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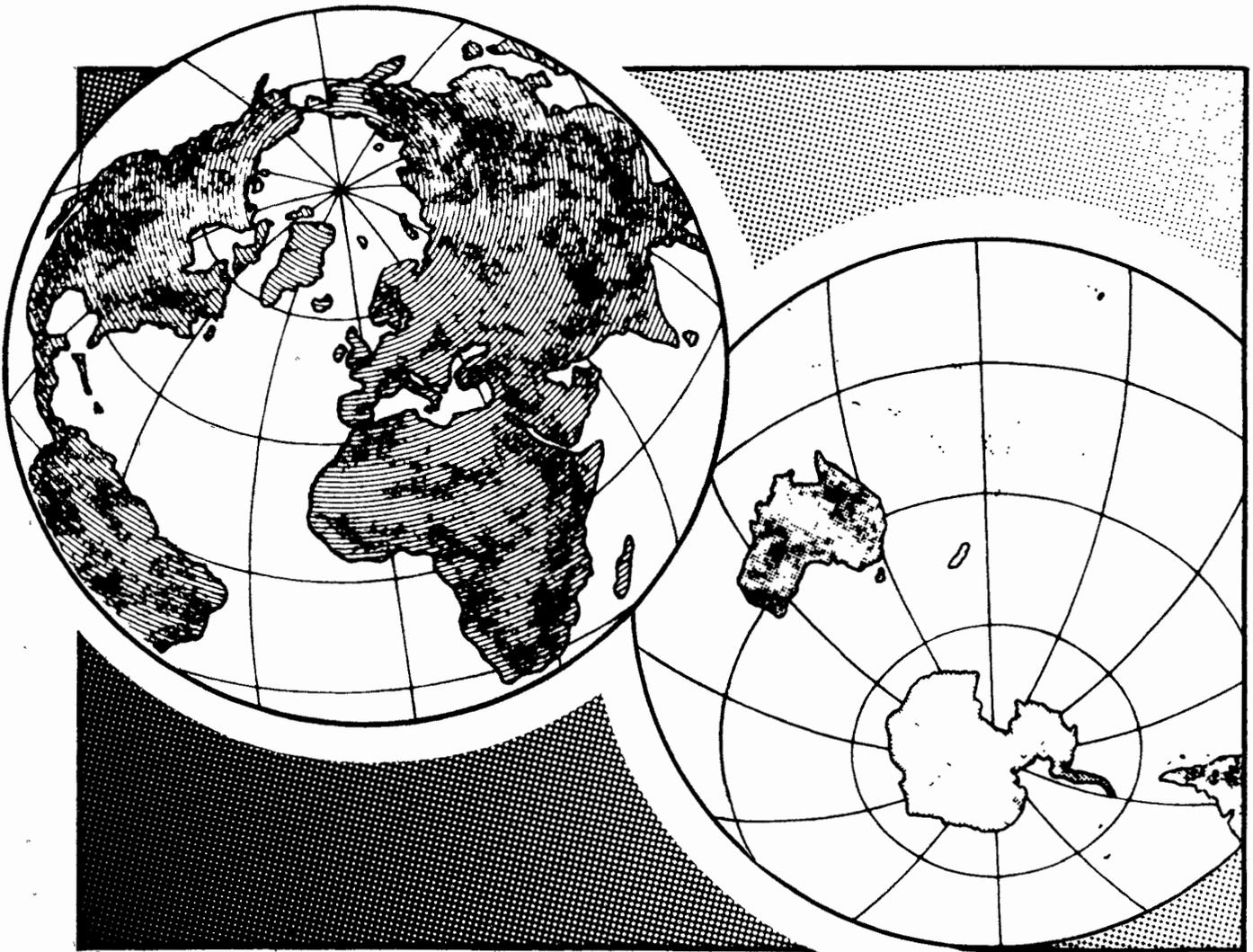
China

Review of Agriculture in 1981 and Outlook for 1982

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ABSTRACT

China's agriculture in 1981 continued the impressive gains registered since 1977. Grain production rose, and record crops of cotton, oilseeds, and sugar were harvested. Meat production was also a record. Agricultural imports dropped. Production will rise by a much smaller margin in 1982, but no significant increase in total agricultural imports is expected.

KEYWORDS: People's Republic of China (PRC), China, agricultural production, agricultural policy, crops, livestock, foreign trade.

FOREWORD

This report reviews the major developments in China's farm and agricultural trade sectors during 1981 and provides an overview of prospects for 1982. In addition, the report summarizes the historical performance of agriculture using data recently made available by the Chinese Government. It also examines China's current farm structure, an important political issue this year.

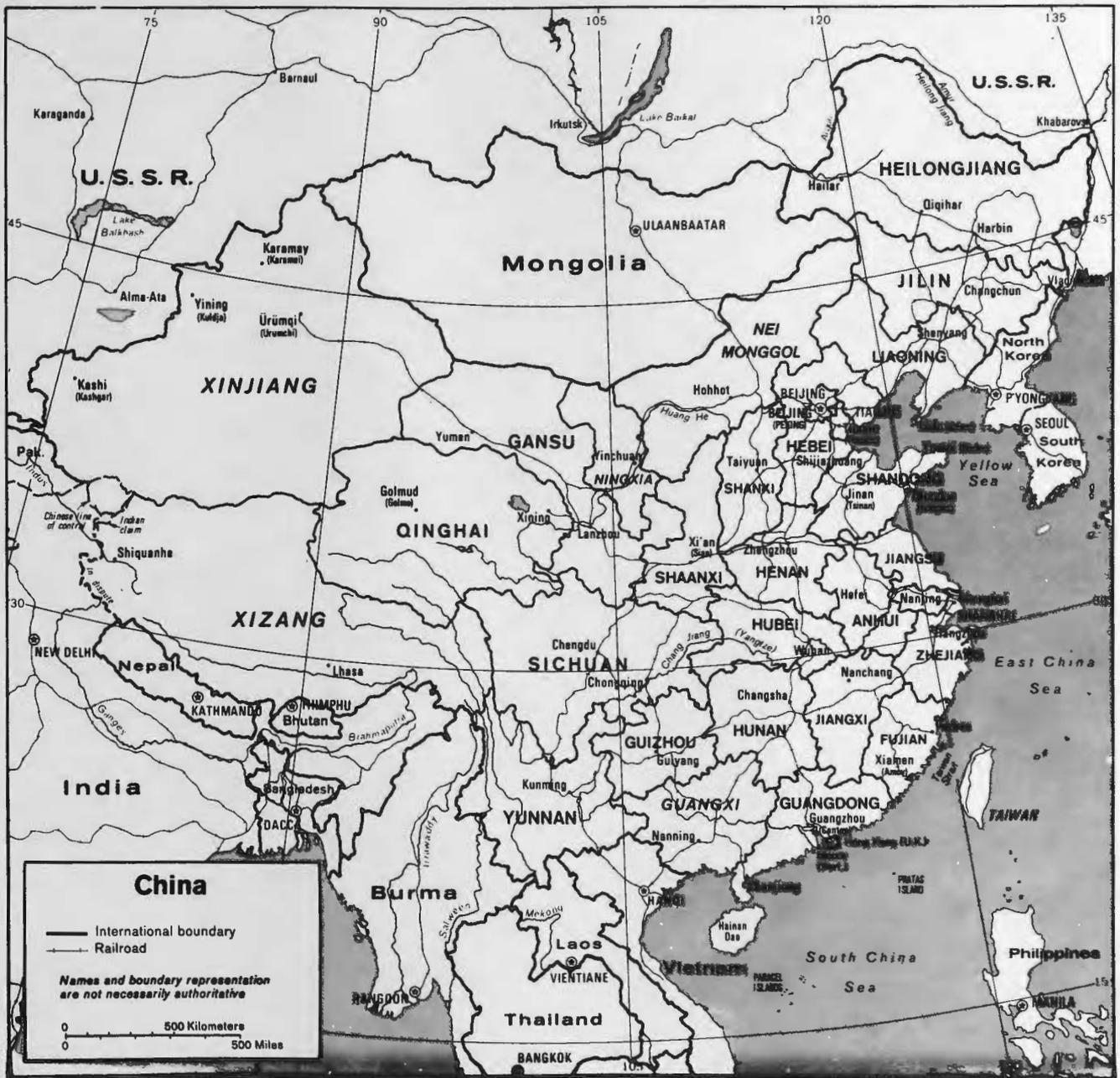
China's agriculture has made major gains in the last 4 years, and the availability of food and other agricultural products has increased markedly. This year may see further, although smaller, gains. The progress registered to date has been relatively easy. Large increases in fertilizer supplies occurred until 1981, and there was a large reservoir of potential production resulting from grossly inefficient resource use and wasteful policies in the decade prior to 1977. With these reservoirs now tapped and production at record levels, China is faced with a much more difficult task in trying to sustain growth in coming years.

Frederick W. Crook and Frederic M. Surls coordinated this report. Individual sections were written by Debra A. Bender, Frederick W. Crook, Charles Y. Liu, Frederic M. Surls, and Francis C. Tuan. Sandra L. Evans assisted in preparation of statistical materials, and Linda A. Mitchell was responsible for the typing.

The International Economics Division's program of agricultural situation and outlook analysis and reporting includes the following regularly scheduled publications: The *World Agriculture Outlook and Situation* published three times annually; regional reports on Asia, Africa, China, Eastern Europe, the Middle East, the Soviet Union, Western Europe, and the Western Hemisphere; the *Foreign Agricultural Trade of the United States* published bi-monthly; the *Food Aid Needs and Availabilities Report* published semi-annually; and the *Outlook for U.S. Agricultural Exports* published quarterly. Information on obtaining these publications is enclosed in this report.

We welcome any comments, suggestions, or questions about this report or other aspects of China's agricultural situation. Questions can be directed to Charles Y. Liu, Leader, PRC Section, Asia Branch, International Economics Division, Economic Research Service, USDA, Room 350, 500 12th Street, SW., Washington D.C. 20250. Our telephone number is (202) 447-8676.

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CONVERSION EQUIVALENTS

Chinese	Metric		English
1 mu	0.0667 hectare		0.1647 acre
15 mu	1.0 hectare		2.4711 acres
1 jin (catty)	0.5 kilogram =	.0005 ton	1.1023 pounds
1 dan (100 jin)	50.0 kilograms =	.05 ton	110.23 pounds
1 dun (ton)	1,000.0 kilograms =	1.00 ton	2,204.6 pounds
1 jin/mu	7.5 kilograms/hectare		6.93 pounds/acre
<i>Crops</i>	<i>Pounds/bushel</i>	<i>1.0 bushel</i>	<i>1.0 ton</i>
wheat, potatoes, soybeans	60	0.2722 ton	36.743 bushels
rye and corn	56	0.02540 ton	39.368 bushels
barley	48	0.02177 ton	45.929 bushels
oats	32	0.01452 ton	68.894 bushels
cotton (480-lb bale)	NA	NA	4.593 bales
cotton (500-lb running bale)	NA	NA	4.409 bales

ABBREVIATIONS FOR MAJOR SOURCES

BR	<i>Beijing Review</i> (Peking Review), distributed by Guoji Shudian, Beijing, China.
China Ag Yearbook, 1980	He Kang, Editor and Chairman of Agricultural Yearbook Committee, <i>Zhongguo nongye nianjian: 1980</i> (China Agricultural Yearbook, 1980), Beijing, Nongye Chubanshe, Nov. 1981.
FB or FBIS	Foreign Broadcast Information Service, <i>Daily Report: China</i> , National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia.
JP or JPRS	U.S. Joint Publications Research Service, <i>China Report</i> , National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia. This report is published in three separate sections. JP, EC refers to the <i>China Report—Economic Affairs</i> ; JP, POL refers to <i>China Report—Political, Sociological, and Military Affairs</i> ; and JP, AG refers to the <i>China Report—Agriculture</i> .
RmRb	<i>Renmin Ribao</i> (People's Daily), Beijing, China.
SWB	<i>Summary of World Broadcasts</i> , the Far East Weekly Economic Report, British Broadcasting Corporation, Reading, England.

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CHINA

REVIEW OF AGRICULTURE IN 1981 AND OUTLOOK FOR 1982

SUMMARY

China's imports of agricultural products and U.S. farm exports to China both leveled off in 1981, following a sharp rise between 1977 and 1980. No significant growth is likely in 1982. This plateau in farm trade results from a combination of foreign trade policy and the rapid growth of Chinese agriculture. The total production from China's farm sector rose by 5.7 percent in 1981, following a 21.5-percent increase between 1977 and 1980. A 4-percent climb is targeted for 1982. This growth has brought significant advances in farm incomes and food supplies. Furthermore, gains in production have permitted implementation of agricultural import substitution, as larger grain imports have facilitated the shifting of more cropland into the production of cotton, oilseeds, and other cash crops. Imports of nongrain crops have consequently dropped.

This pattern of agricultural trade has meshed with other aspects of foreign trade; China expects only modest export growth over the next several years, and the policy on debt remains conservative. So, ongoing increases in imports of farm products conflict with other import needs.

How well this strategy will work over the longer run is open to question. The momentum in agricultural growth is slowing. The easiest gains have probably already been made, and increases in fertilizer production, an important contributor to past gains, are slowing. China will be relying in coming years on technology and policy rather than on further large increases in inputs to stimulate crop production. Whether or not this strategy is successful has major implications for future income growth, for overall economic performance, and for the future of U.S. agricultural exports to China.

The production of most major crops increased in 1981. Grain output was up by 1.4 percent, led by a recovery of wheat production, which rose 8 percent to 58.5 million tons. The output of rice was also up, but total grain production still fell short of the 1979 record. Higher yields were the sole cause of the gains, because grain area continued to slip, dropping by 2.6 million hectares or 2.2 percent. Much of this area shifted to cash crops.

A larger area, together with further yield growth, contributed to another very good year for oilseeds, cotton, and other nongrain crops. Spurred by price and other incentives, cotton output in northern China, traditionally the major producing region, was up sharply again in 1981, pushing national production to a record 2.97 million tons, 9.6 percent over 1980. Oilseed production was up by 19.3 percent, led by a 71-percent increase in rapeseed and the largest gain in soybean production in a number of years. An increase in the procurement price of soybeans in 1981 played a major role in the growth of production. The soybean crop rose to 9.25 million tons, 17 percent greater than during 1980, despite poor weather in the northeast, the major producing region.

The livestock sector also continued to grow in 1981, with meat production up 4.6 percent to 12.6 million tons. The burst in production during the last 4 years, which saw meat increase by 62 percent between 1977 and 1981, shows clear signs of slowing. Hog inventory numbers at the end of 1981 were down for the second consecutive year, as was the number of sows. Future gains in animal-product output will be much more difficult to attain.

China's agricultural imports dropped slightly in 1981. Grain purchases were off, and cotton imports also declined. On a marketing year basis, wheat imports fell by 5 percent to 13.2 million tons in 1981/82. On the other hand, coarse grain imports rose slightly. Imports of cotton probably totaled 570,000 tons, down 19 percent. The slowdown in total farm imports is reflected in U.S. agricultural exports to China, which may only reach about \$1.9 billion in fiscal 1982, compared with nearly \$2.2 billion the previous year.

Farm production should rise again in 1982, although the overall increase may be less than last year. The Government is trying to stabilize the grain area following a decline of nearly 6 percent between 1978 and 1981. This effort will not be completely successful, but the rapid increase in area of such crops as oilseeds, tobacco, and sugar may slow. Grain production is targeted to increase by 2.6 percent, but preliminary projections place wheat output down by 2 million tons, to 56.5 million, because of decreased area and drought in the major growing regions of northern China. Rice production may increase, but the gain is expected to be relatively small. Greater coarse grain production is possible, but a further drop in area will limit the gain. The corn area is again being cut in favor of soybeans and, to a lesser extent, sorghum and millet.

Oilseed production should again rise this year, although the increase will be well below that of last year. Production may gain from 5 to 10 percent, with a greater output of soybeans, cottonseed, rapeseed, and sunflowerseed. Rapeseed should show the largest increase, because the area is again up substantially. Soybean production should also show a healthy gain because of more area and higher yields.

Provincial plans and preliminary planting reports indicate that cotton acreage increased again this year, particularly in northern China. The national area may rise by 5 percent, and unless the fall weather is bad, yields should also show some improvement.

China's agricultural imports are not expected to show much overall growth in 1982. Wheat purchases should rise because of lower wheat production and only a small increase in the output of other grains. But, imports of soybeans and cotton are expected to drop.

A GOOD YEAR FOR CHINA'S AGRICULTURE

China's economy continued to grow in 1981 because both agriculture and industry did well. Industrial output rose 4.1 percent from 1980. The goods produced by light industry made a whopping gain of 14.1 percent, while the output of heavy industry suffered a 5-percent drop. This pattern reflected the new priority of light industry. For the first time, the value of light industrial production exceeded that of heavy industry, accounting for 51.4 percent of total industrial output.

The performance of the agricultural sector was also good in 1981. The gross value of agricultural output (GVAO), an overall measure of rural production, recorded an impressive 5.7-percent gain. The production of almost all major farm crops advanced. The value of crops, livestock, forestry, fishery, and sideline enterprises (household and production-team handicrafts and team and brigade enterprises) made gains ranging between 4 and 7 percent.

The per capita income of farm households rose nearly 17 percent in 1981, while the inflation rate was about 2.5 percent. In comparison, per capita urban wages increased only 1.3 percent, and the average real wage fell slightly. Rural housing construction by commune members was up about 20 percent over 1980.

Policy Was the Stimulus

Given only average weather in 1981, the impressive performance of agriculture was by and large the result of incentive-laden agricultural policies. Continuing the general course set by the Third Plenary Session of the Chinese Communist Party Central Committee in December 1978, the "production responsibility system" was intensively pushed.¹ Basically this is a system of contracting specific jobs or responsibilities to commune households. Households in poor production teams are given greater autonomy to make decisions, to control the means of production (including land), and to keep surplus production after contracts are fulfilled. By the end of 1981, over 90 percent of the 5.15 million production teams had established some kind of responsibility system.

In addition, expanding the size of private plots to as much as 15 percent of a production team's cultivable land greatly enhanced the production of livestock, animal feed, and other minor crops. Though no official figures are available, it can be safely assumed that the proportion of the average commune member's income that was derived from private sources was much higher in 1981 than the 25 percent reported for 1979. Aided by flourishing free markets throughout the countryside and in cities, rural income rose rapidly from the lean years of the past. A sample survey of 1981 rural per capita income, made by the State Statistical Bureau, indicated a 60-percent increase from 1978.

