## Cotton

BUREAU OF AGRICULTURAL ECONOMICS
UNITED STATES DEPARTMENT OF AGRICULTURE

RETURNS PER ACRE OF COTTON. PRICES PAID INCLUDING INTEREST AND TAXES, AND PURCHASING POWER OF RETURNS PER ACRE, index numbers, united states, 1910-40

U. S. DEPARTMENT OF AGRICULTURE

NEG 39287 BUREAU OFAGRICULTURAL ECONOMICS

Returns from lint and cottonseed per acre of cotton harvested aVERAGED abOVE PREWAR IN 4 OF THE PAST 7 aND 10 OF THE PAST 17 YEARS. Since 1923 the purchasing power of returns per acre, excluding Government payments, has been below prewar, even though cotton ylelds have I NCREASED MATERIALLY.

The inglusion of Government payments raises the average purchasING 'POWER INDEX NUMBERS FOR THE 8 YEARS $1933-40$ FROM 78 PERCENT OF Prewar to 96 percent. In each of the past 3 years the returns per acre, including Government payments, have been above prewar. Farmers ARE INTERESTED IN THE PURGHASING POWER OF THEIR TOTAL RETURNS AS WELL AS OF THE RETURNS PER ACRE. THE MARKED REDUCTI ON IN COTTON ACREAGE SINCE 1933, THEREFORE, MAKES COTTON FARMERS MORE DEPENDENT THAN FORMERLY ON THE PROFITABLE UTILIZATION OF LAND THAT IS NOT IN COTTON IF THE TOT ${ }^{\text {tit }}$ PURCHASING POWER OF RETURNS FROM THEIF FARMING OPERATIONS IS TO BE ON A PAR WITH PREWAR.

## Summary

It appears likely that the domestic carrymover of American cotton at the end of the current season will total about 12.3 million bales. This compares with 10.6 at the beginning of the season and with 13.0 million on August 1, 1939. Total domestic supply of American cotton this season was about 23 million bales and domestic disappearance is expected to be about 10.7 million (about 9.6 consumption and 1.1 exports).

On June 23 prices of Middling 15/16-inch cotton averaged 14.57 cents in the 10 spot cotton markets - the highest level since April 1937. This was a further adjustment to the higher Government loan rates on the 1941 crop. If the farm price, which averaged 11.68 cents on May 15, has increased by the same amount as the 10-market price of Midding 15/16 the farm price on June 25 would be equivalent to about 83 percent of the May parity farm price. During the past month Brazilian cotton at Sao Paulo and Indian cotton at Bombay have made gains of one-fifth cent and nine-tenth cent, respectivoly.

United States exports of cotton totaled 72,000 bales during May, making a total of 976,000 bales for the first 10 months of the season. The destination of American raw cotton exports are no longer being officially released. As a result of the increasing price disparity between American and foreign growths there is little reason to expect any substantial improvement in the export situation for American cotton in the months immediately ahead.

Domestic cotton consumption totaled 919,000 bales during May. This makes a total of $7,914,000$ bales for the first 10 months of the season, an increase of one-fifth over last season. Textile sales have exceeded current
production in recent weoks and the volume of unfilled orders is sufficiert to permit a continuation of the present high level of mill activity well into next season. Manufacturers' gross margins rnse to 20.85 cents in Moy, compared with 19.81 in April and 11.37 in May 1940. Cotton consumption continues at a record level in Canada but in most other forcign countries it is quite restricted and there is littJe likelihood of any marked improvement in the coming months.

The combined world production of rayon filanent yarn and rafor staple fiber established a new high of 2,381 million pounds in 1940. This exceeds the 1939 production by 7 percent and is nore than double the 1935 production. Of this amount rayon filament farn made up 1,144 million pounds or 48 percent. This was slightly below the 1939 production but the decrease was more than offset by the expansion in rayon staple fiber production. The United States was the loading producer of rayon filament yarn, accounting for 34 percent of the totell supply. Germeny with 22 percent and Japan with 20 percent ranked next in order of production. In the production of staple fiber Germany accounted for 47 percent, Japan 24 percent, Italy 18 percent and the United States 7 percent. The American production of rayon filament yarm has more then doubled since 1932 while the rayon staple fiber production in 1940 was about $2-3 / 4$ times as large as the production in 1938.
-- June 27, 1941

