $2,0.0$ : |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Spindles in place | Thousand | :24,33 | 24,073 | 24,06 | 24,020 | 99 |
| Active spindle | Thousand | :22,995 | 23,100 | 23,121 | 23,091 | 100 |
| Fercentage active | Percent | : 94.5 | 96.0 | 96.1 | 96.1 | 102 |
| Hours operated, to | Million | : 9,938 | 11,453 | 11,193 | 11,264 | 113 |
| Hours per spindle | Hour | : 432 | 496 | 484 | 488 | 113 |
| Hours per day 6/ .................. | Hour | : 14.4 | 16.5 | 15.6 | 16.3 | 113 |
| tocks, end of month: : |  |  |  |  |  |  |
| Consuming establishments ..........il,000 bales: 1.920 2,632 2,589 2,441 127 |  |  |  |  |  |  |
| Public storage and compresses .....:1,000 bales:10,575 10,397 9,403 $8,4,59 \quad 80$ Total I/ ....................................000 bales:12,495 13,029 11,992 10,900 87 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  | 79 |
| Ameri can-Esyptian cotton, total I/:ndex numbers: |  |  |  |  |  |  |
| Cotton consumption ..................:1735-39=100: 160 l 177175169106 |  |  |  |  |  |  |
| Spindle activity 8/ ................... Percent :121.5 $135.3138 .4133 .2 \quad 110$ |  |  |  |  |  |  |
| Prices paid, interest and taxes ...: | $1910-74=100$ | : 132 | 151 | 152 | 152 | 115 |
| Industrial production .............1935.-9=100: 159 l73 174177111 |  |  |  |  |  |  |
| Wholosale prices ................ | 1910- $4=100$ | : 127 | 1.4 | 144 | 144 | 113 |

 ble. $2 /$ Premiuns for Miading $1-1 / 8$-inch based on near active month futures at New Ork. $3 /$ SXP, No. 2, l-1/2-inch, New England, mill points. $4 /$ Less than 0.05 percent. Total consumption less cotton consumed in Government mattress programs. 6/ Total ours per spindle in operation divided by number of days in calendar month. I/ Inludes only stocks in mills and public storage and at compresses. 8/ Based on 5-day, hour per week operation

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Total, during month .................l, 000 bales: $875.8998 .8957 .0 \quad 966.9110$

Mills, cunulative ........................,000 bales: 8,421 \%i 779 9,134 10,101 112
Per day, total ........................ Bale :41,705 46,089 45,572 43,952 105
American-Egypitian cotton, total...: Bale :2,441 4,533 4,209 4,383 180
American-Egyptian, cumulative .....: Bale :23,850 33,258 37,49741,880 176

Active spindles.............................. Thousand
Fercentage active ....................... : Percent
Hours operated, total .............. Million
Hours per spindle in operation ....: Hour
tocks, end of month:

Total I/ . ..................................000 bales:12,495 13,029 11,992 10,900 87
Egyptian cotton, tatal I/ ............ Bale $: 47,58448,03242,918$ 37,654 79
ndex numbers
Cotton consumption ..................:1935-39=100: $160 \quad 177175169106$
Spindle activity 8/ ................... Percent $: 121.5135 .3138 .4133 .2 \quad 110$
Industrial production ................1935..-9=100: 159 173 174177111


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[^0]:    : Readers of The Cotton Situation and othors : intcrosted in cotton may obtain copios of : "Statistics on Cotion and Related Data," : a 120 mpage processod report reloased in
    : December 1939, "oy addressing a request to
    : the Division of Economic Information, Bureau : : of Agricultural Economics, Washington, D. O. : : This report contains many of the longutime - series of basic data for which current data : are earried in The Cotton Situation.:

