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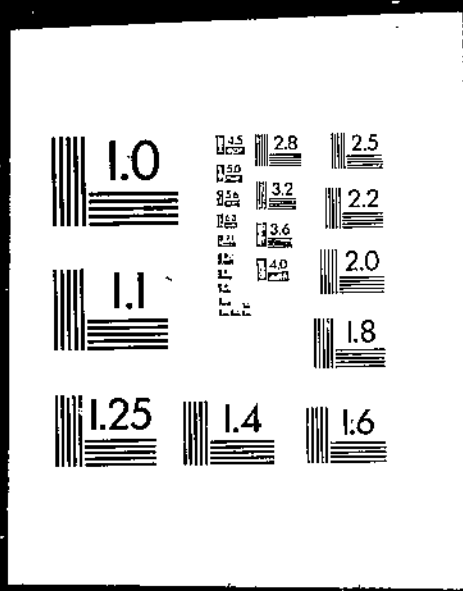
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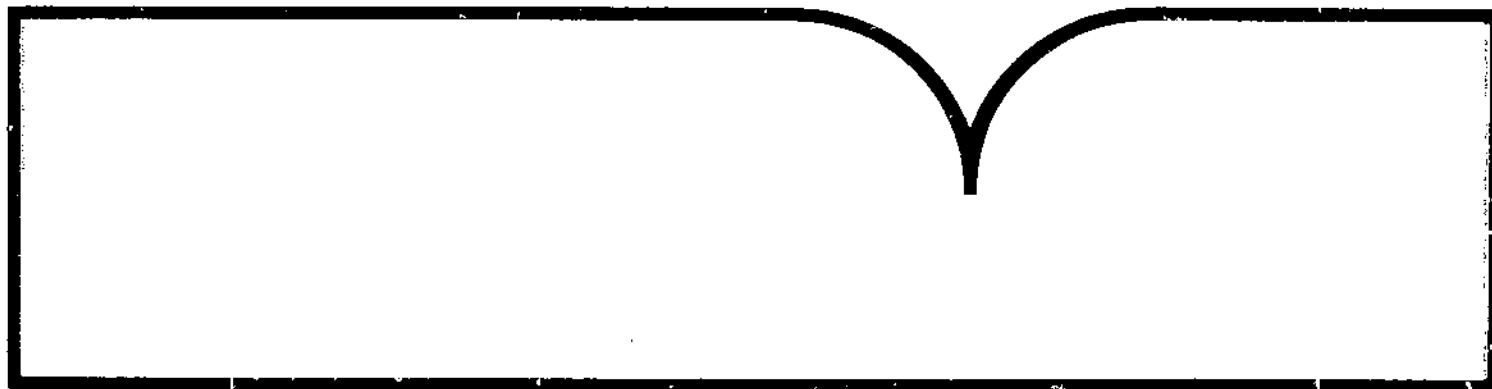


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Fertilizer Use and Price Statistics, 1960-85

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Harry Vroomen



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ABSTRACT

The rapid growth in fertilizer consumption throughout the sixties and seventies peaked at 23.7 million nutrient tons in 1981. U.S. plant nutrient use has since dropped by varying amounts because of fewer crop acres and stabilizing application rates. By 1985, plant nutrient use totaled 21.7 million tons. Farm fertilizer prices, while stable or declining during the sixties, have shown greater variability since 1974. Statistics in this bulletin include quarterly (or semi-annual) time series for farm fertilizer prices, annual farm and wholesale fertilizer price indexes, fertilizer consumption by plant nutrient and major product, and consumption of mixed fertilizers, secondary nutrients, and micronutrients. Also included are annual statistics on fertilizer use per acre by nutrient in the major producing States for corn, cotton, soybeans, and wheat (1964-85).

Keywords: Fertilizer consumption, primary plant nutrients, nitrogen, phosphate, potash, application rates, percentage of acreage fertilized, farm prices paid, producer price index, direct application materials, mixed fertilizer, secondary nutrients, and micronutrients.

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Fertilizer Use and Price Statistics, 1960-85

Harry Vroomen

INTRODUCTION

The sharp upward trend in fertilizer consumption throughout the sixties and seventies peaked in 1981 and then reversed direction. By 1983, the year of the Payment-in-Kind (PIK) program, total nutrient use had fallen by almost 25 percent. U.S. fertilizer use rebounded in 1984 and 1985 along with crop acreage and has returned to levels realized in the middle to late seventies. Farm fertilizer prices, while stable or declining during the sixties, have shown greater variability since 1974. After increasing significantly during the late seventies, farm prices of most fertilizer products have declined since 1981.

The demand for fertilizer and the prices of fertilizer products are important economic factors that affect the status of the fertilizer industry and the farm production sector. The abrupt changes in the consumption and prices of fertilizer have resulted in increased public and private interest in factors affecting the market for fertilizers. Primary data on fertilizer use and prices obtained from several Government agencies are presented. Much of the data in this bulletin has been reported in various Government and private sources. A consistent time series of the data, however, has not been readily available in a single source. Combining the data into one source allows the long-term changes in fertilizer use and prices to be examined.

FERTILIZER USE

U.S. consumption of nitrogen, phosphate, and potash for all purposes rose from a total of 7.5 million nutrient tons in 1960 to a record high of 23.7 million nutrient tons by 1981, an increase of over 217 percent (table 1 and fig. 1). ^{1/} Total nutrient use has fallen somewhat from this level along with total crop acreage, particularly in 1983 as a result of the PIK program, and totaled 21.7 million nutrient tons in 1985.

Nitrogen, phosphate, and potash have shared in the dramatic increase in fertilizer use. The relative use of nitrogen, however, has increased much more rapidly. In 1960, nitrogen consumption stood at 2.7 million nutrient tons, or 36.7 percent of total nutrient consumption. By 1985, nitrogen use had increased by 320 percent to 11.5 million nutrient tons and accounted for 53.1 percent of total nutrient consumption. This gain in nitrogen consumption has resulted primarily from favorable crop yield responses to nitrogenous fertilizers.

^{1/} All fertilizer use data are reported on a fertilizer-year basis that begins on July 1 of the previous year and ends on June 30 of the respective fertilizer year.

While nitrogen's share of total plant nutrient consumption increased over this period, phosphate's share declined from 34.5 percent in 1960 to 21.4 percent by 1985. Phosphate use, which increased by 119 percent from 2.6 million nutrient tons in 1960 to a peak of 5.6 million nutrient tons in 1977, has basically followed a downward trend since 1979.

Potash consumption, historically below that of both nitrogen and phosphate, surpassed phosphate consumption for the first time in 1977 and will likely hold this position for some time. Total use of potash increased by 193 percent, from 2.2 million nutrient tons in 1960 to 6.3 million nutrient tons in 1981. Since then, the consumption of potash has followed a downward trend paralleling that of phosphate. While the shares of total primary nutrient consumption held by nitrogen and phosphate have increased and decreased, respectively, potash's share has remained stable.

Commercial fertilizer consumption data for 1960-85 were obtained from various issues of Commercial Fertilizers, a report compiled by the Agricultural Statistics Board of USDA's National Agricultural Statistics Service (formerly the Statistical Reporting Service) (6, 7). ^{2/} These reports are based on fertilizer tonnage reports prepared by State fertilizer control officials and voluntary responses of more than 1,500 fertilizer manufacturers, blenders, and sales outlets. These reports represent all commercial fertilizer tonnage sold or shipped for farm and nonfarm use as fertilizer.

FERTILIZER USE BY SPECIFIC CROPS

U.S. consumption of nitrogen, phosphate, and potash is tied to total crop acreage. As crop acreage increases, fertilizer consumption naturally increases as well (table 2 and figs. 2-5). Subsequently, Government programs that encourage farmers to divert acreage from production can significantly affect fertilizer consumption. However, fertilizer use also changes as application rates on specific crops and the proportion of the acreage of those crops fertilized change over time.

Detailed information on fertilizer use is available for four principal crops. Fertilizer use data on corn, cotton, soybeans, and wheat have been obtained from annual surveys conducted since 1964 by USDA's National Agricultural Statistics Service. The survey includes the principal producing States of the four crops during each survey year. Significant per acre use differences between crops and between States are apparent in appendix tables 1-28.

Information for each crop includes plant nutrient application rates (figs. 6-8), the proportion of the crop fertilized with each plant nutrient (figs. 9-11), and the proportion of the crop receiving any fertilizer (fig. 12). Estimates are based on total harvested acreage for cotton, soybeans, and wheat, while estimates for corn are based only on that portion of the crop harvested for grain. ^{3/}

The proportion of total fertilizer used on corn, cotton, soybeans, and wheat has increased since 1964. In 1964, the first year for which detailed data are available by crop, production of these crops accounted for approximately 42.1 percent

^{2/} Underscored numbers in parentheses in the text and numbers in parentheses in tables and figures cite sources listed in the References section.

^{3/} All acreage data included in the report refer to harvested acreage, unless otherwise noted. Similarly, all corn acreage is on a harvested-for-grain basis.

of total plant nutrient consumption. ^{4/} By 1985, however, these crops accounted for an estimated 61.7 percent of total plant nutrient consumption.

Corn

U.S. farmers use more fertilizer on corn than on any other crop. In 1964, they applied an estimated 2.9 million tons of primary plant nutrients to their corn acres or about 28.2 percent of total nutrient consumption. By 1985, plant nutrient use on corn more than tripled to 9.5 million tons and accounted for 43.8 percent of total plant nutrient consumption.

The dramatic increase in fertilizer use on corn is primarily due to greater application rates but was also enhanced by a rise in the proportion of corn acres fertilized with nitrogen and an increase in overall acreage. Application rates of nitrogen and potash were 140 percent greater in 1985 than in 1964, while the rate of phosphate applied rose by 46 percent. While corn acreage increased by almost 36 percent over the period, nitrogen, phosphate, and potash use rose by 272, 118, and 225 percent, respectively. Phosphate application rates trended upward between 1964 and 1980, but they have declined since, while potash application rates have leveled off since 1980. Nitrogen application rates, on the other hand, have continued to increase.

Fertilizer application rates on corn also vary between States. Nitrogen application rates in 1985 were highest in Indiana at 162 pounds per acre (app. table 3), and rates in the Corn Belt are generally higher than the U.S. average. The application rate for nitrogen decreases to 66 pounds per acre for South Dakota, the lowest of the States surveyed. Application rates of phosphate and potash follow a similar pattern as farmers in Illinois and Indiana apply the greatest quantities per acre, while South Dakota farmers apply the smallest (app. tables 5 and 7).

Cotton

Of the crops surveyed, cotton consumes the smallest share of total U.S. plant nutrient consumption and the smallest amount of acreage. Cotton farmers applied an estimated 525,000 tons of primary plant nutrients in 1985, or only about 2.4 percent of the U.S. total (table 2). In 1964, however, combined application rates of 69 pounds for nitrogen, 49 pounds for phosphate, and 37 pounds for potash exceeded those of the other surveyed crops (app. tables 10, 12, and 14). During that year, cotton was second only to corn in total nutrient consumption and used an estimated 685,000 tons of primary plant nutrients, or 6.5 percent of the U.S. total.

Fertilizer use on cotton has generally followed changes in acreage, with phosphate showing the greatest decline among the three plant nutrients. Since 1964, cotton acreage has declined by 27 percent while nitrogen use has fallen by 16 percent. This drop in acreage has also resulted in a 41-percent decline in the use of phosphate and a 19-percent decline in the use of potash.

Fertilizer application rates on cotton vary significantly between States, especially for nitrogen and potash. Nitrogen application rates in 1985 ranged

^{4/} Estimates of fertilizer nutrient use by crop are computed as the product of the nutrient application rate per harvested acre, the proportion of harvested acres receiving that particular plant nutrient, and the harvested crop acreage.

from 34 pounds per acre in Oklahoma to 157 pounds per acre in Arizona, while rates of potash applied per acre ranged from 6 pounds in Arizona to 112 pounds in California (app. tables 10 and 14). Average application rates for each nutrient have also been affected by regional shifts in cotton production. Average application rates have generally declined as cotton acreage expanded in the South, where application rates for all plant nutrients are below the U.S. average.

Soybeans

Soybeans received an estimated 139,000 tons of primary plant nutrients in 1964, or about 1.3 percent of total U.S. nutrient consumption. Fertilizer use on soybeans increased dramatically from this level, and by 1979, total plant nutrient consumption on soybeans reached 1.7 million tons, constituting 7.4 percent of total consumption. These changes were due to the combined effects of an increase in the proportion of soybean acreage fertilized, an increase in application rates, and a 228-percent increase in acreage.

Since 1979, however, fertilizer use in soybean production has trended downward and in 1985 stood at 1.1 million nutrient tons. This decrease in fertilizer use stems from a drop in the proportion of soybean acreage fertilized and reductions in soybean acreage. Application rates for nitrogen and phosphate have remained relatively stable since 1979 but have continued to increase for potash. Overall, potash consumption has increased most significantly on soybeans. Consumption of nitrogen, phosphate, and potash increased by 427, 580, and 888 percent, respectively, from 1964-85, while soybean acreage doubled.

The rates of nitrogen applied to soybeans, a nitrogen-fixing crop, were relatively low and ranged from 10-26 pounds per acre in 1985 for the States surveyed, with a U.S. average of only 15 pounds (app. table 17). U.S. application rates of potash were significantly greater in 1985 at 72 pounds per acre and ranged from 13 pounds in Nebraska to 99 pounds in Indiana (app. table 21). Application rates of potash are generally higher in the Corn Belt, where soybeans are commonly rotated with corn.

Wheat

Wheat, the second most important crop with respect to fertilizer use, received an estimated 2.2 million tons of primary plant nutrients in 1985, or 10.3 percent of the U.S. total. This is a considerable increase from the 633,000 tons consumed in 1964 when wheat ranked third in total tonnage behind corn and cotton. Nitrogen consumption on wheat has risen the most over this period as total use of nitrogen increased by over 372 percent. Wheat acreage, however, stood at only 30 percent above its 1964 level in 1985. This rapid increase in nitrogen use is a result of application rates that have more than doubled and an increase in the proportion of wheat acres fertilized. While only 47 percent of all wheat acres were fertilized with nitrogen in 1964, the proportion had risen to 77 percent by 1985 (app. table 23).

The rates of phosphate and potash applied per acre of wheat have also increased over time, although not as dramatically as those of nitrogen. Subsequently, use of phosphate and potash has been more closely related to changes in wheat acreage. The use of phosphate and potash in wheat production increased by 124 and 145 percent, respectively, from 1964-85.

As with corn, cotton, and soybeans, fertilizer application rates for wheat differed between States. In 1985, nitrogen application rates ranged from a low of 28 pounds per acre in Montana to a high of 146 pounds per acre in Arkansas (app. table 24). Phosphate and potash application rates also differed significantly in 1985 and ranged from 26 to 66 and 11 to 76 pounds per acre, respectively (app. tables 26 and 28).

Other Crops

While detailed data on fertilizer use by crops other than corn, cotton, soybeans, and wheat are not collected in any consistent manner, an estimate of fertilizer use by other crops can be developed. Summing the total tonnage of each plant nutrient consumed by the four major crops and subtracting it from the total tonnage of each nutrient helps determine nitrogen, phosphate, and potash use accounted for by the remaining crops. By allocating this remaining nitrogen, phosphate, and potash to the production of principal crops other than corn, cotton, soybeans, and wheat, an average nutrient application rate for other crops (as a group) can be determined. ^{5/}

In 1964, crops other than corn, cotton, soybeans, and wheat are estimated to have used 52 percent of the nitrogen, 59 percent of the phosphate, and 65 percent of the potash consumed. By 1985, these proportions dropped to an estimated 39, 36, and 38 percent, respectively, as these crops used 4.5 million nutrient tons of nitrogen, 1.7 million nutrient tons of phosphate, and 2.1 million nutrient tons of potash.

Harvested acreage of other crops trended downward from 1964-85, while corn, soybean, and wheat production generally increased. The share of each plant nutrient consumed by crops other than corn, cotton, soybeans, and wheat subsequently declined. Trends in application rates of nitrogen, phosphate, and potash on other crops have resembled those of corn, soybean, and wheat but have generally changed at slower rates (fig. 13). While total acreage of other crops fell by almost 13 percent, estimated use of nitrogen and potash increased by 99 and 17 percent, respectively, while phosphate use dropped by 16 percent.

FERTILIZER PRODUCTS

While information on fertilizer is generally categorized by plant nutrient (nitrogen, phosphate, or potash), U.S. farmers purchase specific products to apply to their crops. These products can be classified as either direct application materials or mixed fertilizers. Direct application materials are fertilizer products that contain primarily one plant nutrient, while mixed fertilizers contain two or more.

In 1960, mixed fertilizers constituted almost 63 percent of total fertilizer consumption (table 3 and fig. 14). This share has steadily declined to below 40 percent by 1985 as the share of use accounted for by direct application materials increased from 37 to over 60 percent. Recent trends in the use of specific direct application materials suggest that farmers are using more higher analysis products.

^{5/} Other harvested crop acreage included is for sorghum, oats, barley, rice, rye, flaxseed, peanuts, sunflower, all hay, dry edible beans, potatoes, sweet-potatoes, tobacco, sugarcane, and sugarbeets.

Nitrogen Products

The consumption of major nitrogen direct application materials increased through the early eighties (table 4 and fig. 15). The trend since about 1973 has been toward anhydrous ammonia, nitrogen solutions, and urea and away from ammonium nitrate. These trends were induced by price changes that favored the use of higher analysis products that reflected economies in transportation, distribution, and storage and the ease and accuracy of applying nitrogen solutions.

Phosphate Products

The use of the major directly applied phosphate fertilizer products has trended downward since the early seventies (table 5 and fig. 16). The trend throughout the sixties and seventies was toward the increased use of triple superphosphates relative to normal superphosphates because of price changes reflecting transportation, distribution, and storage economies. Since 1979, however, consumption of triple superphosphates has declined by 35 percent, while the consumption of normal superphosphates has stabilized.

The use of diammonium phosphate (DAP), a mixed fertilizer material containing primarily 18 percent nitrogen and 46 percent phosphate, has increased dramatically since 1960. DAP consumption of 20,388 material tons in 1960 increased to almost 3.7 million tons by 1979. Since then, DAP consumption has been tied more closely to crop acreage as phosphate application rates have stabilized or declined and stood at 3.4 million material tons in 1985.

Potash Products

The use of potassium chloride, the only directly applied potash product considered, has increased more than thirteenfold from its 1960 level (table 5 and fig. 17). Potassium chloride use as a share of total potash consumption has increased from 82 percent in 1960 to almost 93 percent by 1985. While the sharp upward trend in use reversed along with total crop acreage after 1981, total use of potassium chloride remains high. Although total crop acreage in 1985 was down by over 6.5 percent from its record level in 1981, consumption of potassium chloride was off by less than 1 percent.

FERTILIZER PRICES

Throughout the sixties, domestic prices of most fertilizer products declined as growth in industry capacity exceeded growth in demand (tables 6-7 and figs. 18-21). As a consequence of this excess capacity, the Cost of Living Council under Economic Stabilization Program regulations froze domestic fertilizer prices at the producer level on August 15, 1971, because of "insufficient cost justification to implement price increases" (3). After the implementation of price controls, fertilizer prices rose faster in the export market, increasing the spread between domestic and world fertilizer prices. Consequently, domestically produced fertilizer moved into the export market. Meanwhile, U.S. crop production expanded, and to increase the availability of fertilizers essential to peak crop production in the United States, prices were decontrolled on October 25, 1973.

With decontrol came sharp increases in fertilizer prices. By the time they peaked in the spring of 1975, farm prices of most fertilizer products had doubled. However, by 1976, high fertilizer prices in 1975 had increased production and decreased consumption, causing fertilizer manufacturers' inventories to increase.

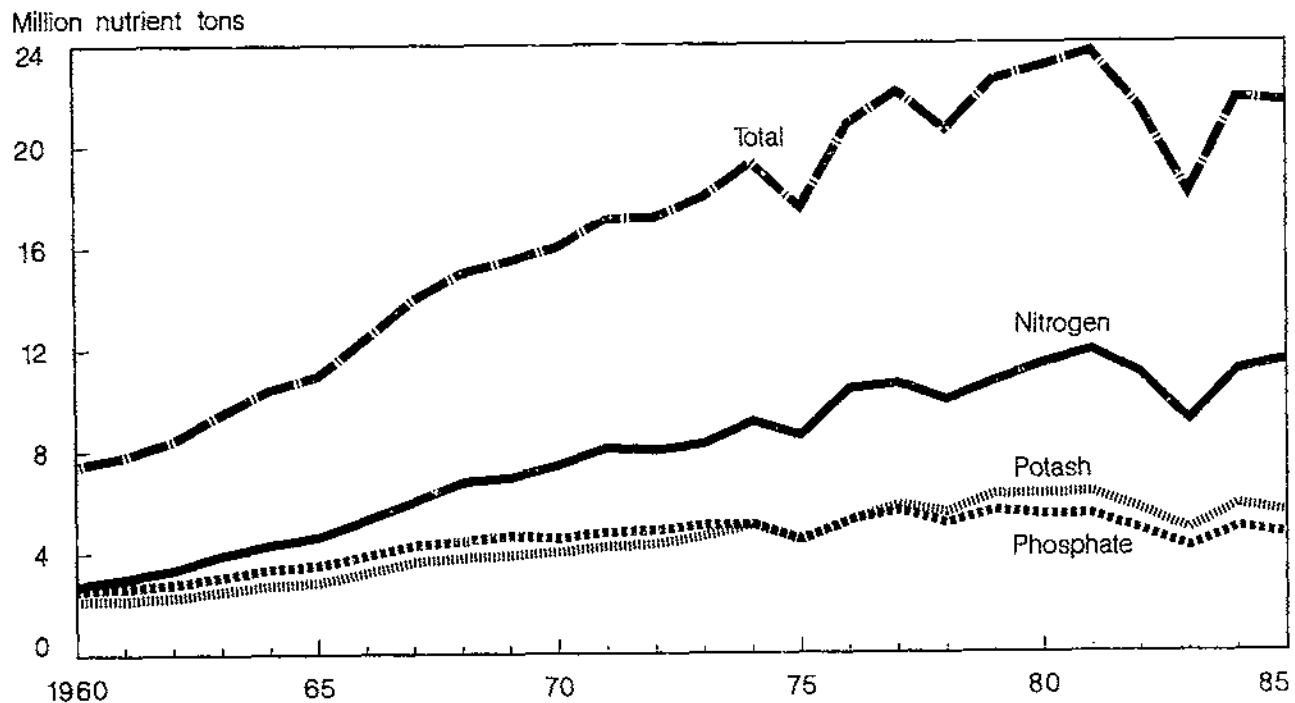
Consequently, farm prices of nitrogen and phosphates fell by 19-34 percent, while the price of potassium chloride fell by 6 percent.