PRICES
Middling 15/16-inch cotton in the
10 markets rises above 14 cents
in late June for first time in 4 years

Domestic cotton prices continucd their upward course during the past month. Near the end of this period the 10 market price of Middling 1516 inch pushed above the 14 cents level for the first time in over 4 years. After reaching a high of 14.57 cents on June 23 the average 10 -narket
price declined slightly anc on June 25 was 14.31 cents compared with 13 cents a month earlier, and about 11 cents 2 months ago. Futures prices at New York increased slightly more than the l0-market average. This spectacular rise in cotton prices has been largely an adjustment to the higher loan rates on the 1941 crop.

The farm price of cotton increased from 10.45 cente on April 15 to 11.68 cents a month later. The May 15 figure was 91 points below Midding 15/16-inch cotton in the 10 markets, which averaged 12.59 on that date. If the farm price of cotton has risen by an amount equivalent to the rise in the 10-market price since May 15, the farm price on June 25 would be approximately 83 percent of the May parity farm price of 16.12 conts. Of course a number of factors would cause conditions to be somewhat djfferent: In the middle of May tho difference between the farm price and the 10 -market price was considerably wider thon is usual. Conscouently, had there been a narrowing of this price difference to more normal proportions, the farm price would represent a higher percentage of parity. Similarly, eaci l-point change in the index of the prices paid, including interest and taxes, changes the parity price of cotton by nearly one-eighth cent and thereby alters the percentage that a given farm price is of parity.

One of the likely effects of higher nomestic cotton prices js the increasing of tine price disparity betreen American and foreign growths in accessible world markès. This will perhaps tend to cause some further shifting from American to foreign growths. This shift, hovsver, is likely to be less than would have occurred in more normal times, due largely to the generally low level of cotton consumption in foreign countries as a result of the war. The war has cut off many countries from their sources of raw cotton: Other countries have been partiolly cut off from their export outlets for textiles. The war has also increased the demands on shipping space, labor and power resources and foreign exchange to such ar extent that cotton consumption has been curtailed in some countries. Thus, even if there had been no price disparity between American and foreign growths, our exports and the consumption of American cotton would have perhaps been materially restricted. Despite this, however, the price disparity has been an important reason why the foreign consumption of American cotton has declined more than the consumption of foreign cotton.

Advances also have occurred in the prices of Indian and Brazilian cotton during recent weeks, table 1. While neither made as grect gains as American cotton, Indian cotton at Bombay advanced from 6.70 conts on May 23 to 7.61 on June 20 while Brazilian at Sao Paulo advanced from 6.52 cents to 6.73 cents during the same period.

HXPORIS
Destination of American exports of row cotton no longex released

One development of the past month was the Government's decision to suspend the issuance of monthly statements giving the destination of American cotton exports. Total exports during the month will continue to be released as formerly.

During the 10 months ended May 31 domestic exports totaled 975,000 bales compared with 5.9 million bales during the some period last season, a reduction of 84 percent, table 2. Of this amount 72,000 bales were exported during May. China and Japan have been taking American cotton at a more rapid rate in recent months than earlier this season, yet through April exports to those two countries are only 17 and 9 percent respectively; of their last season's level. Most other countries have also reduced their takings of American cotton. In view of increasing shipping difficulties and increased price disparities between American and foreign growths resulting. largely from rising domestic prices, there is little likelihood of much improvement in the export situation for American cotton in the coming months.

Brazilian exports more than one-third
ahead of last scason at end of May
Brazilian exports of cotton totaled over a million bales during the first 10 months of this season, to exceed by more than one-third the figure for the corresponding period last season. Canada has been the largest customer of Brazilian cotton this scason accounting for about 320,000 bales. Canada is followed in importance by Jrpan with 295,000; China 170,000, and the United Kingdom rith 108,000 beles.

The Anglo-Egyptian Suden whose exports through April were 189,000 bales compared with 109,000 bales last season is another country whose exports show a net increase over a year ago. Most of the other more important exporting countries have had their exports curtailed. Bgypt whose export through May of last season totaled 1,577,000 bales has suffered a 65-percent decline this season, having exported only 556,000 bales.