Other policies that were advocated in the last few years to correct the past neglect of cash crops also contributed to the increase in GVAO. Through raising procurement prices, guaranteeing grain rations, and supplying more inputs, such cash crops as cotton, oilseeds, and sugarcane again had record harvests, increasing 9.6, 32.7,

and 30.1 percent respectively, from 1980. However, the effort to strive for a greater balance between crops, livestock, forestry, aquatic products, and sideline enterprises made little progress in 1981, after some improvement between 1977 and 1980.

Last year, the Government still sought to expand farm income and maintain low retail prices for farm products. However, this policy contributed to the budgetary problems of the central Government.

Success Is Not Without Problems

Impressive 1981 gains in agriculture notwithstanding, there are problems in various quarters, some of which could be troublesome in the longer run. Generally, these difficulties stem from poor planning or cumbersome institutions that need time and drastic action in order to improve.

On the production side, the shifting of grain area to cash crops has gone further than the Government intended. Producers responded well to policy incentives, and in the meantime, the central Government apparently didn't anticipate the degree of shift. The result is that, while cash crops registered large gains, 1981 grain production only increased 1.4 percent over 1980 and was still 2.3 percent below the 1979 record. A shift back to grains is unlikely; future gains in grain production will have to come from increases in yield. Given average weather, a higher yield comes from better seeds with more water and other inputs. But, the prospects for more input supplies are not good. This was already evident in 1981, when fertilizer production showed no gain, while chemical pesticides reported a 10-percent drop. Large and hand tractor production actually declined 46 and 9 percent, respectively. Another area of concern is falling water tables in the north.

Agricultural marketing and distribution of both farm inputs and production remain serious problems. Many articles and letters to the editor in the Chinese press told of simultaneous food shortages in some places and food spoilage in others. For example, fed livestock often had no buyers. Producers were eager to respond to the call for higher output, but they had no information about demand. This reflects the lack of an infrastructure to serve producers. The vital ingredients of information and services for production and marketing are not adequately provided by either the Government or other sectors in the economy.

With increases in both rural and urban incomes over the last several years, demand for farm products for human consumption and for use in light industry has risen. This caused a sharp upswing in food prices, because about 60 percent of household income is spent on food. While overall retail prices rose by 6 percent in 1980, it was reported that food prices increased 10.5 percent and nonstaple food prices were up by 14 percent. In 1981, overall retail prices rose by only 2.5 percent, the result of a Government clampdown on prices and the slower growth of urban incomes.

Other problems are no less serious. For example, the gap between the rich and poor rural areas is widening. In addition, population growth is rising—from 1.1 percent in 1979 to 1.4 percent in 1981—partly because household income is tied more closely to family size

¹For more details, see "Notes of National Rural Work Conference," issued by CCP Standing Committee, RmRb, April 6, 1982, p. 2.

under the new agricultural production responsibility system.

A final problem is presented by a proposed constitutional revision that would separate rural administration (town and township) from the economic functions of the commune system. Will a farm production unit—whether it be a commune, production team, or rural household—

be allowed to expand, merge, or fold? Will the means of farm production, including farm labor, eventually be allowed to flow freely? If the answer to both questions is no, then separating economic and administrative functions will not improve efficiency in the rural economy. All these problems pose a serious challenge to China's economic planners. (Charles Y. Liu)

GRAIN PRODUCTION RISES

Grain production rose 1.4 percent in 1981, to a total of 325 million tons. Despite the increase, 1981 output was still about 7 million tons below 1979's record 332.1 million. The yield for the 1981 crop surpassed the 1979 record (2.79 tons per hectare) by 2.5 percent and was 3.6 percent higher than in 1980 (table 1). Improved field management, better cropping patterns, and somewhat better weather than in 1980 all contributed to the rise in yields. A drop of 2.6 million hectares in grain area may also have added to yields. At least part of the area shifted to other uses was relatively low yielding.

The year presented its share of weather problems; however, on balance, 1981's weather can probably be described as average. Heavy rains and flooding reduced grain production by over a million tons in both Heilongjiang and Guangdong. However, the widely publicized flood in Sichuan province, reportedly one of the worst in history, had only a small impact on the province's production, which set a record. Drought was a problem over parts of northern China and held down yields of fall-harvested grains. In all, production was up in 15 of China's 29 provinces. Eastern and central China contributed more than half of the total increase in 1981 grain production (table 2).

The 1981 summer harvest was up 4 million tons, or 7.1 percent, reaching an estimated 60 million tons. However, output was still roughly 9 percent, or more than 7.5 million tons, below the 1979 record. The area was reportedly down by about 1.3 million hectares. The North China region, where summer grain production dropped substantially in 1980, reaped better harvests and contributed to the rise in summer-crop output last year. Provinces that reported lower summer harvests, including Jiangsu, Hubei, Gansu, and Ningxia, attributed the decline to either drought or reduced area.

The 1981 fall harvest, consisting of rice, coarse grains, soybeans, tubers, and other miscellaneous grains, was largely unchanged from the previous year. Rice and soybean production rose, while tuber and coarse grain output dropped (table 1). The total area sown to fall-harvested crops was also down by 1.3 million hectares, with most of the decline coming from tubers and, to a lesser extent, from coarse grains.

As in the past, China made no public estimate of grain reserves. However, in 1981, the Ministry of Agriculture reported that rural communes and brigades had some 14.5 million tons of grain in reserve at the end of 1980. Sixty percent of the reserves were kept by state grain stores for the communes and brigades, and the rest were kept by the rural collectives themselves. With relatively abundant reserves, grain prices were generally stable in 1981. When grain prices did rise in some places, reserves were reportedly used to stabilize local prices. For example, to pull down rising prices, the Henan Provincial Food Grain Department dumped wheat on the market in May 1981.

Wheat Production Up

Wheat production in 1981 rose 8 percent to 58.5 million tons, despite an estimated 1.3-million-hectare decline in sown area (table 1). Production of winter wheat, which accounts for approximately 85 percent of total wheat production, contributed all of the increase. As in the previous 2 years, the area taken out of wheat mostly shifted to rapeseed and other cash crops.

The weather was favorable for winter wheat sowing and early growth in the fall of 1980. Persistent drought, which developed in April and continued through early June in northern China, reportedly affected summer crops (largely wheat). However, all provinces in North China, except the Tianjin municipality, claimed summer harvests better than in 1980. This is now possible because a larger portion of the winter wheat area in northern China is covered by irrigation systems.

The spring wheat area expanded slightly in 1981. However, the larger area, coupled with a good start for the crop, did not generate a larger output. Heavy rainfall and severe flooding during the harvest in northern Heilongjiang reduced the output there. The province usually produces roughly 40 percent of the total spring wheat output. As a consequence, China's spring wheat production in 1981 is estimated to be about the same as in 1980.

Rice Output Higher

Rice production rose 2.8 percent or 4 million tons in 1981, to a total of 143.2 million tons. This is just shy of the 1979 record (table 1). China grows five different rice crops: early, intermediate, single-crop late, double-crop late, and northern rice. The relative importance of these crops can be seen in data now available for 1979 and listed in the accompanying table.

Rice area and production by crop, 1979

Crop	Area	Production
	Percent	
Early	33.7	36.1
Intermediate and single-crop late	26.1	28.9
Double-crop late	34.3	29.0
Northern	5.9	6.0
Total	100.0	100.0

Over the last several years, China's farmers have cut back the area of early and double-crop late rice and have expanded the area of higher yielding intermediate and single-crop late rice. This trend away from double cropping continued in 1981, when sown area dropped by at least 200,000 hectares. However, yields grew 3.5 percent over those of 1980 and surpassed the 1979 record by about 1.5 percent.

While the area of early rice fell by about 400,000 hectares, its 1981 output was up more than 1 million tons. Guangdong, a major producer of early rice in southern China, encountered severe flooding during the growing season and reported an output that was about a half million tons below 1980's. Increases in early rice production in Hunan, Hubei, Anhui, Jiangxi, and Zhejiang, however, more than offset the bad crop reaped in Guangdong and smaller drops in other provinces.

As in 1980, the area sown to intermediate rice was up—by about 200,000 hectares. Sichuan province, China's largest overall grain and intermediate rice producer, reported a 5-percent increase in output—750,000 tons over 1980. Late rice output was apparently above the poor 1980 harvest, but not by as much as was first expected, because of cold weather and excessive rains late in the growing season. As was the case in 1980, hybrid rice area was up slightly, reaching 5.33 million hectares, about 16 percent of the total rice area. The per hectare yield of hybrid rice—largely growing as intermediate and single-crop late rice—averages 750 kilograms more than that of conventional strains, according to Chinese estimates. Thus, in the last 3 years, hybrid rice has added 3.5 to 4 million tons annually—about 3 percent—to national rice production.

According to incomplete provincial statistics, the area of northern rice expanded somewhat in 1981. Northern rice, a long-grain variety with big kernels, reportedly favored by the Chinese, is grown in the north, northeast, and northwest regions. Liaoning province, the largest producer of northern rice, reaped an output of 2.5 million tons in 1981. The total output of northern rice, which accounted for about 6 percent of all of China's rice in 1979, was estimated to be up slightly last year. With Liaoning and Heilongjiang provinces already reporting plans for a larger area in 1982, northern rice production is expected to develop further this year and in the next few years.

Coarse Grain Production Lower

Coarse grain output in 1981 was off by 2.7 percent, or about 2.3 million tons, falling to an estimated 82.5 million. The decline was largely due to a smaller sown area. Coarse grain yields were about the same as in 1980; persistent drought in northern China and severe flooding in eastern Heilongjiang province kept yields from improving.

The majority of coarse grain output—roughly 70 percent—is corn. In 1981, corn production in Shandong and Hebei was estimated to be down from the year before, mainly because of persistent drought. Provincial reports indicated that some areas that used to be sown to corn in the northeast were shifted to soybeans or other cash crops last year. Because of the 50-percent increase in soybean procurement prices that took effect in 1981, this trend is expected to continue this year, although to a lesser extent. Overall, China's 1981 corn output was about 2 million tons below the previous year's. This decline was the main source of the drop in coarse grain production.

Although Chinese officials report that the area sown to hybrid corn is about 70 percent of the total corn area, the national average per-unit yield is not only substantially lower than that of the United States, but is also less than the world average. Much of China's output is summer corn—rapidly maturing varieties grown as a

second crop. The yield of this crop is probably below 2 tons per hectare, one-third of the U.S. average. Summer corn is often interplanted and multicropped, and many areas do not apply enough fertilizer. In addition, low late-season temperatures and early frost can sharply reduce yields. However, with better field management, several areas, such as the suburbs of Beijing, the Shijiazhuang area in Hebei, and the Yantai area in Shandong, reported good summer corn crops with yields as high as 7.5 tons per hectare. This implies that there is potential for increasing low and unstable yields and, hence, sharply raising China's national corn production.

Sorghum and millet areas again increased slightly in 1981, because of higher demand for feed and industrial uses. The output of these crops was probably about the same as in 1980. (Francis C. Tuan)

Grain Imports Down

The growth of grain imports ended, at least temporarily, in 1981/82. Combined wheat and coarse grain imports, which had risen by 70 percent between 1977/78 and 1980/81, dropped slightly to an estimated 14.5 million tons last year. Wheat imports of 13.2 million tons were off by 5 percent, although coarse grain imports rose 500,000 tons to 1.3 million (table 16).

Wheat imports were down for several reasons, including improved grain production and procurements and tighter control of foreign exchange expenditures. Since grain imports are largely for use in urban areas, import needs are most strongly influenced by the supply of grain available to the central Government for distribution in the cities and for resale to rural areas. Government purchases of wheat in the 1981/82 procurement year rose by more than 1 million tons from the previous year because of the improved summer grain harvest.² Procurements of all grains from the 1981 crop—largely completed by early 1982—were also higher, although coarse grain procurements were probably off somewhat. Given imports and procurements, the total supply of wheat available to the central Government was probably about 23 million tons—roughly constant for the last 3 years.

While coarse grain imports were up in 1981/82, they were still 60 percent below the 1978/79 peak. There is as yet no indication of feed demand providing a major stimulus to sustained growth of coarse grain imports. Deemphasis of large feeding operations continues to be an important feature of livestock policies. The increase in coarse grain imports is likely due to lower corn production, particularly in Heilongjiang, a major source of procurements, and other important areas of the North China Plain. Falling prices of corn relative to wheat may also have contributed to the shifting of some wheat purchases to corn.

Over the last 3 years, China has started to import small, but gradually rising, amounts of barley from Canada, Australia, and West Germany. Imports during 1981/82 likely exceeded 100,000 tons. Much of these were malting barley for use in making beer. Last year, China's beer production rose 32 percent to 910,000 tons because of efforts to meet growing export and domestic demand. Some barley is also being imported for feed.

²China's grain procurement year runs from April 1 to the end of the following March. Purchases begin with the winter wheat harvest in early summer, and wheat procurements are largely completed by early fall. Summer grain procurements have averaged about 11 million tons over the last 3 years. About 50 million tons of all grains are procured by the Government.

Despite near-record rice production in 1981, China's rice exports in 1981/1982 are expected to be only 600,000 tons. Although production has grown and is now 11 percent more than in 1977/78, exports have dropped by 50

percent over the same period (table 17). Unfavorable world market prices and efforts to raise domestic consumption contributed to the decline. (Frederic M. Surls)

GREATER OUTPUT OF OTHER CROPS

Oilseed Production Soars

Oilseed production increased dramatically for the fourth consecutive year, with rapeseed, sunflowerseed, peanuts, and cottonseed all setting records. Production of all oilseeds was nearly 24.3 million tons, 21 percent over 1980 (table 4).

Rapeseed jumped 71 percent to 4.1 million tons. This alone accounted for about two-fifths of the total increase. In response to price and other incentives, farmers expanded the area 36 percent to a record 3.85 million hectares. Unusually good weather also helped the crop. Frost damage, frequently a problem in the major rapeseed-producing areas of central China, was minimal.

Another major achievement, although not a record, was the 17-percent increase in soybean production. In September 1980, the State announced a 50-percent price rise for soybean procurements. Farmers responded by planting soybeans on former grain fields and newly reclaimed land. The total area rose nearly 10 percent to an estimated 8 million hectares. Despite flooding in some of the major producing areas of the northeast, yields elsewhere were high enough to more than compensate, and farmers harvested 9.25 million tons of soybeans.

Peanut, cottonseed, and sesame seed production were all records and increased by 6, 10, and 97 percent, respectively. The production of tea oil seeds climbed 33.5 percent to 654,000 tons, and tung oil seeds rose 18.8 percent to 360,000 tons.

In the last 4 years, oil and meal domestic availabilities (including net imports) had been growing between 14 to 18 percent a year. But because of the tremendous increase in oilseed production in 1981, oil and meal supplies rose by 28 and 25 percent, respectively. Estimated per capita oil supplies increased 26 percent to 3.63 kilograms.

On several occasions in 1981, Chinese statements indicated a desire to scale down imports of edible oils and soybeans, adding that stocks were a record. Evidently, China is cutting down imports as supplies from domestic production improve. In 1980/81 (September-August), soybean imports dropped one-third to 540,000 tons. Imports in calendar 1981 showed a decrease of about one-fourth from 1980 (tables 19 and 20). Exports of food-use soybeans to Japan and other Asian markets have remained about the same. Soybean oil imports for calendar 1981 decreased by more than one-half to 56,000 tons, while exports, although very small at 2,000 tons, increased from 1980. Because of scarce world peanut supplies in 1981 and the consequent high prices, peanut exports tripled to about 215,000 tons, 72,000 of which went to the United States. One other potentially significant development during 1981 was a marked rise in exports of soybean meal. More than 100,000 tons were apparently exported, up from only about 30,000 the previous year. Trade in other oilseeds and products remained negligible. (Debra A. Bender)

Record Cotton Crop

Cotton production increased for the fourth consecutive year, reaching a record 2.97 million tons in 1981, 9.6 percent over 1980 (table 6). The area expanded by an estimated 3.6 percent to 5.1 million hectares. Yields also jumped from 550 kilograms per hectare in 1980 to 576 last year. A combination of factors, such as the large production increases in the last 3 years and faltering foreign demand for China's textile products, will lead to reduced imports in 1981/82.

Last year, cotton production in northern China was outstanding for the second year in a row (table 8). The area sown increased by 248,000 hectares to 2.8 million. Most of the expansion occurred in Shandong province, where the area increased from 737,000 to 933,000 hectares, making it the largest producing province in China. Factors that had positive effects on yields in this region include the concentration of output in special cotton regions or "commodity bases," the use of high-yielding varieties like Lumian No. 1, increased use of chemical fertilizers, and improved management practices encouraged by the new production responsibility systems. Dry weather was the only hindering factor.

Growing areas in central China produced 11 percent more cotton in 1981 than in 1980, but the outturn was still 89,000 tons short of 1979's record 1.5 million. The sown area was about the same as in 1980, but yields rose 11 percent, from 550 kilograms in 1980 to 611 in 1981.

In 1981, the demand for fibers rose because of higher textile production for domestic consumption and for export. The value of the textile industry's output rose 17 percent, compared with 23 percent from 1979 to 1980. Output of chemical fibers grew from 450,000 tons in 1980 to 527,000 in 1981, a rise of 17 percent (table 7). The outturn of cotton yarn jumped from 2.93 million tons in 1980 to 3.17 million in 1981, an 8.2-percent increase. There was an oversupply of plain white cotton cloth and poplin, but colorful synthetic fabrics and blends were in great demand in both urban and rural areas.

In 1981, the import demand for fiber was not as strong as in 1980 because of improved domestic fiber production and a slowdown in foreign demand for the country's textiles. Last year's textile exports rose 9 percent from 1980, compared with a 10-percent increase from 1979 to 1980 and a 36-percent jump from 1978 to 1979. China imported 718,000 tons of raw cotton in 1980/81, a 15.4-percent decline from 1979/80's record 849,000 tons (table 14). The U.S. shipped about 300,000 tons of cotton to China in 1980/81, 29 percent below a year earlier.

For 1982-1985, present government plans call for rapid expansion of the textile industry. For example, in 1982, they plan to add 1 million spindles to their cotton mills, 90,000 spindles in woolen mills, and the finishing capacity to process 600,000 meters of cloth. By 1985, China expects to produce 820,000 tons of chemical fibers.