In 1979, fertilizer prices began to rise again as a result of strong domestic and export demand and rapidly rising production, transportation, and retailing costs. Rising energy prices, in particular, were instrumental in increasing production costs, especially for nitrogen products. Prices of most fertilizer products increased in 1980 and 1981 and held steady or declined a year later as crop acreage declined in 1982. Farm fertilizer prices fell during 1983 as a record level of crop acreage was diverted under the PIK program. Prices rebounded in 1984 as planted acreage increased by almost 36 million acres but fell in 1985 and again in 1986 in response to stable or declining domestic consumption and plentiful supplies.

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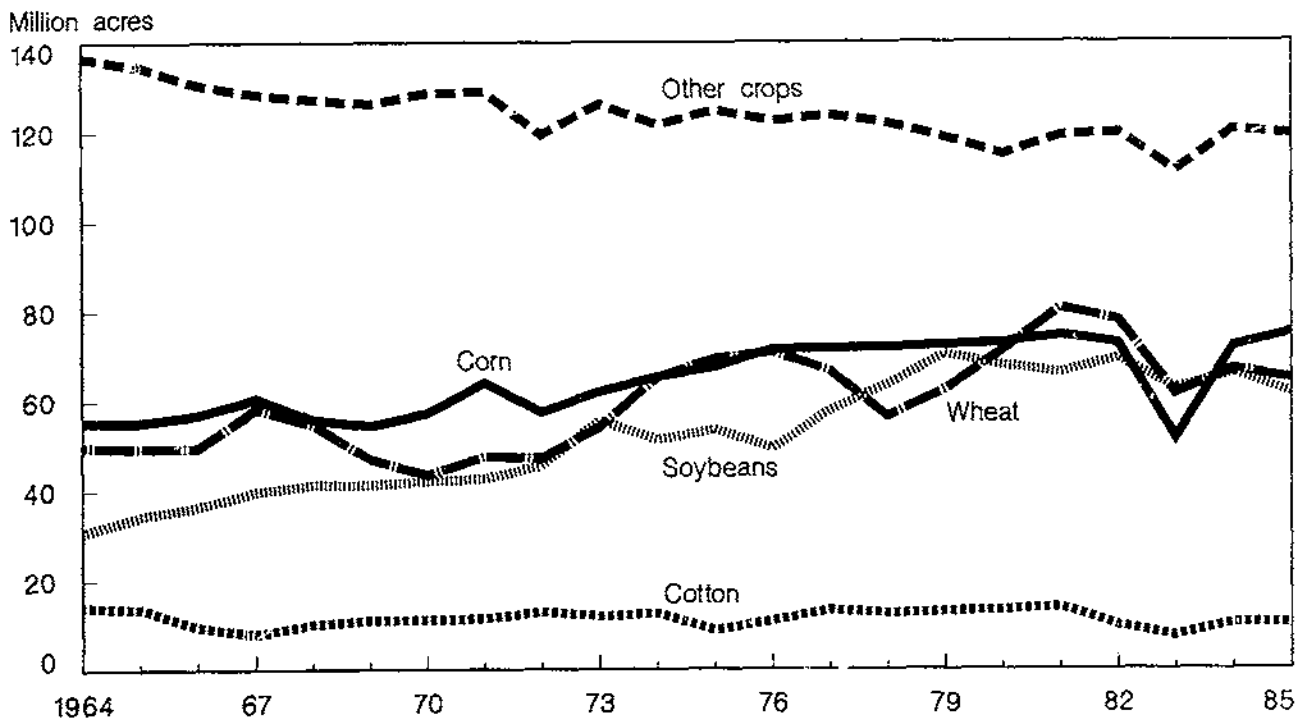
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Figure 1
Consumption of Primary Plant Nutrients



Years ended June 30.
 Source: Table 1.

Figure 2
Crop Acreage Harvested

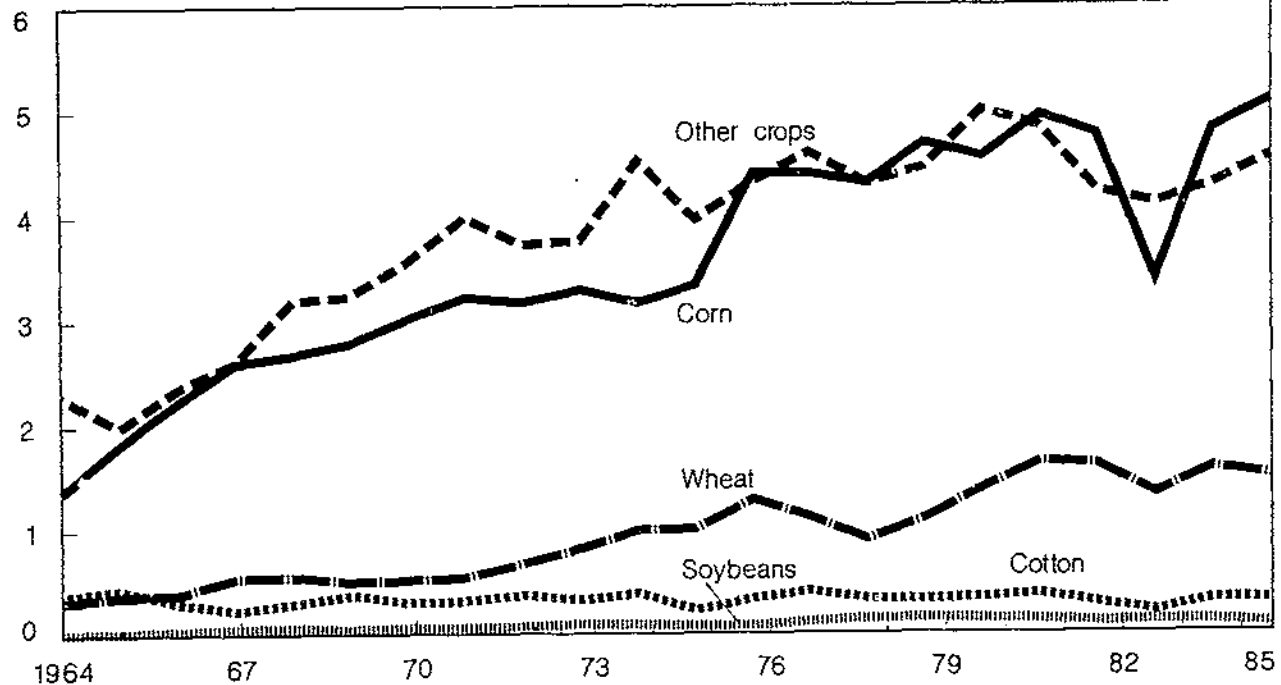


Source: (8).

Figure 3

Consumption of Nitrogen Fertilizer, Major Crops

Million nutrient tons

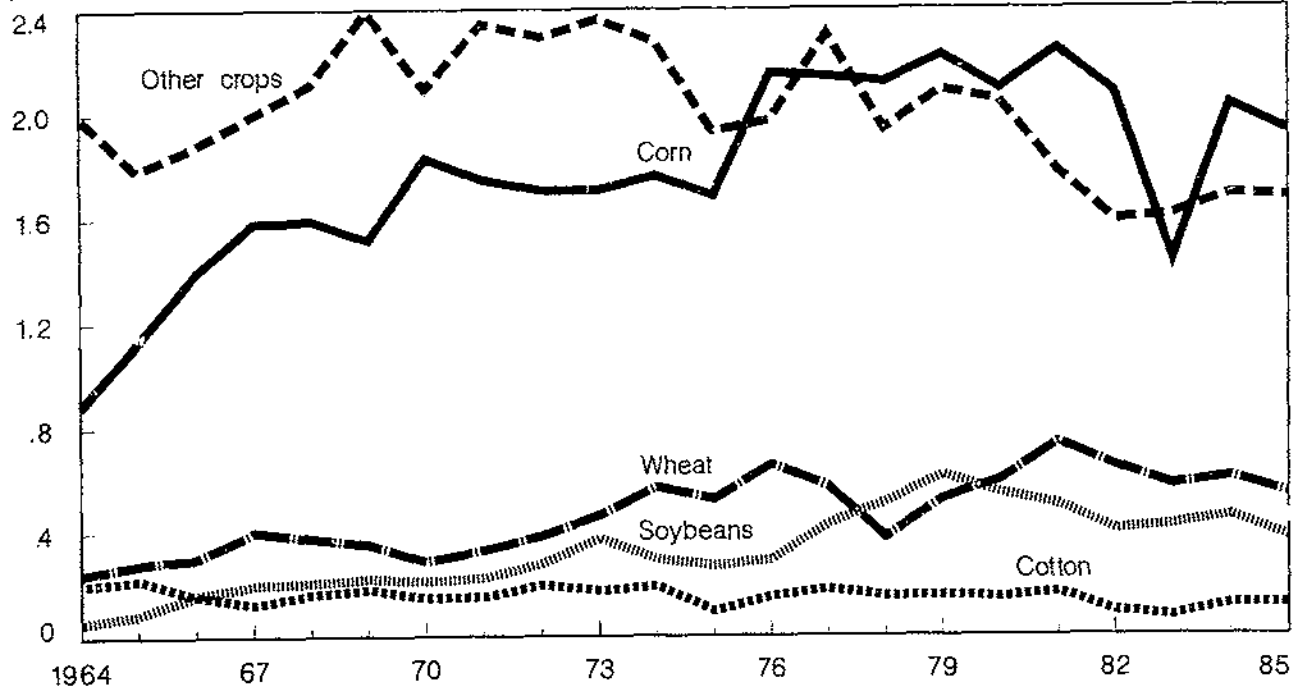


Source: Table 2.

Figure 4

Consumption of Phosphate Fertilizer, Major Crops

Million nutrient tons

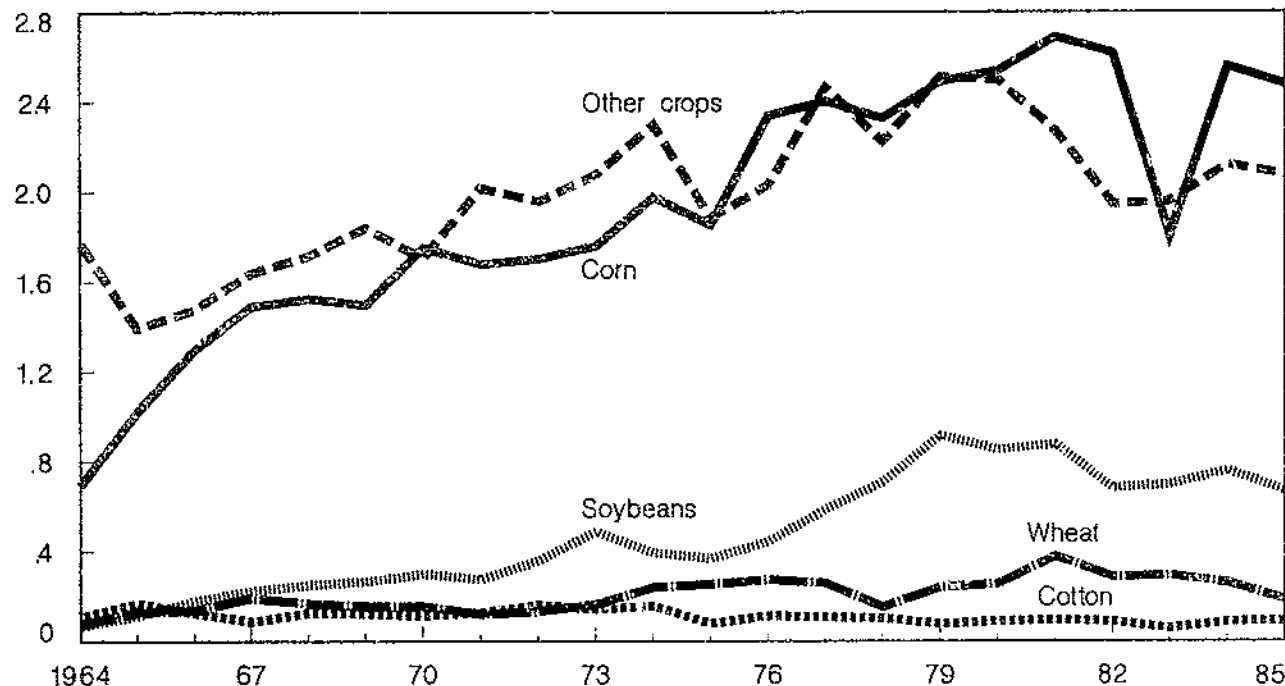


Source: Table 2.

Figure 5

Consumption of Potash Fertilizer, Major Crops

Million nutrient tons

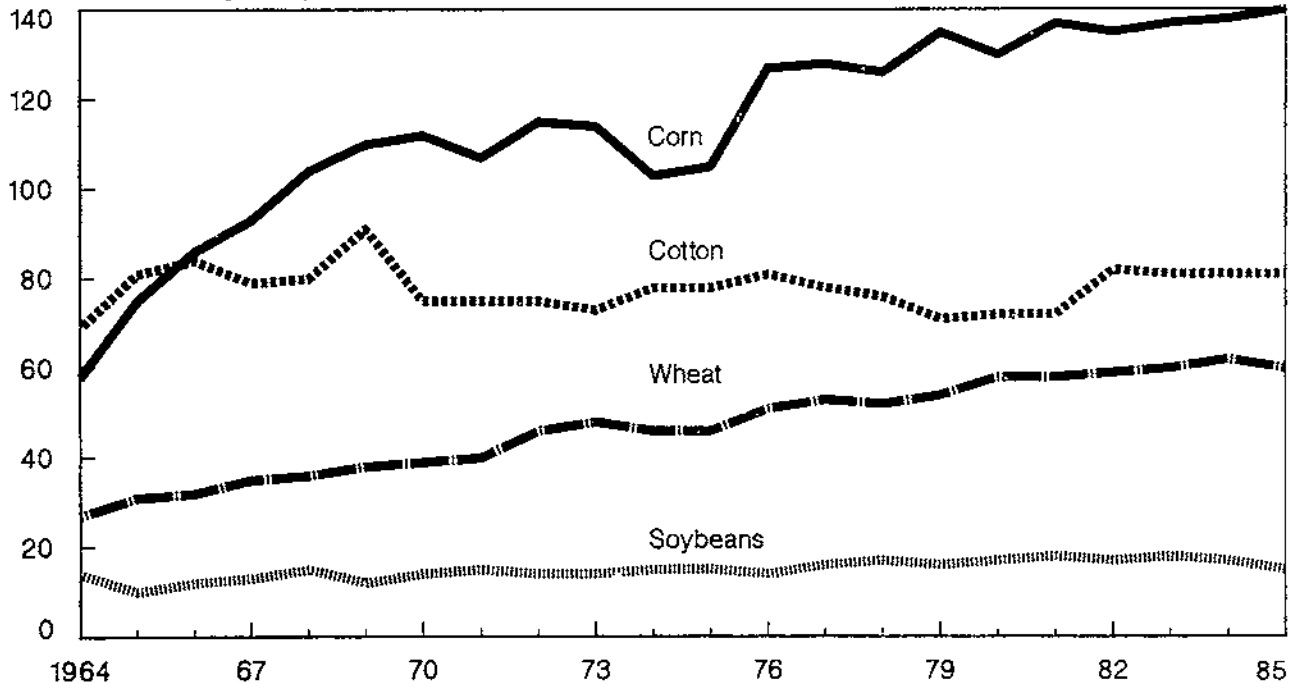


Source: Table 2.

Figure 6

Nitrogen Application Rates, Major Crops

Lbs./acre receiving nitrogen fertilizer

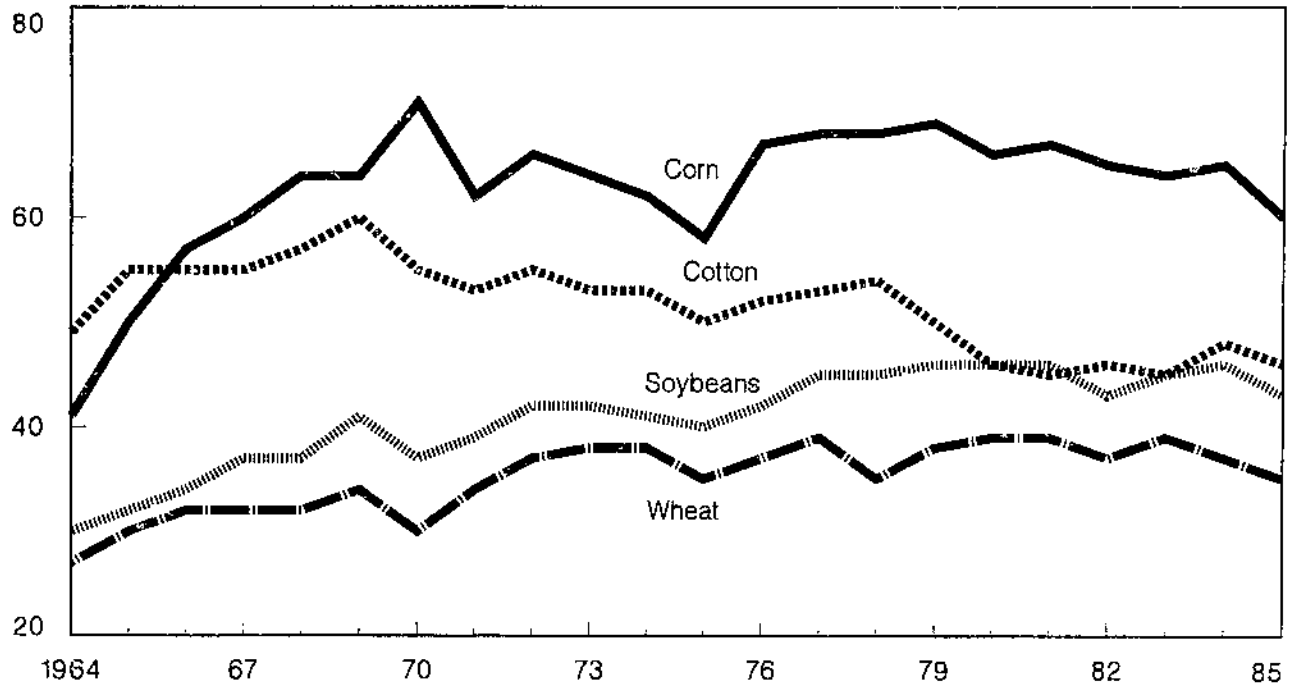


Source: Appendix tables 3,10,17,24.

Figure 7

Phosphate Application Rates, Major Crops

Lbs./acre receiving phosphate fertilizer

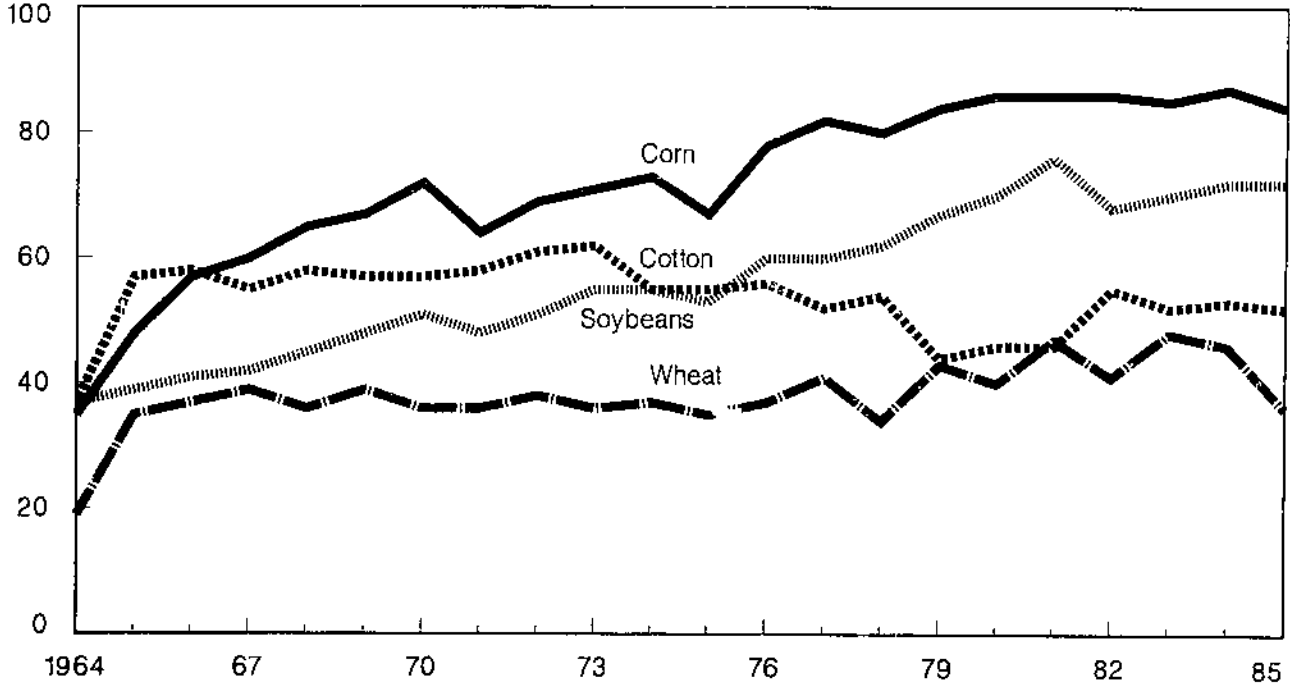


Source: Appendix tables 5,12,19,26.