## DEIIAND AND CONSUMPTION

Domestic cotton consumption continues

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at a record levcl
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Contrary to the usual seasonal pettern, domestic cotton consumption continued at a record high level in May, and consurption totaled 919,000 bales, including 48,000 bales distributed through the Surplus Marketing Administration's Cotton Mattress programs, table 3. Total consumption in May was about 1,000 bales short of the April record, but the reduction was entirely in foreign cotton. A new record high was established in May for the domestic consumption of American cotton. During the first 10 months this season consumption totaled $7,914,000 \mathrm{bales}$, an increase of 1.3 million bales, or 20 percent over the level during the corresponding period last season. If cotton consumption contimues at the unadjusted daily rate which prevailed in May, the total for the season will be about $9-3 / 4$ rillion bales. Of this anount about 9.6 million bales will be American cotton. This will materially exceed the record of a total consumption of just under 8 million bales established in 1936-37.

Since the decline in consumption from April to May was less than could be seasonally expected, the seasonally adjusted index of cotton consurption rose to 164 percent of the $1935-39$ average, a gain of 8 points over the April
record, table 4. An advance adso pccurred in the index of spindle activity, Based on an activity of 80 hours per week, the cotton spindles in the United States were operated at an index levol of 121.8 during May compared with 119.6 for April and 89.4 in May 1940. "This is the fifth successive month that the index has advanced, The average number of active spindle hours per spindle in place, for May was 422 compared with 421 in April and 324 in May 1940.

The placing of a ceiling (by the Office of Price Administration and Civilian Supply) over the prices of combed cotton yarns was a temporary unsettling influence on the cloth maricet during the last part of May, but sales of unfinished textiles increasod in recent weeks have again risen above current production. Indeed, trade sources report that in recent weoks the biggest retarding factor on the volume of textile saies was perhops the unvillingnoss of mills to accept new orders. This is not considered a serious developmont, however, because of the scarcity of goods available for early dolivery and the large backlog of unfilled orders which is sufficiont to permit a continuing record level of consumption well into noxt season.

Wholesale cloth prices continued to advance in May and early June. The average tholesolo prico of 17 constructions of unfirished textiles was 33.42 cents in May compored with 31.05 cents in April and 21.58 in May 1940. At the same time, manufacturers' gross margins (the difference between the price of a pound of cotton and its approximate cloth equivalent) rose to 20.85 conts compared with 19.81 conts in April and 12.57 cents in May 1940.

The proportion of the total domestic production of textiles which is exported has never been large, table 5. Scvaral aspects of the toxtile situation now indicate that it may bocome nore difficult to export toxtiles. Since textile prices have advanced shamply in recent months, it may become more difficult then ${ }^{\text {in merly }}$ for Amoricon toxtilos to compete in foreign markets with textiles manufectured elsowhere.

Another foctor which mave rosult in $a$ docline in exports of textiles arises out of the excoptionally hoavy domestic demand and the piling up of a backlog of unfilled orders sufficient to maintain the present high rate of domestic mill activity voll into next season. The scarcity of goods available for early delivery means that most orders which are now being placed for cotton goods are for delivery several months hence. This may result in foreim buyers being forced to turn to other sourcos of supply due to their inability of obtaining delivery when needed. The pressure on linited shipping facilities, and the nood of many countries to conserve foreign exchenge, which have been mentioned as factors retarding the exports of raw cotton, aro also factors which may tend to retard the exports of cotton textiles. On the other hand, if the demands on the labor and power rescurces is excossive, some countries may substitute inpcrts for domestic production and thereby free productive resources for other uses.

Canadian consumption of cotton continues
at record level; price disparity favors
use of Brazilian cotton
Canadian consumption of rav cotton is estinated to have established new highs in both March and April. Based on roports of the Cotion Institute
of Canada, and an adjustment for nonreporting mills, the April consumption is estimated to have exceeded 46,400 bales ( 500 pounds gross weight), compared with 45,500 in March and 44,000 in April 1940. Formerly the United States supplied more than 90 percent of the raw cotion that was consumed in Canada. As late'as last season the United States supplied more than 92 percent of Canada's needs compared with 1 percent supplied by Brazil. This season, however, Canadian rills have shiftnd to Brazilian cotton, largely as a result of its underselling Anerican cotton in Canadian marzets by from 1-1/2 to 4 cents per pound. During each of the 4 months, January to April - the first time in history - the concumption of Brazilian cotton ezceeded the consumption of Americar. For the first 9 months of the secson, consumption of Brazilian cotton constituted 45 percent of the total Canadian consumption, compared with 49 porcent of Amorican.