For 1982, China's domestic demand for raw cotton is expected to increase again. Rural and urban incomes have been rising rapidly in recent years. Rural residents on the average spent 117.4 yuan on consumer goods in 1981, compared with 53.9 in 1978. Meanwhile, urban residents each spent 457.9 yuan, up from 364.5 in 1978. The State Statistical Bureau reported that consumer spending on clothing shifted from 23.1 percent of income in 1980 to 25 percent in 1981. Population growth also added to China's demand for cotton. However, the gap between domestic supplies and demand has been narrowed this year, because of China's record crop, more synthetic fiber production, and the decrease in the rate of growth in textile exports. These factors help explain why China is expected to import 566,000 tons of cotton in 1981/82, compared with 718,000 last year. (Frederick W. Crook)

Sugar Up

China's 1981 sugar crop rose nearly 24 percent to over 36 million tons. Most of the increase came from sugarcane production, which increased 30 percent or almost 7

Sugar crop and sugar production, 1977-81

Year	Sugarcane	Sugar beets	Total sugar crops	Sugar
1,000 tons				
1977	17,753	2,456	20,209	1,816
1978	21,117	2,702	23,819	2,267
1979	21,508	3,106	24,614	2,500
1980	22,807	6,305	29,112	2,570
1981	29,668	6,360	36,028	3,166

million tons. Although the area for all sugar crops expanded by about 70,000 hectares, most of the production increase came from higher yields that were the result of favorable weather, better varieties, and improved farm management. Refined sugar production on a calendar-year basis was almost 3.2 million tons, up 24 percent from 1980.

Sugar imports increased to about 971,000 tons, up 5 percent from 1980 (table 13). But despite the increase in imports and production, sugar supplies still fell short of demand. Sugar exports for 1981 were probably a little over half of what they were in 1980. (Debra A. Bender)

SLOWER GROWTH OF THE LIVESTOCK SECTOR

Total meat output and yearend animal numbers in 1981 gave clear evidence of a slowdown in China's livestock sector. Meat production—including pork, beef, and mutton—increased 4.6 percent, compared with 13.5 percent in 1980 and 24.1 percent in 1979. The 1981 yearend inventory of hogs declined for the second consecutive year (table 10).

Despite slower growth in 1981, there is no doubt that the sector has made significant progress in the last few years. Emphasis on rural diversification and favorable policies on raising livestock, such as encouraging individual households to feed animals and increased procurement prices for meat output, has stimulated the livestock sector. The Chinese Government reported at the 1981 national agricultural conference that the country would continue its current policies emphasizing livestock development. China's 1981 meat output, which was 62 percent above that of 1977, was still short of demand. The total value of output from the livestock sector increased from 13.1 percent of GVAO in 1978 to 14.2 percent in 1980. Its share will rise further as a greater stress is placed on balanced development of hogs and ruminants. China also plans to sharply increase the output of animal products by 1985 and to make production of milk, poultry, eggs, and meat a major task of the suburbs around large and medium-sized cities.

Hog Numbers Down; Pork Output Up

The yearend inventory of live hogs dropped for the second consecutive year, to a total of 293.7 million head in 1981, a decrease of 3.8 percent. The number of live hogs slaughtered totaled 194.95 million head, down 1.8 percent from 1980. Despite the lower number of slaughter hogs, their increased average weight managed to drive up China's 1981 pork output to a total of 11.88

million tons, 4.8 percent above that of 1980. Nevertheless, the growth in pork production was substantially slower than 1980's 13.3-percent increase. The Chinese press indicated that pork supplies have been tight in some areas since last winter. Because pork constitutes as much as 94 percent of China's total meat production, shortages imply that there are still areas where the meat supply is short of demand.

The factors causing the slower growth of pork output, the decrease in inventory, and the drop in the number of hogs slaughtered can be generalized as follows. First, incentives for household hog raising deteriorated, because reward measures that had been encouraging hog production were overlooked in new incentive systems. Before implementation of the agricultural responsibility system, collectives used to grant supplementary feed grains, fodder plots for feed grain production, chemical fertilizer, and cloth coupons to the peasants who sold fattened hogs to the State. Extra work points were also given for the contribution of hog manure. When establishing 1981 production contracts with peasants or households, many production teams failed to incorporate these bonuses into the responsibility system and therefore did not specify hog-raising activities and incentives for hog sales as part of the production plan.

This was not the sole reason for the decreasing hog numbers. Marketing problems, some of which spilled over from the previous year, also hindered the livestock industry. Because local livestock-purchasing stations encountered difficulties, such as the shortage of cold storage and a lack of transportation facilities, they had to turn down peasants who wanted to sell live hogs. These farmers then became reluctant to raise more hogs. Moreover, those who failed to sell fattened hogs to the Government had to turn them over to local butchers after a slaughter permit was granted. Peasants who had to then sell their slaughtered hogs in rural free markets

earned less profits because of lower market prices and the loss of bonuses awarded by the Government and collectives.

These factors also affected the enthusiasm of individual households for raising and maintaining breeding sows. In addition, the Government indicated that the decline in the number of breeding sows and boars was partially caused by the structural transformation of hog production in rural areas. As hog-raising activities were gradually transferred from collectives to individual households over the past few years, the task of raising and maintaining a proper proportion of sows and boars was not well planned and handled. Without fixed plans that set an appropriate proportion of sows and boars to total hogs, and with the lower incentives for raising hogs, the fall in sow and boar numbers became serious in many parts of the country last year.

Pork supplies that weren't properly balanced with demand were another element that had some impact on hog production. Provincial reports indicated that, in some areas, the supply of pork was too high at one time but too low at another during the year. In addition, people—especially in big cities—have become more selective when they buy pork and are developing a preference for lean meat, which is often in short supply.

To correct these problems and to revive rapid growth, the Animal Husbandry Bureau of the Ministry of Agriculture recently put forward the following measures and proposals:

- (1) To continue the reward system for hogs sold to the State. This involves encouraging commune members to raise hogs, actively developing key hog-raising households and full-time hog-raising families—now being initially established in various places—as well as pushing hog production toward commercialization, specialization, and socialization.

- (2) To supply the feed grains needed for breeding stock kept by collectives and commune members.
- (3) To prevent the indiscriminate slaughter of sows.
- (4) To prevent and treat hog diseases, such as hog cholera, swine erysipelas, and swine plague.
- (5) To set up a number of bases for producing hogs with leaner meat.
- (6) To maintain the system of setting purchase quotas.
- (7) To keep state purchase prices for hogs stable.

Mixed Results in Other Livestock Categories

In 1981, the total number of large animals grew 2.5 percent to a total of 97.64 million head, the fastest rate in recent years (table 10). Because of efforts to promote responsibility systems, much of the increase is related to a growing demand for draft animals in rural areas. The emphasis on ruminant production also added to this demand. However, total beef output declined by 7.4 percent in 1981, as the sharply increased demand for draft cattle contributed to a drop in the number slaughtered.

The yearend inventory of sheep and goats rose only 0.2 percent to 187.73 million head in 1981. Growth was minimal compared with the increases of 7.8 and 2.3 percent in 1979 and 1980, respectively. Procurement of sheep and goats likely increased, and mutton production was reported to be up 7 percent last year. Purchases of wool grew 3.1 percent, and sheep skins increased 26.2 percent over 1980. Along with the development of sheep production, the Government continued to stress raising milk goats. In 1981, China disclosed that the total number of milk goats was more than 2 million head. (Francis C. Tuan)

FOREIGN TRADE

Foreign trade in 1981 continued to be an important factor in China's drive for modernization. Exports rose nearly 15 percent to about \$22.4 billion, compared with an increase of 42 percent in 1980. Meanwhile imports were down 4 percent to \$18.6 billion (table 15). The most important aspect of foreign trade was a change in the commodity composition, which reflected the changing priorities of the economic readjustment program. Reports from China indicate that the proportion of industrial goods to total exports rose to 41 percent, from 38 percent in 1980, and the proportion of agricultural and sideline products continued to drop. As for imported goods, the proportion of raw and other materials for processing by light industry rose to 60 percent, up from 51 percent, while the share of heavy machinery and steel dropped from 30 to 13 percent.

Export trade has continually been emphasized, first as an encouragement to burgeoning processing industries, but more importantly as a means of generating foreign exchange that can then be used to pay for imports. However, the value of exports did not increase as much as in previous years, probably because structural changes made in the late 1970's to stimulate exports have already had their initial impact. Imports have been curtailed because of limited foreign exchange and unwillingness to

accumulate a large foreign debt. By pushing exports and curtailing imports, China reached a trade surplus for the first time since the beginning of the readjustment in 1978.

Trade growth, although slower in 1981, was aided by the ongoing decentralization of trade policy, which gave certain local departments the right to retain foreign exchange and which also opened more trade channels.

Agricultural Trade Growth Slows

China's total agricultural trade increased by only a small margin, 5 percent, compared with 39 percent in 1980. This more moderate rate was due to a decrease in agricultural imports for the first time since 1976 and a smaller rate of increase for farm exports.

Incomplete information on agricultural exports indicates an increase of about 13 percent, compared with 19 percent for 1980. This slower rise probably reflects both growing domestic demand for many export commodities and the sluggish world economy.

Agricultural imports are estimated to have decreased slightly in 1981. Wheat imports increased by about 1 million tons from 1980, but corn purchases fell to less

than one-half the year-earlier level. Imports of soybean oil also decreased by one-half, and soybean purchases fell by one-fourth. Sugar imports increased minimally (table 17).

This scaling down of agricultural imports is because of record or near-record domestic harvests and also because of conservation of scarce foreign exchange. A drop in world prices also contributed to the decrease in the value of imports. On the other hand, in the drive to support exports, one recent development is the importation of crude agricultural materials, such as animal skins and hair, which can be processed domestically and then exported.

U.S. Exports to China Slip

Total U.S. exports to China in 1981, nearly \$3.8 billion, were 1 percent below the 1980 record (table 21). The export value of nonfarm products grew by 16 percent, which nearly offset the 13-percent decline in agricultural products to \$2.0 billion. Despite this drop, China was the sixth largest U.S. farm export market in 1981. Farm products accounted for 53 percent of total exports, compared with 60 percent in 1980.

Wheat was the leading U.S. export, accounting for 65 percent of all shipments of farm products to China. The value of wheat exports, at almost \$1.3 billion, was 19 percent above the 1980 record. China was once again the leading U.S. wheat market. However, the other three

leading commodities, cotton, soybeans, and corn, which together with wheat accounted for 98 percent of all agricultural exports, all declined from 1980. Cotton exports, at \$464 million, declined 34 percent from 1980's record. Soybean exports also decreased from last year's record by 24 percent. The value of U.S. corn exports dropped dramatically by 72 percent, on the heels of 1980's 16-percent decline from the 1979 record of \$269 million.

Last year was the first year of the 4-year grain agreement between the United States and China. The agreement stipulates that China will purchase 6 to 8 million tons of grain annually during 1981-84 and that 15 to 20 percent of this amount will be corn (table 18). Actual total grain purchases from the United States were 8 million tons in 1981, but corn only accounted for 468,300 tons or 6 percent. So far in 1982, contracts for corn purchases have doubled and are about 14 percent of total grain contracts.

Total U.S. imports from China hit \$1.83 billion in 1981, a 76-percent jump from 1980. Nonfarm products made up the greatest portion of all imports, 86 percent, and their import value grew 68 percent from 1980. However, an even greater expansion occurred in agricultural imports, which increased 125 percent to \$299 million. Most of this growth was due to an enormous rise in peanut imports, the total value of which increased from \$77,000 in 1980 to \$152.9 million following the shortfall in the 1980 U.S. crop. Imports of pickled vegetables, mushrooms, cashmere goat hair, and cocoa were up substantially, while licorice root, bristles, essential oils, and tung oil declined. (Debra A. Bender)

OUTLOOK FOR 1982

China's economic goals for 1982 and the coming years are those that guided the economy in 1981: to continue to raise living standards, to develop agriculture, and to place major emphasis on expanding the production of textiles and other light industrial products. To achieve these goals, China's efforts are focused on raising efficiency and productivity, continuing to cutback the overall rate of investment and to shift investment toward light and export industries, and continuing to recognize the importance of foreign trade for providing needed infusions of technology and materials necessary for the modernization of industry and agriculture.

This restructuring of the Chinese economy away from the one-sided emphasis on heavy industrial development to a greater balance between sectors and a larger share of production for consumption is now expected to continue through the mid-1980's. The priorities for this period of adjustment, while drastically different from those of the past, do not mean abandonment of goals for the rapid development of China's industry and status as a world power. Neither do they mean the emergence of consumerism as a basic driving force in the Chinese economy. Rather, they are a belated recognition that China's economic performance has suffered from technical backwardness, lack of incentives, inefficiency, and slow growth of productivity. Additionally, past development policies have contributed to increasingly serious bottlenecks in transportation, communications, and other aspects of infrastructure; to heavy energy consumption and a growing energy crisis; and to a structural imbalance within industry, making economic growth increas-

ingly costly and difficult. The new policies are therefore a shift in tactics rather than a fundamental change in the underlying priorities of China's leadership.

Policies for restructuring the economy are still being developed, and a great variety of trial and error is underway. This means that detailed intermediate or long-run planning is not yet possible and that China is still operating under short-run plans of no more than a year's duration. While 1981 to 1985 is the period of the sixth 5-year plan, no 5-year plan has yet been finalized, and a formal document is unlikely in the near future.

In the draft 1982 plan, light industry is again the source of most of the planned 4-percent growth in industrial output, with a targeted 7-percent increase in value. The increase planned for heavy industry is only 1 percent in gross value terms, and the structure of heavy industrial output will continue to shift toward production for the needs of light industry and critical bottleneck sectors, such as transportation, communications, and energy.

Plans for agriculture call for moderate growth in 1982. The overall value of agricultural production is targeted for a 4-percent increase, with the largest part coming from noncrop items.³ Grain production, the largest component of the value of agricultural output, is targeted for only a 2.6-percent increase during the year.

³Gross value of agricultural output, China's measure of overall farm-sector output, includes crops, livestock, forestry, aquatic products, and rural sideline industries. For details, see the feature on aggregate measures of farm-sector output.

The draft budget for 1982 indicates another year of stringency, as China attempts to limit the inflationary pressures that developed in 1979 and 1980. The central Government's budgetary expenditures are limited to a 4-percent increase, and the budget deficit is set at 3 billion yuan, only slightly more than in 1981 and substantially less than 1980's 12.8 billion yuan.

Foreign trade will continue to grow in 1982, but likely at a slower pace than in previous years (table 15). The 1982 plan indicates that the growth of exports is expected to slow because of the diversion of export commodities to domestic use. In addition, a trade deficit is planned for the year. China will apparently not make large use of foreign credits to cover import needs and to service debt. The debt policy remains conservative, and while ample credit lines are available, borrowing is limited and highly selective, concentrating on low-interest loans from international organizations and subsidized credits from foreign governments. The draft budget for 1982 anticipates foreign loan revenues of about \$2.6 billion during the year, a much smaller amount than the \$4.7 billion budgeted for 1981. Interest and debt repayment is scheduled to amount to about \$2.1 billion, so the planned increase in foreign debt is very small.

Slower growth in exports and only a small increase in debt will likely mean more pressure to control and limit imports. This is reflected in the 1982 plan, which calls for careful control of imports and foreign exchange. This restraint can also be seen in a number of recent press articles on the need to limit imports of consumer goods.

More Experimentation in Agricultural Policy

No major new initiatives in agricultural policy are likely during 1982. However, the year will be one of continued experimentation with new forms of organization and efforts to maintain the advances in productivity gained from the decentralization policies of the past several years. At the same time, the Government will attempt to reassert a greater measure of control over the direction of agricultural development by tighter planning and more restrictions on farm marketing.

The Government is now stressing the importance of science, technology, and better policies rather than massive infusions of government spending to generate greater agricultural production in coming years. This emphasis is partly a reflection of China's current fiscal situation. The budget is tight because of efforts to control inflation and to meet other sectors' demands for funds. So, only small increases in agricultural appropriations are planned this year. Furthermore, China has decided on no additional increase in procurement prices for farm products this year. Given the commitment to retail price stability, such an increase would only raise losses for the commercial system and expand the size of budget subsidies required to cover the losses. The subsidies rose sharply following the major increase in purchase prices in 1979 and the smaller increases for selected crops in 1980 and 1981. Along with this limited financial support, supplies of major inputs, such as fertilizer, are expected to show little, if any, growth during the year.

The decision to limit direct government support and stress technology and policy is a return to a more traditional approach to agricultural development—the belief that proper policy can generate sustained growth without a large diversion of resources from other sectors. New policies paid substantial dividends in increased produc-

tion over the last several years. The rapid growth of production and farm incomes is due, at least in part, to improved efficiency and rising productivity generated by greater freedom to make decisions at the local level, to new incentive systems that tie income to production, and to greater regional specialization of production. How effective these policies will be in sustaining production growth over the longer run remains to be seen.

The focus of policy in 1982 is on organizational change and the improvement of rural payment systems. The central Government is attempting to streamline its policy-making and planning apparatus through administrative simplification. Organizational changes made so far this year include:

- Elimination of the State Agricultural Commission, the umbrella organization for agricultural planning and policy.
- Elimination of the Ministry of State Farms and Land Reclamation and the General Administration of Aquatic Products.
- Expansion of the Ministry of Agriculture into a new Ministry of Agriculture, Animal Husbandry, and Fisheries, which picks up many of the functions of the agencies that were abolished.
- Merging the Ministry of Cereals and the All China Federation of Supply and Marketing Cooperatives into an expanded Ministry of Commerce.

These measures, identified as only the first stage of a reorganization in the central Government, also include sharp cuts in staff size and mandatory retirement of older officials. A similar administrative simplification of provincial government is slated for next year.

Potentially more far-reaching changes are being proposed for the local level. These focus on a fundamental change in the nature of the commune, China's basic governmental unit since 1958. A draft constitution, circulated in April, would strip the communes of all governmental functions, transferring them back to townships, the basic administrative level before the commune period. The commune would only be an economic entity.⁴

One purpose of these changes is to enable different levels of government to plan and monitor agricultural production more efficiently, allowing faster reaction to rural developments. But, an equally important reason probably is to help tighten government control over the countryside. The primacy of the planned economy and the secondary role of markets is again being stressed in an effort to better control planting decisions and to strengthen government oversight over farm marketings of key crops, such as grains, cotton, and oilseeds.