Figure 8

Potash Application Rates, Major Crops

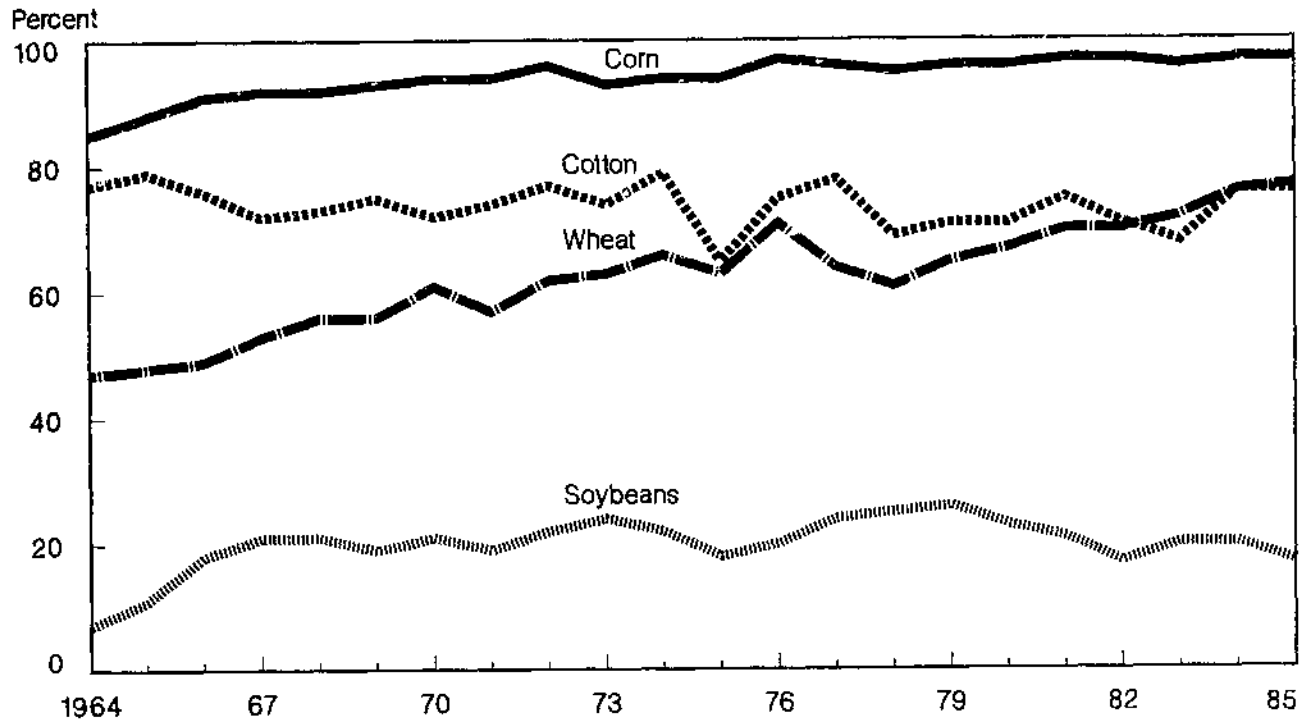
Lbs./acre receiving potash fertilizer



Source: Appendix Tables 7,14,21,28.

Figure 9

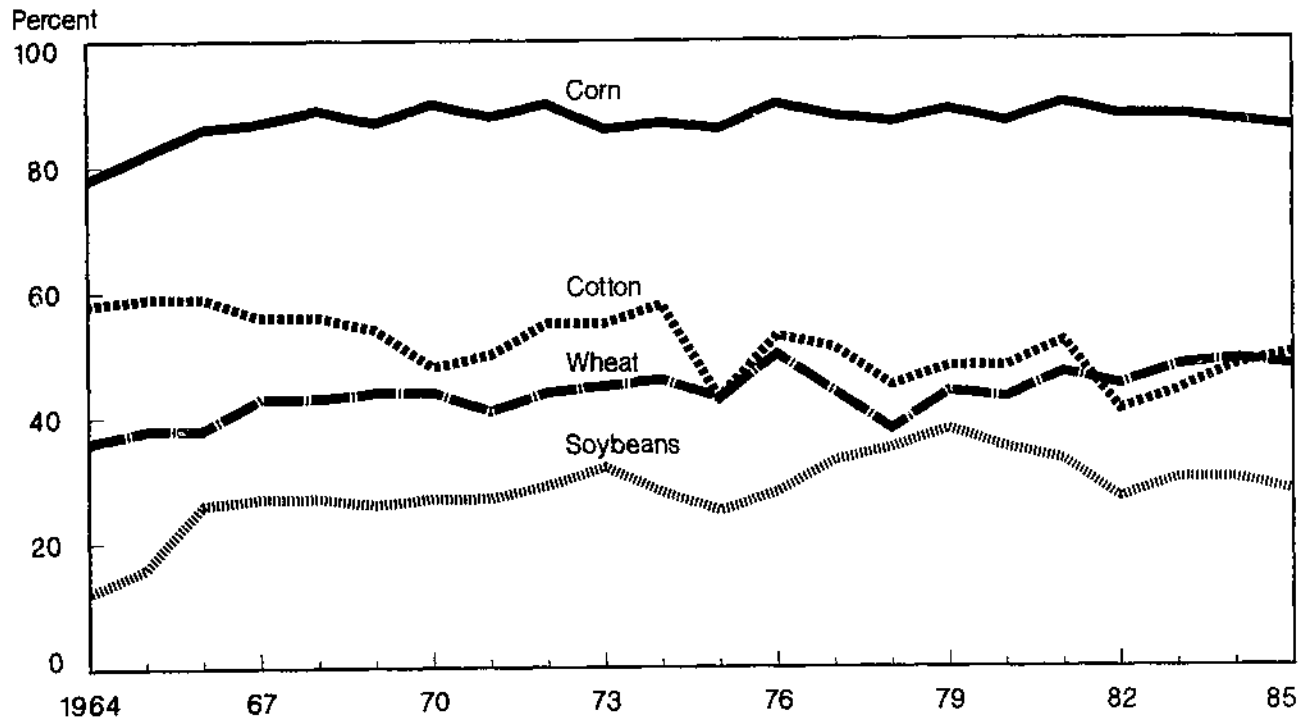
Percentage of Crop Acreage Receiving Nitrogen



Source: Appendix tables 2,9,16,23.

Figure 10

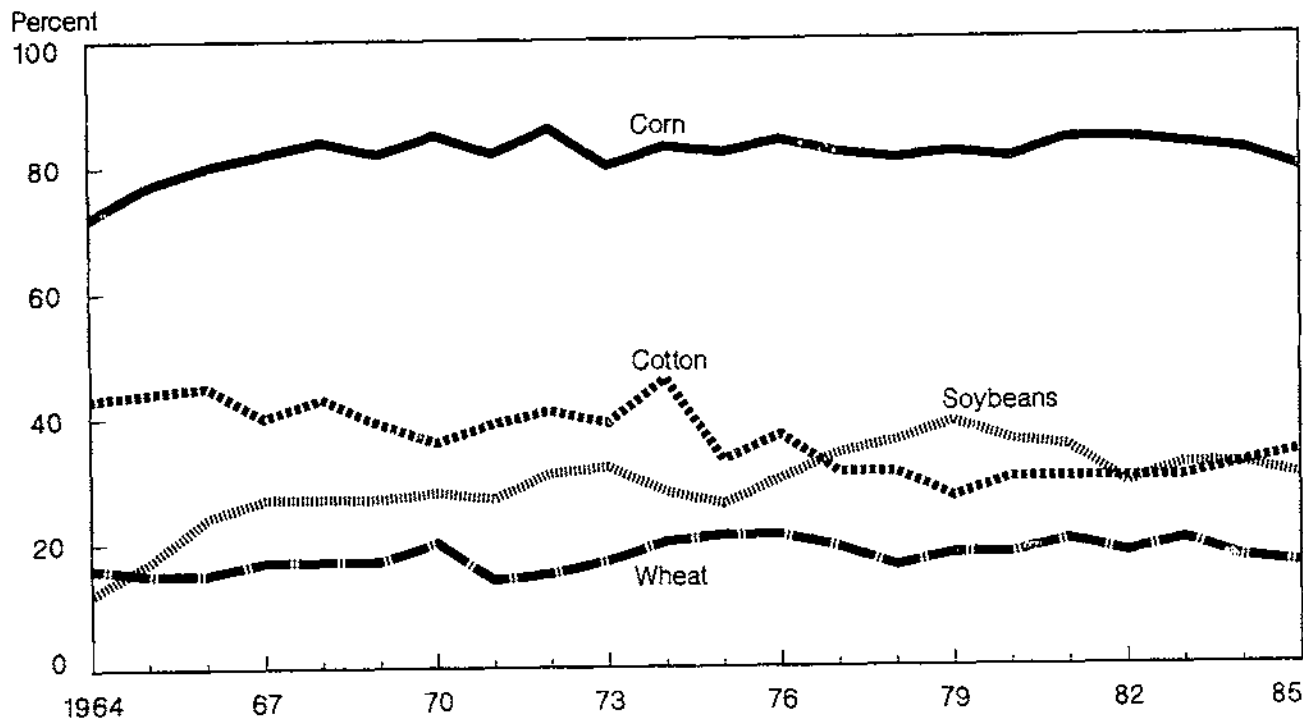
Percentage of Crop Acreage Receiving Phosphate



Source: Appendix tables 4,11,18,25.

Figure 11

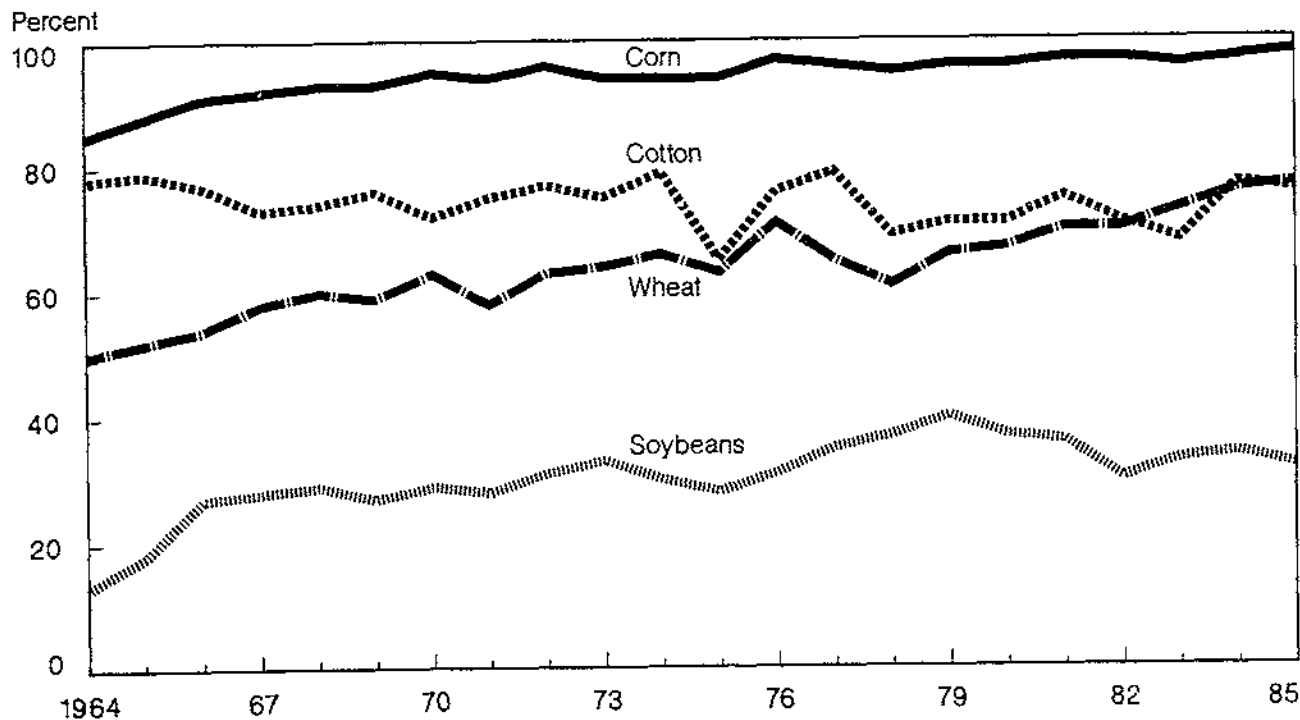
Percentage of Crop Acreage Receiving Potash



Source: Appendix tables 6,13,20,27.

Figure 12

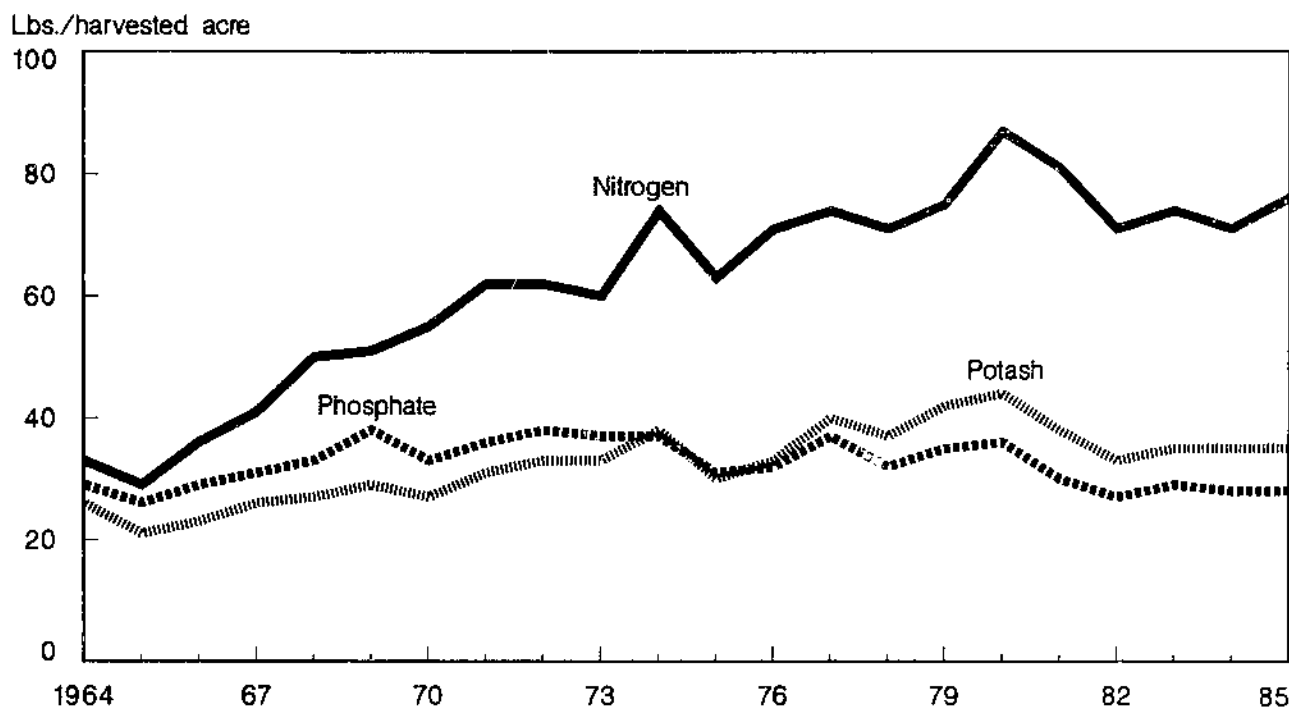
Percentage of Crop Acreage Receiving Any Fertilizer



Source: Appendix tables 1,8,15,22.

Figure 13

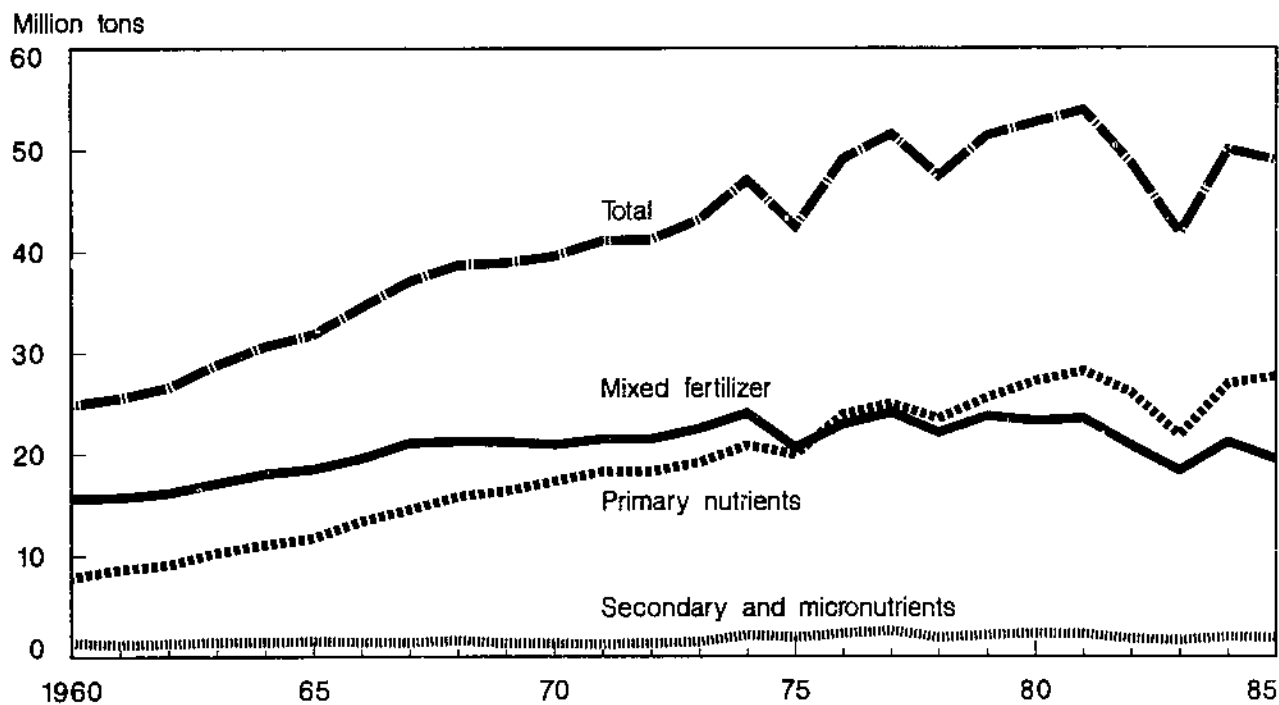
Fertilizer Application Rates, Other Crops¹



^{1/} Calculated as the estimated use of each nutrient by other crops (table 2) divided by total harvested acreage of sorghum, oats, barley, rice, rye, flaxseed, peanuts, sunflower, all hay, dry edible beans, potatoes, sweetpotatoes, tobacco, sugarcane, and sugarbeets.

Figure 14

Consumption of Fertilizer

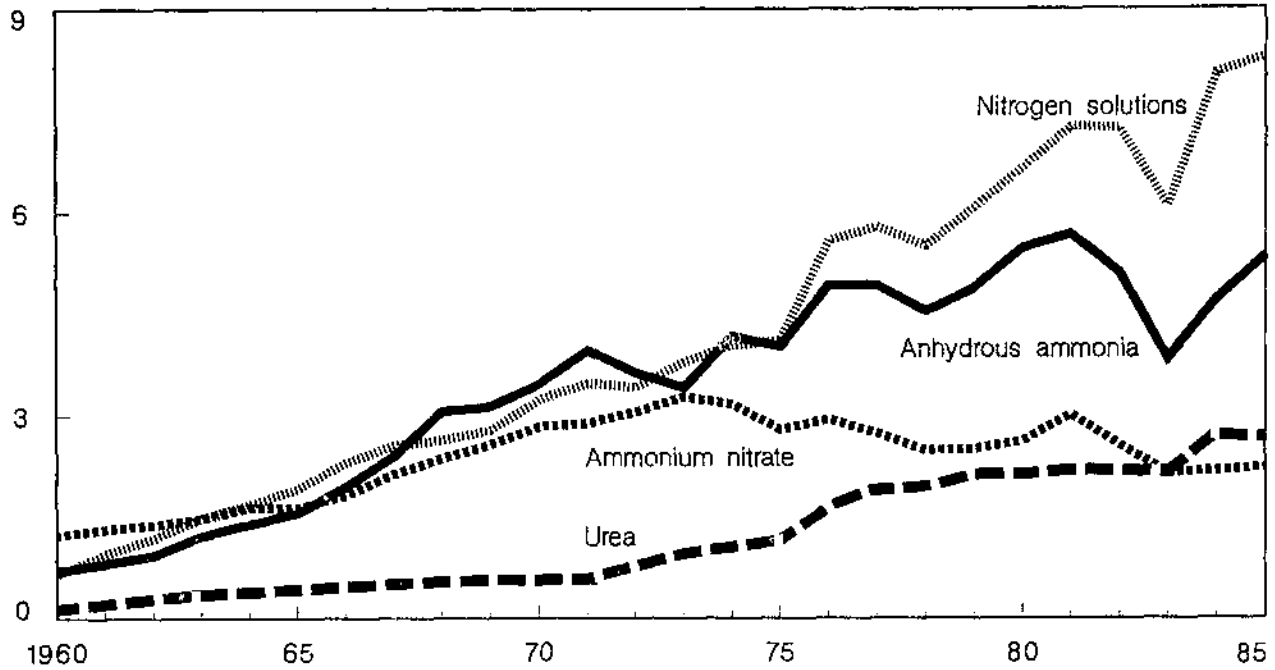


Years ended June 30.
Source: Table 3.