Despite the fact that many mills are working both night and day shifts, the backlog of orders was larger than normal in the middle of May, when it was reported to be sufficient for 6 to 8 weeks, with some lines booked to capacity for 3 or 4 months. Canadian mills are reportedly making every effort to avoid the mistakes of the last World War, ithen acceptance of forward orders 6 or 8 months ahead:caused excessive price advances, and with cancellation of orders immediately after the War, brought about a rapid slump within a very short time.

In spite of the fact that mills are operating at record levels, the opinion prevails in Canadian trade circles that the goods available for early delivery will becone more scarce as time passes. Users are, therefore, attempting to secure supplies in excess of their current needs, but the mills are opposing the tendency toward large forwerd cormitments. While Canadian textile prices have advanced oniy 10 to 20 percent compared with pre-wor, Canadian users have been endeavoring to obtain supplies of cotton yarns from the United States to neet their increased demand, even though the prices of American yarms are relatively higher. Due to the tine which must elapse before Canadian mills can get delivery, 6 months haring been mentioned in some instances, the consideration of increased irports from the United States has in many inctances been abandoned. Neither is it thought by the Canadian trade that British mills will be in position to satisfy the Ganadian yarn demand. At the present rate of Canadion imports of textiles, together with British refusal to accept certain orders, and difficulties experienced in making delivery, it is felt in the Canadian trade that the British mills will practically cease to be a factor in the Cunadian cotton trade by next fall.

Not orly is the demand for cotton textiles at a record level in Canada, there is also on extraordinary demand for all types of rayon fabrics. In spite of increased production, ravon rills are finding difficulty in keoping abreast with the weavers' requirements. It is reported that at the present rate of operation the production of rayon fabrics will increase by about 30 percent in 1941.

British exports take precedence ovor
domestic civilian denand; relatively
strong denand for sinthetic fibers
Although there is to be a greatly reduced output of cotton gocds in the United Kingdom, it is emphasized by the Cotton Board that efforts are
to be made to maintain a good volume of export trade and that although essential war supplies will be given precedence the balance of production will be devoted almost entirely to export orders. It is obvious that such output will not be sufficient to supply all foreign markets. Consequently, the Cotion Board's policy will be to supply adequately those markets from which currency is needed for war equipment, and to restrict shipments to other markets including parts of the Fipire. Details of the Board's plans are not yet available, but it is reportedly understood that exports of cotton goods will be directed by means of quotas for different markets and that export licenses will be issued to shippers. It is expected that quotas for British countries, the Netherlands East Indies and the territories of their other allies will be severely restricted while there will be no limit placed on exports to the United States, Argentina, and other countries which are dollar-producing markets.

During recent months there has been an increased demand for staple fiber in the United Kingdom. In view of the high price and rationed supply of wool, Yorkshire manufacturers are now finding it desirable to use staple fiber for spinning on worsted machinery. The demand can only be partially satisfied, however, since export business must take precodence and overseas trade in staple fiber has been seasonally heavy. Staple fiber is now being usad in the production of the lighter fabrics required by the Government. Its use is expected to increase in view of the shortage of cotton.

Due to a definite shortage of clothing materials in unoccupied China, the Chungking Government has recently amnounced that shipments of cotton yarn and cloth from Chinese mills in the Shanghai area will be given special transportation facilities into the interior as well as other encouragement. The total consumption of cotton in China, including Manchuria, remained unchanged at 122,000 bales during May. The export demand for Jxpanese cotton piece goods fell off during May from the April level. However, therc was a fairly active demand for raw cotton. Imports into Jopan were estimated to have totaled about 110,000 beles during May, an increase of about 10,000 bales over the previous month.

ACREAGE, PRODUCTION, SUPPIIES, AND STOCKS
Repossession of loan cotton
continues at rapid rate
One of the responses to higher cotton prices in recent weeks has been the large volume of repossessions of Govermment held loon cotton. Loons outstanding on June 21 are roported by the Gomodity Credit Corporation to total approximately 1.5 million bajes. This includes about $1,076,000$ bales in the 1938 loan, about 10,000 bales of 1939 loan cotton and about 447,000 bales in the 1940 Government loan. An allowance is made in the above data for collections which on June 21 had not jet been allocated. Due to the delay in reporting repossessions to the Commodity Credit Corporation the actual volune of loan cotton on which loans were still unpaid may have been somewhat less than indicated.

