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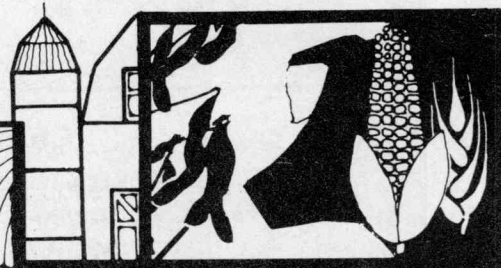
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FEDERAL RESERVE BANK OF CHICAGO

# AGRICULTURAL



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# LETTER

**THE NATION'S LAND RESERVE** has attracted increasing interest in the 1970s, partly because of shortages of farm commodities in the recent past. A study by the USDA in 1975 indicated the nation had 266 million acres in 1967 that could be converted into highly productive cropland (see *Agricultural Letter*, No. 1343, September 12, 1975). A more recent USDA study analyzes shifts in nonfederal land use between 1967 and 1975 and elaborates on the potential for converting more acreage into cropland. The more recent study shows 111 million acres in 1975 with high or medium potential for conversion to cropland.

**Cropland acreage** had declined to 400 million acres in 1975, down from 431 million in 1967 and 448 million in 1958. But with production geared to rebuilding stocks, the acreage harvested (for principal crops, vegetables, fruits, nuts, and farm gardens) rose to a 20-year high of 337 million in 1975. The difference in inventories between cropland and acreage harvested reflects idled cropland, acreage planted but not harvested, land in rotational pasture, and acreage planted to minor crops not included in the harvested acreage estimates.

The 31 million acre reduction in the inventories of cropland between 1967 and 1975 represents the net change over this period. As shown in the table on page 2, there was considerable change in land use. For example, nearly 80 million acres that had been cropland in 1967 were converted to alternative uses. During the same period, however, 49 million acres were converted to cropland.

Overall, about 16.6 million acres were converted to urban uses between 1967 and 1975, and another 6.7 million acres went under water. Over half the area converted to urban use and over half the area put under water came from land that had been in forests or in other rural uses. Cropland accounted for less than one-fourth of the area converted to such uses. Nevertheless, about three-fifths of the acreage converted to urban areas represented land that either was or could have been best suited for cultivation.

The conversion to urban uses was greatest—both in absolute and relative terms—in the Northeast,

Southeast, and Appalachian regions. These regions make up 22 percent of the nonfederal land in the 48 contiguous states, but accounted for about 40 percent of the cropland—and 46 percent of the nonfederal land—converted to urban uses.

**The potential cropland** identified in the 1975 study represented the 1967 inventory of acreage that was not used for crops but was considered best suited for cultivation, regardless of its use. The more recent study refined the estimate of potential cropland by taking into account the problems that had to be overcome for a successful conversion and the economic incentives for conversion when farm prices and costs of production and development were similar to those in 1974, a year of high farm prices. Based on these considerations, a 1975 inventory of 78 million acres was identified as having a high potential for conversion to cropland and another 33 million acres was considered as having a medium potential. Taken together, that was slightly more than the acreage harvested for all feed grains in 1977.

Of these 111 million acres of potential cropland, 83 million acres was used as pasture and range land in 1975, 24 million acres was in forest, and another 5 million was in other rural uses. Roughly 40 percent was in the Corn Belt and the northern and southern plains making up the heart of the grain belt. Another 16 percent was in the Southeast. Regarding the problems to overcome for a successful conversion, the study found no apparent reason why 35 million acres of this potential cropland could not be brought into production. For the remainder, one or more problems would have to be overcome, the most common being erosion.

Whether a reserve of 111 million acres of potential cropland is adequate depends on several factors. Given the current surplus and the clamor for more acreage to be set aside, the reserve would seem adequate for the next couple of decades. But given the decline in cropland acreage between 1967 and 1975, the exponential buildup in world population, and the possibility that technological advances in agriculture have slowed, 111 million acres of potential cropland may not be very reassuring to those looking to future generations.

## Changes in land use from 1967 to 1975<sup>1</sup>

The following illustrations may help in interpreting the table below. The "totals" for the row stubs reflect the amount of land in the alternative uses in 1967. With the exception of "urban" and "water" (see footnote 7), column "totals" represent the amount of land in alternative uses in 1975. Individual cells indicate what changes, if any, have occurred in land use between 1967 and 1975. Reading across the rows indicates, for example, that 352 million acres out of the 431 million inventoried in 1967 were still used as cropland in 1975. Of the remainder, 53 million had been converted to range and pasture, 8 million had been reclassified as forest, 13 million had gone into other rural uses, and a combined 5.4 million had been either converted to urban uses or inundated with water. Reading down the "cropland" column indicates that the 1975 inventory of 400 million acres of cropland was composed of the 352 million classified as such in 1967, plus 32 million acres converted from pasture and range, 11 million acres previously in forest, and nearly 6 million previously in other rural uses.