Figure 15

Consumption of Selected Nitrogen Materials

Million material tons

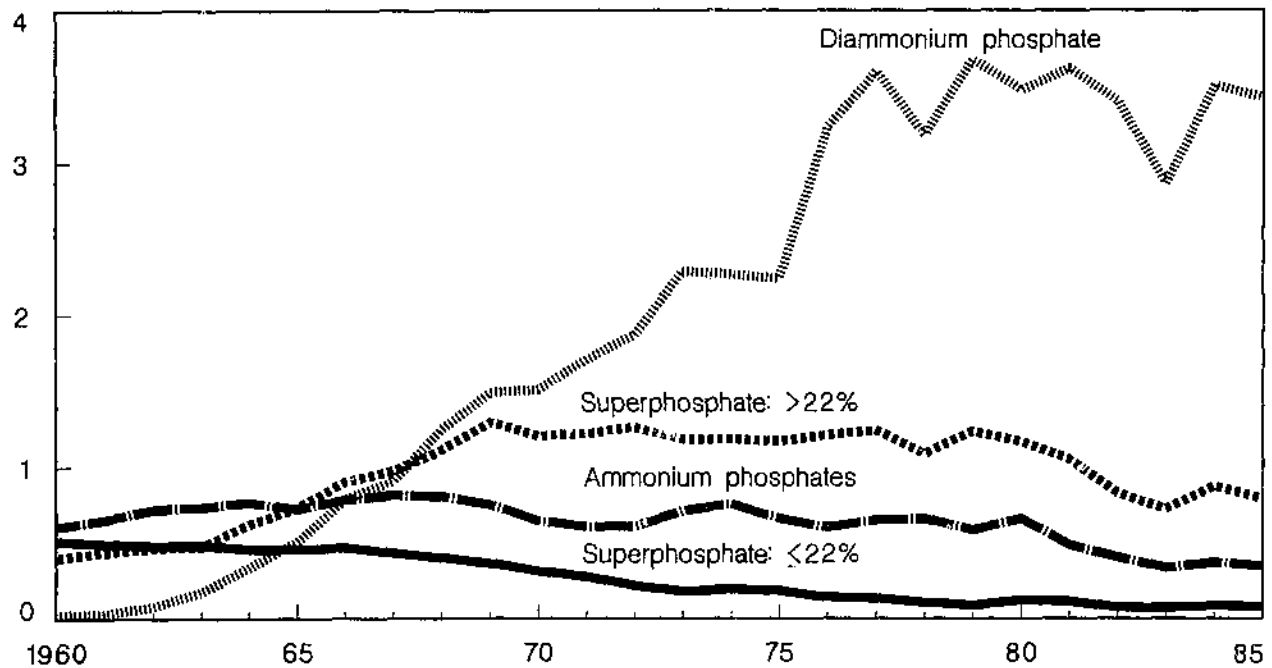


Years ended June 30.
Source: Table 4.

Figure 16

Consumption of Selected Phosphate Fertilizers

Million material tons

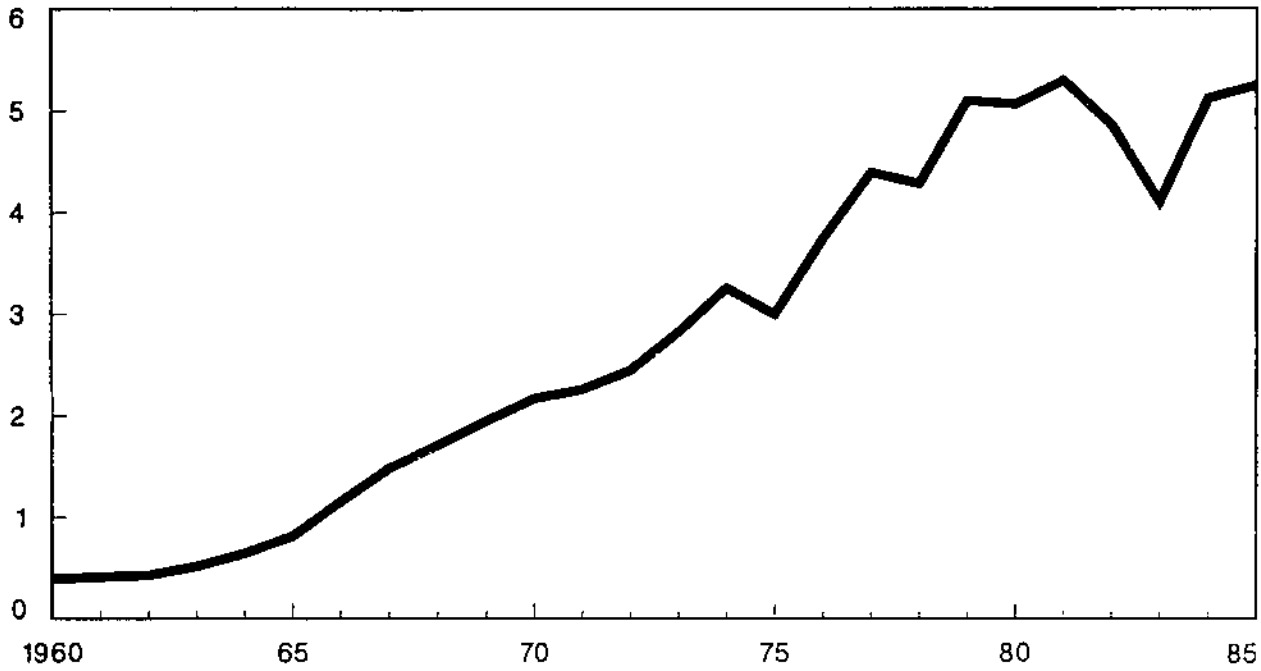


Years ended June 30.
Source: Table 5.

Figure 17

Consumption of Potassium Chloride

Million material tons

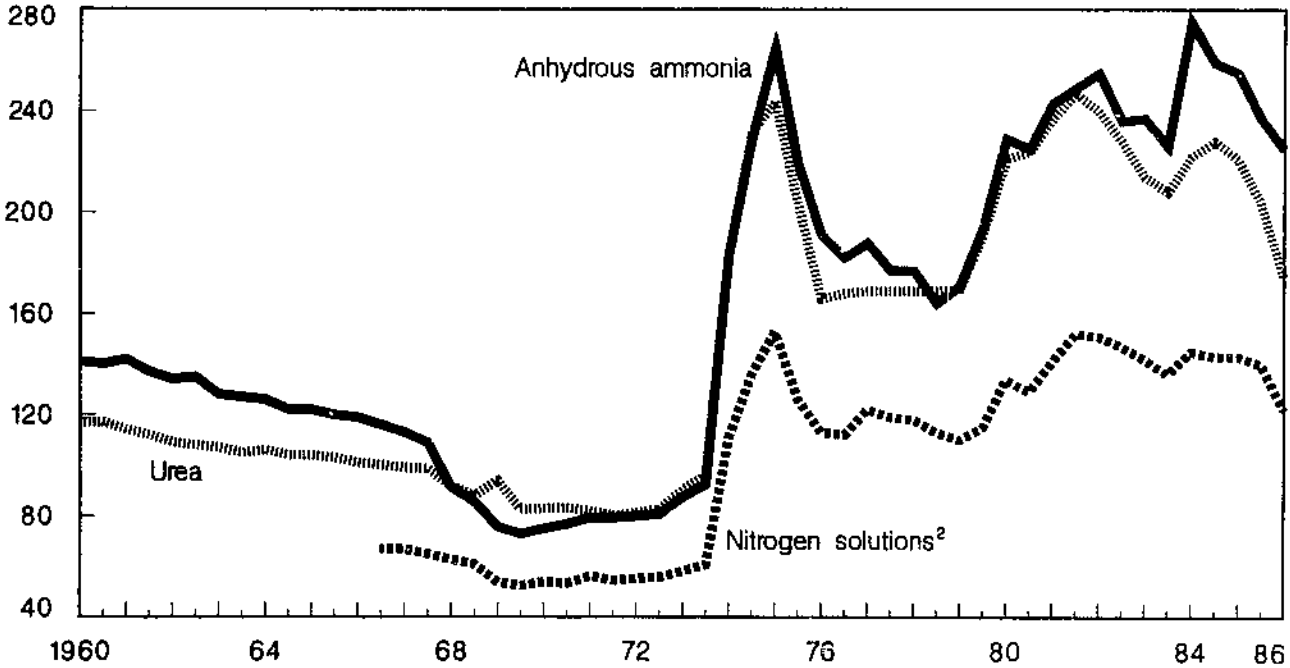


Years ended June 30.
Source: Table 5.

Figure 18

Average Farm Prices of Selected Nitrogen Fertilizers¹

Dollars per ton

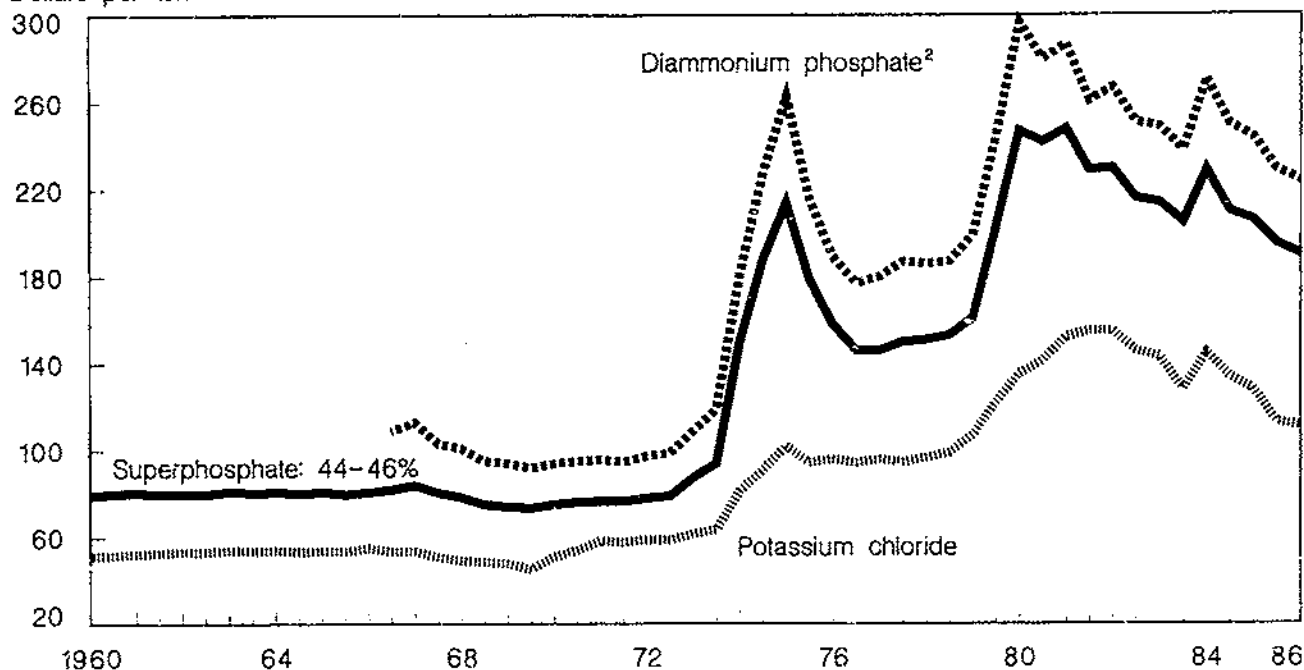


Source: Table 6. 1/ Farm prices are for April and September in 1960-76, March and October in 1977-85, and April 1986.
2/ No nitrogen solutions data collected before 1966.

Figure 19

Average Farm Prices of Selected Phosphate and Potash Fertilizers¹

Dollars per ton

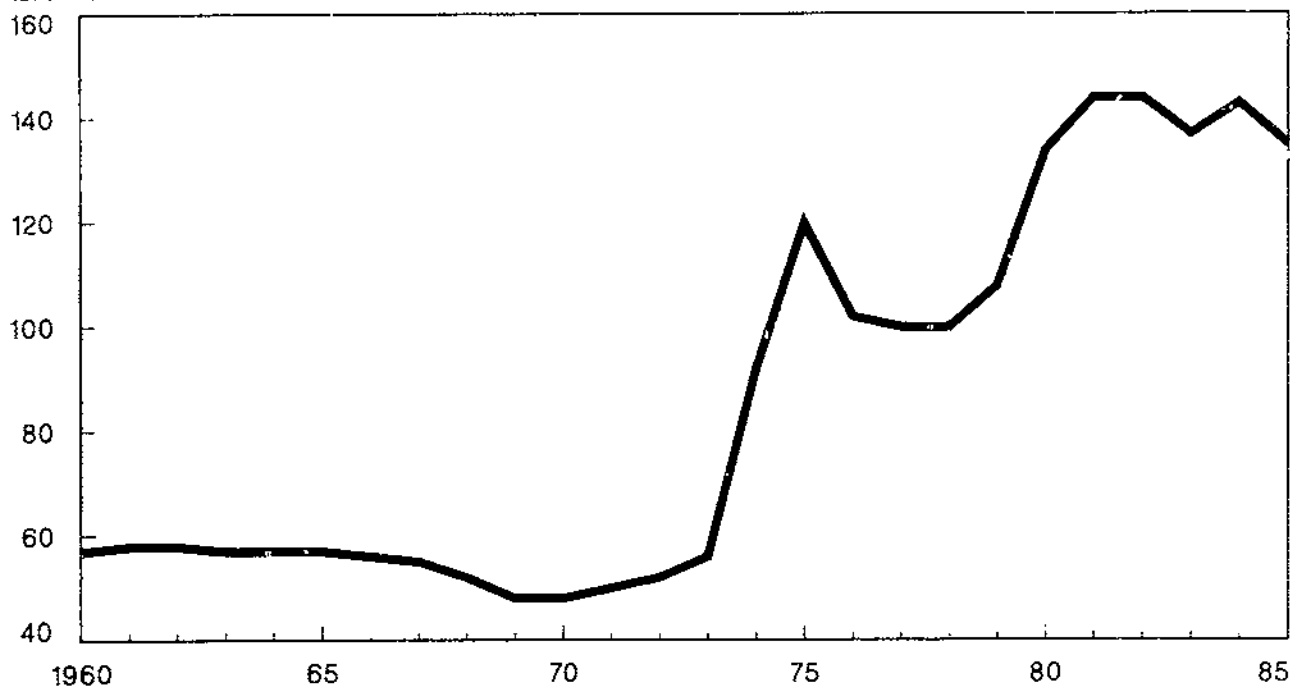


Source: Table 6. ^{1/} Farm prices are for April and September in 1960-76, March and October in 1977-85, and April 1986. ^{1/} No diammonium phosphate data collected before 1965.

Figure 20

Index of Fertilizer Prices Paid by Farmers

1977 = 100

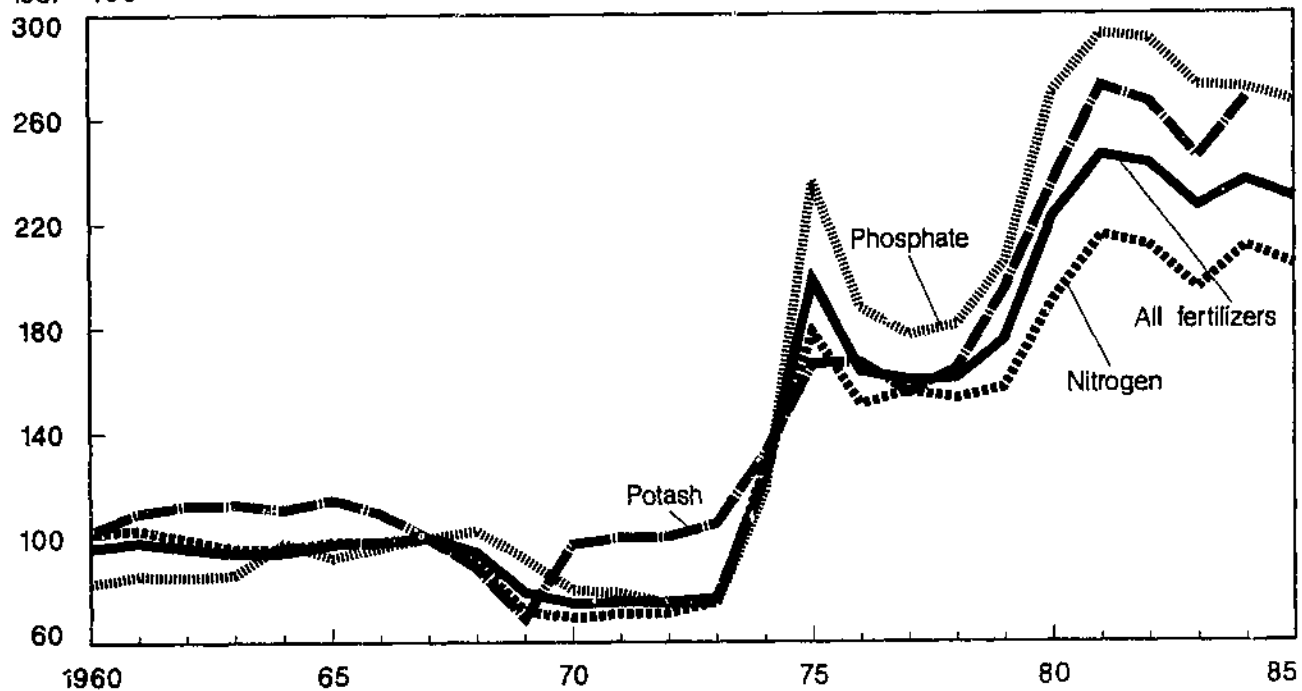


Source: Table 7.

Figure 21

Producer Price Indexes, Fertilizer Products

1967 = 100



Source: Table 7.

Table 1--U.S. consumption of plant nutrients 1/

Year ended June 30:	Primary nutrient content 2/				Share of total by nutrient		
	Nitrogen	Phosphate	Potash	Total	Nitrogen	Phosphate	Potash
	----- 1,000 tons -----				----- Percent -----		
1960 :	2,738.0	2,572.4	2,153.3	7,463.7	36.68	34.47	28.85
1961 :	3,030.8	2,645.1	2,168.5	7,844.4	38.64	33.72	27.64
1962 :	3,370.0	2,807.0	2,270.5	8,447.5	39.89	33.23	26.88
1963 :	3,929.1	3,072.9	2,503.4	9,505.4	41.34	32.33	26.34
1964 :	4,352.8	3,377.8	2,729.7	10,460.3	41.61	32.29	26.10
1965 :	4,638.5	3,512.2	2,834.5	10,985.2	42.22	31.97	25.80
1966 :	5,326.3	3,897.1	3,221.2	12,444.6	42.80	31.32	25.88
1967 :	6,027.1	4,304.7	3,641.8	13,973.6	43.13	30.81	26.06
1968 :	6,787.6	4,453.3	3,792.6	15,033.5	45.15	29.62	25.23
1969 :	6,957.6	4,665.6	3,891.6	15,514.8	44.84	30.07	25.08
1970 :	7,459.0	4,573.8	4,035.5	16,068.3	46.42	28.46	25.11
1971 :	8,133.6	4,803.4	4,231.4	17,168.4	47.38	27.98	24.65
1972 :	8,022.3	4,863.7	4,326.8	17,212.8	46.61	28.26	25.14
1973 :	8,295.1	5,085.2	4,648.7	18,029.0	46.01	28.21	25.78
1974 :	9,157.2	5,098.6	5,082.6	19,338.4	47.35	26.37	26.28
1975 :	8,600.8	4,506.8	4,453.2	17,560.9	48.98	25.66	25.36
1976 :	10,411.6	5,227.6	5,209.7	20,848.8	49.94	25.07	24.99
1977 :	10,647.4	5,629.7	5,833.8	22,110.9	48.15	25.46	26.38
1978 :	9,964.6	5,096.1	5,526.1	20,586.9	48.40	24.75	26.84
1979 :	10,714.7	5,605.8	6,244.5	22,565.1	47.48	24.84	27.67
1980 :	11,406.7	5,431.5	6,245.1	23,083.3	49.42	23.53	27.05
1981 :	11,923.8	5,434.4	6,319.5	23,677.7	50.36	22.95	26.69
1982 :	10,983.1	4,813.9	5,630.9	21,427.9	51.26	22.47	26.28
1983 :	9,127.0	4,137.5	4,831.0	18,095.9	50.44	22.86	26.70
1984 :	11,092.2	4,901.1	5,796.8	21,790.1	50.90	22.49	26.60
1985 :	11,504.2	4,641.2	5,510.3	21,655.7	53.12	21.43	25.45

1/ Source: (6, 7)

2/ Includes Puerto Rico.