Brazil increases Government loan rate
from 5.83 cents per pound to 7.29 cents
According to a recent announcement the Prazilian Goverment's loan level on the current crop has recently been increased. Unuer the new schedule the loan rate on Sao Paulo Type 5 cotton, having a staple length of about 1-3/32 inches is 7.29 cents per pound compared with the fomer rate of 5.83 cents.

This action by the Brazilian Government followed the enactment of legislation in the United States providing for loans of 85 percent of parity on the 1941 crop and insistance by Brazilian producers that something he done to prevent cotton in Brazil being aliowed to sell for only aprozimetely onehalf what similar grades of Americen cotton were bringirg at INew York.

World rayon yarn and staple fiber production
establishes new high in 1940
$\therefore$ The combined world production of raycn filement yarn and rayon staple fiber established a new high of $2,380,710,000$ pounds in 1940 , table 7. This exceeds the 1939 production by 7 percent and is more than double the 1935 production. Of this amount rayon filament yarn made up $1,143,950,000$ pounds or 48 percent. This was slightly below the 1939 production but the decrease was more than offset by the expansion in rayon staple fiber production. The United States was the leading producer of rayon filament yarn accounting for 34 percent of the total supply. Germany with 22 percent and Japan with 20 percent, ranked next in order of production. In the production of staple fiber Germany accounted for 47 percent, Japan 24 percent, Italy 18 percent and the United States 7 percent. The American production of rajor filanent yarn has more then doubled its 1932 production while the rayon staple fiber production in. 1940 was about $2-3 / 4$ times as large as the production in 1938.

Table 1.- Cotton: Spot price per pound and spread between pricos in spocified markots, 10 -ycar avorage $1927-28$ to $1936-37$ and $1936-37$ to date


Prices at New Orleans are from records of the Agricultural Marketing Service. Prices at Bombay are from Bombay Cotton Annual and Financial News through Mar. 1941; since then from New York Cotion Exchange reports. They were converted from rupeos per candy of 784 pounds at current rates of oxchange (buying rates in recont weoks) as reportod by tho Foderal Roserve Board.

Prices at Sao Paulo are from official publications and cables. Prices wero convortod from milrois per 15 kilograms at current ratos of exchange until Sopt. 1934, Oct. 1934 to Fcb .10 , 1935, at open or freo market rates, and from Fcb. 11 to datc at composito averages of official and. freo market ratos; excopt from Nov. 16, 1937 through Apr. 10, 1939 when froe markot rates woro used. Pricos at Alexandria are from the Monthly Bullotin of Agricultural and Economic Statistics. Pricos were convortod from tallaris por cantar at curront monthly rate of oxchange through Auce 1939; since Sept. 1939 converted at official rate of cxchange. Anerican pricos in the United Statos basod on gross woight; all pricos in foreign countries based on net woight.

Tho Ilverpool Cotton Exchange was closed on Mar. 31.
I/ Not available 2 / Prico at New Orloans on May 29 since May 30 was a holiday,

Table 2.- Cotton, all kinds: Exports from the United States and percentage change, 1935-40


Compiled from reports of the Bureau of Foreign and Domestic Commerce and the Bureau of the Census.

1/ Preliminary.
Table 3.- Cotton, all kinds: Consumption in the United States and percentage change, 1535-40


Table 4.- Cotton prices, mill margins and snecified index numbers, United States, annual 1929-39, monthly August 1940-Nay 1941 I/


1/ All annual data on an August 1 year. The annual figure is the simple average of the 12 monthly figures.
2/ Average Unjted States farm price for the 5 Yars August 1909-July j.914 of 12.4 cents times the index of prices paid by fermers, interost, and taxes (1910-14 = 1.00).

3/ Prices for 1929 through 1938 are the oremiuns of $15 / 16^{\prime \prime}$ cotton at six markets (Dallas, Galveston, Houston, Little Rock, Eemphis, and Hew O.neens) added to the price of $7 / 8^{\prime \prime}$ cotton in the same narkets. Since 1939 prices are as quoted on Widdling $15 / 6^{\prime \prime}$ cotion in the ten desionated markets.
4. I.ill margins on unfinished cloth (i7 constructions).

