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## Federal Reserve Bank of Chicago . . .

April 2, 1976

**FERTILIZER SUPPLIES** are up markedly, while prices are well below the record highs of last spring. A combination of lower prices and anticipated increases in planted acreage of several heavily fertilized crops suggests that fertilizer consumption will be up in 1976.

Consumption of all fertilizer materials declined 10 percent below the comparable year-ago period during the year ending June 30, 1975, reflecting the tight supplies and the sharp increase in spring 1975 fertilizer prices. Primary nutrient consumption declined 9 percent from a year earlier with the largest drop occurring in potash, down 13 percent. Phosphate and nitrogen consumption declined 12 percent and 6 percent, respectively. This was the first time in nearly two decades that usage of nitrogen, phosphate, and potash all declined from the previous year.

Fertilizer supplies at producers are substantially above year-ago levels. According to the Fertilizer Institute, producer's inventories of nitrogen and phosphate products at the end of January were about double the year-earlier levels, while potash product inventories were nearly three times larger. However, the January 31, 1976 inventory of nitrogen is still somewhat below the same 1973 date when fertilizer supplies were considered to be in a better balance with demand. Inventories were at extremely low levels during the past two years, and the change between 1975 and 1976 should be considered in the light of that fact. Consequently, while current fertilizer supplies are now much higher, there does not appear to be an overabundance on hand. In fact, some popular grades such as granular urea are still in short supply

Farmers plan to increase planted acreage of four of the five major crops that utilize the bulk of the fertilizer applied in the United States. Corn and sorghum plantings may be increased by almost 3 million acres in 1976, while cotton plantings may be 1.6 million acres larger. These crops typically receive substantial applications of all three primary nutrients. Wheat plantings will be up about 2 million acres, with the increase almost evenly split between the fall and spring varieties. However, the dry weather in parts of the wheat belt will largely offset any increase in the normal spring fertilizer application stemming from the expanded acreage. Plantings of soybeans, another crop fertilized relatively heavily-especially with phosphate and potash—are expected to decline about 3.7 million acres. The net result of these acreage shifts—assuming that per acre application rates stay at last year's lower levels—would be about a 4 percent increase in nitrogen consumption and a 1 percent increase in phosphate and potash usage.



Fertilizer prices have declined on the average about one-third from the record high level of last spring. The decline in prices is mostly due to the expanded output of fertilizer manufacturers. For example, phosphoric acid production capacity was increased more than 25 percent between January 1975 and 1976. As a result of increased production, wholesale prices of phosphate fertilizer have reportedly declined about 35 percent during the past year, and a good deal of the price reduction is being passed on to farmers.

Nitrogen production was aided by unusually mild winter temperatures. Natural gas supplies were not curtailed as feared last fall. This allowed ammonia manufacturers to produce an additional one-half million tons of product that might have been lost if the temperature would have been more severe during the winter. Consequently, prices of the more popular nitrogen products are running about one-third below year-ago levels. For example, retail prices for ammonia currently range from about \$170 to \$200 per ton in district states versus an average of \$280 last spring. In contrast to nitrogen and phosphate products, potash prices are holding steady. Canada is the dominant supplier of potash fertilizer, and Canadian prices are heavily influenced by governmental actions.

The lower fertilizer prices have increased crop/fertilizer price ratios. The corn/nitrogen price ratio (pounds of nitrogen-from ammoniaequivalent in value to one bushel of corn) is 22, up sharply from 16 in 1975 and equal to the 1974 ratio. This suggests that per acre application rates of nitrogen and phosphate will increase in 1976. Some observers project that the increase in per acre application rates may approach 10 percent on some crops. Coupled with the shift in acreage this might portend up to a 14 percent increase in nitrogen consumption. However, farmers have generally delayed ordering the fertilizer they need in hopes of obtaining even lower prices. The possibility for a surge in late-season fertilizer purchases may create substantial logistical problems, especially in view of the potential disruptive impact of the truckers' strike. This plus the usual vagaries of spring weather may temper the increase in fertilizer usage somewhat.

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