Table 2--Estimated U.S. plant nutrient use by crops 1/

Year ended June 30:	Nitrogen					Phosphate					Potash				
	Corn	Cotton	Soybeans	Wheat	Other 2/ crops	Corn	Cotton	Soybeans	Wheat	Other 2/ crops	Corn	Cotton	Soybeans	Wheat	Other 2/ crops
	1,000 tons					1,000 tons					1,000 tons				
1964	1,364.8	373.4	15.1	315.7	2,283.8	885.4	199.7	55.4	241.8	1,995.5	697.6	111.8	68.4	73.6	1,776.2
1965	1,827.9	435.3	18.9	368.7	1,987.3	1,135.5	220.9	88.2	282.5	1,785.1	1,023.6	170.7	114.2	130.1	1,395.9
1966	2,230.5	304.9	39.5	389.0	2,362.4	1,397.1	155.0	161.5	301.6	1,881.8	1,299.6	124.7	179.8	137.7	1,479.4
1967	2,596.5	227.4	54.3	541.2	2,607.6	1,584.1	123.2	198.8	401.5	1,997.1	1,493.1	88.0	225.7	193.4	1,641.6
1968	2,678.1	296.6	65.2	552.0	3,195.7	1,594.3	162.1	206.7	376.8	2,113.3	1,528.3	126.7	251.5	167.6	1,718.6
1969	2,791.5	377.1	47.1	501.6	3,240.3	1,519.3	179.0	220.3	352.7	2,394.3	1,499.1	122.8	267.9	156.3	1,845.5
1970	3,019.3	301.2	62.1	518.2	3,558.2	1,852.6	147.2	211.0	287.5	2,095.4	1,755.2	114.5	301.7	156.8	1,707.4
1971	3,224.7	318.3	60.9	543.0	3,986.6	1,749.3	152.0	224.8	332.0	2,345.3	1,682.6	129.7	276.7	120.0	2,022.3
1972	3,174.7	374.9	70.4	674.5	3,727.8	1,708.1	196.4	278.2	385.0	2,295.9	1,706.4	162.4	361.1	134.8	1,962.1
1973	3,294.2	323.3	93.5	818.7	3,765.4	1,710.2	174.5	374.1	463.0	2,363.5	1,764.9	144.7	489.9	165.7	2,083.6
1974	3,166.3	386.6	84.7	992.3	4,527.4	1,764.0	192.8	294.7	571.3	2,275.8	1,981.4	158.7	395.3	241.9	2,305.2
1975	3,337.3	223.0	72.4	1,007.0	3,961.1	1,686.6	94.6	268.1	523.0	1,934.6	1,857.7	79.8	369.4	255.4	1,890.9
1976	4,404.4	331.5	69.2	1,284.1	4,322.4	2,155.9	150.4	290.5	656.1	1,974.7	2,342.5	113.1	444.6	275.6	2,033.9
1977	4,400.0	403.8	111.0	1,131.0	4,601.6	2,142.7	179.4	429.4	572.2	2,306.0	2,407.7	107.0	589.9	259.7	2,469.5
1978	4,305.0	325.1	135.3	896.0	4,503.2	2,127.7	150.7	501.3	375.7	1,940.7	2,330.5	103.8	710.5	153.7	2,227.6
1979	4,691.5	323.4	146.3	1,096.1	4,457.4	2,223.0	134.0	614.8	522.1	2,091.9	2,493.5	76.2	919.0	241.7	2,514.1
1980	4,552.8	337.8	132.6	1,382.0	5,001.6	2,094.7	145.9	545.9	596.4	2,048.6	2,541.2	91.2	854.4	256.0	2,502.2
1981	4,951.7	373.7	125.0	1,637.0	4,836.3	2,246.9	165.5	502.2	739.1	1,780.7	2,691.8	95.5	880.0	379.0	2,273.2
1982	4,761.3	283.4	100.3	1,609.4	4,228.7	2,079.8	91.8	403.1	648.8	1,590.4	2,626.6	80.3	684.7	287.6	1,951.7
1983	3,385.5	202.4	112.5	1,326.2	4,100.4	1,449.8	72.7	421.9	574.7	1,618.4	1,816.1	57.3	700.0	294.7	1,962.9
1984	4,806.6	319.5	112.4	1,576.2	4,277.6	2,030.6	119.6	456.1	605.4	1,688.4	2,561.7	88.0	761.5	261.6	2,124.1
1985	5,075.9	314.5	79.3	1,492.3	4,542.2	1,928.7	119.0	374.4	542.6	1,676.5	2,480.4	91.4	671.8	186.0	2,080.6

1/ Estimates of plant nutrient use by corn, cotton, soybeans, and wheat are computed as the product of the nutrient application rate per harvested acre, the proportion of harvested acreage receiving that particular nutrient, and the harvested crop acreage. Estimates of plant nutrient use by other crops are determined by subtracting the plant nutrient use of these four major crops from the total use of each plant nutrient.

2/ Other harvested crop acreage included is for sorghum, oats, barley, rice, rye, flaxseed, peanuts, sunflower, all hay, dry edible beans, potatoes, sweetpotatoes, tobacco, sugarcane, and sugarbeets.

Table 3--U.S. consumption of fertilizers 1/

Year ended June 30:	Gross tonnages 2/			Share of total		
	Mixed 3/ ferti- lizer	Primary nutrient material	Secondary and micro- nutrients	Total	Mixed ferti- lizer	Total 4/ nutrient materials
	----- 1,000 tons -----				-- Percent --	
1960 :	15,650	7,850	1,378	24,877	62.91	37.09
1961 :	15,735	8,639	1,194	25,567	61.54	38.46
1962 :	16,205	9,100	1,310	26,615	60.89	39.11
1963 :	17,157	10,299	1,459	28,844	59.48	40.76
1964 :	18,093	11,113	1,475	30,681	58.97	41.03
1965 :	18,559	11,756	1,521	31,836	58.30	41.70
1966 :	19,659	13,412	1,461	34,532	56.93	43.07
1967 :	21,132	14,552	1,397	37,081	56.99	43.01
1968 :	21,294	15,832	1,617	38,743	54.96	45.04
1969 :	21,234	16,380	1,334	38,949	54.52	45.48
1970 :	20,961	17,331	1,297	39,589	52.95	47.05
1971 :	21,513	18,389	1,216	41,118	52.32	47.68
1972 :	21,511	18,385	1,310	41,206	52.20	47.80
1973 :	22,547	19,275	1,466	43,288	52.09	47.91
1974 :	24,067	20,897	2,130	47,094	51.10	48.90
1975 :	20,647	19,959	1,878	42,484	48.60	51.40
1976 :	22,958	23,935	2,296	49,189	46.67	53.33
1977 :	24,099	24,999	2,525	51,624	46.68	53.32
1978 :	22,110	23,511	1,877	47,497	46.55	53.45
1979 :	23,742	25,600	2,139	51,480	46.12	53.88
1980 :	23,270	27,221	2,296	52,787	44.08	55.92
1981 :	23,525	28,236	2,227	53,988	43.57	56.43
1982 :	20,857	26,054	1,758	48,669	42.85	57.15
1983 :	18,352	21,851	1,610	41,813	43.89	56.11
1984 :	21,174	26,928	1,954	50,056	42.30	57.70
1985 :	19,501	27,678	1,829	49,008	39.79	60.21

1/ Source: (6, 7)

2/ Includes Puerto Rico.

3/ Mixtures that contain more than one primary nutrient.

4/ Direct application materials including primary, secondary, and micronutrients.

Table 4--U.S. consumption of selected nitrogen materials 1/

Year ended June 30	Ammonia		Ammonium		Nitrogen solutions	Sodium nitrate	Urea	Ammonium nitrate-limestone	Other
	Anhydrous	Aqua	Nitrate	Sulfate					
	Material tons								
1960	708,798	427,062	1,231,294	534,795	650,259	454,341	142,198	NA	394,163
1961	811,490	432,494	1,324,569	552,264	948,785	407,766	203,934	NA	358,760
1962	934,743	496,303	1,387,769	557,701	1,190,979	407,792	292,622	NA	330,451
1963	1,226,266	579,165	1,480,186	703,963	1,493,507	381,343	364,439	NA	307,885
1964	1,398,379	776,219	1,643,504	712,327	1,680,367	337,866	406,360	NA	295,307
1965	1,563,376	819,665	1,634,294	774,503	1,922,126	301,111	427,555	NA	252,410
1966	1,959,601	972,291	1,823,004	792,347	2,305,118	243,576	467,359	NA	215,909
1967	2,406,824	862,931	2,141,514	839,941	2,562,625	199,118	505,769	NA	202,007
1968	3,072,190	813,543	2,376,459	843,286	2,645,424	153,385	550,250	NA	193,767
1969	3,138,333	701,050	2,574,077	762,955	2,791,582	104,470	581,879	NA	223,899
1970	3,468,363	701,354	2,844,360	781,874	3,242,892	85,531	533,535	NA	240,279
1971	3,968,488	738,149	2,892,809	901,518	3,482,263	99,061	601,335	NA	228,313
1972	3,636,920	732,511	3,062,952	933,562	3,420,473	96,836	785,463	NA	163,889
1973	3,411,745	664,559	3,280,623	952,825	3,799,572	58,766	960,480	NA	270,473
1974	4,180,088	723,569	3,169,382	927,090	4,048,551	47,691	1,028,426	NA	426,200
1975	4,018,020	702,192	2,796,275	815,979	4,109,665	84,703	1,151,213	34,839	442,026
1976	4,935,635	698,248	2,950,095	1,069,958	5,591,178	65,266	1,653,643	15,199	341,690
1977	4,927,474	655,133	2,738,710	1,050,582	5,794,636	73,626	1,931,830	17,332	354,385
1978	4,539,179	500,283	2,487,714	845,068	5,510,895	60,698	1,934,092	13,752	475,135
1979	4,883,959	566,300	2,507,546	778,237	6,073,617	71,210	2,148,125	10,978	526,587
1980	5,483,349	667,615	2,627,660	870,722	6,669,503	83,999	2,144,628	14,285	491,010
1981	5,684,606	728,626	3,020,738	846,445	7,270,118	76,909	2,219,461	6,518	465,819
1982	5,116,303	667,244	2,571,329	715,238	7,247,893	66,264	2,198,927	2,402	463,465
1983	3,836,095	520,307	2,151,778	685,773	6,105,555	60,100	2,171,929	5,457	335,849
1984	4,714,597	643,711	2,186,502	790,530	8,065,477	64,246	2,731,285	5,297	417,816
1985	5,353,982	606,374	2,234,665	767,725	8,291,560	51,702	2,671,012	4,949	448,078

NA = Not available.

1/ Source: (6, 7)

Table 5--U.S. consumption of selected phosphate and potash fertilizers 1/

Year ended June 30	Phosphates				Potash		
	Superphosphates		Diammonium phosphate (18-46-0) 2/	Other ammonium phosphates 3/	Other	Potassium chloride	Other
	Grades 22% and under	Grades > 22%					
Material tons							
1960	510,539	399,319	20,388	601,563	153,764	389,369	84,753
1961	492,657	438,398	32,680	652,369	171,696	411,691	96,409
1962	481,266	455,067	81,253	718,558	144,038	427,491	110,171
1963	483,596	474,198	175,312	733,442	132,800	516,482	108,996
1964	456,357	622,434	337,753	765,421	143,993	644,998	116,770
1965	455,437	729,374	504,481	719,537	154,742	814,233	121,747
1966	470,244	902,098	786,782	782,802	133,804	1,152,082	136,542
1967	433,383	976,351	906,372	814,581	142,385	1,483,159	117,037
1968	401,347	1,109,332	1,246,953	803,654	175,468	1,719,040	148,622
1969	364,032	1,295,214	1,490,409	752,013	211,513	1,957,155	182,887
1970	312,032	1,204,566	1,514,911	644,120	191,072	2,172,572	237,287
1971	276,057	1,220,257	1,716,365	605,157	189,638	2,268,903	232,410
1972	217,733	1,262,538	1,875,690	606,931	215,679	2,453,142	222,586
1973	179,451	1,188,109	2,299,198	710,089	191,796	2,836,365	220,196
1974	195,184	1,183,092	2,267,174	756,309	202,399	3,266,936	250,967
1975	183,916	1,168,726	2,242,365	658,564	176,940	3,003,816	239,916
1976	140,343	1,211,060	3,232,501	600,998	166,179	3,752,449	289,875
1977	134,014	1,242,786	3,604,577	652,123	215,230	4,398,573	392,099
1978	106,983	1,086,741	3,187,866	657,742	178,511	4,284,496	400,828
1979	87,782	1,234,351	3,683,758	583,056	257,891	5,104,424	405,780
1980	121,908	1,166,540	3,481,921	657,881	346,061	5,065,855	475,753
1981	112,524	1,051,653	3,624,615	485,946	228,430	5,301,384	457,480
1982	74,616	828,643	3,406,322	404,905	157,188	4,864,233	412,149
1983	71,651	721,126	2,866,931	334,575	123,852	4,104,305	363,459
1984	86,292	872,568	3,509,173	371,186	137,860	5,124,064	457,668
1985	80,320	795,178	3,431,384	346,706	130,082	5,251,324	426,806

1/ Source: (6, 7)

2/ 18-46-0 refers to the percentage of nitrogen, phosphate, and potash, respectively, contained in this fertilizer. 1960-75 tonnages exclude Alaska, Hawaii, and Puerto Rico.

3/ Total of 11-48-0, 13-39-0, 16-20-0, 21-53-0, and 27-14-0.

Table 6--Average U.S. farm prices of selected fertilizers 1/

Year	Month	Anhydrous ammonia	Nitrogen solutions (30%)	Urea 45-46% nitrogen	Ammonium nitrate	Sulfate of ammonium	Super-phosphate 20% phosphate	Super-phosphate 44-46% phosphate	Diammonium phosphate (18-46-0)	Potassium chloride 60% potassium
Dollars per ton										
1960	Apr.	141.0	NA	117.0	81.6	57.9	37.5	79.4	NA	51.3
	Sept.	140.0	NA	117.0	80.9	57.8	38.0	80.1	NA	51.6
1961	Apr.	142.0	NA	114.0	82.7	58.2	38.3	80.6	NA	52.4
	Sept.	137.0	NA	112.0	81.5	58.5	38.2	79.8	NA	52.8
1962	Apr.	134.0	NA	109.0	81.9	57.0	38.4	80.0	NA	53.3
	Sept.	135.0	NA	108.0	80.9	56.8	38.4	79.9	NA	53.2
1963	Apr.	128.0	NA	107.0	81.1	52.2	40.5	81.2	NA	53.9
	Sept.	127.0	NA	105.0	79.7	51.8	40.1	80.4	NA	53.7
1964	Apr.	126.0	NA	106.0	79.7	52.6	40.3	80.9	NA	53.9
	Sept.	122.0	NA	104.0	78.7	52.6	40.1	80.1	NA	53.3
1965	Apr.	122.0	NA	104.0	78.7	53.4	40.7	80.9	NA	53.6
	Sept.	120.0	NA	103.0	78.3	53.0	40.8	79.7	NA	53.5
1966	Apr.	119.0	NA	101.0	76.5	52.8	41.4	80.9	NA	54.9
	Sept.	116.0	66.8	100.0	75.0	52.7	41.2	82.1	109.0	53.4
1967	Apr.	113.0	66.8	99.3	74.2	54.2	42.1	84.1	113.0	53.6
	Sept.	109.0	64.8	98.6	73.2	55.4	42.1	80.4	103.0	50.8
1968	Apr.	91.4	62.7	91.8	67.9	53.9	43.2	78.4	101.0	49.1
	Sept.	85.6	60.8	88.0	65.3	53.4	43.1	75.1	95.2	48.5
1969	Apr.	75.6	53.6	83.9	61.7	52.5	43.8	74.0	94.1	47.8
	Sept.	72.8	52.4	82.6	60.1	52.6	44.5	73.4	92.0	45.2
1970	Apr.	75.0	53.9	82.9	60.0	52.4	45.4	75.1	94.4	50.9
	Sept.	76.8	53.3	83.2	60.9	52.1	46.9	76.2	95.1	54.0
1971	Apr.	79.3	56.2	81.9	63.3	51.7	47.8	76.6	95.7	58.2
	Sept.	79.3	54.4	80.3	63.8	51.2	49.0	76.6	94.7	57.7
1972	Apr.	80.0	55.3	81.4	64.7	52.1	49.9	78.0	97.4	58.8
	Sept.	80.8	55.9	82.7	65.4	53.0	51.2	79.0	98.7	58.7
1973	Apr.	87.6	58.3	90.3	71.4	55.2	53.7	87.5	109.0	61.5
	Sept.	92.5	60.8	96.2	77.3	59.5	56.0	94.1	119.0	63.6
1974	Apr.	183.0	111.0	183.0	139.0	110.0	91.4	150.0	181.0	81.3
	Sept.	229.0	136.0	232.0	170.0	137.0	104.0	188.0	228.0	91.0
1975	Apr.	265.0	153.0	244.0	186.0	148.0	118.0	214.0	263.0	102.0
	Sept.	219.0	126.0	203.0	156.0	125.0	103.0	179.0	216.0	94.3
1976	Apr.	191.0	113.0	166.0	135.0	98.2	95.2	158.0	189.0	95.9
	Sept.	182.0	112.0	168.0	137.0	94.8	95.1	146.0	177.0	94.2
1977	Mar.	188.0	122.0	169.0	141.0	101.0	99.2	146.0	180.0	95.8
	May	188.0	121.0	171.0	144.0	102.0	103.0	148.0	185.0	96.9
	Oct.	177.0	119.0	169.0	144.0	103.0	100.0	150.0	187.0	94.5
	Dec.	170.0	118.0	167.0	142.0	102.0	104.0	147.0	183.0	94.0
1978	Mar.	177.0	118.0	169.0	140.0	109.0	104.0	151.0	186.0	96.4
	May	171.0	117.0	170.0	139.0	109.0	100.0	153.0	186.0	98.9
	Oct.	164.0	113.0	169.0	138.0	113.0	108.0	153.0	187.0	98.9
	Dec.	160.0	109.0	168.0	135.0	111.0	111.0	153.0	186.0	99.3

See footnote at end of table.

Continued --

Table 6--Average U.S. farm prices of selected fertilizers -- Continued

Year	Month	Anhydrous ammonia	Nitrogen solutions (30%)	Urea 45-46% nitrogen	Ammonium nitrate	Sulfate of ammonium	Super-phosphate 20% phosphate	Super-phosphate 44-46% phosphate	Diammonium phosphate (18-46-0)	Potassium chloride 60% potassium
Dollars per ton										
1979	Mar.	171	110	170	138	118	109	161	199	107
	May	182	111	175	141	115	111	172	210	112
	Oct.	194	115	191	145	120	120	203	245	122
	Dec.	199	121	201	151	129	129	220	268	124
1980	Mar.	229	134	221	165	138	128	247	297	135
	May	234	132	228	169	138	132	251	298	135
	Oct.	225	129	224	168	141	131	242	280	141
	Dec.	220	129	222	169	143	132	242	278	142
1981	Mar.	243	141	237	185	150	134	248	287	152
	May	247	149	245	192	155	140	249	283	155
	Oct.	249	152	247	192	160	NA	229	261	155
	Dec.	249	149	246	192	160	NA	228	259	153
1982	Mar.	255	151	240	195	165	NA	230	267	155
	May	255	146	235	195	164	NA	228	262	155
	Oct.	236	147	228	191	161	NA	216	251	146
	Dec.	230	142	222	188	157	NA	212	248	143
1983	Mar.	237	142	214	185	149	NA	214	249	143
	May	237	141	213	184	147	NA	214	249	143
	Oct.	226	136	208	184	143	NA	205	238	128
	Dec.	232	137	208	186	145	NA	210	245	131
1984	Mar.	275	145	222	198	150	NA	229	271	145
	May	280	143	227	198	153	NA	231	271	147
	Oct.	259	143	228	196	152	NA	210	250	134
	Dec.	252	140	227	196	155	NA	208	246	132
1985	Mar.	255	143	221	192	156	NA	206	244	128
	May	252	141	217	189	152	NA	203	240	128
	Oct.	237	140	204	184	154	NA	195	229	113
	Dec.	233	136	195	183	151	NA	192	224	109
1986	Apr.	225	122	174	171	149	NA	190	224	111

NA = Not available.

1/ Source: (5)

Table 7--Fertilizer price indexes

Year	Index of Prices paid by farmers for fertilizer 1/	Producer price indexes 2/			
		All fertilizers	Nitrogen	Phosphate	Potash
	--1977=100--	----- 1967=100 -----			
1960	57	96.4	102.4	82.7	102.4
1961	58	98.4	103.1	85.5	109.8
1962	58	96.1	99.6	84.9	112.5
1963	57	94.2	96.0	86.1	113.0
1964	57	94.4	95.8	87.9	110.9
1965	57	97.6	98.6	92.4	114.7
1966	56	98.5	98.7	96.3	109.5
1967	55	100.0	100.0	100.0	100.0
1968	52	94.6	90.1	102.8	88.4
1969	48	79.2	72.0	92.2	69.1
1970	48	74.9	69.3	80.0	97.7
1971	50	75.4	70.9	78.7	100.2
1972	52	74.4	71.3	75.0	100.4
1973	56	77.1	75.5	75.0	105.7
1974	92	124.2	126.9	118.6	132.6
1975	120	198.8	178.6	236.3	166.6
1976	102	163.6	151.1	187.8	167.3
1977	100	160.4	156.0	177.6	155.5
1978	100	161.5	153.4	181.4	164.7
1979	108	175.8	157.4	205.2	195.0
1980	134	222.8	190.6	270.5	235.7
1981	144	246.1	215.6	292.5	272.6
1982	144	243.3	211.7	290.8	266.6
1983	137	226.6	195.2	272.7	245.4
1984	143	236.5	211.4	271.8	267.7
1985	135	229.5	204.0	266.5	NA

NA = Not available.

1/ Source: (5)

2/ Source: (9)

APPENDIX

The data in this appendix include most of the historical information on State fertilizer use for four major crops: corn, cotton, soybeans, and wheat (1, 2, 3, 4). Information reported for each crop includes plant nutrient application rates, the proportion of the crop fertilized with each plant nutrient, and the proportion of the crop receiving any fertilizer. Estimates are based on total harvested acreage for cotton, soybeans, and wheat, while estimates for corn are based on only that portion of the crop harvested for grain.