A second element of farm policy receiving attention this year is the production responsibility system in agriculture. This is an ongoing area of experimentation, although 90 percent of the production teams have now adopted some form of production responsibility system. The challenge facing China's leaders is to develop and popularize systems that fit local requirements and effectively tie income to production, but which also maintain government control and avoid the destruction of the collective nature of China's agriculture. This is a difficult job, both practically and politically, and will remain an important and controversial issue throughout the year.

⁴For details on the communes and responsibility systems, see the feature on farm structure.

Crop Prospects Generally Good

With reasonably good weather for the remainder of the year, the production of most crops should increase in 1982. However, because of limited input supplies and weather problems to date, output will likely rise by smaller margins than in the past several years. One additional uncertainty this year is the extent to which the grain area will decline. The area fell by 6.7 million hectares—5.6 percent—between 1978 and 1981, because of less double cropping in areas where it was not economical and transfers of land from grain to cash crops. The loss of area is a major reason for the plateau in grain production between 1979 and the present. Higher yields have been largely offset by an ongoing reduction in area. Therefore, China's officials have called for a stabilization of the grain area and a halt to further net transfers of land to other crops. Despite this, some further slippage seems to be in progress this year. This will limit the increase in grain production and provide further momentum for a greater output of cash crops. Nevertheless, acreage shifts will likely be less than in the past several years.

Despite poor weather so far this year and limited availability of inputs, yields for most crops should rise under the impetus of continued favorable incentives, gradually improving management and cultivation practices, and ongoing varietal improvements. As usual, weather is a major unknown in this year's outlook. Drought over parts of the North China Plain last fall and this spring hurt winter wheat prospects and, in some areas, created problems for the planting and early growth of fall-harvested crops such as coarse grains, soybeans, peanuts, and cotton. In addition, drought in parts of this region has been long-lasting and has sharply reduced supplies of water for irrigation. This leaves fall-harvested crops more dependent than usual on good summer rainfall.

No Large Increase in Grain Production

China has planned for a record grain crop of 333.5 million tons, 2.6 percent over 1981's 325 million and 1 million over the 1979 record. With no drop in area, production at this level would require yields averaging 2.6 percent above last year and 5 percent higher than in 1979. The preliminary USDA estimates suggest that grain area, as measured by China, may be down by at least 1 million hectares this year, requiring even greater yield gains to meet the target. Because the summer harvest, which accounts for nearly 20 percent of total grain production, is now expected to be down several million tons, the fall harvest would have to increase by more than 10 million tons, or about 4 percent, in order to fulfill the plan. Such an increase is not likely, particularly if the fall-harvested grain area decreases again this year. Preliminary USDA projections for major grains in 1982 can be seen in the accompanying table.

Preliminary 1982 grain estimates

Crop	Sown area		Production	
	1982	Change from 1981	1982	Change from 1981
	Million hectares		Million tons	
Wheat	27.3	-.3	56.5	-2.0
Rice	33.0	-.2	144.0	.8
Coarse grains	31.5	-.3	84.0	1.5

Wheat production is expected to be off because of reductions in both the area and yield of winter wheat, which accounts for about 85 percent of total wheat production. The largest decline occurred in northern China, where drought probably reduced yields sharply. The area and production of spring wheat may rise, but this will only partially offset the drop in winter wheat output.

The rice area is expected to show another small decline this year because of continued cutbacks in double cropping. Given average weather, yields will likely increase. However, long-term growth in yield has been less for rice than for other major grain crops, and yields in 1981 were a record. So, the likely increase this year is relatively small.

Yields for coarse grains have been rising steadily; the average annual growth rate over the past 25 years has been in excess of 3 percent. While further growth is expected this year, the area will again be down. Corn area will continue to shift to soybeans and, to a lesser extent, to sorghum and millet. The area planted to corn expanded by 27 percent during the 1970's, but it decreased 7 percent between 1979 and 1981.

Other Crop Prospects Favorable

Production of cotton, oilseeds, and most other crops should increase this year. The area of many of these will expand again, and the higher procurement prices and new incentive systems put in place over the past several years should encourage larger yields.

Preliminary estimates put the 1982 cotton crop at 3.16 million tons, 6.4 percent over last year. The area is expected to increase by more than 5 percent. Unless drought in northern China has a greater impact than now seems likely, better management, the further spread of new high-yield varieties, greater use of pesticides, and a better nutrient balance in fertilizers should all contribute to higher yields. Greater concentration of the cotton crop in specialized production areas has so far had a positive impact on yields. But, it also increases the vulnerability of the crop to disease and insect infestations. Preliminary reports indicate that this is a greater problem this year than last. On balance, however, higher yields are expected.

A larger oilseed crop is also in prospect. A larger soybean area, better yields in the northeast following last year's weather damage, the 1981 price increase, and other incentive measures should have a positive impact on soybean production. The crop will likely increase by more than 5 percent, reaching 10 million tons for the first time since the late 1950's.

Production of rapeseed and sunflowerseed is also likely to rise. The rapeseed area increased again, and the weather in the main growing regions of central China was good. The crop may be up about 10 percent, continuing the growth of the past 5 years. The output of sunflowerseed, which has been extensively pushed as a source of oil in northern and northeastern China in recent years, should also rise. A further increase in area is expected, and, although press reports indicate disease problems, yields may also be higher.

Prospects for other oilseed crops are uncertain at this point, even though the peanut area may be unchanged, and yields are likely to drop somewhat. On balance, total oilseed production will likely be 5 to 10 percent greater than the 24.1 million tons produced in 1981.

A Plateau in Agricultural Imports

China's efforts to limit the growth of agricultural imports have been successful, at least in the short run. Since 1979, larger imports of grain have made possible the shift in area from grain to other crops and the drop in imports of products such as cotton, edible oils, and oilseeds. Agricultural imports reached a plateau in 1980 and 1981, after growing 41 percent annually between 1977 and 1980. Imports during 1982 may not exceed the \$5.3 billion of the past 2 years and could fall somewhat.

This cessation of import growth has had a clear impact on U.S. exports of farm products to China. These are expected to be about \$1.9 billion in fiscal 1982, 13 percent below 1981's record \$2.2 billion. No significant increase is likely in fiscal 1983, unless this year's crops are worse than is currently expected, or export prices strengthen substantially.

Grain is the one category in which somewhat larger import quantities are expected. Although government procurements of grain are likely to rise this year, continued growth in demand will lead to some increase in wheat imports.

A great deal of uncertainty surrounds coarse grain imports. Some growth is occurring in the development of intensive feeding operations in and around major cities, and there is some increase in mixed feed production for these operations. Therefore, the urban livestock sector is the most likely source of demand for coarse grain imports for feed. In addition, China has recently expressed interest in developing a corn sweetener industry. However, the scale of livestock and industrial operations is limited, and there appears to be a deliberate effort to tie the pace of development to the growth of Chinese coarse grain production. Therefore, no rapid expansion of coarse grain imports for feed or industrial use is imminent, and at least part of the coarse grains that are now imported are still for human consumption. This year's anticipated recovery in coarse grain produc-

tion—particularly in Heilongjiang, a major commercial grain area—should lead to some increase in the availability of corn from domestic sources. Consequently, no substantial increase in corn imports is expected. On the other hand, China will likely continue, and may slightly increase, imports of barley for feed use and beer production.

Pressures to import soybeans and soybean oil should decline with continued improvement in oilseed production and the availability of edible oils. The 65-percent growth in domestic oilseed production between 1977 and 1981 led to a sharp fall-off in soybean oil imports and a gradual drop in soybean purchases. This trend should continue in 1982. Exports of edible soybeans to Japan, China's major market, could increase somewhat.

Cotton purchases during 1982/83 are also likely to decline because of greater production and slower growth in consumption. China's production of cotton yarn, which grew by 10 percent annually between 1978 and 1981, is targeted for only a 3.4-percent increase this year. While rates of growth in the past several years have exceeded plans, some slowdown in yarn output is likely this year. The growth in textile exports is probably slowing. Meanwhile, synthetic fiber production is on the rise, and China has reportedly accumulated a year's production of unsold synthetic fabrics. Greater domestic and export sales of these fabrics are undoubtedly the focus of this year's plans, and retail prices for synthetics were cut late last year in an effort to stimulate sales.

While the growth of agricultural imports has temporarily stopped, China's ability to restrain increases over the longer run is open to question. China's leaders will have to find methods to generate substantial ongoing yield increases in the face of a substantial in the growth of input supplies if the twin goals of raising consumption and limiting agricultural import dependence and foreign exchange expenditures are to be met. (Frederic M. Surlis)

NEW DATA ON CHINA'S AGRICULTURE

During the last several years, China has resumed the regular release of economic information for the first time since the 1950's. Data now being published include a wide range of national and provincial-level statistics for recent years and a limited amount of time-series data covering the last three decades. While the information released so far is incomplete and presents a number of potential pitfalls, we are entering an era of greatly improved quantitative understanding of China.

Data are now systematically released in at least two different ways: 1) through annual State Statistical Bureau (SSB) communiqués on plan fulfillment and 2) in yearbooks, the first of which was published in late 1980. In addition, China's press now contains much more specific discussions of the economy and agriculture, and a number of specialized journals have either started publication or have resumed publication after a hiatus of nearly 25 years.

The SSB communiqués are released at the end of each April. They present production figures for major agricultural commodities and a variety of indicators of the rural-sector performance for the previous year. Coverage is fairly limited. For example, the 1981 communiqué contained production figures for total grains, wheat, rice,

tubers, and soybeans (a component of grain production in Chinese accounting). Production figures for other grain crops were omitted, and no area or yield data were presented.

The yearbooks are the most comprehensive source of data. Four have been published to date. Chinese-language originals of these volumes are difficult to obtain because of limited press runs, but English translations of tables and some of the important sections of text are available in the U.S. Government's translation series. China also reportedly is planning to publish an English edition of some of the yearbooks. The yearbooks published to date, together with the translation source for the agricultural sections, are as follows.⁵

- *Yearbook of the Great Encyclopedia of China, 1980*, Beijing, August 1980 (JP/AG No. 78263, June 10, 1981).
- *Yearbook of the Great Encyclopedia of China, 1981*, Beijing, July 1981 (not translated).
- *Almanac of China's Economy for 1981*, Beijing, 1981 (JP/EC No. 79546, November 30, 1981).
- *China Agricultural Yearbook 1980*, Beijing, November 1981 (JP/AG No. 80270, March 9, 1982).

⁵Full citations for the translation series mentioned here can be found at the front of this report.

These volumes are scheduled for annual publication. New economic and agricultural yearbooks are reportedly being readied for publication this summer.

The yearbook on agriculture is very important for those interested in developments in the rural sector. The one volume issued to date contains texts of major policy documents, laws, and regulations; articles on various aspects of agriculture; and more than 50 pages of tables. The data presented contain time series for area, yield, and production of a limited number of crops; time series on major livestock categories; other important national

production and input data; and extensive provincial material for 1 year—1979.

The 1980 agricultural yearbook contains data only through 1979. Figures for 1980 will not be available until the 1981 yearbook is published this summer. This 2-year time lag means that the analysis of the most recent years' performance and the monitoring of the current situation still require extensive reading of the Chinese press and translations of radio broadcasts carried by FBIS and JPRS. (Frederic M. Surls)

FARM STRUCTURE IN CHINA

China is in the midst of evaluating the performance of its farm production units. U.S. exporters should watch developments in China closely, because, in the past, changes in farm production units have affected agricultural output and imports. Over the past three decades, three types of farm production units—state farms, communes, and rural households—have been organized to achieve the national goals of: (1) raising per capita production and living standards; (2) increasing farm marketing to provide supplies for urban residents, light industry, and exports; and (3) maintaining political security in rural areas. There is a great disparity in the proportion of land cultivated and the output generated by the three types of units. For example, in 1979, state farms cultivated 4.4 percent of the country's arable land and produced 3.7 percent of total agricultural output. Communes are, by far, the most important farm units in China because they cultivate about 90 percent of the arable land and contribute nearly 80 percent of total production. Households cultivate 5 percent of commune land as private plots but generate about 17 percent of total output.

From 1961 to 1978, the basic organization of China's farm production units changed very little. But, since 1978, China's leaders apparently have been questioning the structure and functions of these units. The purpose of this article is to look at how farm production units are organized, as well as to examine the organizational problems and issues China's leaders now face with these units.

Farm Production Units Introduced

State Farms

China's long-range goal for the farm sector is to transform peasants into employees of state-owned farms where workers will eventually be remunerated on the basis of need. Most of the rural campaigns since 1949—such as the land reform program in 1949, the establishment of collective farms in 1956, and the construction of communes in 1958—can be seen as attempts by the Government and the Chinese Communist Party (CCP) to move China's agricultural sector closer to this final goal. In the view of China's theorists, state ownership of resources is preferred; collective ownership is an acceptable transition step to full state ownership; and private ownership is unacceptable.

There were 2,047 state farms in 1979. The largest group (990) specialized in grain and cotton. Livestock farms numbered 425. The rest produced a variety of specialty products, such as rubber, fruit, or tea.

Half of the state farms are located in frontier provinces in northern and southern China. In some cases, state farms have been used to bring new lands into cultivation and have been established as outposts in relatively inaccessible border regions. State farms use about 4.4 million hectares of the country's cultivated land, employ almost 5 million workers, and house over 10 million people within their borders. Irrigated area accounts for 34 percent of their arable land, compared with about 50 percent for communes. Agricultural work is more mechanized on state farms, as they use 7.6 percent of all the country's tractors and 64.4 percent of the combines.

The average state farm cultivates 2,128 hectares of land and employs 2,349 workers who are organized into subfarm and brigade units. Each farm is headed by a manager who relies on subfarm managers and brigade leaders to direct farm operations and implement decisions. The State owns the assets of these farms, so workers are wage earners and employees of the State.

Economic decisionmaking on state farms is quite tightly controlled by the Ministry of State Farms and Land Reclamation in Beijing. Investment decisions, production plans, purchases of inputs, and sales of farm products are controlled by government mechanisms. The Government, rather than farm managers or workers, is responsible for gains or losses from farm operations.

The Commune System

The rural people's commune (RPC) system, organized in 1958, is designed to integrate all aspects of rural life, including politics and administration; agricultural and industrial production; social services, such as education, health, and welfare; water conservation and basic construction; and public security and military affairs. The commune, roughly comparable in size to the old *xiang* (township) government, is the lowest administrative unit in rural areas. Administratively, the commune system is organized on four levels: commune-unit, production brigade (PB), production team (PT), and household.⁶

⁶For the purposes of this article, the terms commune and commune system are used to refer to the system as a whole, including all four levels, while the term commune-unit is used to distinguish that level from brigades, teams, and households.

Indicators of farm structure by province, 1979 and 1980¹

	State farms ²	Commune system				
		Communes	Production brigades	Production teams	Households	Population
		Units	Thousands		Millions	
Anhui	25	2,909	28.330	364	9.136	42.553
Beijing	16	263	3.986	12	.929	3.746
Fujian	124	880	13.689	147	4.166	21.285
Gansu	26	1,370	15.872	102	3.010	16.146
Guangdong	141	1,927	26.173	359	9.651	47.515
Guangxi	49	967	12.738	217	5.912	30.794
Guizhou	41	3,732	24.150	169	4.789	24.043
Hebei	33	3,645	50.144	256	10.541	45.009
Heilongjiang	103	1,075	13.652	59	3.705	18.540
Henan	94	2,059	43.121	375	13.448	65.427
Hubei	48	1,256	30.425	238	8.029	39.143
Hunan	88	3,304	46.378	420	10.627	46.158
Jiangsu	32	1,872	34.678	319	12.350	50.318
Jiangxi	158	1,650	23.380	229	5.287	27.949
Jilin	134	902	9.907	61	2.996	14.776
Liaoning	124	1,149	15.385	89	4.911	22.289
Nei Monggol	126	1,373	11.994	59	2.781	13.123
Ningxia	14	247	2.189	14	.526	.843
Qinghai	20	399	3.603	15	.469	2.675
Shaanxi	18	2,522	30.145	143	4.910	23.953
Shandong	18	2,092	83.927	364	15.149	65.375
Shanghai	30	204	2.929	29	1.234	4.283
Shanxi	34	1,887	30.707	107	4.910	20.323
Sichuan	140	8,373	74.647	523	19.492	86.218
Tianjin	15	219	3.879	15	.812	3.601
Xinjiang	323	603	7.109	33	1.686	6.986
Xizang	9	2,060	NA	10	.310	1.513
Yunnan	35	1,401	13.455	156	5.152	27.658
Zhejiang	70	3,008	42.021	270	7.991	33.145
Total	2,088	53,348	698.613	5,154	174.911	³807.390

NA = not available.

¹Unless otherwise specified, all data are from China Ag Yearbook, 1980, p. 6. ²Numbers of state farms for 1980 can be found in *Yearbook of the Great Encyclopedia of China, 1981*, Beijing, July 1981, p. 265. ³Provincial figures do not add to the total. There is likely an error in one of the provincial figures.

Assets in the commune units, brigades, and teams are collectively owned by farm families living within the boundaries of the communes, as opposed to state ownership for state farms. Initially, the commune-unit was made the all-important "basic unit of account," which identifies which unit: (1) makes final economic decisions, (2) distributes income, (3) takes production risks and calculates profits or losses, and (4) owns most of the fixed assets. This arrangement proved inefficient, and by the early 1960's, the team became the basic accounting unit. This has continued through the present.

Over the years, the Government and Party have implemented programs and constructed institutions with the power to counterbalance strong autonomous forces in the teams. Production plans formulated by the Government direct teams to produce certain quantities of given crops. Marketing procedures specify that some crops, like cotton, must be sold only to the Government. For other crops, like grain and oilseeds, a fixed quantity must be sold to government grain stores before sales can be made in rural markets, which actually are regulated by the Government. Agricultural inputs must be purchased from government-controlled stores, and in some cases, prior approval to purchase major items, such as tractors, must be given by the Government and Party. The mobility of the means of production is limited by government

controls on the sale and purchase of farmland. Government regulations also forbid unauthorized population movements. Persons can neither enter nor exit the commune system. Production loans are available only from government-controlled banks, which also monitor financial transactions.

In 1979, 53,348 communes cultivated about 90 million hectares. The irrigated area in communes amounted to 46.2 million hectares, which was a little more than 50 percent of all land cultivated within the system. The commune system used 92.4 percent of China's large tractors, but only 35.6 percent of the combines.

