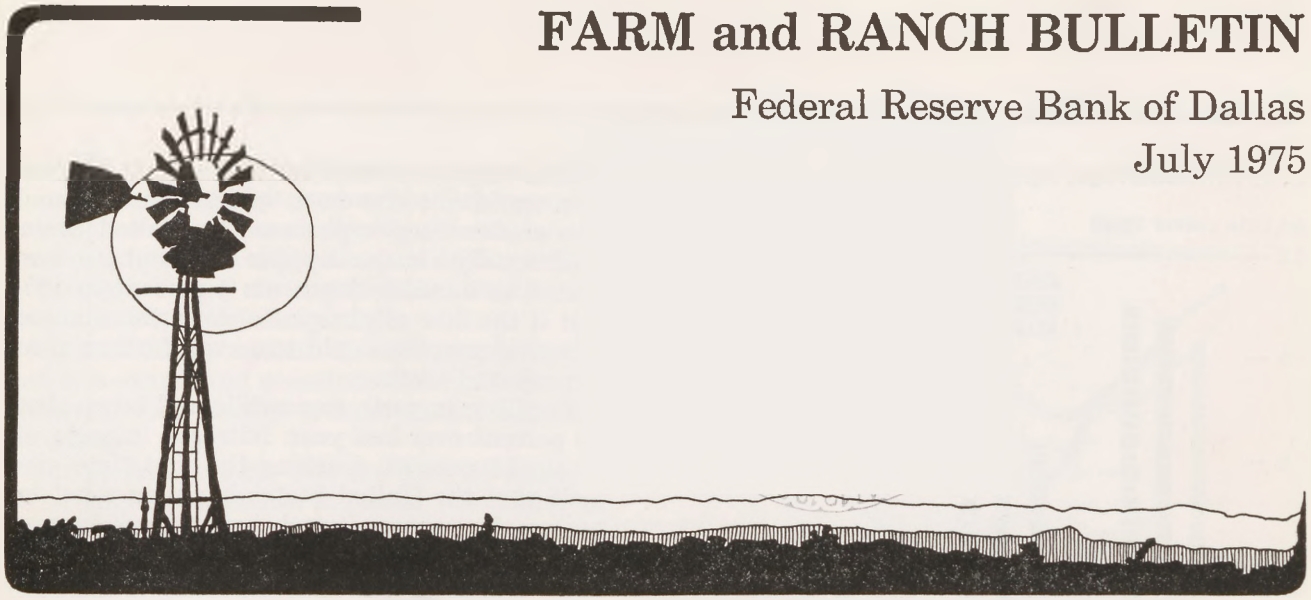


FARM and RANCH BULLETIN

Federal Reserve Bank of Dallas
July 1975

FERTILIZER SUPPLY IMPROVES; PRICES IMPACT ON OUTPUT AND USE

Supplies of plant nutrients—nitrogen, phosphate, and potash—have improved markedly from depressed levels last year. High prices for these materials, increased productive capacity, and a surplus in some countries overseas have combined to increase fertilizer stocks.

Fertilizer supplies in the United States are expected to total 23.2 million tons this season, 10 percent more than in 1974 and a substantial 22 percent more than in 1973. Of that, nitrogen totals 10.7 million tons, phosphate 6.1 million tons, and potash 6.4 million tons.

Supply this season is expected to be adequate to meet prospective use. High prices for nutrients, combined with expectations of low crop prices, have curtailed use of fertilizer this season. In the first nine months of the 1975 season, use of primary nutrient materals and mixed fertilizer declined substantially from the same period a season earlier.

Prices for fertilizer moved up dramatically when controls were lifted in October 1973. By mid-April 1974, prices were 59 percent higher than year-earlier levels. And by April 15 of this year, they had increased an additional third.

Fertilizer supplies last year were limited. The availability of nutrients was poor, and demand for them had risen so swiftly that the ability of the fertilizer industry to satisfy the need for these materials was in doubt.