Appendix table 1--Percentage of corn acreage harvested for grain receiving any fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Delaware	NA	NA	NA	NA	NA	NA	NA	100	96	98	96	96	96	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maryland	NA	93	99	98	99	100	97	100	100	99	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
New York	NA	100	99	100	98	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pennsylvania	NA	100	97	98	99	99	98	98	97	97	97	96	98	98	100	99	99	NA	NA	NA	NA	NA
Michigan	98	98	97	99	98	99	99	98	100	98	98	100	97	99	98	100	100	100	100	100	100	100
Minnesota	79	79	86	91	97	91	94	94	90	94	94	93	99	95	95	95	94	97	97	97	96	95
Wisconsin	92	92	98	94	98	99	98	97	98	98	99	98	97	98	100	99	99	100	98	97	100	99
Illinois	70	91	93	91	96	97	96	96	77	95	97	96	99	99	97	100	98	98	99	99	99	98
Indiana	100	100	100	99	100	99	99	99	100	99	99	98	100	100	99	98	100	99	100	99	99	99
Iowa	81	87	92	89	88	91	95	91	94	94	91	94	98	98	93	98	95	98	99	95	97	100
Missouri	92	93	95	98	97	95	98	99	98	95	94	93	92	95	97	96	98	98	98	98	99	96
Ohio	99	100	99	100	99	100	100	99	97	97	99	99	100	98	99	100	99	100	99	98	99	100
Kansas	79	84	92	90	93	93	97	98	97	96	95	99	98	99	93	96	99	NA	NA	NA	NA	NA
Nebraska	72	74	81	90	90	89	93	90	90	92	94	91	91	96	96	95	96	97	97	98	98	99
South Dakota	25	26	29	48	41	47	51	51	45	63	59	63	60	53	51	59	54	64	61	66	66	77
Kentucky	96	96	99	90	98	96	97	100	98	98	100	100	100	88	98	96	98	NA	NA	NA	NA	NA
North Carolina	99	100	100	100	100	100	100	100	100	95	100	100	100	99	100	100	99	NA	NA	NA	NA	NA
Tennessee	97	97	98	98	98	96	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Virginia	100	96	99	100	100	98	100	100	99	100	98	100	100	99	100	100	NA	NA	NA	NA	NA	NA
Alabama	99	99	100	99	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Florida	NA	100	99	99	100	100	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Georgia	99	100	99	100	100	99	100	99	99	98	99	99	100	100	100	100	100	NA	NA	NA	NA	NA
South Carolina	100	100	100	99	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mississippi	98	97	98	79	98	98	99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Colorado	NA	NA	NA	NA	NA	NA	NA	99	98	96	92	91	95	98	96	96	NA	NA	NA	NA	NA	NA
Texas	57	61	66	75	78	81	84	NA	NA	NA	NA	NA	95	96	NA	96	93	NA	NA	NA	NA	NA
United States	85	88	91	92	93	93	95	94	96	94	94	94	97	96	95	96	96	97	97	96	97	98

NA = Not available.

Appendix table 2--Percentage of corn acreage harvested for grain receiving nitrogen fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	
	Percent																						
Delaware	NA	NA	NA	NA	NA	NA	NA	100	96	98	96	96	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maryland	NA	98	99	98	98	100	97	100	100	99	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New York	NA	100	99	100	93	100	99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pennsylvania	NA	100	95	96	99	99	96	97	97	96	97	96	98	98	100	99	99	NA	NA	NA	NA	NA	NA
Michigan	98	96	99	99	98	99	99	98	100	98	98	99	99	99	98	100	100	100	100	100	100	100	99
Minnesota	79	77	86	92	97	89	93	94	90	93	94	93	97	95	94	94	94	98	97	97	97	96	95
Wisconsin	92	97	98	93	98	99	98	97	98	98	98	98	98	98	99	99	99	99	99	97	97	100	99
Illinois	89	90	96	93	96	96	95	95	96	94	96	96	96	99	98	97	99	98	98	99	99	99	98
Indiana	99	100	99	99	100	99	99	99	100	98	99	98	100	99	99	97	99	99	99	99	99	99	99
Iowa	80	86	91	88	87	91	94	94	94	93	90	93	98	98	93	98	95	97	99	95	97	99	99
Missouri	92	93	95	98	94	95	98	99	98	95	93	93	98	94	96	96	97	97	97	98	99	98	96
Ohio	99	100	99	100	99	100	100	99	97	96	99	99	100	88	99	100	99	99	99	98	98	98	98
Kansas	79	84	92	90	93	93	97	98	97	96	93	99	98	99	93	96	99	NA	NA	NA	NA	NA	NA
Nebraska	72	74	79	90	90	89	93	90	92	92	94	91	91	96	96	95	96	97	97	98	98	98	99
South Dakota	25	25	29	48	41	46	60	51	45	63	59	63	57	53	51	59	54	64	61	66	66	66	77
Kentucky	96	96	97	89	98	96	97	99	98	98	100	99	100	97	97	96	98	NA	NA	NA	NA	NA	NA
North Carolina	99	100	100	100	100	100	100	100	100	95	100	100	100	99	100	100	99	NA	NA	NA	NA	NA	NA
Tennessee	97	97	98	98	98	98	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Virginia	100	96	99	100	100	98	100	100	99	100	98	100	100	99	100	100	NA	NA	NA	NA	NA	NA	NA
Alabama	99	99	100	99	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Florida	NA	100	97	96	100	100	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Georgia	99	100	99	100	100	99	100	99	99	98	99	99	100	100	99	100	100	NA	NA	NA	NA	NA	NA
South Carolina	100	100	100	99	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mississippi	98	97	98	79	98	98	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Colorado	NA	NA	NA	NA	NA	NA	NA	99	98	96	92	88	94	96	96	96	96	NA	NA	NA	NA	NA	NA
Texas	57	60	66	75	78	81	84	NA	NA	NA	NA	95	96	96	NA	78	93	NA	NA	NA	NA	NA	NA
United States	85	88	91	92	92	93	94	94	96	93	94	94	97	96	95	96	96	96	97	97	96	97	97

NA = Not available.

Appendix table 3--Nitrogen used on corn, rate per fertilized acre receiving nitrogen, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Delaware	NA	NA	NA	NA	NA	NA	NA	105	100	102	112	108	118	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maryland	NA	82	81	84	88	85	84	98	92	111	93	99	79	NA	NA	NA	NA	NA	NA	NA	NA	NA
New York	NA	69	78	78	72	70	84	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pennsylvania	NA	76	64	59	77	72	81	82	84	88	71	79	118	104	114	111	109	NA	NA	NA	NA	NA
Michigan	43	52	51	64	83	90	98	101	88	87	72	83	89	103	112	107	104	109	120	111	136	120
Minnesota	28	46	54	69	84	95	98	96	93	98	83	91	104	107	90	107	105	105	110	100	115	112
Wisconsin	28	33	43	52	63	79	69	61	79	76	62	73	88	82	92	93	108	110	95	97	102	96
Illinois	72	86	102	109	112	120	118	113	128	123	113	117	141	130	140	146	147	152	153	155	148	158
Indiana	68	91	108	112	112	115	126	113	126	115	102	106	129	140	130	149	148	146	152	149	155	162
Iowa	45	65	81	90	104	108	107	101	110	109	102	102	126	128	130	138	134	142	131	141	143	145
Missouri	75	75	94	81	106	108	117	125	116	127	117	107	116	134	123	116	119	129	125	131	119	130
Ohio	55	72	70	88	85	93	110	90	102	100	90	95	116	130	133	145	155	159	161	157	150	153
Kansas	60	68	75	106	128	133	148	139	143	154	140	142	162	165	122	174	169	NA	NA	NA	NA	NA
Nebraska	79	98	106	121	149	143	146	141	139	139	131	120	143	136	143	157	111	157	145	158	156	154
South Dakota	31	44	43	55	59	56	59	58	53	62	47	60	61	52	62	62	69	69	78	80	61	66
Kentucky	61	67	80	78	85	103	103	100	125	120	97	104	140	115	130	114	122	NA	NA	NA	NA	NA
North Carolina	85	116	109	119	124	133	134	128	152	144	133	140	148	149	156	154	148	NA	NA	NA	NA	NA
Tennessee	61	76	75	76	94	107	91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Virginia	66	81	99	101	95	102	101	115	114	125	133	127	141	128	138	143	NA	NA	NA	NA	NA	NA
Alabama	69	79	84	90	75	96	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Florida	NA	71	80	76	93	103	97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Georgia	72	77	95	114	114	119	118	117	115	117	124	111	124	149	139	151	160	NA	NA	NA	NA	NA
South Carolina	71	82	115	108	124	124	129	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mississippi	59	71	79	69	79	88	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Colorado	NA	NA	NA	NA	NA	NA	NA	152	166	167	158	128	163	151	165	150	NA	NA	NA	NA	NA	NA
Texas	45	39	63	100	99	117	105	NA	NA	NA	NA	NA	172	187	NA	151	112	NA	NA	NA	NA	NA
United States	58	75	86	93	104	110	112	107	115	114	103	105	127	128	126	135	130	137	135	137	138	140

NA = Not available.

Appendix table 4--Percentage of corn acreage harvested for grain receiving phosphate fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Delaware	NA	NA	NA	NA	NA	NA	NA	99	95	96	92	90	94	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maryland	NA	98	99	98	98	100	97	99	98	99	100	100	99	NA	NA	NA	NA	NA	NA	NA	NA	NA
New York	NA	100	99	100	98	100	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pennsylvania	NA	94	96	98	99	98	98	98	97	95	96	96	97	98	99	98	98	NA	NA	NA	NA	NA
Michigan	98	96	98	99	98	99	98	97	100	98	97	100	97	96	97	100	99	99	96	100	100	97
Minnesota	77	79	86	90	95	87	92	92	88	90	88	92	95	93	89	93	91	95	91	89	91	91
Wisconsin	92	97	98	92	98	97	97	96	97	96	98	97	97	97	98	98	95	99	96	96	99	98
Illinois	82	87	90	90	93	92	94	89	91	89	94	88	96	96	95	94	93	95	94	94	99	90
Indiana	100	100	99	99	99	97	99	99	100	98	99	98	100	99	97	98	100	99	98	98	98	95
Iowa	72	78	86	84	84	88	90	89	90	84	81	85	90	90	85	89	87	90	90	84	85	85
Missouri	78	84	82	88	85	83	90	88	84	86	83	84	89	82	88	89	87	85	87	81	78	71
Ohio	97	100	99	100	99	99	100	99	97	93	97	96	98	98	96	98	98	98	97	97	96	97
Kansas	61	74	74	74	85	75	78	79	81	65	66	73	72	76	67	68	72	NA	NA	NA	NA	NA
Nebraska	44	47	60	70	75	67	71	71	69	74	68	57	65	66	62	72	58	69	61	72	72	70
South Dakota	21	19	21	37	30	42	52	39	37	55	51	59	54	46	40	48	44	51	49	52	51	55
Kentucky	92	89	95	84	94	91	92	95	93	92	97	98	93	96	93	94	91	NA	NA	NA	NA	NA
North Carolina	99	99	100	100	99	100	98	100	100	71	97	99	99	99	97	100	98	NA	NA	NA	NA	NA
Tennessee	92	91	94	97	94	97	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Virginia	100	96	98	98	100	98	100	99	97	98	94	98	100	98	93	98	NA	NA	NA	NA	NA	NA
Alabama	98	98	100	98	99	98	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Florida	NA	100	99	87	92	97	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Georgia	99	100	99	100	100	99	100	98	99	97	97	96	100	100	99	100	99	NA	NA	NA	NA	NA
South Carolina	100	99	99	95	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mississippi	87	81	93	76	93	93	93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Colorado	NA	NA	NA	NA	NA	NA	NA	86	75	76	63	60	66	66	78	79	NA	NA	NA	NA	NA	NA
Texas	53	58	59	65	49	60	58	NA	NA	NA	NA	NA	54	54	NA	84	80	NA	NA	NA	NA	NA
United States	78	82	86	87	89	87	90	88	90	86	87	86	90	88	87	89	87	90	88	88	87	86

NA = Not available.

Appendix table 5--Phosphate used on corn, rate per fertilized acre receiving phosphate, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Delaware	NA	NA	NA	NA	NA	NA	NA	77	66	74	71	66	64	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maryland	NA	NA	80	71	71	68	67	74	83	85	75	78	81	NA	NA	NA	NA	NA	NA	NA	NA	NA
New York	NA	51	62	65	66	61	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pennsylvania	NA	61	67	64	63	64	66	65	66	69	61	59	66	72	77	69	64	NA	NA	NA	NA	NA
Michigan	48	56	51	60	70	66	77	66	72	76	57	57	63	64	71	69	67	63	65	64	65	55
Minnesota	36	45	45	55	63	60	61	60	66	64	61	59	61	56	51	60	50	53	51	48	50	45
Wisconsin	46	48	56	51	75	64	69	60	61	61	55	55	60	60	71	57	58	60	57	56	57	49
Illinois	44	56	69	67	77	75	92	67	74	70	75	67	78	83	85	88	83	90	85	81	87	80
Indiana	50	68	74	78	80	77	92	76	75	77	74	63	84	84	75	85	77	78	69	75	72	70
Iowa	39	43	52	57	64	67	67	58	60	59	62	59	62	54	66	70	68	63	66	62	63	56
Missouri	34	39	52	48	49	56	57	57	60	56	59	51	52	61	59	59	58	63	57	61	56	58
Ohio	56	56	68	71	75	77	82	70	81	79	68	64	80	90	86	82	79	80	71	78	79	68
Kansas	28	34	39	36	41	46	47	43	45	55	52	41	59	40	38	46	40	NA	NA	NA	NA	NA
Nebraska	31	33	36	36	37	37	42	43	40	42	38	36	42	40	42	41	33	42	37	42	41	40
South Dakota	28	26	26	36	33	31	36	27	29	31	23	30	34	24	38	33	29	30	36	38	34	35
Kentucky	49	50	58	63	63	70	68	71	86	78	58	68	90	81	91	75	79	NA	NA	NA	NA	NA
North Carolina	44	45	48	51	50	56	55	58	60	56	58	56	67	61	65	64	60	NA	NA	NA	NA	NA
Tennessee	44	50	50	53	58	56	59	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Virginia	60	64	77	71	67	71	70	77	73	80	79	72	84	81	80	66	NA	NA	NA	NA	NA	NA
Alabama	39	42	46	48	42	53	51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Florida	NA	NA	42	44	52	48	49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Georgia	43	43	49	49	53	50	51	50	52	52	49	47	51	61	56	54	60	NA	NA	NA	NA	NA
South Carolina	43	50	56	57	67	63	64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mississippi	32	36	36	36	39	40	49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Colorado	NA	NA	NA	NA	NA	NA	NA	64	80	81	56	47	50	42	64	71	NA	NA	NA	NA	NA	NA
Texas	37	36	42	50	43	55	40	NA	NA	NA	NA	NA	53	49	NA	47	45	NA	NA	NA	NA	NA
United States	41	50	57	60	64	64	71	62	66	64	62	58	67	68	68	69	66	67	65	64	65	60

NA = Not available.

Appendix table 6--Percentage of corn acreage harvested for grain receiving potash fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Delaware	NA	NA	NA	NA	NA	NA	NA	100	95	98	92	94	95	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maryland	NA	98	97	98	96	100	96	99	100	98	96	93	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
New York	NA	100	99	100	97	100	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pennsylvania	NA	93	95	97	98	98	97	96	96	94	97	93	93	97	98	96	97	NA	NA	NA	NA	NA
Michigan	98	95	98	98	98	99	96	97	98	97	95	99	99	98	93	99	97	100	99	98	97	89
Minnesota	69	73	81	88	95	85	91	92	86	89	86	92	94	90	90	93	91	94	90	89	91	86
Wisconsin	92	96	98	92	95	97	97	96	97	97	98	96	97	97	96	99	96	96	96	96	97	95
Illinois	82	86	89	89	94	90	94	87	91	88	92	89	94	97	91	91	90	94	94	94	90	88
Indiana	99	99	99	99	99	97	99	98	99	93	96	96	99	96	94	93	96	94	96	89	93	84
Iowa	62	71	78	78	80	83	87	84	86	80	79	82	85	89	82	88	85	88	89	85	86	83
Missouri	78	82	82	89	84	82	90	87	84	85	84	83	88	81	88	89	85	84	89	82	78	73
Ohio	96	100	99	99	99	99	100	99	97	94	98	95	97	95	94	100	97	97	96	96	89	94
Kansas	29	43	45	46	49	47	53	49	66	42	48	47	44	34	45	32	31	NA	NA	NA	NA	NA
Nebraska	18	15	26	40	49	44	46	43	50	50	49	43	42	37	37	40	35	35	38	45	49	46
South Dakota	1	4	7	8	9	19	28	17	20	27	24	25	31	32	26	31	35	39	32	31	30	28
Kentucky	92	90	95	84	94	91	93	97	91	91	96	99	94	98	92	94	89	NA	NA	NA	NA	NA
North Carolina	99	100	100	100	100	100	99	100	100	71	97	99	99	99	98	100	99	NA	NA	NA	NA	NA
Tennessee	92	92	94	97	94	98	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Virginia	100	96	99	98	100	97	100	99	96	98	94	98	99	98	91	93	NA	NA	NA	NA	NA	NA
Alabama	98	98	100	98	99	98	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Florida	NA	100	99	94	98	100	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Georgia	99	100	99	100	100	99	100	98	113	98	98	96	100	100	98	100	97	NA	NA	NA	NA	NA
South Carolina	99	99	99	95	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mississippi	89	81	93	76	93	93	93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Colorado	NA	NA	NA	NA	NA	NA	NA	37	14	19	26	20	34	37	29	37	NA	NA	NA	NA	NA	NA
Texas	54	36	45	34	24	31	NA	NA	NA	NA	NA	NA	43	29	NA	43	40	NA	NA	NA	NA	NA
United States	72	77	80	82	84	82	85	82	86	80	83	82	84	82	81	82	81	84	84	83	82	79

NA = Not available.

Appendix table 7--Potash used on corn, rate per fertilized acre receiving potash, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Delaware	NA	NA	NA	NA	NA	NA	NA	93	74	101	95	84	96	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maryland	NA	NA	82	79	86	78	74	87	96	94	87	84	99	NA	NA	NA	NA	NA	NA	NA	NA	NA
New York	NA	49	60	65	61	60	68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pennsylvania	NA	52	49	47	50	54	51	54	56	58	52	48	51	56	59	58	57	NA	NA	NA	NA	NA
Michigan	42	48	51	71	70	87	73	81	69	76	73	70	74	79	90	85	90	83	92	94	108	104
Minnesota	30	36	41	46	61	60	70	61	60	73	69	61	68	77	63	73	76	76	69	66	68	65
Wisconsin	45	47	63	73	78	75	82	71	78	86	88	84	105	87	89	91	85	91	91	86	84	69
Illinois	40	50	68	70	76	78	92	64	80	83	85	78	92	99	79	109	111	109	112	111	117	114
Indiana	57	80	92	91	98	90	101	94	109	105	97	88	105	103	100	109	122	106	106	107	104	115
Iowa	26	31	38	45	54	58	63	52	56	55	64	62	67	73	75	74	73	75	76	80	73	73
Missouri	31	37	45	44	46	55	55	49	64	61	64	61	59	69	71	71	71	74	67	79	66	73
Ohio	53	51	62	70	74	76	84	73	81	82	83	68	82	100	91	101	106	114	104	98	102	97
Kansas	15	19	20	22	17	24	28	23	24	29	31	21	44	27	31	29	17	NA	NA	NA	NA	NA
Nebraska	11	16	12	18	15	23	22	23	18	21	19	19	25	20	20	26	14	21	17	24	25	22
South Dakota	10	17	13	30	14	12	13	13	20	16	11	18	14	18	19	18	16	17	20	18	18	16
Kentucky	49	52	56	62	64	74	70	71	81	80	61	72	93	89	92	83	80	NA	NA	NA	NA	NA
North Carolina	49	52	57	62	61	70	68	75	75	71	75	77	88	86	90	97	92	NA	NA	NA	NA	NA
Tennessee	45	48	50	52	59	59	62	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Virginia	71	74	88	89	87	94	90	109	94	104	110	96	124	105	91	83	80	NA	NA	NA	NA	NA
Alabama	39	42	46	49	42	54	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Florida	NA	NA	58	54	71	69	65	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Georgia	52	56	67	71	73	74	74	72	74	75	75	68	75	99	98	89	87	90	NA	NA	NA	NA
South Carolina	43	51	68	71	81	78	84	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mississippi	34	35	35	35	39	40	49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Colorado	NA	NA	NA	NA	NA	NA	NA	33	51	43	32	23	29	37	36	29	NA	NA	NA	NA	NA	NA
Texas	21	20	23	22	34	22	23	NA	NA	NA	NA	NA	36	57	NA	23	44	NA	NA	NA	NA	NA
United States	35	48	57	60	65	67	72	64	69	71	73	67	78	82	80	84	86	86	86	85	87	84

NA = Not available.