Commune-units in the last 10 years have built up small-scale rural industrial enterprises, such as grain mills, oilseed presses, equipment repair shops, and brick kilns. Commune-units also formulate and guide the production plans implemented at lower levels. However, few commune-units serve as the basic unit of account. In 1979, only 54 commune-units in the entire country performed this function. In these particular communes, brigades and teams functioned only as labor and management subdivisions.

In 1979, there were 699,000 brigades, of which 51,767 or 7.4 percent served as the basic unit of account. Brigades serve as an administrative link between the commune-unit and teams. Brigades also run small indus-

The average size of units in the commune system

Level	Number of PT's	Number of households	Rural population	Labor force units	Arable land in hectares
			<i>In millions</i>		
National totals	5.154	174.9	807.4	294.2	89.7
			<i>In units</i>		
Average RPC	97	3,278	15,135	5,515	1,681
Average PB	7	250	1,155	421	128
Average PT		34	157	57	17

trial enterprises and provide education and medical services.

Teams numbered 5,154,000, and 97.3 percent were the basic units of account in the commune system. The lives of nearly 750 million farm people are deeply affected by this semi-autonomous institution. The team is the most important formally organized part of the commune system and should be considered China's main farm production unit.

On the average, the team cultivates about 17 hectares of land and has approximately 34 households, 157 persons, and 57 farm workers. Teams are, in essence, small-scale collective farms in which assets are collectively owned by the team members, who are compensated for their labor by means of the "labor-day work payment system." As farmers work in the fields, they are credited with labor days (a unit claim to a share of the team's net profit) according to the quality and quantity of work accomplished. Different kinds of measurements, such as assessment, fixed rate, piece rate, and contracts, are used to calculate labor days. At the end of each year, the team's gross income is totaled, and production costs, taxes, capital accumulation, and welfare costs are deducted. The resulting net income is then divided by the total number of labor days credited to all team members in order to calculate the value of a single labor day. The net income is then distributed to farm families according to the number of labor days earned by family members, as recorded in team account books. Farmers are part-owners of team assets and collectively share production risks. In contrast to state farm workers, who receive wages regardless of the profit or loss statement of their farm, team members receive income only if their team makes a profit.

Households

One of China's most pressing problems in transforming its agricultural sector has been the selection of incentive measures that motivate rural households to produce and market commodities but do not undermine political security in rural areas. To this end, three "capitalist elements"—private plots, rural markets, and production contracts to households—were incorporated into the collective farm and commune systems to provide incentives.

Households do not own the private plots they work, but are only allowed to use the land. However, ownership of homes, animals, and trees is permitted. In theory, 7 percent of the cultivated land allotted to teams can be used for private plots, but in fact, some communes have no private plots at all. Therefore, the average is probably closer to 5 percent. This percentage may rise, because in 1981 the Government recommended that up to 15 percent of arable land be allocated to private plot use.

Household members lavish attention and labor on these small plots of land, which produce most of China's vegetables, poultry, eggs, rabbits, and hogs. Grain, oilseeds, tobacco, and sugarcane are also grown on private plots. Members also work in their own homes, weaving straw mats and bags, sewing clothes, and manufacturing bamboo household goods. Some members are skilled workers and earn income for their families by plying their trades in the villages. These specialists include carpenters, brick and stone masons, painters, cement workers, and barbers.

A necessary part of private production activity is access to traditional rural markets. Households use these markets to sell their goods and to purchase the products and services they need.

A third capitalist element, the "production contract to household work measurement method," has been used on occasion to retain incentives in the commune system. Under this method, production teams assigned households to farm plots in a landlord-tenant type relationship. Teams guaranteed households credit for a specified number of labor days as payment for producing an agreed upon quantity of agricultural produce. The actual value of these labor days was determined at the end of the year, when team income was distributed. Often there was a provision that households could keep the output in excess of the contract.

The question of incentives has long been a critical issue in rural policy. During the Cultural Revolution from 1966 to 1976, a vigorous rural campaign was waged to discredit the use of the three capitalist elements. In fact, nearly every domestic radio broadcast and every newspaper article on agriculture carried the stern warning: Do not use *sanzi yibao* (more plots for private use, more free markets, more enterprises with sole responsibility for their own profit or loss, and the fixing of output quotas on a household basis).

Recent Changes in Farm Organization

As the Cultural Revolution came to an end, leaders in China began to debate the merits of their farm production organizations. The debate continues today and centers on the question: Can farm production units as constituted in 1976 achieve national agricultural goals?

State Farms

By 1977, policymakers began to see that state farms, communes, and households were not meeting the goal of increased marketings of agricultural products. To correct this deficiency and to secure a guaranteed supply of grain, cotton, oilseeds, and sugar, the Government

relaxed its policy on local self-sufficiency and urged the specialization of production in "commodity bases." Commodity bases are carefully circumscribed regions that have favorable natural conditions supporting high yields of a certain crop.

Rather than organize new kinds of farm production units to operate in the commodity bases, the Government encouraged the use of improved state farm units. Communes also could be used to some extent, but state farms are considered superior units because they market 35 percent of their output, compared with 17 percent from communes. With fewer workers and more capital per worker, the output per laborer is higher on state farms. Planners thus concluded that capital investments in state farms would yield higher marketing rates than if equivalent amounts were given to the commune system. The Government plans to support the state farms by equipping them with modern machinery, by allocating scientific resources to improve production technology, by training capable managers, by subsidizing farms that are in net loss positions, and by providing national funds for farm construction projects.

Commune/state farm comparison

Item	Commune	State Farm
	<i>Hectares</i>	
Area per laborer	0.32	0.91
	<i>Yuan</i>	
Income per laborer	83	255
	<i>Percent</i>	
Marketed share of output	17	35
	<i>Kilograms</i>	
Production per laborer:		
Grains	1,142	1,916
Meat	36.5	65.6
Production per hectare:		
Grains	2,782	2,047
Cotton	1,027	945
Soybeans	847	637

In spite of the recognized preference for state farms, the current review of the performance of farm production units has turned up no evidence to suggest that China's leaders are considering a dramatic increase in the number of state farms.

Communes

Articles published on the debate topic, "Can the commune system as constituted in 1976 attain national goals?" reveal three general positions: (1) hold fast to the status quo; (2) readjust elements in the system so it can function effectively; and (3) abolish the commune system.

Loyal supporters of the late Chairman Mao Zedong argue that the way communes were organized during the Cultural Revolution did curb capitalist tendencies in rural areas. The commune, with its flexible system of ownership, does allow basic units of account to shift from smaller teams to larger brigades and commune-units, as originally planned. These writers advocate that no changes be made in the system and warn that the use of capitalist incentive measures will severely corrode the socialist foundation of the nation.

A second group of writers believes that greater production can be achieved by readjusting selected elements of the commune system to improve incentives for farmers. This group argues that the integration of Government, Party, and economic management at the commune level has generated so much power that it overwhelms the semi-autonomous teams. An environment has been created in which cadres are able to coerce teams with impunity. For example, teams have sometimes been ordered by commune cadres to plant dryland crops in wet fields, which has resulted in reduced production and lower peasant income. Most important of all, this group of writers argues that production incentives for the teams are low, and teams have to pay cadres' salaries. In addition, they have little flexibility to make economic decisions based upon local conditions and are restricted in the kinds of sideline enterprises they can undertake. It is also argued that egalitarian payment systems do not reward workers for greater production. These writers advocate the revitalization of the team by strengthening team controls over their own resources, giving them greater freedom to make economic decisions, and encouraging teams to link the pay farmers receive with the actual work done.

A third group believes communes should be abolished. They recognize the same failures in the commune system as the readjustment group. They are, however, pessimistic that adjustments in a few elements will be sufficient to improve the overall functioning of the system. They argue that national agricultural goals can only be reached by revamping the whole system. They believe that the old *xiang* government should be reestablished, permanently separating politics from economic decision-making in farm production units. Teams should become small collective farms guided by plans established by the State. Farmers would be encouraged to produce more through the use of contracts that would correlate output with work done.

Thus far, the Government and the Party have accepted the arguments of those advocating readjustments to make the commune system more effective. The Government's new 1982 draft constitution proposes that politics and economic administration in the commune system be separated. If implemented, the new constitution would transform the commune-unit into an economic entity, and governmental, administrative, and political functions would return to reconstituted *xiang* governments. Recent policies reaffirm that the commune system should use the system of ownership at three levels, with the team as the basic unit of account. Commune-unit and brigade cadres are forbidden to transfer resources from teams or to arbitrarily raise the basic unit of account. Teams are given more autonomy to make economic decisions as long as the State's targets are fulfilled. Egalitarian distribution of income is to end, and farmers are to be motivated to work through the implementation of the socialist principle of remuneration according to labor. Specifically, teams are encouraged to use the production responsibility system or labor contracts to small work teams.

Households

The debate over how households should be motivated to work was reopened at the end of the Cultural Revolution. Supporters of the revolution argued that repressing private plots, rural markets, and production contracts to households had improved political security in rural areas.

The leaders favoring readjustment argued that team production incentives were low when private plots and rural markets were suppressed.

In March 1981, the Government made a significant proposal to increase the size of private plots, raising them to as much as 15 percent of cultivated land for those teams that did not use production contracts to households.

Rural markets reappeared at the end of the Cultural Revolution, and they numbered 37,890 in 1981. After an initial period of laxity, these rural markets have come under increasing government control.

With regard to the much-maligned system of production contracts to households, two 1978 Party directives explicitly forbade teams to use it. Nonetheless, the system was reintroduced, and in some provinces it has been used extensively. In late 1981, the CCP and the Government gave approval for teams to use the system.

These liberalization policies did improve incentives for households. For example, by 1980, the Ministry of Agriculture announced that 37.4 percent of rural per capita income came from household sideline production.

AGGREGATE MEASURES OF FARM-SECTOR PERFORMANCE

With the release of limited time-series data on China's agriculture, it is now possible to construct measures of the overall performance of some aspects of China's farm sector since the founding of the People's Republic in 1949. This article reports on two newly available measures—the gross value of agricultural output (GVAO) and the value of crop production—and examines several aspects of past performance.

The picture of events over the past 32 years is still incomplete; time series are available for only a limited number of crops and agricultural products, and some of the data now available is of uncertain quality. Production data for all years are only available for total grains, wheat, rice, cotton, sugarcane, sugar beets, and jute and hemp. Total oilseed production (a measure that excludes both soybeans and cottonseed) is available for all years except 1966-69, the most virulent phase of the Cultural Revolution. Complete time series are available for yearend inventories of hogs and large animals, but no series on livestock products is available. In fact, there is only scattered data for meat production. A fully representative measure of food production cannot yet be constructed, because time series on meat and other items, such as fruits and vegetables, are missing. These have been among the faster growing components of food production.

The quality of available data is also a problem. China's State Statistical Bureau did not function for much of the period between the late 1950's and the late 1970's. Training for statistical workers was downgraded, and many veteran workers were sent to the countryside or were shifted to other occupations. In addition, statistical work during part of this period was highly politicized, and objectivity took a back seat in favor of reporting rapid progress, whether real or imagined.⁷ Much basic data from this statistical interregnum may never be fully reconstructed.

⁷The most extreme example of this occurred during the Great Leap Forward in 1958. Grain production was initially reported as 375 million tons, nearly double the good crop of 1957. The new series revises the 1958 total down to 209 million tons.

Unresolved Issues Remain

The publication of the draft constitution must be regarded as the most authoritative statement to date regarding farm production units. Most areas in the country seem to have begun to construct commodity bases; to have given teams much more autonomy than before; and to have promoted the use of private plots, rural markets, and production contracts. The production responsibility system is being used by 90 percent of the teams in the country. Nevertheless, leaders in some areas still call for the abolition of communes, while some in other areas have resisted most of the reform efforts. Some teams use production contracts to households, while others bitterly oppose their use. The uneven implementation of the reforms strongly suggests that the structure and functions of China's agricultural units have not yet been established conclusively.

The fact that these issues remain unresolved adds one more element of uncertainty for U.S. firms exporting agricultural products to China. U.S. exporters should pay attention to any forthcoming changes in agricultural organization because they ultimately could affect China's demand for U.S. farm products. (Frederick W. Crook)

Despite these difficulties, a rough picture of output over the past three decades and of major changes in the structure of farm-sector production is now available.

Measuring Farm-Sector Output

Data now available permit construction of two series measuring changes in farm production over time. The first is based on GVAO, a total aggregating output in 5 subsectors—crops, livestock, aquatic products, forestry products, and rural sideline production. This is China's basic measure of farm-sector output and is reported annually in constant prices.⁸ A series covering all years since 1949 is available, as is the share of the 5 subsectors for selected years. GVAO in constant prices trended upward at an average compound rate of 3.2 percent a year between the mid-1950's and the late 1970's.

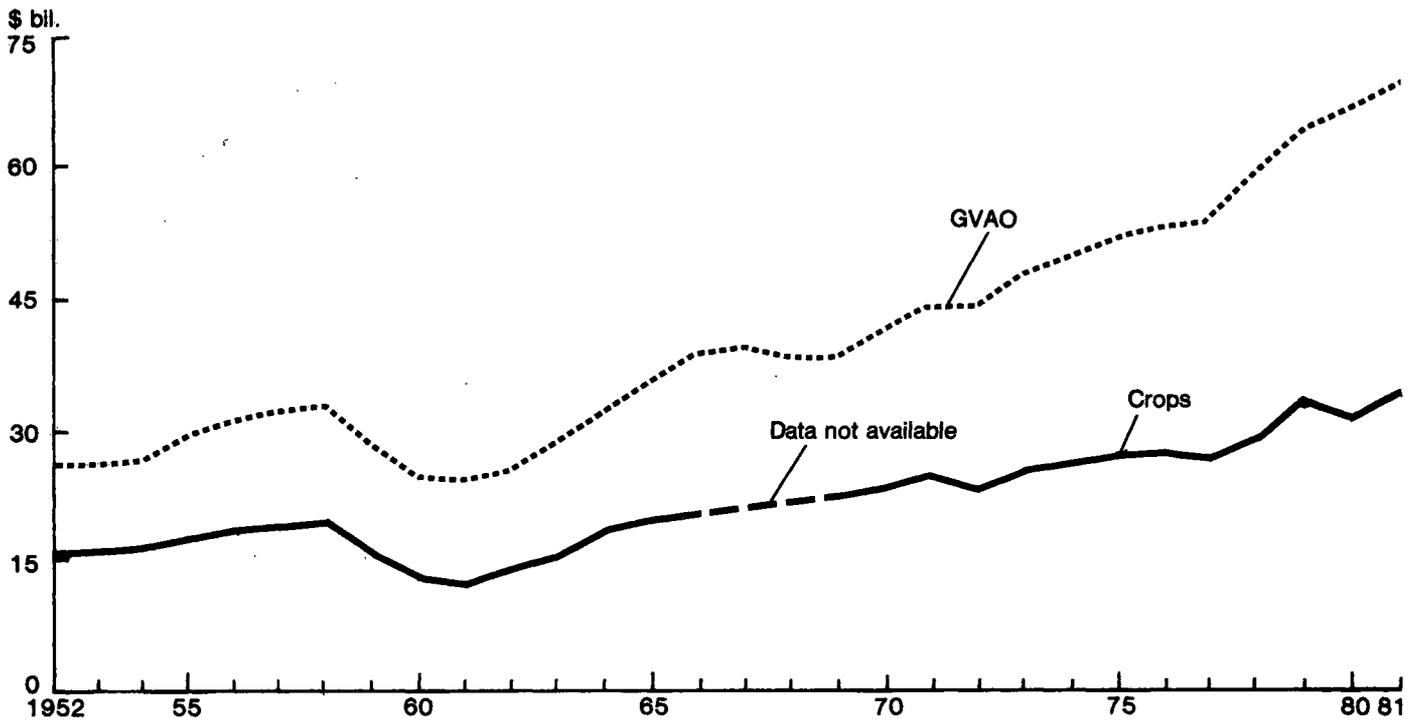
A second measure of aggregate production—the value of crop production—can be constructed to cover the years between 1949 and 1981, with the exception of 1966-69. This series is presented with the GVAO series in figure 1. Crop production, like GVAO, is valued in constant 1970 prices. It includes six crop categories: total grain (a complete breakdown by individual grain crops is still not available), cotton, oilseeds (total oilseeds only because a disaggregated series is not available), jute and hemp, sugarcane, and sugar beets.⁹ Grain production dominates this index, accounting for about 85 percent of the total value of crop production. While the list of crops is limited, it includes most crops for which production data are available for recent years. Coverage is about 75 percent of GVAO from crops. This can be seen from the relatively complete data available for 1980.

⁸The set of constant prices used by China in computing output has changed over time. The prices of 1952, 1957, 1970, and, starting in 1981, 1980 have been used. Data presented here are based on the series in 1970 prices.

⁹In Chinese accounting, grain consists of wheat, rice, coarse grains, other miscellaneous grains, pulses, tubers, and soybeans. Oilseeds include peanuts, rapeseed, sesameseed, sunflowerseed, and other minor oilseeds; cottonseed and soybeans are not included. Oilseed production data are missing for 1966-69, and no index has been calculated for those years.