Land use in 1967	Land use in 1975						Total	
	Cropland <sup>2</sup>	Pasture and range <sup>3</sup>	Forest <sup>4</sup>	Other rural <sup>5</sup>	Subtotal	Urban <sup>6,7</sup>		Water <sup>7,8</sup>
	(million acres)							
United States								
Cropland	351.7	52.9	8.3	13.0	425.8	4.8	.6	431.2
Pasture and range	31.9	442.4	14.1	14.2	502.5	3.2	1.1	506.9
Forest	11.0	62.5	348.7	15.8	438.0	4.4	2.2	444.6
Other rural	5.8	13.2	4.4	26.9	50.3	4.2	2.8	57.3
Total	400.4	570.9	375.4	69.8	1,416.6	16.6	6.7	1,439.9
Corn Belt <sup>9</sup>								
Cropland	79.3	8.4	1.0	2.7	91.5	.8	.1	92.4
Pasture and range	4.9	14.9	1.7	1.5	23.0	.3	.2	23.5
Forest	1.3	4.5	22.2	1.1	29.2	.3	.2	29.6
Other rural	1.2	1.4	.6	2.1	5.3	.8	.1	6.2
Total	86.7	29.3	25.5	7.5	149.0	2.1	.6	151.7
Lake states <sup>10</sup>								
Cropland	39.7	3.0	.9	2.5	46.0	.6	0	46.6
Pasture and range	2.2	3.4	.8	1.4	7.9	—	0	7.9
Forest	1.2	1.2	40.2	3.2	45.8	.2	.1	46.0
Other rural	1.1	.4	.7	4.9	7.0	.4	.1	7.4
Total	44.2	8.0	42.5	11.9	106.6	1.2	.1	107.9

—Less than 50,000 acres.

<sup>1</sup>Excludes federally owned land.

<sup>2</sup>Land in tillage rotation or orchards.

<sup>3</sup>Land in grass or other forage used for permanent grazing or for field crops less than one year out of seven.

<sup>4</sup>Land with at least a 10 percent shade canopy from trees.

<sup>5</sup>Land used for such things as farmsteads, rural residences, roads, feedlots, and fences.

<sup>6</sup>Land in cities and villages of 10 acres or more, and in such uses as industrial and institutional sites, cemeteries, and golf courses.

<sup>7</sup>Land converted to the indicated use since 1967; not the total acreage in the indicated use.

<sup>8</sup>Land covered by permanent lakes, reservoirs, ponds, and streams.

<sup>9</sup>Ohio, Indiana, Illinois, Iowa, and Missouri.

<sup>10</sup>Michigan, Wisconsin, and Minnesota.

**HOG MARKETS AND PRODUCERS** have confounded most analysts in recent months. Contrary to expectations based on the strong incentives for expansion last summer and USDA estimates last December that reflected an expansion in inventories and pig crops, hog slaughter so far this year is down 2 percent from the same period a year ago. Hog prices so far have averaged about one-fifth higher than in the corresponding period last year—an unusually large increase, given the nominal decline in slaughter and the somewhat lighter carcass weights. Now, the USDA's quarterly *Hogs and Pigs* report issued this week implies little, if any, increase in hog slaughter during the second half. This is in contrast to past indications that the slaughter would be up as much as 12 percent.

The March 1 estimate of hogs and pigs on farms in the 14 major hog-producing states was up only 1 percent over a year earlier. Hogs held as breeding stock numbered 1 percent less, while those intended for market were up about 2 percent. In December the 14-state inventory was reported up 5 percent, though it was revised downward this week to show an increase of only 3 percent. Most analysts had expected an even bigger increase by March 1, primarily because of prospects for a large increase in sow farrowings during the December-February period. Producers' intentions last December pointed to a year-to-year increase of 13 percent in

December-February sow farrowings. According to the latest report, however, actual December-February farrowings declined a surprising 1 percent.