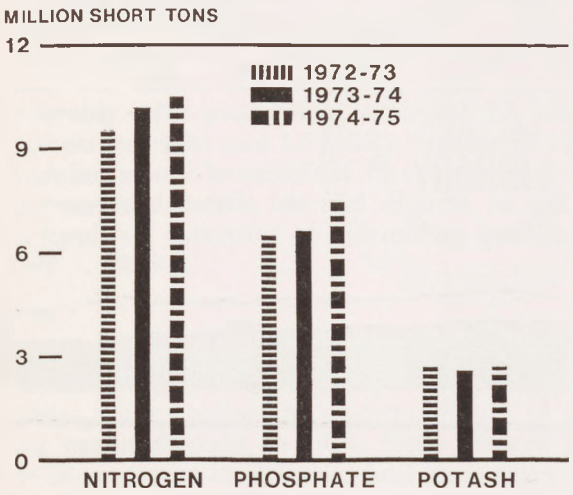
But recovery has been equally swift. Nitrogen supplies have increased 8 percent over a year earlier, and phosphate supplies are up 13 percent. And the supply of potash—11 percent higher than in 1974—is a whopping 30 percent higher than in 1973.

Plants on stream

Much of the improvement in the fertilizer situation stems from increased productive capacity. As a result of technological improvements to existing plants and equipment, the capacity for producing ammonia—75 percent of which is used to make fertilizer—rose from 16.8 million tons in 1974 to 17.5 million tons this year.

Plants coming on stream in 1975 will provide an even bigger boost to nitrogen production. Capacity is expected to reach about 18.8 million tons by January 1, 1976. And other plants either announced or already being constructed are ex-

U.S. PRODUCTION FOR FERTILIZER USE



SOURCE: U.S. Department of Agriculture

pected to add 8 million tons of capacity to domestic production by 1979.

Increases are also likely for phosphate production. Four new plants began producing phosphoric acid this year, and a fifth plant is scheduled for completion later this year. Together, they will boost the capacity to produce phosphoric acid to about 8.7 million tons and increase total phosphate capacity more than a fourth.

World situation

A final reason for high levels of domestic supply is inventory buildup in world markets. Many countries have overextended their purchases of fertilizer in the past two years and, consequently, are saddled with large inventories. In addition, inclement weather has curtailed fertilizer use in Europe. These surpluses of fertilizer are expected to soften world prices.

With markets in many countries overstocked, U.S. exports of fertilizer have declined. Exports are expected to drop 9 percent in the 1975 season, with nitrogen shipments down 21 percent and potash shipments reduced 16 percent. Evidence of a worldwide slowdown in fertilizer use could also surface in phosphates. The United States, traditionally a major supplier of phosphate, is expected to increase shipments 4 percent in 1975. But if the flow of phosphate slows this summer, domestic supplies could run even further ahead of projected levels.

Fertilizer imports, meanwhile, will be up about 10 percent over last year. Nitrogen imports will be up 14 percent, marking the first time since 1966 that the United States has been a net importer of nitrogen. Potash imports will increase 11 percent, but phosphate imports will decrease 15 percent.

Outlook uncertain

Optimism concerning recent strength in the fertilizer industry is negated somewhat by grim

EXPORTS AND IMPORTS OF NITROGEN

SOURCE: U.S. Department of Agriculture

memories of financial problems in the late 1960's. Manufacturers at that time rushed to meet increasing consumption of plant nutrients by expanding productive capacities and by improving technology. Supply was pushed far ahead of demand, forcing prices downward.

Demand finally caught up with supply in the past two years. And questions shifted to the adequacy of the industry to meet burgeoning consumption.

But several factors—not the least of which is world inflation that has impaired the ability of many countries to buy fertilizer—have dampened world markets. That, together with the increased domestic supply, suggests the possibility of a swing back to excess supply.

Reactions in the industry are mixed. Some spokesmen say the need for fertilizer and the economics of production and distribution are out of balance. Others question if domestic and world markets can absorb increases in supply generated by expanded productive capacity.

Almost everyone, however, believes that lessons were learned from the experience of the 1960's. And the consensus is that the recent imbalance in supply and demand can be stabilized without a severe cost-price squeeze.

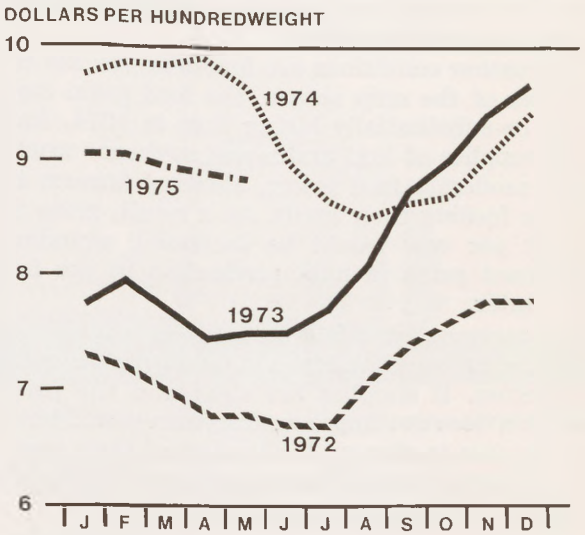
GAINS IN MILK PRODUCTION LINKED WITH CROP OUTPUT

Milk production in the United States this year is expected to total nearly 116 billion pounds, about a billion pounds more than in 1974. And if feed costs fall sharply, the gain in output would be even larger.