Figure 1

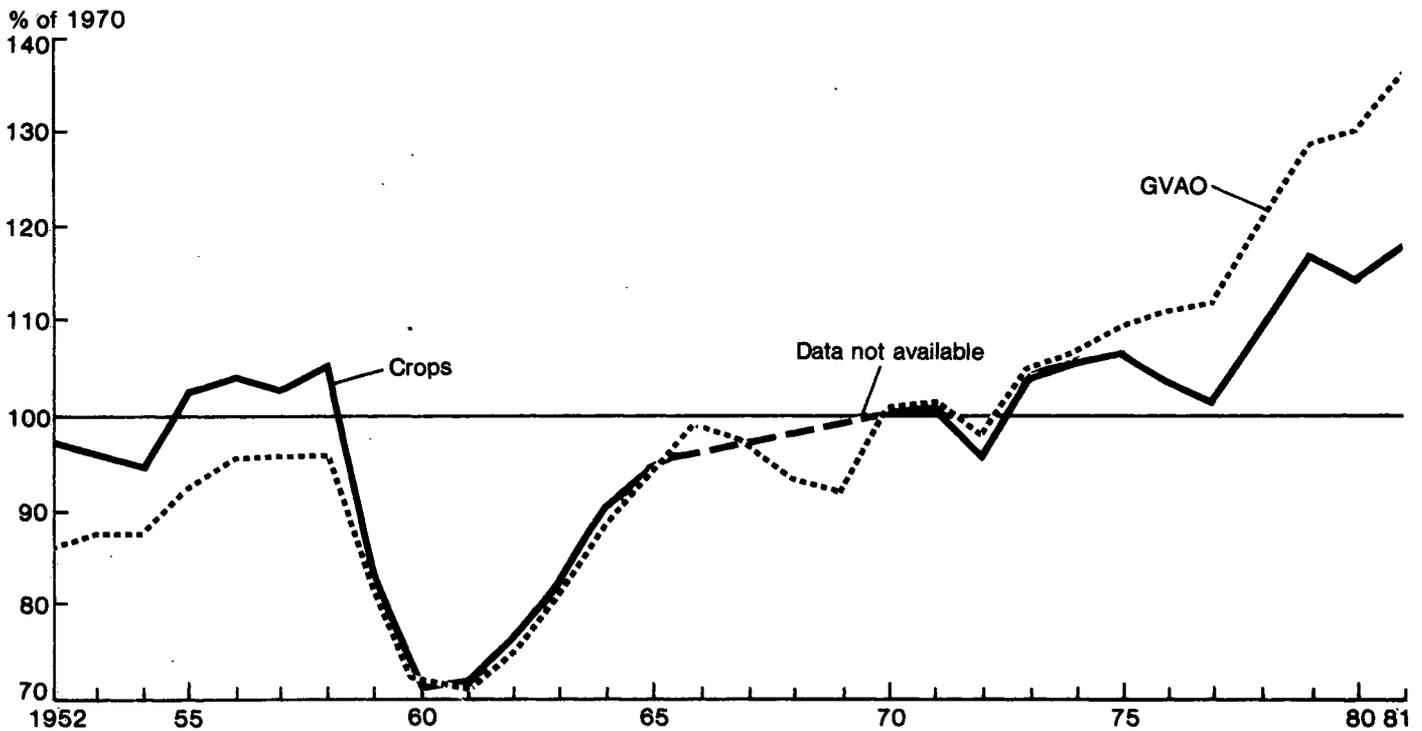
GVAO and Crop Production



Constant 1970 prices. Crop production for 1966—1969 is not available.

Figure 2

Index of Per Capita GVAO and Crop Production



Crop production for 1966-69 is not available.

GVAO from crops, 1980
 — Value (million dollars)—

Grains	26,912
Oilseeds	1,728
Cotton	2,502
Jute and hemp	175
Sugarcane	306
Sugar beets	147
Total, crops in index	31,770
Tea, tobacco, fruit	1,280
Total, known crops	33,055
GVAO from crop production	42,497

The items that are counted in GVAO from crop production but are not picked up in the crop production index presented here are largely vegetables and melons, fodder and green manure, and other miscellaneous crops.

The value of crop production has grown more slowly than GVAO in most years. Part of the reason for the divergence is expanding statistical coverage of items included in GVAO. For example, the scope of coverage of rural industry expanded in 1975, and there are other sources of bias in the GVAO data as well. However, much of the difference is real, the result of a relatively rapid growth of sideline production and, to a lesser extent, of livestock output.

The changing structure of the rural sector can also be seen in the breakdown of GVAO, which is available for selected years. Part of the changes that are apparent arise from peculiarities in the statistics; e.g., the use of a different set of prices for calculating the 1957 shares and more complete coverage for sidelines in recent years. Despite these qualifications, the declining importance of crop production and the growth of rural sideline enterprises are major characteristics of China's rural development. A push for the diversification of the rural economy has been a major element of Chinese rural-development strategy since the 1950's, and it remains important today.

Share of GVAO

GVAO from:	1957	1975	1980
	<i>Percent</i>		
Crops	80.6	72.5	64.3
Livestock	12.9	14.0	14.2
Aquatic products	.5	1.5	1.3
Forestry	1.7	2.9	3.1
Sidelines	4.3	9.1	17.1

What the Indices Show

These measures of farm production over the last three decades point up several interesting features of agricultural performance. First, the extent of the drop in production in the early 1960's, following the failure of the Great Leap Forward and the rupture of Sino-Soviet relations, can be more accurately quantified. At the depth of the depression in 1960 and 1961, per capita farm output, as measured by GVAO, had dropped by 26 percent from

1957 (figure 2). The drop in crop production was even greater, with the per capita index falling by 31 percent over the same period. The decline in crop production is a rough measure of what happened to China's food supplies during the period. Because of food shortages, population, which had been increasing by 13 to 14 million people a year through the 1950's, stopped growing in the early 1960's and may actually have declined. Growth did not resume until 1963. It is clear that this was a period of extreme hardship for China's people.

Second, the period between the late 1950's and the mid-1970's was one of very uneven agricultural growth. For the period as a whole, crop production only managed to keep pace with population growth, although per capita production in the rural sector, as measured by GVAO, did grow slowly. While there was some improvement in the supplies of food not covered in the crop production series—particularly fruit, vegetables, and meat—food consumption on a per capita basis probably did not climb back to the levels of the 1950's until 1973 or 1974. Consumption slipped again in the turmoil immediately before and after the death of Mao Zedong in 1976.

This stagnation of production, consumption, and consequently incomes occurred despite rapid increases in supplies of modern inputs for agriculture—more fertilizer, the spread of improved varieties, and a substantial expansion of irrigation, particularly in northern China. Inefficient farm policies, which dulled incentives and laid one-sided stress on grain production, contributed to declining productivity in China's agriculture.

At the time that new leadership committed to economic growth emerged in the post-Mao period, agriculture had become an increasing drag on the economy and a major obstacle to efforts to raise income, consumption, and industrial production. This explains why agricultural development has received such a strong emphasis over the last 4 years.

Since 1977, the farm sector has experienced the most sustained overall expansion of the last three decades, with the exception of the recovery from the 1959-61 depression. This period has seen an ongoing rise in grain production and even more rapid growth of output in other parts of the rural economy. Average annual growth rates for 1977-1981 were (in percent):

GVAO	6.7
Crops	5.2
Grain	3.5
Oilseeds	26.2
Cotton	9.7
Sugar crops	15.6

This rapid progress has arisen from a combination of factors: rapid input growth, particularly chemical fertilizers; new policies that have improved incentives and encouraged diversification; and the employment of a large reservoir of previously untapped production created by earlier inefficiencies and wasteful use of resources. In some ways, the current period is a phase of recovery similar to that of the early 1960's. The sustainable rate of agricultural growth over the long run is far below that of recent years. (Frederic M. Suris)

Table 1--Sown area, yield, and production of grains, 1977-81 ^{1/}

Grain	1977	1978	1979	1980	1981
<u>Million hectares</u>					
Sown area					
Wheat	28.07	29.18	29.36	28.90	27.60
Rice	35.53	34.42	33.87	33.40	33.20
Coarse grains	33.90	33.50	33.10	32.30	31.80
Corn	19.60	20.00	20.20	19.30	18.80
Sorghum	3.80	3.50	3.20	3.20	3.30
Millet	4.50	4.30	4.20	4.20	4.30
Barley	4.50	4.20	4.00	4.10	4.00
Oats	1.50	1.50	1.50	1.50	1.40
Tubers	11.23	11.80	10.95	NA	NA
Others ^{2/}	11.67	11.69	11.98	NA	NA
Total ^{3/}	120.40	120.59	119.26	116.50	113.90
<u>Tons/hectare</u>					
Yield ^{4/}					
Wheat	1.46	1.85	2.13	1.88	2.12
Rice	3.61	3.98	4.25	4.17	4.31
Coarse grains	2.09	2.36	2.51	2.63	2.59
Corn	2.53	2.80	2.98	3.16	3.14
Sorghum	2.03	2.31	2.38	2.47	2.42
Millet	1.36	1.54	1.45	1.55	1.49
Barley	1.32	1.66	1.92	1.85	1.85
Oats	1.00	1.00	1.06	1.20	1.21
Tubers	2.64	2.69	2.60	NA	NA
Others ^{2/}	1.09	.26	1.18	NA	NA
Total ^{3/}	2.35	2.53	2.78	2.75	2.85
<u>Million tons</u>					
Production					
Wheat	41.08	53.84	62.73	54.16	58.49
Rice	128.57	136.93	143.75	139.26	143.21
Coarse grains	70.70	79.20	83.00	84.80	82.50
Corn	49.50	55.90	60.00	61.00	59.00
Sorghum	7.70	8.10	7.60	7.90	8.00
Millet	6.10	6.60	6.10	6.50	6.40
Barley	5.90	7.00	7.70	7.60	7.40
Oats	1.50	1.50	1.60	1.80	1.70
Tubers ^{5/}	29.65	31.74	28.46	27.85	25.00
Others ^{2/}	12.73	3.06	14.18	14.45	15.82
Total ^{3/}	282.73	^{6/} 304.77	332.12	320.52	325.02

NA = not available.

^{1/} Data presented here are official figures released by the State Statistical Bureau (SSB) or the Ministry of Agriculture, except for (1) area figures for 1980 and 1981, (2) total and individual coarse grain production figures for 1980 and 1981, and (3) barley and oat production and area for 1977-79. The coarse grain series is inconsistent with the USDA historical series for years prior to 1976 (available in previous issues of this report and in various Foreign Agricultural Service grain circulars). No effort has been made to revise the historical series, and users should be aware of the potentially misleading results obtained by combining the data presented here with the pre-1976 series.

^{2/} Consists of soybeans, pulses, and other miscellaneous grains. All of these items are included in China's definition of total grains.

^{3/} PRC definition. The SSB has revised the 1980 total grain figure from the 318.22 million tons reported last year. USDA has allocated the entire 2.3-million-ton revision to the coarse grain category.

^{4/} Calculated from area and production figures.

^{5/} Converted to a grain-equivalent weight using a 1/5 conversion ratio.

^{6/} As reported by the SSB. Given the other reported components of grain production, the production of "others" calculated as a residual appears to be about 10 million tons too low. The Ministry of Agriculture's breakdown of 1978 grain production given in China Ag Yearbook, 1980, p. 98, sums to 315.58 million tons, suggesting that the official SSB figure is nearly 11 million too low.

Table 2--Total grain production by province, 1979-81 1/

Province	1979	1980 2/	1981 3/	Claim for 1981 output 4/	Source of 1981 report
-----Million tons-----					
Anhui	16.09	14.54	17.87	As reported	RmRb 2/28/82 p. 2
Beijing	1.73	1.86	1.81	As reported	JP 4/21/82 p. 55
Fujian	7.62	8.02	8.10	As reported	JP 4/29/82 p. 24
Gansu	4.62	4.93	4.44	- 10 percent	RmRb 12/2/81 p. 2
Guangdong	17.38	18.08	16.44	As reported	JP 6/9/82 p. 4
Guangxi	11.73	11.91	NA	- slightly	SWB 1/23/82 C4
Guizhou	6.23	6.48	5.48	- 1.0 m.t.	SWB 11/25/81 A11
Hebei	17.79	15.22	15.75	As reported	FB 1/15/82 R4
Heilongjiang	14.63	14.62	13.00	As reported	FB 3/1/82 S1
Henan	21.34	21.48	22.50	As reported	FB 12/29/81 P2
Hubei	18.49	15.36	17.00	As reported	SWB 4/7/82 A9
Hunan	22.18	21.24	21.49	As reported	FB 12/8/81 P4
Jiangsu	25.14	23.57	5/	+ slightly	FB 12/7/81 O1
Jiangxi	12.97	12.40	12.75	As reported	RmRb 12/18/81 p. 1
Jilin	9.03	8.60	9.22	As reported	JP 5/11/82 p. 54
Liaoning	11.94	12.22	11.60	As reported	FB 3/9/82 S2
Nei Monggol	5.10	3.97	5.11	+ 28.6 percent	FB 2/9/82 R1
Ningxia	1.06	1.20	1.25	As reported	SWB 4/14/82 A10
Qinghai	0.82	0.96	NA	-	FB 11/27/81 T1
Shaanxi	9.09	7.57	7.50	As reported	FB 1/4/82 T1
Shandong	24.72	23.84	23.13	As reported	FB 4/29/82 O2
Shanghai	2.59	1.87	1.85	As reported	JP 6/21/82 p. 5
Shanxi	8.01	6.86	7.25	As reported	JP 5/3/82 p. 43
Sichuan	32.01	32.64	32.95	As reported	JP 4/7/82 p. 38
Tianjin	1.39	1.38	NA		
Xinjiang	3.94	3.89	3.85	As reported	FB 2/19/82 T2
Xizang	0.42	0.50	0.48	As reported	BR 1/25/82 p. 8
Yunnan	7.93	8.66	9.17	As reported	JP 5/6/82 p. 2
Zhejiang	16.12	14.35	14.85	+ 0.5 m.t.	FB 12/3/81 O2

NA = not available.

+ means increase over the previous year.

- means decrease from the previous year.

1/ Sources and data for 1969-78 provincial grain production can be found in Francis C. Tuan, "PRC Provincial Total Grain Production, 1969-79," Research Notes on Chinese Agriculture: No. 2, International Economics Division Staff Report, January 1981, IED, ESS, U.S. Department of Agriculture, 38 pages. Grain as defined by China includes wheat, rice, coarse grains, other miscellaneous grains, including pulses, tubers expressed in grain-equivalent weight, and soybeans.

2/ Figures in the 1979 and the 1980 columns are official statistics that can be found in the Yearbook of the Great Encyclopedia of China, 1981, Beijing, July 1981, p. 277. The 1979 provincial grain statistics can also be seen in the China Ag Yearbook, 1980, p. 101.

3/ Claims in the press for 1981 figures are preliminary and probably will differ slightly from final figures that may be released later.

4/ This column gives the claim used to calculate the 1981 output figure when it was not reported directly. In cases where no 1981 output figure is available or derivable, the direction of change reported for the year is indicated.

5/ Jiangsu 1981 output was reported as 22.50 million tons and greater than the 1980 level. However, the 1980 official statistic was 23.57 million tons. The 1981 reported output is therefore considered as preliminary and excludes private plot production and state farm output.

Table 3--Grain production and sown area by province, 1979

Province	Production					Sown area					
	Total 1/:	Rice	Wheat	Corn	Tubers	Total 1/:	Rice	Wheat	Corn	Tubers	
	grains					grains					
		-- -- 1,000 tons -- --					-- -- 1,000 hectares-- --				
Northeast											
Heilongjiang	14,625	720	3,335	5,810	625	7,384	206	1,859	1,961	267	
Liaoning	11,940	2,120	85	6,285	135	3,326	374	50	1,392	62	
Jilin	9,030	1,020	175	5,335	220	3,600	261	168	1,596	91	
North											
Shandong	24,720	655	9,570	7,300	5,545	8,735	172	3,721	2,136	1,461	
Hebei	17,795	630	6,340	6,285	1,295	7,762	124	2,844	2,306	528	
Beijing	1,730	185	615	625	30	560	50	197	182	12	
Tianjin	1,385	255	490	425	20	585	63	213	158	8	
Henan	21,345	1,610	9,690	4,785	3,175	9,067	402	3,888	1,698	1,274	
Shanxi	8,005	60	1,830	2,920	535	3,599	12	1,057	764	268	
Northwest											
Shaanxi	9,095	795	3,595	2,875	705	4,304	156	1,597	1,037	389	
Gansu	4,615	15	2,325	900	420	2,968	4	1,401	309	266	
Nei Monggol	5,100	35	1,085	1,685	395	4,042	16	952	670	277	
Ningxia	1,060	250	420	70	65	766	48	299	21		
Xinjiang	3,935	245	2,110	1,295	40	2,270	107	1,347	597	23	
Qinghai	820	--	480	--	70	420	--	202	--	37	
East											
Zhejiang	16,115	13,020	745	265	645	3,335	2,475	275	98	116	
Jiangsu	25,140	13,015	5,345	1,330	1,200	6,181	2,703	1,496	410	393	
Shanghai	2,590	1,815	190	60	5	492	325	43	13	0	
Anhui	16,095	8,890	3,900	455	1,775	6,288	2,195	1,950	198	848	
Central											
Hubei	18,495	12,645	2,835	1,100	955	5,489	2,731	1,255	412	421	
Hunan	22,185	20,005	350	270	1,150	5,704	4,507	267	156	398	
Jiangxi	12,965	12,350	140	15	295	3,844	3,387	136	9	121	
South											
Guangdong	17,380	15,420	355	65	1,390	5,598	4,252	405	45	687	
Guangxi	11,730	10,070	60	985	175	4,094	2,830	102	566	187	
Fujian	7,625	6,485	215	--	815	2,150	1,670	170	2	224	
Southwest											
Sichuan	32,010	14,350	5,165	4,870	5,810	10,250	3,005	2,286	1,646	1,990	
Guizhou	6,230	3,260	425	1,775	500	2,551	755	447	691	305	
Yunnan	7,930	3,825	705	2,250	470	3,687	1,043	664	1,060	232	
Xizang	425	5	155	--	--	207	1	66	--	--	
Total	332,115	143,750	62,730	60,035	28,460	119,263	33,873	29,357	20,133	10,952	

-- = none or negligible.

1/ In addition to crops listed here, the total grains category includes soybeans, sorghum, millet, barley, oats, and other miscellaneous grains.

Source: China Ag Yearbook, 1980, pp. 101, 103, 105-106.

Table 4--Area, yield, and production of oilseeds, 1977-81 ^{1/}

Item	1977 ^{2/}	1978	1979	1980	1981
<u>1,000 hectares</u>					
Area					
Soybeans	6,850	7,144	7,247	7,320	8,000
Cottonseed	4,845	4,867	4,512	4,900	5,100
Oilseeds, PRC	5,639	6,223	7,051	7,867	9,250
Peanuts	1,688	1,768	2,074	2,400	2,500
Rapeseed	2,218	2,600	2,761	2,841	3,850
Sesameseed	556	638	843	776	800
Sunflowerseed	250	320	367	850	1,100
Other oilseeds	927	897	1,006	1,000	1,000
<u>Kg/hectare</u>					
Yield					
Soybeans	1,058	1,059	1,029	1,076	1,156
Cottonseed	846	890	978	1,105	1,164
Oilseeds, PRC	712	839	913	978	1,103
Peanuts	1,167	1,345	1,361	1,500	1,530
Rapeseed	532	718	870	839	1,056
Sesameseed	432	505	495	334	638
Sunflowerseed	800	870	926	1,068	1,090
Other oilseeds	461	415	451	540	604
<u>1,000 tons</u>					
Production					
Soybeans	7,250	7,565	7,460	7,880	9,245
Cottonseed	4,098	4,334	4,414	5,414	5,936
Oilseeds, PRC	4,017	5,218	6,435	7,691	10,205
Peanuts	1,970	2,377	2,822	3,600	3,826
Rapeseed	1,180	1,868	2,402	2,384	4,065
Sesameseed	240	322	417	259	510
Sunflowerseed	200	279	340	908	1,200
Other oilseeds	427	372	454	540	604
Available oil ^{3/}	1,996	2,291	2,636	2,986	3,819
Available meal ^{3/}	5,330	5,974	6,635	7,282	9,094

^{1/} Oilseed data reported by China exclude soybeans (which are counted as part of grains) and cottonseed. Chinese reporting commonly gives total oilseeds, peanuts, rapeseed, sesame, and since 1979, sunflowerseed data. The "other" category is calculated as a residual and includes mainly linseed, castorbean, and minor amounts of other oilseeds, excluding oil-bearing tree seeds. Oilseed production for China, as reported in various USDA circulars, includes soybeans, cottonseed, peanuts, rapeseed, and sunflowerseed only.