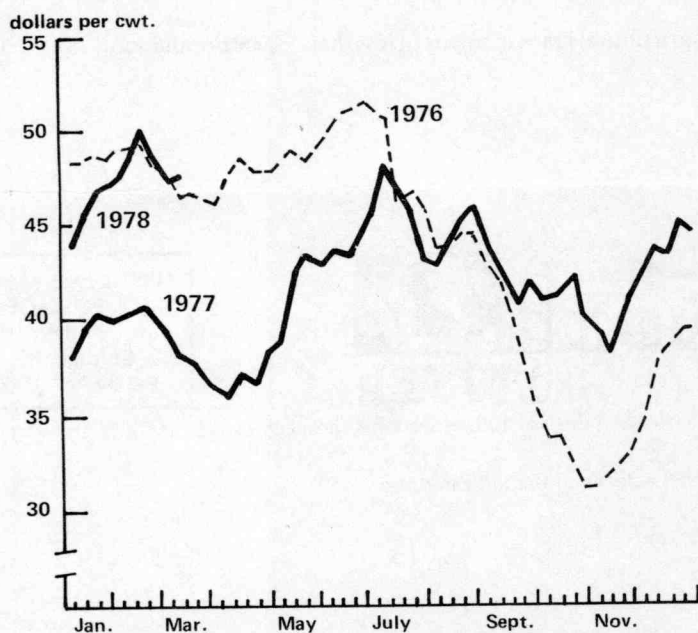
The dip in farrowings was a major factor behind the less-than-expected increase in inventory numbers. But with slaughter also down during the past three months, exceptionally heavy winter death losses must have also been a factor. Although the USDA does not estimate death losses quarterly, some observers have suggested that the toll may have been even greater this winter than last. Normally, heavy death losses are reflected partly in fewer pigs per litter. But while the latest report shows pigs per litter well below normal, it indicates a slight year-to-year increase for December-February.

**Farrowing intentions** for the spring and summer also differ sharply from previous expectations. Producers' farrowing intentions for the March-May period are reported up only 1 percent from the same months last year. The report in December suggested an increase of 8 percent, and with profits exceptionally high in recent months, many analysts were projecting an even larger increase. There were similar expectations for the summer, but the latest report suggests producers intend to reduce June-August farrowings nearly 2 percent this year. Spring and summer farrowings usually provide most of the hogs slaughtered during the following fall and winter.

**The implications** of this most recent report are that hog slaughter and prices for the rest of the year will continue to differ sharply with recent expectations. Slaughter may not be materially different from the slaughter last year. Hog prices may continue to average well above year-ago levels, particularly if consumer demand retains the apparent strength of recent months. Many analysts, however, are still skeptical—with much historical justification. But only future slaughter levels can confirm or deny the prudence of their skepticism. The lag between high profits and subsequent gains in slaughter has varied widely in the past, but hard evidence of the production response has usually come quicker than it has in the current situation. The most recent instance of a prolonged delay in production response was in 1972 when a high hog/corn price ratio failed to generate consistent gains in slaughter until well into 1974. (Slaughter patterns in 1973, however, were partially disrupted by the meat price freeze.) There could be a similar delay for the current cycle.

Gary L. Benjamin  
Agricultural Economist

**Hog prices reach 18-month high in February**



## Selected agricultural economic developments

Subject	Unit	Latest period	Value	Percent change from	
				Prior period	Year ago
<b>Farm finance</b>					
Total deposits at agricultural banks <sup>1</sup>	1972-73=100	February	173	- 0.8	n.a.
Time deposits	1972-73=100	February	203	+ 0.7	n.a.
Demand deposits	1972-73=100	February	123	- 4.6	n.a.
Total loans at agricultural banks <sup>1</sup>	1972-73=100	February	204	- 0.6	n.a.
Production credit associations					
Loans outstanding					
United States	mil. dol.	January	13,233	- 1.6	+ 9
Seventh District states	mil. dol.	January	2,606	- 1.8	+13
Loans made					
United States	mil. dol.	January	2,054	- 5.7	+ 4
Seventh District states	mil. dol.	January	408	+ 2.5	+ 9
Federal land banks					
Loans outstanding					
United States	mil. dol.	January	21,672	+ 1.0	+16
Seventh District states	mil. dol.	January	4,416	+ 1.2	+23
New money loaned					
United States	mil. dol.	January	409	+15.0	+ 9
Seventh District states	mil. dol.	January	85	+22.8	- 6
Interest rates					
Feeder cattle loans <sup>2</sup>	percent	4th Quarter	8.82	+ 0.6	+ 1
Farm real estate loans <sup>2</sup>	percent	4th Quarter	8.99	+ 0.4	+ 1
Three-month Treasury bills	percent	3/2-3/8	6.33	- 1.2	+36
Federal funds rate	percent	3/2-3/8	6.76	- 0.6	+46
Government bonds ( <i>long-term</i> )	percent	3/6-3/10	8.22	+ 0.1	+ 6
<b>Agricultural trade</b>					
Agricultural exports	mil. dol.	January	1,938	-16.6	+ 2
Agricultural imports	mil. dol.	January	1,247	- 3.0	+ 9
<b>Farm machinery sales</b>					
Farm tractors	units	January	8,983	- 0.3	-16
Combines	units	January	1,013	-37.7	- 7
Balers	units	January	570	-32.6	-29

<sup>1</sup>Member banks in Seventh District having a large proportion of agricultural loans in towns of less than 15,000 population.

<sup>2</sup>Average of rates reported by District agricultural banks.

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OF CHICAGO**  
Public Information Center  
P. O. Box 834  
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