Production of milk in the first five months of 1975 was essentially unchanged from the same period last year but was slightly below the corresponding period in 1973. A small reduction in cow numbers this year has been offset by a slight gain in output per cow.

Several factors will influence the amount of milk production for the remainder of the year. If the milk-feed price ratio continues to improve as it has in recent months, dairymen may feed their cows more grains and concentrates. As a result, output would likely increase.

TEXAS MILK PRICES



SOURCE: U.S. Department of Agriculture

Rates of slaughter will also impact on milk output. Although a further rise in slaughter cow prices could encourage more culling of herds, an offsetting factor could be a large number of replacement cows coming into herds. Slaughter cow prices are apt to strengthen further early this summer, then turn downward later in the year. The extent of a decline in cow prices will depend on range and pasture conditions and prospective grain crops.

Milk prices will also affect production. Average farm prices for milk in the United States decreased from January to May. Farmers received $7.99 for 100 pounds of milk in May—34 cents lower than in January and off 28 cents from a year before.

In the main, however, milk production this year will hinge on harvests. A banner year for

crop production will have implications for all aspects of the milking industry—feed prices, milk prices, and cattle markets.

If weather conditions are favorable for the remainder of the crop season, the feed grain crop could be substantially higher than in 1974. And large supplies of feed grains and soybeans would likely moderate feed prices, allowing farmers to resume feeding their herds. As a result, gains in output per cow would be increased, signaling significant gains in milk production in the fall and winter.

By contrast, shortfalls in feed grain and soybean crops could dampen a recovery in milk production. If supplies are tight and the price situation does not improve, dairymen would have no incentive to step up the feeding of their cows. Output per cow would be reduced, and culling of herds would likely increase.

AGRICULTURE DOMINATES USE OF NATION'S LAND

Even with increasing urbanization, greater emphasis on public and private recreational areas, more people buying country homes, the development of a national highway system, and an ecological consciousness that extends to wildlife refuges, agriculture still dominates land use in the United States.

Of the 2 billion-plus acres in the 48 contiguous states, cropland takes up a fifth, grassland and pasture a fourth, forestland almost a third, and wasteland and other uses most of the remaining fifth. And despite substantial population shifts to cities, urban land accounts for less than 3 percent of the nation's land area.

What has undergone significant change is production areas. In the Eleventh District, for example, land in eastern Oklahoma and Texas that was once used to grow cash crops, such as cotton, has been converted to grassland. Large, diesel-powered machinery used in crop farming was ill-suited for the terrain. And the climate also favored grazing cattle.

Other important changes in crop producing areas span the nation. Irrigation has brought new land into cultivation in the Plains states and, particularly, in arid parts of the West. Too, clearing and draining have been accomplished in fertile areas of Florida and the Mississippi Delta.

Yield advance

Acreage of cropland has declined slightly since 1950. But food and fiber supplies have been ample to meet the demands of a growing population, as significant strides have been made in per-acre output.

Large gains in cropland productivity have resulted from several factors, including more efficient organization of farms, major technological improvements in machinery, better application and understanding of chemicals and pesticides, and a greater variety of crops and livestock.

In this decade, the biggest change in production has been the amount of cropland used for crops. In past years, farmers participated in programs to keep land idle. But Government restrictions were lifted in 1973, freeing farmers to cultivate more acreages. By last year, federal programs kept only 2 million acres idle.

Changes in land use can be expected to continue in the years ahead. Population could become even more concentrated in urban areas—forcing an expansion of metropolitan boundaries. In certain areas of the country, land may be used for providing critically needed sources of energy. In other areas, chronic drouth or irrigation problems will make agricultural enterprises unfeasible. Regardless, agriculture will continue to dominate land use in the United States.

Prepared by Carl G. Anderson, Jr.