^{2/} Most data for 1977-1981 are from official Chinese sources. Data for earlier years carried in previous issues of this report and in other USDA publications are largely estimated and have not been recently revised. Users should be wary of combining data for 1976 and earlier years with the data given here.

^{3/} Estimated for the marketing year following harvest by applying assumed crush and extraction rates to production, plus net imports of soybeans, soybean oil, and soybean meal.

Table 5--Selected oilseed production and area by province, 1979

Province	Production					Area				
	Soybeans	Peanuts	Rapeseed	Sunflower-- seed	Sesame seed	Soybeans	Peanuts	Rapeseed	Sunflower-- seed	Sesame seed
	--- 1,000 tons ---					--- 1,000 hectares ---				
Northeast	2,985.0	92.1	10.8	219.3	2.9	2,750.4	87.4	29.0	235.2	10.9
Heilongjiang	1,855.0	0.7	0.9	49.2	--	1,665.1	1.7	4.2	54.3	0.1
Liaoning	530.0	87.5	9.9	66.3	2.7	508.8	83.1	24.8	88.2	9.9
Jilin	600.0	3.9	--	103.8	0.2	576.5	2.6	--	92.7	0.9
North	2,055.0	1,454.8	166.2	21.3	137.5	1,927.4	930.9	232.4	23.6	381.4
Shandong	715.0	1,060.1	18.3	0.8	11.0	634.0	562.4	18.4	1.2	23.4
Hebei	360.0	230.8	12.5	6.7	17.4	276.4	195.5	16.8	6.8	39.7
Beijing	15.0	22.0	0.6	1.6	0.7	7.6	22.3	1.6	1.8	3.3
Tianjin	30.0	6.5	0.1	4.7	1.4	20.6	8.5	0.2	5.3	6.4
Henan	795.0	133.9	128.6	0.2	105.6	859.4	140.4	186.6	0.4	304.6
Shanxi	140.0	1.5	6.1	7.3	1.4	129.4	1.8	8.8	8.1	4.0
Northwest	360.0	7.5	222.6	90.8	4.9	447.0	6.2	345.9	97.4	11.3
Shaanxi	145.0	7.1	73.0	--	4.1	195.0	5.7	76.4	--	9.7
Gansu	45.0	--	21.7	10.2	--	31.9	--	34.7	8.2	0.1
Nei Monggol	130.0	--	24.7	50.9	--	182.8	--	70.8	57.2	--
Ningxia	20.0	--	0.1	1.0	--	22.4	--	0.5	2.2	--
Xinjiang	20.0	0.4	47.5	28.7	0.8	14.9	0.5	94.9	29.8	1.5
Qinghai	--	--	55.6	--	--	--	--	68.6	--	--
East	925.0	258.6	853.5	--	97.2	960.0	179.1	690.9	--	163.8
Zhejiang	105.0	12.3	254.3	--	3.7	64.8	5.6	183.3	--	3.8
Jiangsu	300.0	114.7	259.6	--	4.8	240.4	77.6	199.3	--	10.8
Shanghai	10.0	0.3	118.4	--	--	1.8	0.2	50.7	--	--
Anhui	510.0	131.3	221.2	--	88.7	653.0	95.7	257.6	--	149.2
Central	550.0	170.2	478.2	0.8	153.5	481.8	126.6	709.6	1.5	213.4
Hubei	275.0	66.2	148.8	--	104.5	224.4	36.4	189.6	--	128.2
Hunan	155.0	43.4	228.7	0.8	11.0	131.6	43.8	306.0	1.5	15.9
Jiangxi	120.0	60.6	100.7	--	38.0	125.8	46.4	214.0	--	69.3
South	240.0	690.6	25.2	--	10.8	333.2	620.0	75.7	0.3	40.1
Guangdong	100.0	428.7	7.1	--	5.3	130.0	386.6	23.0	0.2	21.9
Guangxi	95.0	144.8	2.7	--	3.8	152.8	153.8	9.3	0.1	15.0
Fujian	45.0	117.1	15.4	--	1.7	50.4	79.6	43.4	.0	3.2
Southwest	345.0	148.6	645.6	7.0	10.8	346.3	123.5	676.6	9.0	22.3
Sichuan	210.0	117.9	521.6	1.3	10.4	190.5	85.5	400.2	1.6	20.9
Guizhou	10.0	14.5	88.6	4.7	0.2	108.4	15.6	181.3	6.6	0.6
Yunnan	65.0	16.2	27.5	1.0	0.2	47.4	22.4	84.8	0.8	0.8
Xizang	--	--	7.9	--	--	--	--	10.3	--	--
Total	7,460.0	2,822.4	2,402.1	339.7	417.2	7,246.1	2,074.4	2,760.8	367.4	843.3

-- = none or negligible.

Source: China Ag Yearbook, 1980, pp. 107-109.

Table 6--Area, yield, and production of cotton, 1977-81 1/

Item	Unit	1977	1978	1979	1980	1981
Area	Million hectares	4.850	4.850	4.512	4.921	5.100
Yield	Kgs/ha	423	447	489	550	582
	Bales/ha <u>2/</u>	1.938	2.052	2.252	2.526	2.673
Production	Million tons	2.049	2.167	2.207	2.707	2.968
	Million bales <u>2/</u>	9.400	9.950	10.140	12.430	13.632

1/ Production is measured on a ginned-weight basis. Production data for 1977-81 are PRC official figures.

2/ Bales are 480 pounds.

Table 7--Major indicators of textile production, 1978-81

Item	Unit	1978	1979	1980	1981
Cotton yarn	Million tons	2.380	2.630	2.930	3.17
	Million bales <u>1/</u>	13.280	14.670	<u>2/</u> 16.286	17.580
Cotton cloth	Billion meters	11.029	12.150	13.470	14.270
	Billion square meters	10.286	11.430	12.800	NA
Chemical fibers	Thousand tons	284.600	326.000	450.000	527.000
Synthetic fibers	Thousand tons	NA	NA	297.990	385.000
Silk	Thousand tons	<u>3/</u> 29.690	29.749	35.400	37.400
Silk textiles	Million meters	<u>4/</u> 610.350	663.450	795.000	835.000
Woolen piece goods	Million meters	<u>4/</u> 88.840	90.170	<u>5/</u> 101.600	113.000

NA = not available.

1/ A bale of cotton yarn weighs about 179 kgs.

2/ FB 2/19/81, p. L-9.

3/ The 1979 figure is preliminary. The 1978 figure is derived from the 1979 figure and the reported 65-percent increase over 1978 (RmRb 12/19/79, p. 1).

4/ Derived from 1979 figure and reported percentage increase over 1978.

5/ FB 2/18/81, p. L-18.

Sources: Except where noted, all data are from State Statistical Bureau communiques on 1978, 1979, and 1980 plan fulfillment, in FB 6/27/79, p. L-13; FB 4/30/80, p. L-2; FB 4/29/81, p. K-9; and FB 4/30/82, p. K-16.

Table 8--Cotton production by province, 1979-81

Region and province	1979 <u>1/</u>	1980 <u>2/</u>	1981	Source of 1981 report
<u>Area in 1,000 hectares</u>				
Northern China	2,342	2,605	2,853	
Beijing	2	2	<u>3/</u> 2	Estimated
Gansu	7	7	<u>3/</u> 7	Estimated
Hebei	557	536	524	FAS, CH-1059, 9/50/81
Henan	555	603	600	FB, 3/27/81, p. 2
Liaoning	36	36	<u>3/</u> 37	Estimated
Shanxi	221	247	240	FB, 3/4/81, p. R-12
Shaanxi	250	247	253	FB, 5/13/81, p. T-2
Shandong	543	737	933	FB, 9/15/81, p. 0-10
Tianjin	10	10	<u>3/</u> 10	Estimated
Xinjiang	161	180	247	JP, AG, 6/18/81, p. 44
Central China	2,072	2,275	2,286	
Anhui	299	333	320	FB, 9/11/81, p. 0-3
Guangxi	2	2	<u>3/</u> 2	Estimated
Guizhou	1	1	<u>3/</u> 1	Estimated
Hubei	578	581	580	FAS, CH-1059, 9/30/81
Hunan	161	168	173	FAS, CH-1059, 9/30/81
Jiangsu	588	600	633	JP, AG, 7/23/81, p. 24
Jiangxi	99	105	110	FAS, CH-1059, 9/30/81
Shanghai	99	101	114	FAS, CH-1059, 9/30/81
Sichuan	253	282	255	FAS, CH-1059, 9/30/81
Yunnan	5	5	<u>3/</u> 5	Estimated
Zhejiang	86	97	93	JP, Ag, 7/2/81, p. 51
Total, sum of provinces	4,508	4,880	5,139	
Total, USDA <u>4/</u>	4,512	4,921	5,100	
<u>Production in 1,000 tons</u>				
Northern China	720.80	1,454.85	1,494	
Beijing	.65	.95	<u>3/</u> 1	Estimated
Gansu	2.00	2.70	3	FB, 12/30/81, p. T-1
Hebei	115.60	247.20	225	FB, 1/15/82, p. R-4
Henan	198.35	406.20	350	FB, 12/20/81, p. P-2
Liaoning	15.90	21.35	21	FB, 9/28/81, p. S-2
Shanxi	64.95	77.50	62	FB, 3/18/82, p. R-2
Shaanxi	102.45	80.85	76	Shaanxi Ribao, 11/5/81, p. 1
Shandong	166.80	537.30	650	JP, AG, 2/10/82, p. 44
Tianjin	1.10	1.60	<u>3/</u> 1	Estimated
Xinjiang	53.00	79.20	105	FB, 2/19/82, p. T-2
Central China	1,486.55	1,251.85	1,397	
Anhui	97.30	122.05	143	FB, 3/1/82, p. 0-2
Guangxi	.55	.70	<u>3/</u> 1	Estimated
Guizhou	.30	.50	<u>3/</u> 1	Estimated
Hubei	447.55	316.25	360	FB, 1/29/82, p. P-3
Hunan	93.70	96.25	100	FAS, CH-1059, 9/30/81
Jiangsu	531.70	418.10	529	JP, AG, 1/20/82, p. 35
Jiangxi	43.55	43.05	45	FB, 1/6/82, p. 0-2
Shanghai	89.40	76.25	<u>3/</u> 62	Estimated
Sichuan	111.25	94.60	<u>3/</u> 85	Estimated
Yunnan	1.65	1.20	<u>3/</u> 1	Estimated
Zhejiang	69.60	82.90	<u>3/</u> 70	Estimated
Total, sum of provinces	2,207.35	2,706.70	2,891	
Total, national figure <u>5/</u>	2,207	2,707	2,968	

1/ The most complete set of data for 1979 provincial cotton area and production can be found in the China Ag Yearbook, 1980, p. 107.

2/ Sources for 1980 area figures can be found in the previous issue of this report, p. 24. Provincial production figures for 1980 can be found in Yearbook of the Great Encyclopedia of China, 1981, Beijing, July 1981, p. 276.

3/ USDA estimate.

4/ Totals are those in the current USDA series as reported in Foreign Agriculture Service's World Crop Circulars. The USDA area series is easily within the margin of error likely present in the provincial area estimates.

5/ As reported by Chinese sources and carried in current USDA series (see 4/ above).

Table 9--Production of other agricultural products, 1977-81

Product	1977	1978	1979	1980	1981
			<u>1,000 tons</u>		
Tobacco	1,139	1,242	941	898	1,250
Tea	252	268	277	304	343
Jute and hemp	861	1,088	1,089	1,098	1,260
Silk cocoons	216	228	271	326	311
Aquatic products	4,695	4,656	4,305	4,497	4,605
Rubber	NA	(95)	97	103	128

() indicates derived from percentage increase.

NA = not available.

Source: All data are from various State Statistical Bureau reports.

Table 10--National livestock and livestock product data, 1977-81

Type	1977	1978	1979	1980	1981
			<u>1,000 head 1/</u>		
Hogs	291,780	301,290	319,705	305,431	293,702
Sheep and goats	161,360	169,940	183,142	187,311	187,730
Large animals <u>2/</u>	93,750	93,890	94,591	95,246	97,641
Cattle	70,340	70,720	71,350	NA	NA
			<u>1,000 tons</u>		
Total output of pork, beef, and mutton	7,800	8,560	10,624	12,055	12,609
Pork	NA	NA	<u>3/</u> 10,010	11,341	11,884
Beef	NA	NA	<u>3/</u> 230	269	249
Mutton	NA	NA	<u>3/</u> 380	445	476

NA = not available.

1/ Number at year's end.

2/ Including cattle, horses, mules, donkeys, and camels.

3/ Derived by using the percentage of 1980 production over that of 1979, as given by the State Statistical Bureau.

Source: All data, except where noted, are from various State Statistical Bureau reports.

Table 11--Livestock numbers and products by province, 1979

	Hogs		Large		Of which:				Sheep	Goats	Total	Pork	Cow
	Breed-	ing	domes-	tic	Water	Yellow	Horses	Donkeys					
Total	sows	animals	cattle	falo									
	----- 1,000 head 2/- ----- -1,000 tons -----												
Northwest													
Heilongjiang	7,983	974	2,739	1,010	--	1,555	46	64	221	2,236	363	349	121
Liaoning	11,889	1,158	2,839	1,321	--	613	498	384	314	1,357	341	333	43
Jilin	5,857	695	2,343	1,087	--	866	141	229	114	1,379	205	198	22
North													
Shandong	21,176	1,606	3,441	2,153	56	369	608	249	6,243	3,015	729	707	13
Hebei	13,522	1,107	3,469	1,263	--	799	782	608	4,159	3,129	342	327	23
Beijing	2,468	264	310	83	--	75	62	72	488	85	114	112	60
Tianjin	1,008	97	224	42	--	70	48	57	181	85	54	52	20
Henan	15,923	1,089	5,215	3,076	311	510	789	522	7,287	3,791	530	500	9
Shanxi	5,586	507	2,225	1,071	--	216	481	446	5,562	3,646	139	129	17
Northeast													
Shaanxi	8,223	561	2,451	1,723	29	118	339	234	4,711	1,782	198	189	16
Gansu	4,400	275	3,726	2,091	--	413	835	304	3,223	7,903	129	113	20
Nei Monggol	5,546	466	6,853	3,399	--	1,853	764	333	7,835	18,488	208	115	107
Ningxia	649	45	555	182	--	55	223	87	1,171	2,025	16	12	4
Xinjiang	1,037	126	4,671	2,296	--	1,109	1,038	17	3,718	16,429	107	32	56
Qinghai	763	66	5,565	4,880	--	428	151	74	1,664	14,296	75	21	96
East													
Zhejiang	15,500	1,151	848	423	411	--	--	--	1,067	2,389	569	560	31
Jiangsu	23,561	2,206	1,204	361	687	43	91	11	5,010	1,147	946	920	24
Shanghai	3,424	307	61	3	34	--	--	--	311	141	194	192	70
Anhui	11,319	628	2,644	1,090	1,078	164	258	50	2,781	850	509	483	5
Central													
Hubei	17,488	1,274	3,368	1,764	1,487	36	62	8	1,659	116	532	519	22
Hunan	21,205	1,615	3,297	1,587	1,696	4	4	2	874	3	775	768	6
Jiangxi	10,047	705	2,121	1,139	976	--	--	--	95	10	302	294	8
South													
Guangdong	20,095	1,507	3,832	1,309	2,506	--	--	--	408	--	624	615	20
Guangxi	11,030	570	4,332	1,944	2,207	170	1	6	872	3	374	366	3
Fujian	6,988	503	995	564	422	1	1	1	688	--	209	205	12
Southwest													
Sichuan	50,922	4,311	9,477	5,759	3,333	312	26	23	7,212	3,709	1,502	1,441	128
Guizhou	8,751	924	4,158	2,451	1,237	460	--	6	1,782	292	228	219	5
Yunnan	13,098	1,166	6,548	3,598	1,907	678	126	225	5,249	1,772	259	240	17
Xizang	247	45	5,080	4,742	--	228	99	11	5,675	12,490	51	2	93
Total	319,705	25,948	94,591	52,411	18,377	11,145	7,473	4,023	80,574	102,568	10,624	10,014	1,071

-- = none or negligible.

1/ Includes pork, beef, and mutton.

2/ Number at year's end.

Source: China Ag Yearbook, 1980, pp. 119-124.

Table 14--Cotton imports by country of origin, 1976-81 1/

Country of origin	Year beginning August 1				
	1976	1977	1978	1979	1980
	<u>1,000 tons</u>				
Asia <u>2/</u>	0	22.9	0	108.6	233.8
Africa and Middle East	63.4	85.6	86.2	102.1	69.0
Egypt	10.2	18.1	15.0	28.5	34.2
Iran <u>3/</u>	5.9	9.8	7.2	NA	NA
Morocco	0	0	0	0	5.7
Nigeria	1.5	0	0	0	0
Sudan	13.3	19.8	41.1	59.7	<u>4/</u> 12.4
Syria	28.1	25.5	15.0	10.0	<u>5/</u> 9.1
Tanzania	2.4	2.6	0.9	1.1	<u>6/</u> 0
Turkey	2.0	9.8	7.0	2.8	<u>5/</u> 7.6
Central and South America	60.8	125.9	233.4	155.1	60.8
Argentina	1.7	11.1	10.2	12.2	2.4
Brazil	1.5	4.6	8.9	0	NA
Colombia	0	0	0	.7	3.3
El Salvador	4.4	6.7	14.4	21.3	3.9
Guatemala	18.3	35.5	55.1	<u>7/</u> 56.2	NA
Mexico <u>8/</u>	16.8	17.9	95.6	64.7	51.2
Nicaragua	18.1	50.1	<u>5/</u> 49.2	NA	NA
United States	0	96.5	141.1	493.8	299.4
Sum from reporting countries	124.2	330.9	460.7	859.6	663.0
Total, USDA estimate <u>9/</u>	141.5	348.4	479.0	849.1	718.5

NA = not available.