5 Federal Reserve Eoard, adjusted for siasonal variation.
6) Bureau of Labor Statistics $1926=100$, converted to 1910-14 $=100$. Preliminary.

Table 5.- Cotton cloth: Exports from the United States and perètagé chànge, 1935-40


1/ Preliminary:

Table 6.-Returns per acre of cotton, prices paid including intorest and tares, and purchasing power of return per acre of cotton, United States, 1910w40


Table 7.- World rayon yarn and staple fiber production, by areas, specified periods


Table 7.- World rayon yarn and staple fiber production, by areas, specified periods - Continued

| Calendar year | $\begin{aligned} & : \text { Germany :Bel- } \\ & : \quad \text { IJ :gium: } \end{aligned}$ | $\begin{aligned} & \overline{\text { Area un }} \\ & \vdots \\ & \text { e:Ausm: } \\ & \vdots{ }^{\text {tria }}: \end{aligned}$ | ar Ger | man con | trol i <br> Nether <br> lands | 1940 <br> Nor- <br> :Way | Olanc |  | $\begin{aligned} & \text { :Totel } \\ & : \quad \text { I/ } \end{aligned}$ | Inited: | Japan: 3/ | Other untrie 2) | $\begin{aligned} & \hline \text { Worla } \\ & : \text { total } \\ & : \quad 2 \int \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mil. Mil. Mil. | Mil | Mil. | Mil. | Mil. | Mil. | Til. | Nil. | Mil. | Min. | Mi1. | Mil. | Mil. |
|  | 1b. 13. 1b. | $10^{0}$ | 10. | $13^{2}$. | 1b. | 15. | 1b. | $1 \mathrm{~b}_{0}$ | 1 b . | Ib. | 2b. | ib. | ib. |
| Rayon staple fiber production |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1929 | 2.400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.4 | 0.5 | 0 | 4.3 | 7.2 |
| 1930 | 4.400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.4 | 0.4 | 0 | 1.6 | 6.2 |
| 1931 | 4.400 .5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.9 | 0.7 | 0 | 2.2 | 8.0 |
| 1932 | $3.0{ }^{-} 01.6$ | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 5.0 | 1.1 | 0.6 | 10.5 | 17.3 |
| 1933 | 8.802 .2 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 11.4 | 2.1 | 1.0 | 13.4 | 27.9 |
| 1934 | 15.8004 .4 | 0 | 0 | 0 | 0 | 0 | 0.7 | 0 | 20.9 | 2.2 | 4.7 | 24.0 | 51.8 |
| 1935 | 37.905 .0 | 0 | 0 | 0 | 0.5 | 0 | 0.7 | 0 | 44.1 | 4.6 | 13.6 | 77.2 | 139.6 |
| 1936 | 94.806 .6 | 0 | 0 | 0 | 1.1 | 0 | 1.2 | 0 | 103.7 | 12.3 | 45.8 | 136.7 | 298.6 |
| 1937 | 219.20 .711 .3 | 0 | 0.7 | 0 | 0.2 | 0.2 | 2.3 | 0 | 234.5 | 20.2 | 174.2 | 190.2 | 519.2 |
| 1938 | : 6/330.0 1.610.8 | 61 | 0.7 | 0 | $5!$ | 0.1 | 8.8 | 0 | 351.9 | 29.9 | 375.0 | 200.9 | 957.6 |
| 1939 | $: 6 \sqrt{7} / 440.0 \quad 2.515 .5$ | 61 | 61 | 0 |  | 0 | 7/9.0 | 5/ | 467.0 | 51.3 | 309.5 | 254.2 | 1,082.0 |
| 1940 | $: \underline{6} / 575.0$ 6/ 6/ | 6) | 6/ | 61 | 61 | 61 | $6 /$ | 31 | 575.0 | 81.1 | 300.0 | 280.0 | 1,236.6 |
| Total production of rayon yarm and rayon staple fiber $2 /$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1929 | 60.813 .441 .8 | 3.1 | 4.5 | 0.7 | 17.6 | 0 | 5.8 | 0 | 147.7 | 121.9 | 26.0 | 245.8 | 441.4 |
| 1930 | $: \quad 63.412 .750 .6$ | 1.7 | 5.1 | 0.8 | 17.6 | 0 | 6.0 | 0 | 157.8 | 127.7 | 36.0 | 135.4 | 457.4 |
| 1931 | $66.3 \quad 9.844 .5$ | 0 | 6.2 | 0.2 | 18.7 | 0 | 8.0 | 0 | 153.6 | 151.8 | 48.3 | 153.9 | 507.6 |
| 1932 | 61.09 .452 .2 | 0.9 | 5.5 | 0 | 19.8 | 0 | 7.8 | 0 | 156.7 | 135.8 | 70.3 | 171.8 | 534.5 |
| 1933 | : 71.611 .259 .2 | 1.0 | 5.9 | 0.1 | 19.2 | 0 | 8.4 | 0 | 176.6 | 215.6 | 99.3 | 199.8 | 691.3 |
| 1934 | $: \quad 100.712 .961 .6$ | 1.9 | 5.7 | 0.1 | 21.9 | 0 | 10.3 | 0 | 215.2 | 210.5 | 157.8 | 240.9 | 824.4 |
| 1935 | : $\quad 135.613 .766 .5$ | 1.9 | 6.2 | 0.1 | 21.2 | 0 | 12.6 | 0.1 | 257.7 | 262.2 | 238.0 | 322.8 | 1,080.6 |
| 1936 | : $\quad 193.814 .266 .1$ | 1.9 | 7.4 | 0.1 | 22.0 | 0 | 12.9 | 0.6 | 319.2 | 269.9 | 32 C .8 | 392.0 | 1,321.9 |
| 1937 | : $\quad 344.217 .277 .7$ | 2.2 | 10.0 | 0.1 | 23.9 | 0.3 | 16.7 | 1.3 | 493.6 | 341.9 | 508.6 | 475.0 | $1,819.2$ |
| 1938 | : $6 / 470.012 .872 .6$ | 61 | 6.0 | 0.1 | 19.9 | 0.4 | 22.4 | 1.8 | 606.1 | 287.5 | 584.6 | 467.7 | 1,945.9 |
| 1939 | $: 6 \sqrt{1} / 600.015 .571 .7$ | 6/ | 61 | 0.1 | 24.2 | 0.4 | Il 20.0 | 2.7 | 734.6 | 379.95 | 548.8 | 564.1 | 2,227.5 |
| 1940 | $: 6 / 825.0$ 6/ 6/ | 6/ | $\underline{6}$ | $6 /$ | 6) | 6/ | 6/ | 61 | 825.0 | 471.25 | 525.0 | 559.6 | 2,330.8 |