Appendix table B--Percentage of cotton acreage harvested receiving any fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Missouri	100	100	99	99	95	94	90	99	100	100	97	96	93	100	97	100	100	92	100	100	100	98
North Carolina	100	100	98	100	100	99	100	100	100	98	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tennessee	98	100	92	97	99	100	99	99	95	100	100	100	91	99	97	99	100	NA	97	100	100	100
Alabama	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	100	100	100	100	98	98
Georgia	100	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100
South Carolina	100	100	100	100	100	99	100	99	100	100	100	100	100	100	NA	100	100	100	100	100	98	100
Arkansas	98	99	98	99	100	98	97	98	100	97	98	98	98	98	94	99	99	99	100	100	100	100
Louisiana	97	93	90	91	92	97	95	98	98	91	100	98	98	100	100	100	98	100	100	100	99	100
Mississippi	99	100	100	97	100	100	100	100	100	100	100	100	100	100	99	100	100	99	100	99	99	98
Oklahoma	51	55	51	51	41	53	50	44	46	50	47	29	63	60	63	55	67	45	43	57	66	59
Texas	51	55	52	47	46	49	49	50	51	53	55	32	49	59	41	53	50	61	39	41	56	57
Arizona	94	93	96	89	95	97	90	91	82	88	97	83	88	92	89	93	90	92	95	90	99	95
New Mexico	71	74	56	68	67	63	67	60	68	64	36	45	59	NA	NA	70	42	66	49	54	67	59
California	96	97	94	92	94	94	93	90	92	92	83	86	94	95	96	94	95	97	95	95	92	87
United States	78	79	77	73	74	76	72	75	77	75	79	65	76	79	69	71	71	75	71	68	77	76

NA = Not available.

Appendix table 9--Percentage of cotton acreage harvested receiving nitrogen fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Missouri	100	99	94	99	93	94	90	99	100	88	97	96	90	96	91	96	100	92	100	100	100	98
North Carolina	100	100	98	100	100	99	100	100	100	98	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tennessee	98	100	92	97	99	100	96	99	95	100	100	100	91	96	97	99	100	NA	97	100	100	99
Alabama	99	100	100	100	100	100	100	99	100	99	100	100	98	99	100	100	100	99	100	100	98	98
Georgia	100	99	100	100	100	100	100	100	100	100	100	100	100	100	100	86	93	100	100	100	100	100
South Carolina	100	100	100	100	100	99	100	99	99	100	100	99	100	100	NA	100	100	100	100	100	98	100
Arkansas	97	99	97	98	99	96	95	98	99	97	98	98	97	95	93	98	98	97	97	97	97	100
Louisiana	97	93	90	91	92	97	95	98	98	91	98	98	98	98	99	100	96	98	98	100	99	100
Mississippi	99	100	98	97	100	100	99	100	100	100	100	100	100	99	97	100	99	99	100	99	98	98
Oklahoma	51	55	50	51	41	53	50	44	46	50	47	29	61	60	61	55	67	43	43	57	66	59
Texas	50	55	51	47	45	48	48	50	51	53	55	32	49	59	41	53	50	60	39	41	55	57
Arizona	94	92	96	89	95	97	90	91	82	88	97	82	88	92	89	93	90	92	94	90	98	95
New Mexico	63	71	52	67	67	51	61	56	61	64	52	45	56	NA	NA	70	40	65	47	54	61	59
California	95	96	94	91	94	93	92	90	92	88	84	86	94	95	96	94	95	97	95	95	91	87
United States	77	79	76	72	73	77	72	74	77	74	79	65	75	78	69	71	71	75	71	68	76	76

NA = Not available.

Appendix table 10--Nitrogen used on cotton, rate per fertilized acre receiving nitrogen, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Missouri	85	64	71	80	54	56	57	55	63	47	60	56	36	49	44	52	55	47	54	44	70	56
North Carolina	45	90	63	59	74	42	67	53	66	85	70	84	102	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tennessee	67	71	85	61	51	67	61	72	69	67	66	69	71	68	74	76	73	NA	67	91	82	78
Alabama	72	81	83	73	71	80	78	84	89	82	100	74	72	74	66	70	73	73	101	79	78	88
Georgia	80	86	104	102	97	105	92	94	82	95	119	130	92	109	78	69	80	63	79	72	69	78
South Carolina	68	78	101	91	101	88	80	88	95	99	101	109	92	125	NA	84	78	81	84	107	95	92
Arkansas	68	72	70	68	63	65	67	65	62	69	68	57	65	66	64	62	59	64	67	69	75	70
Louisiana	54	56	69	69	76	63	81	69	73	71	69	69	72	70	78	68	69	73	74	69	81	80
Mississippi	77	104	98	98	91	93	96	93	92	90	103	92	90	98	92	87	92	91	94	98	103	104
Oklahoma	28	30	28	19	28	27	25	31	32	34	21	28	34	27	34	32	32	50	34	45	53	34
Texas	59	62	62	55	51	41	57	57	53	46	48	39	52	45	50	45	43	44	41	52	47	49
Arizona	130	131	141	141	142	145	135	123	117	120	123	117	155	148	135	142	161	159	126	113	150	157
New Mexico	85	81	73	67	83	92	72	70	69	60	49	54	59	NA	NA	61	64	58	64	88	71	58
California	111	150	138	145	157	135	127	124	121	125	104	137	146	142	120	106	108	110	117	117	116	118
United States	69	81	84	79	80	91	75	75	75	73	78	78	81	78	76	71	72	72	82	81	81	80

NA = Not available.

Appendix table 11--Percentage of cotton acreage harvested receiving phosphate fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Missouri	95	96	96	94	92	91	84	84	91	94	85	84	91	83	88	96	78	75	83	100	100	68
North Carolina	100	100	95	100	100	90	100	98	100	95	100	91	91	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tennessee	97	92	89	91	89	97	96	93	94	100	96	98	91	92	95	99	94	NA	97	100	100	97
Alabama	100	100	100	100	99	98	100	100	98	95	99	92	93	91	95	84	93	97	93	86	91	88
Georgia	99	99	100	100	100	100	100	100	100	100	98	100	100	100	100	96	98	93	90	91	93	93
South Carolina	100	100	100	100	100	97	100	97	97	99	94	91	100	94	NA	87	97	83	83	83	87	83
Arkansas	59	72	77	79	66	68	60	64	72	70	72	67	74	75	62	78	76	59	68	68	80	76
Louisiana	62	63	58	61	48	62	57	69	70	60	59	50	63	63	81	65	92	80	73	62	77	70
Mississippi	59	56	71	58	63	59	42	41	48	49	45	47	40	43	36	32	33	41	41	45	44	42
Oklahoma	49	48	45	45	38	50	43	38	42	45	43	29	55	58	61	51	58	34	19	52	42	32
Texas	38	40	40	39	37	34	30	30	36	41	47	23	40	45	28	45	43	53	28	31	77	47
Arizona	50	42	45	47	46	39	36	46	49	53	51	34	47	58	38	46	34	36	35	45	48	51
New Mexico	58	45	44	57	62	48	50	42	63	38	48	32	38	NA	NA	51	28	42	30	30	34	47
California	48	37	26	42	47	42	41	41	43	45	38	30	47	47	39	31	27	36	30	33	27	23
United States	58	59	59	56	56	54	48	50	55	55	58	43	53	51	45	48	48	52	41	44	48	50

NA = Not available.

Appendix table 12--Phosphate used on cotton, rate per fertilized acre receiving phosphate, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Missouri	58	46	57	53	48	49	42	45	51	54	51	43	47	39	48	50	45	37	31	39	31	35
North Carolina	54	54	53	65	54	54	55	53	57	68	56	52	44	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tennessee	53	57	64	61	58	57	62	63	61	69	60	57	59	67	69	74	64	NA	62	65	62	61
Alabama	62	63	69	71	71	70	74	71	73	77	76		71	72	64	63	63	57	65	62	60	62
Georgia	64	65	66	64	62	65	59	61	60	65	61	53	61	67	60	47	50	48	53	53	51	62
South Carolina	76	81	85	85	89	84	71	78	77	72	69	66	63	65	NA	51	60	42	44	42	47	51
Arkansas	39	46	44	41	45	46	43	40	44	45	40	40	41	48	42	37	39	40	36	34	38	37
Louisiana	34	40	48	49	43	46	50	50	54	59	54	45	52	51	48	49	48	46	47	42	52	48
Mississippi	50	58	54	56	52	56	60	55	64	64	64	59	53	57	54	61	50	45	54	50	57	56
Oklahoma	28	27	33	23	28	37	27	36	38	33	30	29	31	38	39	43	30	46	29	36	42	34
Texas	46	44	45	43	44	46	45	42	44	45	43	39	43	47	42	45	39	40	30	40	39	39
Arizona	66	78	69	62	68	70	59	62	57	66	58	49	62	59	53	61	72	67	59	43	59	55
New Mexico	60	79	64	70	74	77	85	50	69	64	57	58	59	NA	NA	54	51	50	57	49	64	48
California	62	81	72	99	88	91	60	73	70	84	59	74	78	75	81	65	61	73	61	52	61	56
United States	49	55	55	55	57	60	55	53	55	53	53	50	52	53	54	50	46	46	46	45	48	46

NA = Not available.

Appendix table 13--Percentage of cotton acreage harvested receiving potash fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Missouri	95	96	96	94	92	91	84	87	91	97	89	87	91	88	94	100	100	85	83	100	100	98
North Carolina	100	100	96	100	100	90	100	100	100	98	100	98	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tennessee	98	93	90	92	90	97	96	93	95	100	98	99	91	92	95	99	94	NA	97	100	100	94
Alabama	99	100	100	100	99	98	100	99	98	97	99	98	98	97	95	84	93	91	93	89	88	80
Georgia	100	99	100	100	100	98	100	100	98	100	100	100	98	100	100	99	98	85	100	100	98	100
South Carolina	100	100	100	100	100	97	100	99	99	99	99	100	100	99	NA	100	92	97	86	100	98	98
Arkansas	65	73	76	79	61	68	63	65	70	69	75	72	77	78	74	83	85	62	72	70	82	77
Louisiana	69	64	58	62	51	64	56	69	70	60	59	50	63	61	81	65	92	80	72	70	77	76
Mississippi	59	54	72	58	62	59	42	43	47	50	46	48	40	44	38	33	34	48	41	50	46	44
Oklahoma	33	40	40	41	35	42	33	37	35	35	41	16	40	26	35	34	28	15	15	26	4	3
Texas	10	11	14	12	18	14	13	12	11	15	24	9	13	15	9	17	18	21	13	14	18	22
Arizona	2	2	1	1	1	2	4	3	4	2	2	2	1	1	1	3	2	2	3	11	4	9
New Mexico	NA	5	9	9	13	NA	6	11	9	5	16	13	8	NA	NA	14	2	12	8	9	14	2
California	8	NA	4	6	6	1	9	6	12	9	10	1	7	10	8	5	3	5	4	6	2	3
United States	43	44	45	40	43	39	36	39	41	39	46	33	37	31	31	27	30	30	30	30	32	34

NA = Not available.

Appendix table 14--Potash used on cotton, rate per fertilized acre receiving potash, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Missouri	59	49	61	56	52	57	44	50	56	77	73	56	57	62	51	52	75	67	80	68	66	62
North Carolina	69	69	68	80	75	70	75	70	84	92	90	82	81	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tennessee	56	62	66	63	59	60	64	63	64	69	61	58	64	69	74	79	74	NA	68	71	68	67
Alabama	63	66	70	73	73	71	77	73	77	83	75	66	80	85	69	68	70	68	72	72	70	73
Georgia	89	89	104	95	94	92	85	90	91	102	103	84	88	110	93	79	77	83	89	73	88	86
South Carolina	88	89	90	89	101	98	90	96	102	102	108	99	113	110	NA	102	97	97	84	102	103	90
Arkansas	48	51	51	47	55	54	53	50	54	50	46	46	55	60	50	51	53	58	48	46	53	51
Louisiana	35	41	48	50	45	47	50	53	56	60	51	45	52	49	49	53	52	51	53	58	59	64
Mississippi	50	55	55	57	53	57	61	63	65	65	64	66	54	57	59	63	55	59	65	63	68	59
Oklahoma	14	14	19	13	14	17	13	15	26	17	15	16	14	15	15	23	15	24	23	18	12	10
Texas	16	18	18	20	18	21	21	17	19	14	17	12	16	14	16	16	14	20	20	22	15	21
Arizona	88	8	15	40	36	12	16	41	39	34	27	22	16	37	26	55	9	7	34	14	29	6
New Mexico	NA	28	23	40	41	NA	17	12	31	18	26	18	22	NA	NA	15	10	19	37	1	6	14
California	26	NA	16	74	46	31	24	37	49	50	22	43	70	50	67	44	75	84	39	38	87	112
United States	37	57	58	55	58	57	57	58	61	62	55	55	56	52	54	44	46	46	55	52	53	52

NA = Not available.

Appendix table 15--Percentage of soybean acreage harvested for beans receiving any fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Minnesota	4	13	12	14	25	22	22	10	14	26	23	13	13	11	15	22	15	15	13	23	26	19
Illinois	8	16	18	17	17	11	17	20	22	29	19	20	28	26	19	24	24	22	18	32	24	22
Indiana	38	42	48	56	51	52	61	52	48	63	58	55	56	56	57	67	53	52	45	43	54	52
Iowa	6	10	18	15	22	13	13	11	14	16	11	11	9	15	13	12	8	9	10	12	18	12
Missouri	7	11	20	20	20	18	17	17	27	25	14	13	12	16	30	31	29	22	25	19	14	23
Ohio	23	27	34	42	34	46	46	42	54	49	55	48	50	52	40	59	51	47	40	42	48	60
Kansas	12	4	6	21	16	16	20	11	14	19	14	6	10	23	16	21	22	NA	NA	NA	NA	NA
Nebraska	12	10	39	25	25	15	24	9	22	23	7	9	8	11	11	20	28	19	28	21	18	30
Kentucky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71	69	68	74	NA	NA	NA	NA	47
North Carolina	NA	NA	71	64	68	71	58	70	67	63	63	58	56	76	73	66	64	53	65	58	56	56
Tennessee	NA	NA	46	42	45	48	52	49	54	60	58	53	71	67	84	68	74	70	63	67	64	66
Alabama	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	97	93	85	87	69	65	77	74	65
Georgia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	92	89	86	72	80	55	79	63	63
South Carolina	NA	NA	74	57	80	81	84	80	85	82	80	78	75	79	NA	88	81	86	59	71	74	NA
Arkansas	15	22	24	24	26	28	36	36	39	29	32	30	33	39	37	37	33	35	22	27	28	24
Louisiana	NA	NA	NA	22	21	23	24	27	28	28	21	23	21	26	34	33	37	49	32	28	32	33
Mississippi	4	6	18	24	28	26	25	30	34	91	35	30	42	41	43	42	36	42	35	29	41	33
United States	13	18	27	28	29	27	29	28	31	33	30	28	31	35	37	40	37	36	30	33	34	32

NA = Not available.

Appendix table 16--Percentage of soybean acreage harvested for beans receiving nitrogen fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Minnesota	2	11	10	10	19	18	17	8	13	23	18	11	7	6	12	13	7	10	10	19	20	12
Illinois	5	6	10	9	8	6	9	12	11	16	12	9	12	16	10	11	8	9	5	13	9	8
Indiana	23	33	36	46	43	40	52	46	42	54	49	46	48	46	41	51	39	40	25	31	35	23
Iowa	3	8	15	11	17	6	8	7	9	10	7	8	7	11	10	7	6	5	5	8	14	9
Missouri	6	9	17	20	17	15	15	14	23	19	12	8	9	8	23	14	17	11	15	11	7	13
Ohio	18	19	27	37	28	38	42	37	47	42	47	42	36	41	33	46	38	28	24	23	22	35
Kansas	12	4	6	21	16	16	19	9	14	19	12	6	8	21	12	16	20	NA	NA	NA	NA	NA
Nebraska	6	5	35	22	22	15	18	9	16	23	7	9	7	11	11	14	20	17	21	18	17	28
Kentucky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	64	54	57	60	NA	NA	NA	25
North Carolina	NA	NA	58	50	59	57	49	62	65	62	57	57	49	49	63	61	60	60	44	57	46	46
Tennessee	NA	NA	32	35	42	34	38	35	42	45	38	32	47	48	56	44	51	43	33	38	40	33
Alabama	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71	77	66	68	57	49	51	34
Georgia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	76	74	71	58	69	46	59	51	54
South Carolina	NA	NA	52	44	62	66	65	61	65	63	60	53	52	61	NA	45	43	44	40	32	41	NA
Arkansas	2	3	5	8	12	15	14	6	14	14	20	10	13	18	16	16	11	13	12	13	14	6
Louisiana	NA	NA	NA	20	16	14	12	14	14	19	17	9	14	12	19	19	7	12	9	11	8	7
Mississippi	2	1	8	16	14	14	13	17	15	12	17	11	26	17	21	14	13	15	13	12	17	5
United States	7	11	18	21	21	19	21	19	22	24	22	18	20	24	25	26	23	21	17	20	20	17

NA = Not available.

Appendix table 17--Nitrogen used on soybeans, rate per fertilized acre receiving nitrogen, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Minnesota	15	8	9	6	10	8	17	10	20	12	15	42	21	10	16	16	13	30	13	16	18	26
Illinois	8	8	18	17	14	9	25	30	12	19	11	11	12	16	14	15	20	18	20	17	31	16
Indiana	6	8	9	7	11	9	8	11	11	9	10	9	10	11	11	11	11	12	11	9	10	14
Iowa	4	17	6	12	10	8	11	10	11	10	9	9	12	14	11	11	18	20	32	14	23	10
Missouri	7	14	8	16	11	12	10	14	17	10	17	26	12	13	17	19	22	14	21	23	22	12
Ohio	11	10	7	9	10	10	11	12	12	12	13	11	11	12	15	12	12	14	10	10	14	13
Kansas	9	5	19	22	11	21	18	23	44	21	55	43	32	30	26	15	10	NA	NA	NA	NA	NA
Nebraska	2	9	21	9	32	27	32	11	14	19	27	22	23	25	23	21	30	19	23	21	13	18
Kentucky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	21	18	18	NA	NA	NA	21
North Carolina	NA	NA	13	12	13	15	13	15	13	14	17	12	12	14	18	17	15	18	16	20	16	16
Tennessee	NA	NA	14	16	14	13	13	14	15	24	15	17	19	18	17	14	16	14	14	20	16	19
Alabama	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	24	21	22	22	19	22	14
Georgia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	21	22	21	20	20	35	16
South Carolina	NA	NA	15	16	17	17	17	13	18	15	21	14	17	15	NA	19	13	18	20	11	13	NA
Arkansas	40	19	28	24	11	13	15	12	14	11	16	18	19	28	16	17	16	17	17	15	21	24
Louisiana	NA	NA	NA	14	10	12	13	17	15	20	19	14	14	12	15	18	19	26	17	13	13	21
Mississippi	44	10	24	17	2	19	17	17	27	19	23	17	17	22	17	17	13	24	15	12	16	16
United States	14	10	12	13	15	12	14	15	14	14	15	15	14	16	17	16	17	18	17	18	17	15

NA = Not available.

Appendix table 18--Percentage of soybean acreage harvested for beans receiving phosphate fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Minnesota	4	13	12	14	25	20	22	10	11	25	21	10	10	9	14	21	11	11	11	21	24	14
Illinois	6	10	17	13	10	11	12	17	18	27	15	15	23	23	18	20	19	17	14	23	17	17
Indiana	37	41	48	55	51	52	57	50	47	62	54	51	54	54	56	61	49	47	34	38	48	38
Iowa	6	9	18	15	22	12	13	11	13	16	11	11	9	15	13	12	8	9	8	12	16	12
Missouri	6	11	18	20	17	16	16	17	27	23	13	11	9	15	28	25	26	19	23	16	10	21
Ohio	23	26	33	42	33	46	45	42	53	48	53	46	49	52	38	56	48	39	35	34	39	48
Kansas	8	4	6	21	13	14	18	4	11	19	10	2	10	17	10	20	20	NA	NA	NA	NA	NA
Nebraska	12	10	30	25	16	13	20	9	22	19	6	7	7	11	9	17	20	15	23	19	15	25
Kentucky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71	67	68	74	NA	NA	NA	NA	46
North Carolina	NA	NA	69	63	65	70	56	70	67	60	62	58	55	73	72	66	60	50	63	54	55	55
Tennessee	NA	NA	46	42	45	48	51	49	54	59	58	52	67	62	84	66	73	66	63	65	61	59
Alabama	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	95	92	81	86	66	60	77	74	65
Georgia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	92	87	86	72	75	55	76	63	61
South Carolina	NA	NA	72	66	79	81	84	80	84	82	78	77	74	78	NA	85	78	84	54	65	66	NA
Arkansas	14	19	23	23	26	28	35	33	35	27	31	26	29	35	35	31	32	21	26	26	21	21
Louisiana	NA	NA	NA	22	21	23	24	27	28	28	20	23	21	26	34	33	37	49	32	28	32	32
Mississippi	3	6	17	24	28	26	25	30	33	19	34	29	40	39	41	38	34	42	35	29	40	32
United States	12	16	26	27	27	26	27	27	29	32	28	25	28	33	35	38	35	33	27	30	30	28

NA = Not available.

Appendix table 19--Phosphate used on soybeans, rate per fertilized acre receiving phosphate, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Minnesota	37	21	20	24	30	27	35	25	44	31	26	44	31	34	27	36	29	31	30	38	38	34
Illinois	24	32	56	51	57	54	36	41	48	55	44	43	49	47	50	57	73	63	66	63	62	61
Indiana	22	28	25	25	28	42	31	29	41	37	38	32	34	37	39	38	44	36	39	35	41	40
Iowa	37	30	21	30	39	53	44	34	36	42	33	27	33	39	33	36	42	54	54	46	52	34
Missouri	22	39	30	31	34	43	29	30	37	34	43	38	43	41	43	49	47	57	45	49	58	44
Ohio	28	36	33	33	36	37	36	38	38	44	42	37	39	42	42	46	38	54	43	37	53	37
Kansas	16	20	58	29	29	33	36	42	46	32	29	46	43	39	30	30	22	NA	NA	NA	NA	NA
Nebraska	29	23	36	27	24	44	43	33	34	29	29	15	37	44	50	36	47	32	29	33	29	27
Kentucky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50	52	60	51	NA	NA	NA	NA	57
North Carolina	NA	NA	35	35	36	35	39	34	37	38	34	38	36	41	45	37	42	39	35	42	40	40
Tennessee	NA	NA	32	36	38	34	36	42	44	44	42	41	43	50	48	46	45	42	43	48	43	45
Alabama	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	59	52	50	45	49	54	48	53
Georgia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50	42	48	43	41	38	47	35	37
South Carolina	NA	NA	44	46	42	42	42	42	46	42	40	40	45	43	NA	41	39	43	37	37	36	NA
Arkansas	32	35	35	41	39	38	39	42	37	44	46	36	40	41	38	41	38	38	38	38	40	36
Louisiana	NA	NA	NA	51	41	48	56	63	54	58	54	60	52	57	51	52	53	55	47	47	50	54
Mississippi	37	44	57	53	14	44	46	57	54	53	56	52	57	55	51	50	47	50	41	42	49	44
United States	30	32	34	37	37	41	37	39	42	42	41	40	42	45	45	46	46	46	43	45	46	43

NA = Not available.