1/ Marketing years beginning August 1, unless otherwise noted. Data as reported by exporting countries.

2/ Mainly Pakistan.

3/ Beginning of year varies between July 23 and August 2.

4/ August-March.

5/ August-May.

6/ August-December.

7/ November-June.

8/ July-June year.

9/ Includes estimated shipments from nonreporting countries.

Sources: Previous issues of this report; U.S. Department of Agriculture, Foreign Agricultural Service, Foreign Agriculture Circular, FC-1 82; and other third-country trade information.

Table 15--Foreign trade and economic indicators, 1977-81

	Unit	1977	1978	1979	1980	1981
Million dollars						
Total trade ^{1/}	Million dollars					
Total exports	dollars	8,101	10,118	13,751	19,493	22,400
Agricultural exports		2,648	3,118	3,629	4,327	4,900
Total imports		6,615	10,351	14,383	19,316	18,600
Agricultural imports		1,918	2,475	3,364	5,359	5,300
Trade balance	Million dollars					
All commodities	dollars	1,486	-233	-632	177	3,800
Agricultural products		730	643	265	-1,032	-400
Gross value of: ^{2/}	Million yuan					
Agricultural output	yuan	133,900	145,900	158,400	162,700	172,000
Industrial output		372,800	423,100	459,100	499,200	519,900
Population ^{3/}	Millions	945,240	958,090	970,920	982,550	996,220

^{1/} All values f.o.b. Data for 1977-80 are from Central Intelligence Agency, China: International Trade Annual Statistical Supplement, EA 82 10015, Feb. 1982. Figures for 1981 are preliminary. All data are derived from partner-country reports and therefore differ, sometimes substantially, from China's official statistics. Official Chinese data show exports of 14.0, 16.8, 21.2, 27.1, and 36.8 billion yuan and imports of 13.3, 18.7, 24.3, 29.9, and 36.8 billion yuan for the 5 years.

^{2/} Reported in 1970 constant prices.

^{3/} Reported at end of year.

Table 16--Grain imports by July/June years, 1977/78-1981/82 ^{1/}

Item	1977/78	1978/79	1979/80	1980/81	1981/82 ^{2/}
1,000 tons					
Total grain	8,639	10,969	10,786	14,728	14,500
Argentina	432	1,044	465	200	200
Australia	4,603	1,438	3,637	1,465	1,600
Canada	3,321	3,181	2,647	2,921	3,000
EC	0	0	79	642	100
Thailand	0	97	100	121	100
United States ^{3/}	283	5,209	3,858	9,379	9,500
Wheat	8,580	7,995	8,898	13,877	13,200
Argentina	373	885	465	200	200
Australia	4,603	1,438	3,572	1,421	1,500
Canada	3,321	3,181	2,647	2,921	2,900
EC	0	0	79	607	100
United States ^{3/}	283	2,491	2,135	8,728	8,500
Coarse grains	59	2,974	1,888	851	1,300
Argentina	59	159	0	0	0
Australia	0	0	65	44	100
Thailand	0	97	100	121	100
United States ^{3/}	0	2,718	1,723	651	1,000
Other	0	0	0	35	100

^{1/} Wheat and coarse grains only.

^{2/} Preliminary or estimated.

^{3/} Direct exports plus transshipments through Canada.

Sources: Official partner-country trade statistics.

Table 17--Trade in major agricultural commodities, 1977-81

Item	1977	1978	1979	1980	1981 <u>1/</u>
	<u>1,000 tons</u>				
Total grain imports	6,838	9,309	10,867	13,503	13,525
Argentina	850	191	912	665	126
Australia	2,985	2,435	3,033	2,018	1,285
Canada	3,003	3,275	2,742	2,627	3,142
United States <u>2/</u>	0	3,348	3,995	8,036	8,085
Other	0	60	<u>3/</u> 185	<u>3/</u> 157	<u>3/</u> 887
Wheat imports	6,838	7,985	8,287	11,659	12,655
Argentina	850	0	885	665	126
Australia	2,985	2,411	2,968	1,998	1,261
Canada	3,003	3,275	2,751	2,627	3,065
EC	0	0	0	0	586
United States <u>2/</u>	0	2,275	1,604	6,369	7,617
Coarse grain imports	0	1,324	2,517	1,828	762
Argentina	0	191	27	0	0
Australia	0	0	65	20	24
Canada	0	0	0	0	77
Thailand	0	60	34	141	140
United States <u>2/</u>	0	1,073	2,391	1,667	468
Other	0	0	0	0	53
Rice exports	1,033	1,435	1,053	1,053	600
Soybean exports	120	101	319	125	125
Japan	98	80	267	100	113
Soybean imports	364	109	532	665	512
United States <u>2/</u>	55	57	412	665	473
Soybean oil imports	166	108	112	120	59
Sugar imports <u>4/</u>	1,750	1,408	996	921	971
Cotton imports <u>5/</u>	348	479	849	719	566

1/ Preliminary or estimated.

2/ Direct exports plus transshipments through Canada.

3/ Includes rice imports.

4/ Raw value.

5/ Marketing year beginning August 1 of year listed.

Sources: Partner-country trade statistics; USDA estimates; tables 13, 14, 19, and 21.

Table 18—Recent grain agreements ^{1/}

Country	Date signed	Grain	Amount	Delivery period	Remarks
			Million tons		
Argentina	Sept. 1980	Wheat, corn, & soybeans	1.0-1.5 yearly	1981-1984	Replaces final year (1981) of May 1978 agreement, extends agreement to include soybeans, and sets a minimum amount for wheat. Sales by private contract.
	Sept. 1981	Wheat	.2	Nov.-Dec. 1981	
Australia	Aug. 1981	Wheat	.5	Nov. 1981-Jan. 1982	Cash sale for last 2 months of 3-year agreement. Final yearly total under agreement was 1.5 million tons, .5 million below agreed amount.
	Nov. 1981	Wheat	1.5-2.5 yearly	1982-1984	3-year long-term agreement, presumably with 12-month credit provisions similar to previous agreement.
	Nov. 1981	Wheat	1.0	Feb.-June 1982	First contract under 3-year agreement. Cash sale; not traditional 12-month credit terms.
	March 1981	Wheat	1.0	July-Dec. 1982	Terms similar to Nov. 1981 sale.
Canada	Feb. 1979	Wheat	8.4-10.5	Aug. 1979-July 1982	3-year agreement with 18-month credit terms.
	June 1981	Wheat	1.4	Aug. 1981-Jan. 1982	Cash sale.
	Nov. 1981	Wheat	1.5 + 5%	Feb.-July 1982	Cash sale. Completes final year of 3-year agreement.
	May 1982	Wheat	10.5-12.6	Aug. 1982-Aug. 1985	New 3-year agreement. Minimum amount 25 percent higher; maximum 20 percent higher. Credit terms changed from 18 to 12 months.
	May 1982	Wheat	1.7	Aug. 1982-Jan. 1983	Cash sale. First under fifth long-term agreement.
	July 1982	Wheat	.5	Aug.-Dec. 1982	Cash sale.
	July 1982	Wheat	.3	Aug.-Sept. 1982	Cash sale.
France	Sept. 1980	Wheat	0.5-0.7 yearly	Aug. 1980-July 1983	3-year agreement. Sales by private contract.
United States	Oct. 1980	Wheat & corn	6.0-8.0 yearly	1981-1984	4-year agreement (15 to 20 percent corn). Sales by private contract. Option to purchase up to 9 million tons without prior notification. Government-to-government consultations required for purchases below 6 or above 9 million tons.

^{1/} Contract data for earlier years are available in previous issues of this report. Contract data given here are as of June 1981.

Table 19--Oilseed and product trade, 1977-81 ^{1/}

Item	1977	1978	1979	1980	1981
	1,000 tons				
Exports of oilseeds	161	145	394	^{1/} 285	400
Soybeans	120	101	319	^{1/} 125	125
Peanuts (in shell)	25	30	50	^{1/} 70	215
Other	16	14	25	^{1/} 50	60
Imports of oilseeds ^{2/}	372	110	532	666	513
Soybeans	364	109	532	665	512
Exports of oils, edible & industrial ^{2/}	^{1/} 20	^{1/} 39	^{1/} 63	^{1/} 57	^{1/} 99
Soybean oil	2	6	4	0	2
Peanut oil	5	7	22	16	60
Rapeseed oil	5	8	11	10	10
Tung oil	^{1/} 5	^{1/} 12	^{1/} 18	19	12
Imports of oils, edible & industrial ^{2/}	320	278	319	353	201
Soybean oil	166	108	112	120	59
Coconut oil	12	27	21	29	24
Palm oil	25	11	51	^{1/} 60	26
Linseed oil	11	45	14	33	33
Tallow, edible & inedible	105	87	120	110	56
Exports of oil cakes and residues	30	49	41	^{1/} 69	190
Soybean cakes	10	19	12	29	112
Other cakes	20	30	29	40	78
Imports of oil meals					
Fishmeal	5	15	23	19	14

^{1/} Preliminary.^{2/} Totals include small quantities of others.

Sources: Partner-country trade statistics; Oil World Weekly; USDA estimates.

Table 20--Soybean and soybean oil imports, 1977/78-1981/82 ^{1/}

Item	1977/78	1978/79	1979/80	1980/81	1981/82 ^{2/}
	1,000 tons				
Soybeans ^{1/}	188	261	810	540	500
United States ^{3/}	55	142	810	500	458
Others	133	119	0	40	42
Soybean oil ^{1/}	184	122	100	80	25
United States	106	59	100	26	25
Others	78	53	0	54	0

^{1/} Soybean marketing year--September/August; soybean oil marketing year--October/September.^{2/} Preliminary or estimated.^{3/} Direct exports plus transshipments through Canada.

Sources: Partner-country trade statistics; USDA estimates.

Table 21--U.S. agricultural exports to China, 1977-81

Item	Fiscal years				Calendar years			
	1978	1979	1980	1981	1978	1979	1980	1981
	1,000 tons							
Wheat	1,047	2,683	4,149	8,138	2,275	1,604	6,369	7,513
Corn	--	2,754	1,788	725	1,073	2,390	1,667	468
Tobacco	--	--	--	--	--	--	--	--
Cattle hides ^{2/}	6	--	256	174	7	17	347	185
Soybeans	55	142	810	472	57	412	665	473
Cotton	111	141	514	254	127	250	463	249
Tallow, inedible	30	1	31	14	25	11	31	4
Soybean oil, crude	106	59	99	26	44	59	100	26
	1,000 dollars							
Wheat	133,764	357,015	691,675	1,420,317	291,184	221,406	1,087,309	1,298,277
Corn	--	291,588	225,500	108,889	111,726	268,547	224,540	62,466
Tobacco	--	--	204	54	--	2	202	54
Cattle hides	188	2	8,014	5,064	190	772	10,373	6,221
Soybeans	16,256	37,760	200,707	136,416	15,300	106,722	170,290	129,708
Cotton	150,863	193,495	754,535	481,438	157,305	357,042	701,298	463,965
Tallow, inedible	14,207	602	15,965	6,311	11,657	6,141	15,538	1,743
Soybean oil, crude	54,415	35,894	56,314	17,091	26,118	35,894	56,452	17,091
Others	440	816	4,059	8,226	826	933	11,922	6,061
Total agricultural	370,133	917,172	1,956,971	2,183,752	614,307	997,459	2,277,924	1,985,586
Total nonagricultural					244,943	726,341	1,540,060	1,787,656
Total exports					859,250	1,723,800	3,817,984	3,773,242

-- = None or negligible.

^{1/} U.S. domestic exports, f.a.s.-value basis. Exports include transshipments of agricultural products through Canada.

^{2/} Numbers in thousands.

Sources: U.S. Bureau of the Census, U.S. Agricultural Exports, country by commodity, various printouts, 1977-81; U.S. Department of Agriculture, Economic Research Service, U.S. Foreign Agricultural Trade Statistical Report, various issues.

Table 22--Major U.S. agricultural imports from China, 1977-81 ^{1/}

Commodity	1977	1978	1979	1980	1981
	1,000 dollars				
Meats, rabbit, n.e.s., fresh, chilled, frozen	275	1,045	950	943	684
Eggs, not chicken, whole	356	234	249	227	240
Fur skins, raw, undressed	19	252	105	476	128
Vegetables, fresh, chilled, frozen	187	249	235	268	857
Vegetables, dried, dehydrated	1,134	1,046	754	1,394	1,854
Vegetables, packed in salt brine, pickled, or prepared	469	602	942	3,378	8,681
Mushrooms	59	55	218	13,551	23,165
Nuts, edible	5,561	7,566	7,796	1,800	154,725
Peanuts	36	41	24	77	152,867
Fruits, edible, fresh, dried, preserved	1,067	1,017	1,381	2,142	2,987
Honey	200	237	6,534	6,664	7,366
Cocoa	1,571	1,592	0	0	1,671
Tea	5,186	4,750	7,660	9,922	10,731
Cassia and cinnamon spices	2,416	1,481	1,860	1,017	652
Other capsicum, cayenne red pepper	1,527	981	1,414	1,306	1,863
Other spices and spice seeds	597	455	883	493	1,540
Tobacco, unmanufactured	5	380	15	114	88
Tung oil	0	2,906	3,360	1,451	62
Other vegetable and nut oils	55	335	53	525	277
Licorice root	234	2,474	7,273	12,579	3,202
Food preparations	1,841	2,345	2,466	3,978	4,971
Intestines, sausage, casing	455	1,622	1,762	3,671	4,910
Feathers and downs	18,978	25,093	9,331	24,155	24,377
Bristles, crude and processed	8,719	6,928	9,636	9,074	6,914
Hair, horse, cattle, coarse animal, uncombed	1,120	859	947	1,917	2,382
Hair, camel	809	963	334	1,143	2,754
Hair, cashmere, goat	3,205	3,099	2,668	2,669	2,020
Silk, raw	2,343	4,517	6,442	4,267	6,863
Drugs, natural	1,487	248	614	1,007	1,388
Essential oils	5,115	6,705	5,007	13,327	9,882
Gelatin, inedible	1,149	3,183	1,657	3,165	1,897
Other agricultural commodities	976	745	3,138	6,485	10,197
Total agricultural commodities	67,115	83,964	85,684	133,108	299,328
Total nonagricultural commodities	135,545	239,986	462,816	909,219	1,530,699
Total imports	202,660	323,950	548,500	1,042,327	1,830,027

^{1/} Imports for consumption, customs-value basis.

Sources: U.S. Department of Commerce, Bureau of the Census, U.S. Agricultural Imports, country by commodity, various printouts; U.S. Department of Agriculture, Economic Research Service, U.S. Foreign Agricultural Trade Statistical Report, various issues.

Table 23--Production of major crops, 1949-81 ^{1/}

	Grains						
	Total ^{2/}	Wheat	Rice	Oilseeds ^{3/}	Cotton	Sugarcane	Sugar beets
	Million tons						
1949	113.180	13.810	48.645	2.564	.444	2.642	.191
1950	132.125	14.495	55.100	2.972	.692	3.132	.245
1951	143.685	17.230	60.555	3.620	1.031	4.629	.360
1952	163.915	18.125	68.425	4.193	1.304	7.116	.479
1953	166.830	18.280	71.270	3.856	1.175	7.209	.505
1954	169.515	23.335	70.850	4.306	1.065	8.592	.989
1955	185.935	22.965	78.025	4.827	1.518	8.110	1.596
1956	192.745	24.800	82.480	5.086	1.445	8.655	1.646
1957	195.045	23.640	86.775	4.196	1.640	10.392	1.501
1958	200.000	22.585	80.850	4.770	1.969	12.553	3.078
1959	170.000	22.180	69.365	4.104	1.709	8.979	3.168
1960	143.500	22.170	59.730	1.941	1.063	8.258	1.597
1961	147.500	14.250	53.640	1.814	.800	4.268	.796
1962	160.000	16.665	62.985	2.003	.750	3.443	.339
1963	170.000	18.475	73.765	2.458	1.200	7.802	.519
1964	187.500	20.840	83.000	3.369	1.663	12.162	1.304
1965	194.525	25.220	87.720	3.625	2.098	13.392	1.984
1966	214.000	25.280	95.390	NA	2.337	11.408	2.627
1967	217.820	28.485	93.685	NA	2.354	12.640	2.601
1968	209.055	27.455	94.530	NA	2.354	10.341	2.155
1969	210.970	27.285	95,065	NA	2.079	10.498	2.386
1970	239.955	29.185	109,990	3.772	2.277	13.457	2.103
1971	250.140	32.575	115.205	4.113	2.105	13.139	2.125
1972	240.480	35.985	113.355	4.118	1.958	16.416	2.322
1973	264.935	35.225	121.735	4.186	2.562	16.965	2.679
1974	275.270	40.865	123.905	4.414	2.461	16.432	2.289
1975	284.515	45.310	125.560	4.521	2.381	16.667	2.476
1976	286.305	50.385	125.805	4.008	2.055	16.631	2.932
1977	282.725	41.075	128.565	4.017	2,049	17.752	2.456
1978	304.765	53.840	136.930	5.218	2.167	21.116	2.702
1979	332.115	62.730	143.750	6.435	2.207	21.508	3.106
1980	320.220	54.155	139.255	7.691	2.707	22.807	6.305
1981	325.020	58.490	143.205	10.205	2.968	29.668	6.360

NA not available.

^{1/} Data as reported by the SSB. The historical series carried by USDA have not in all cases been adjusted to conform to this data.

^{2/} Includes wheat, rice, coarse grains, other miscellaneous grains, pulses, tubers, and soybeans. At some point in the early sixties the factor used for converting tubers to a grain equivalent weight was changed from 4/1 to the 5/1 ratio still used today. The SSB has not adjusted production figures for earlier years to reflect this change.

^{3/} See table 4 for an explanation of what is included in oilseeds.

Sources: China Ag Yearbook, 1980, pp. 34-36 for 1949 to 1979 data; SSB plan fulfillment communiques for 1980 and 1981 data.

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