Table 7.- World rayon yarn and staple fiber production, by areas, specified perioās - Continued

Compiled from Rayon Or'ganon, Tol. XII, No. 7, June 6, 1941, pp. 89~91.
1/ The official German rayon yarn and staple fiber production data include the production of rayon horsehair and bisca, whereas in this tabulation the production of yarn and staple fiber only aro shown, these other itoms having been eliminated. Reyon Ortganon, Vol. XII, No. 7, June E, 1941, p. 89.
2/ Totals wore made before figures were rounded.
3/ Official data from the Japan Rayon Producers Association plus estimates for cuprammonium yarn producers and Outside" viscose yarn and staple fiber producers. Rayon Origanon, Vol. XII, No. 7, June 6, 1941, p. 89. 4/ Probably some production, amount unreported, Rayon Or ${ }^{7}$ ganon, Vol. XII, No. 7, Junc 6, 1941, p. 89. 5 Less than 51,000 pounds.
6/ The figures for German rayon production in 1938 and 1939 are for Greater Germany. The 1938 data include Austria, while the 1939 data include both Austria and Czechoslovakia. The 1940 data for Germany include in addition to Austria, Czcchoslovakia and Poland, the output of the various Europoan countries which have either been conquercd or have surrendored their political soveroignty to Gormany during 1940. These countries are as follows: Belgium, France, Hungary, Netherlands, Norway, and Rumania. Rayon Or ${ }^{\text {granon, Vol. XII, No. } 7, ~}$ June 6, 1941, p. 89.
I/ The production credited to Poland for 1939 is for the first 8 months of the year. Whatever rayon may have