Appendix table 20--Percentage of soybean acreage harvested for beans receiving potash fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Minnesota	4	12	11	14	23	21	22	10	12	24	21	10	12	11	14	21	15	14	11	20	25	19
Illinois	7	14	17	17	15	11	16	20	22	28	17	18	28	26	19	23	21	21	17	32	22	21
Indiana	36	41	47	56	51	52	57	52	48	63	58	55	55	55	54	64	51	51	44	42	49	50
Iowa	5	8	16	14	21	12	13	11	14	16	11	11	9	15	13	12	8	9	9	11	18	11
Missouri	7	11	19	20	18	18	17	17	27	25	14	13	12	16	29	30	29	21	24	18	14	23
Ohio	20	26	32	41	34	46	46	42	54	48	54	47	50	52	40	57	51	47	38	40	45	58
Kansas	8	4	3	17	10	14	11	2	9	19	4	NA	8	11	8	7	4	NA	NA	NA	NA	NA
Nebraska	6	NA	13	19	6	6	13	7	14	15	6	6	7	8	8	11	13	5	15	13	9	10
Kentucky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71	67	66	74	NA	NA	NA	NA	46
North Carolina	NA	NA	71	63	67	71	58	70	67	69	62	63	56	56	76	73	66	61	53	65	56	56
Tennessee	NA	NA	46	42	45	48	51	49	54	59	57	53	70	66	84	67	73	70	63	67	63	66
Alabama	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	96	93	84	83	69	65	77	73
Georgia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	92	89	86	72	80	55	78	63	62
South Carolina	NA	NA	72	66	79	81	84	80	85	82	80	78	73	79	NA	86	81	84	59	71	74	NA
Arkansas	12	21	21	22	24	28	36	35	38	29	32	28	32	36	37	36	33	34	21	26	21	24
Louisiana	NA	NA	NA	22	20	23	24	27	28	27	20	23	21	25	34	33	37	49	32	28	30	31
Mississippi	3	5	13	24	28	26	25	30	31	19	32	29	41	40	43	42	35	42	34	28	41	32
United States	12	17	24	27	27	27	28	27	31	32	28	26	30	34	36	39	36	35	29	32	32	30

NA = Not available.

Appendix table 21--Potash used on soybeans, rate per fertilized acre receiving potash, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Minnesota	73	26	23	27	40	35	82	38	62	39	39	53	64	56	36	56	48	72	52	56	63	62
Illinois	42	58	72	66	73	71	74	48	63	69	73	56	79	67	85	92	97	113	96	96	99	93
Indiana	29	30	33	34	31	48	43	42	51	60	60	55	52	52	59	69	75	76	87	67	67	99
Iowa	28	29	19	24	34	53	49	45	35	48	44	34	59	49	39	52	61	65	64	49	69	59
Missouri	29	40	35	33	39	45	37	39	43	46	55	61	59	60	65	72	82	77	66	68	76	60
Ohio	27	40	31	31	39	33	37	39	47	51	50	38	47	47	52	53	64	89	71	73	102	74
Kansas	5	20	20	17	24	32	54	24	31	21	16	NA	26	46	28	26	28	NA	NA	NA	NA	NA
Nebraska	4	3	24	7	18	23	11	12	22	16	14	16	24	20	18	18	32	20	14	22	12	13
Kentucky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	63	64	59	NA	NA	NA	NA	75
North Carolina	NA	NA	50	53	54	51	55	59	55	65	60	65	64	58	71	74	75	83	71	70	68	70
Tennessee	NA	NA	34	37	42	35	41	41	46	45	44	45	46	55	60	63	58	60	55	60	60	63
Alabama	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	63	72	61	67	66	60	61	56	57
Georgia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	78	69	77	76	78	67	79	68	63
South Carolina	NA	NA	68	70	69	66	70	71	77	75	68	71	80	84	NA	89	84	82	79	81	76	NA
Arkansas	39	42	38	42	42	42	49	47	48	50	52	50	56	54	57	52	56	51	49	52	48	55
Louisiana	NA	NA	NA	51	40	48	53	61	53	58	53	57	53	60	54	58	66	68	60	68	67	73
Mississippi	37	45	43	52	15	44	44	57	53	54	55	53	59	68	61	69	65	69	60	61	71	69
United States	37	39	41	42	45	48	51	48	51	55	55	53	60	60	62	67	70	76	68	70	72	72

NA = Not available.

Appendix table 22--Percentage of all wheat acreage harvested for grain receiving any fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Michigan	96	100	100	100	97	98	99	96	92	100	97	98	98	98	96	94	100	100	100	100	NA	NA
Minnesota	76	80	67	86	88	90	86	87	96	91	92	90	95	91	98	96	95	96	NA	NA	75	95
Illinois	94	89	86	91	96	90	92	99	95	90	96	91	90	95	93	97	98	96	88	85	92	92
Indiana	98	99	99	95	97	83	95	99	97	100	100	100	100	96	86	97	99	100	94	97	85	92
Missouri	95	95	92	93	92	93	92	94	91	86	99	95	96	93	96	89	95	95	94	94	87	92
Ohio	97	100	99	99	98	98	99	100	98	99	97	100	97	99	96	97	99	100	84	99	95	92
Arkansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	72
Kansas	40	40	50	51	59	51	51	49	60	67	69	73	72	72	64	70	76	76	75	82	84	81
Nebraska	25	25	26	42	43	49	43	45	46	53	73	55	58	58	46	57	57	64	56	59	58	81
North Dakota	51	56	60	67	68	72	73	66	72	74	65	57	65	51	60	68	49	57	NA	71	72	72
South Dakota	6	8	16	25	28	33	34	43	31	39	42	29	53	24	21	19	25	44	NA	44	47	62
Oklahoma	58	61	61	53	60	57	70	70	63	65	65	66	82	73	62	80	89	85	81	70	81	83
Texas	39	45	46	50	42	34	52	48	46	42	65	37	59	44	50	32	48	58	55	54	71	62
Colorado	9	7	1	8	13	13	6	6	10	9	8	16	18	9	11	10	14	25	35	23	39	56
Idaho	46	43	40	48	42	52	57	59	72	71	72	66	79	77	82	85	80	87	85	94	88	89
Montana	19	30	29	41	40	39	39	41	47	40	37	43	48	48	45	59	45	47	63	59	64	67
California	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	95
Oregon	94	86	92	59	78	54	81	83	89	89	82	87	81	85	72	88	90	90	95	95	96	95
Washington	81	70	78	88	94	82	92	90	92	98	87	97	93	99	96	96	99	99	97	100	98	96
United States	50	52	54	58	60	59	63	58	63	64	66	63	71	65	61	66	67	70	70	73	76	77

NA = Not available.

Appendix table 23--Percentage of all wheat acreage harvested for grain receiving nitrogen fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Michigan	95	99	99	100	97	98	99	96	91	100	97	98	98	98	96	94	98	100	98	100	NA	NA
Minnesota	76	78	64	86	88	90	86	87	96	91	92	90	95	91	98	96	93	96	NA	95	95	94
Illinois	92	85	85	88	88	85	92	99	93	65	96	87	89	95	92	93	95	94	87	82	89	92
Indiana	96	99	99	95	97	83	91	99	97	99	99	100	99	96	86	97	99	100	94	95	84	91
Missouri	95	95	92	93	92	93	90	94	91	81	99	95	96	93	96	84	95	95	94	93	87	91
Ohio	97	100	99	99	95	98	99	100	98	99	97	100	99	94	97	99	100	84	99	94	94	92
Arkansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	72
Kansas	39	40	50	51	59	50	51	48	60	66	48	68	73	71	63	70	76	76	75	82	84	81
Nebraska	25	25	26	39	43	48	43	44	45	51	72	55	58	56	46	57	57	62	56	5	58	81
North Dakota	42	43	41	48	52	65	69	63	68	73	63	57	65	51	58	65	49	57	NA	71	72	72
South Dakota	6	7	16	25	23	33	32	41	31	39	42	29	53	24	21	19	25	44	NA	43	47	62
Oklahoma	58	60	60	52	58	57	70	70	63	65	65	65	82	73	62	79	89	84	81	70	81	83
Texas	39	44	46	50	41	34	51	47	46	42	65	37	59	44	49	32	48	57	55	54	71	62
Colorado	9	7	1	8	13	13	6	6	10	9	8	16	18	9	11	10	14	25	35	23	39	56
Idaho	46	41	40	48	42	50	56	59	71	71	72	65	79	77	81	84	80	87	85	93	88	89
Montana	6	17	14	28	32	32	30	37	43	38	37	43	47	47	45	56	45	47	63	59	64	65
California	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	94
Oregon	94	86	92	59	78	54	81	83	89	89	82	87	81	84	72	88	90	90	95	95	96	95
Washington	81	70	77	88	94	82	92	90	92	98	87	97	93	99	96	96	99	99	97	100	98	96
United States	47	48	49	53	56	56	61	57	62	63	66	63	71	64	61	65	67	70	70	72	76	77

NA = Not available.

Appendix table 24--Nitrogen used on all wheat, rate per fertilized acre receiving nitrogen, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Michigan	35	28	33	26	35	31	37	41	36	40	38	37	49	51	52	48	51	64	54	64	NA	NA
Minnesota	16	15	18	24	34	32	36	24	58	54	52	54	62	63	68	73	69	57	NA	72	60	67
Illinois	32	32	43	44	41	42	46	59	56	60	57	50	57	54	57	55	69	65	62	76	74	84
Indiana	39	40	45	46	50	48	48	52	53	58	53	59	61	63	58	63	64	84	80	68	87	74
Missouri	36	40	44	51	44	53	61	49	78	79	53	50	63	61	53	56	68	70	69	76	72	72
Ohio	26	34	34	42	39	37	37	42	43	41	40	49	56	61	46	56	67	74	65	58	65	77
Arkansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	146
Kansas	26	27	35	36	42	50	46	47	51	54	49	47	52	49	50	50	56	54	56	52	57	57
Nebraska	42	42	34	27	34	36	40	43	40	51	45	43	48	48	43	49	45	50	47	49	49	45
North Dakota	9	9	10	10	11	14	15	18	18	23	21	25	32	33	33	41	43	39	NA	46	43	38
South Dakota	13	22	15	14	19	23	20	19	27	24	23	21	30	28	24	19	27	44	NA	32	21	32
Oklahoma	29	31	38	33	39	41	47	49	49	61	54	45	54	57	58	60	65	64	63	56	65	67
Texas	76	56	62	84	69	85	80	101	82	103	82	74	72	77	112	93	74	70	83	91	95	77
Colorado	13	48	22	54	31	18	43	32	61	54	35	39	56	58	40	43	52	48	36	44	41	49
Idaho	41	56	65	77	67	60	66	76	60	71	69	96	74	84	72	76	81	69	93	89	108	89
Montana	5	10	11	6	9	8	10	12	14	14	13	11	17	20	24	28	23	23	36	32	40	28
California	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	102
Oregon	41	60	39	52	56	47	41	55	46	47	69	66	78	72	67	74	73	90	65	87	66	66
Washington	38	53	56	69	86	79	64	60	63	67	69	70	69	71	76	65	73	67	82	76	83	74
United States	27	31	32	35	36	38	39	40	46	48	46	46	51	53	52	54	58	58	59	60	62	60

NA = Not available.

Appendix table 25--Percentage of all wheat acreage harvested for grain receiving phosphate fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Michigan	96	100	100	100	97	96	96	84	92	100	95	89	96	96	91	91	100	100	96	98	NA	NA
Minnesota	74	80	67	75	79	90	86	87	96	88	87	82	93	86	93	92	79	97	NA	80	91	89
Illinois	89	84	80	85	89	86	86	95	86	85	93	83	75	87	76	88	95	80	78	82	84	84
Indiana	95	98	96	92	97	79	95	97	96	99	99	85	99	95	84	90	97	94	91	91	85	83
Missouri	76	70	69	64	66	74	67	63	65	60	71	70	85	75	76	77	82	83	81	73	67	78
Ohio	96	100	98	99	98	98	99	100	98	97	97	99	95	97	94	93	99	96	82	91	71	86
Arkansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25
Kansas	32	31	38	41	45	39	37	31	40	42	39	42	47	41	30	38	40	44	40	49	48	43
Nebraska	7	7	7	18	23	17	17	17	19	15	23	26	25	24	13	15	22	29	21	25	23	34
North Dakota	51	56	60	66	67	72	73	64	71	74	63	54	58	48	55	55	40	47	NA	60	63	64
South Dakota	4	6	11	23	24	30	29	39	28	37	41	26	40	17	19	18	21	29	NA	41	45	51
Oklahoma	46	44	36	46	34	34	41	40	40	46	39	41	54	48	32	48	56	53	49	36	48	53
Texas	12	20	23	25	24	19	22	14	24	17	32	17	24	27	15	15	30	35	36	33	24	30
Colorado	NA	4	NA	2	1	NA	NA	NA	5	NA	NA	4	NA	NA	2	2	4	1	1	9	8	8
Idaho	8	16	7	7	8	13	19	5	13	18	19	22	21	13	16	22	21	29	34	48	28	47
Montana	19	29	28	41	40	39	39	40	45	37	37	41	45	43	41	55	42	44	62	58	63	65
California	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46
Oregon	18	3	8	4	10	8	7	6	9	6	20	16	24	20	10	15	18	25	15	24	21	14
Washington	5	4	5	6	6	15	3	10	6	10	14	15	13	19	9	10	12	8	15	18	24	27
United States	36	38	38	43	43	44	44	41	44	45	46	43	50	44	38	44	43	47	45	48	49	48

NA = Not available.

10/15/57

Appendix table 26--Phosphate used on all wheat, rate per fertilized acre receiving phosphate, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Michigan	53	53	53	56	55	58	56	61	60	58	57	52	57	57	53	62	55	58	57	54	NA	NA
Minnesota	26	31	27	29	35	36	39	31	38	33	39	38	36	36	39	35	32	30	NA	39	33	32
Illinois	42	41	52	57	56	56	52	64	72	58	66	54	66	65	69	68	81	70	82	76	75	64
Indiana	49	49	51	53	52	50	56	56	57	63	56	54	57	61	58	62	54	69	60	61	63	64
Missouri	27	32	32	38	37	42	41	39	38	50	53	41	39	49	46	47	52	49	45	53	50	43
Ohio	52	53	57	56	57	55	58	57	59	63	59	54	62	63	56	64	57	62	60	59	62	66
Arkansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kansas	30	30	29	37	35	38	36	38	36	41	34	32	35	34	30	35	34	34	35	33	35	33
Nebraska	29	33	33	39	31	34	32	33	44	34	34	35	36	36	39	36	40	40	32	34	30	31
North Dakota	23	22	23	23	25	25	27	26	26	28	25	24	25	28	26	28	26	25	NA	27	25	29
South Dakota	11	23	20	21	21	23	22	21	20	20	27	21	22	21	22	23	22	31	NA	27	23	27
Oklahoma	26	28	30	31	31	32	32	37	36	47		31	34	37	30	35	38	40	35	36	35	33
Texas	25	26	52	49	47	54	33	37	37	52	37	25	35	41	47	39	38	46	39	46	51	46
Colorado	NA	30	NA	17	24	NA	NA	NA	NA	19	NA	NA	35	NA	NA	53	25	23	28	18	20	26
Idaho	17	44	36	35	41	34	35	29	46	34	40	43	55	34	34	49	44	48	33	33	36	33
Montana	14	18	20	18	18	18	20	23	22	23	25	24	31	27	30	30	28	27	33	31	32	30
California	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52
Oregon	38	26	77	32	30	35	24	65	35	35	40	62	47	45	48	45	38	40	33	42	37	40
Washington	64	30	44	46	41	51	26	30	32	43	59	43	44	38	30	35	31	43	32	30	31	30
United States	27	30	32	32	32	34	30	34	37	38	38	35	37	39	35	38	39	39	37	39	37	35

NA = Not available.

Appendix table 27--Percentage of all wheat acreage harvested for grain receiving potash fertilizer, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Percent																					
Michigan	95	100	100	100	97	96	99	84	91	100	95	89	96	96	91	91	98	100	98	100	NA	NA
Minnesota	31	34	31	50	56	59	56	65	59	70	69	59	65	71	70	65	63	70	NA	63	72	68
Illinois	82	74	74	77	78	77	85	86	77	83	69	79	62	76	51	69	82	70	72	77	78	66
Indiana	93	98	94	92	97	79	95	97	97	99	99	99	95	95	84	90	97	96	89	88	85	82
Missouri	76	70	70	64	66	74	67	63	64	55	73	69	85	75	76	78	84	85	82	73	69	78
Ohio	96	100	98	99	98	98	99	100	98	97	99	95	97	93	93	93	99	95	82	91	92	80
Arkansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25
Kansas	4	3	4	5	5	5	5	8	6	8	10	11	11	8	6	9	10	12	8	11	9	10
Nebraska	NA	1	2	2	3	3	3	2	1	7	4	8	7	4	2	2	2	4	5	5	5	6
North Dakota	3	4	3	5	4	8	6	5	8	10	11	11	9	7	10	10	5	7	NA	11	5	9
South Dakota	NA	NA	NA	NA	2	NA	NA	4	5	6	7	9	4	1	6	4	3	3	NA	6	4	8
Oklahoma	15	10	12	19	13	10	16	10	9	16	15	19	19	18	13	13	14	16	17	12	13	15
Texas	3	2	1	2	3	2	5	5	4	12	13	9	10	6	2	6	5	7	11	11	5	8
Colorado	NA	NA	NA	NA	NA	NA	NA	NA	NA	1	NA	NA	2	NA	NA	NA	NA	1	NA	1	3	NA
Idaho	NA	2	NA	NA	NA	NA	2	NA	1	2	1	5	2	2	3	4	1	1	8	7	6	19
Montana	NA	1	NA	NA	1	NA	2	2	2	4	2	2	5	3	5	4	5	3	7	6	7	11
California	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6
Oregon	12	NA	4	2	2	NA	1	1	NA	NA	6	7	5	5	3	3	4	10	8	19	6	4
Washington	2	NA	NA	NA	2	5	NA	3	NA	NA	NA	NA	1	1	1	2	1	1	2	6	1	5
United States	14	15	15	17	17	17	20	14	15	17	20	21	21	19	16	18	18	20	18	20	17	16

NA = Not available.

Appendix table 28--Potash used on all wheat, rate per fertilized acre receiving potash, selected States, 1964-85

State	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Pounds																					
Michigan	44	49	49	50	52	51	52	52	50	54	49	49	56	55	53	63	60	58	59	53	NA	NA
Minnesota	19	18	9	19	19	20	22	17	21	17	28	24	22	23	29	26	21	25	NA	35	28	29
Illinois	30	37	40	54	45	51	41	52	56	60	57	52	66	62	69	75	6 ^A	76	86	85	86	76
Indiana	48	46	50	49	49	47	55	53	52	63	62	63	59	65	53	64	57	84	66	69	73	63
Missouri	26	27	32	36	34	41	40	40	41	53	46	44	43	49	54	56	62	57	55	59	55	51
Ohio	45	46	51	53	55	52	55	55	54	63	57	55	60	64	53	63	58	67	65	65	70	72
Arkansas	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52
Kansas	11	11	13	14	16	24	14	18	15	22	19	19	24	21	18	25	31	30	27	41	28	24
Nebraska	NA	5	15	27	16	23	13	10	6	9	12	12	18	8	7	18	28	12	16	3	14	20
North Dakota	9	10	7	10	8	11	8	9	12	11	10	9	13	15	13	18	15	17	NA	10	19	18
South Dakota	NA	NA	NA	NA	3	NA	1	7	11	8	10	8	13	5	6	10	10	13	NA	16	17	22
Oklahoma	21	9	13	13	12	11	12	11	11	35	15	12	12	17	12	15	14	29	17	18	16	19
Texas	4	26	24	16	8	20	13	40	16	20	15	11	23	38	10	22	13	14	22	41	27	16
Colorado	NA	12	NA	NA	NA	NA	NA	NA	NA	10	NA	NA	3	NA	NA	NA	NA	23	NA	9	6	NA
Idaho	NA	9	NA	7	NA	NA	11	NA	12	12	33	10	31	35	10	32	38	2	22	27	24	23
Montana	3	1	NA	NA	1	1	4	4	6	9	8	5	22	27	9	21	21	18	19	19	11	11
California	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11
Oregon	17	NA	24	30	30	NA	14	29	NA	NA	20	25	22	38	37	31	42	37	31	38	32	42
Washington	80	NA	NA	2	13	51	NA	28	NA	NA	NA	NA	2	20	10	37	18	78	42	31	42	33
United States	19	35	37	39	36	39	36	36	38	36	37	35	37	41	34	43	40	47	41	48	46	36

NA = Not available.

END
DATE
FILMED
5-29-87
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