

# Mineral Industry Surveys

---

For information, contact:

Stephen M. Jasinski, Phosphate Rock Commodity Specialist  
U.S. Geological Survey  
983 National Center  
Reston, VA 20192  
Telephone: (703) 648-7711; Fax: (703) 648-7722  
E-mail: [sjasinsk@usgs.gov](mailto:sjasinsk@usgs.gov)

Christopher Lindsay (Data)  
Telephone: (703) 648-7985  
Fax: (703) 648-7975

MINES FaxBack: (703) 648-4999  
Internet: <http://minerals.usgs.gov/minerals>

## MARKETABLE PHOSPHATE ROCK—CROP YEAR 2001

U.S. production of marketable phosphate rock decreased 8% to 37.2 million metric tons (Mt) in Crop Year 2001 (July 1, 2000-June 30, 2001), compared with 40.4 Mt in Crop Year 2000 according to the U.S. Geological Survey (USGS).

Domestic producers continued to be affected by a combination of increased worldwide competition and a drop in demand for phosphate fertilizers, especially in China and India, the largest markets for U.S. fertilizer exports.

The data for this report were collected through monthly and semi-annual surveys of U.S. phosphate rock producers. All companies that produced phosphate rock in the United States during the period participated in the voluntary surveys, representing 100% of the production, sold or used, and value data shown in the tables. Trade data were provided by the U.S. Census Bureau and the Moroccan phosphate producer.

Marketable phosphate rock sold or used, including exports was 34.7 Mt; 12% lower than in Crop Year 2000. Producers stocks increased 34% nationwide. By region, stocks increased 33% in the Florida and North Carolina region and 41% in the Idaho and Utah region. U.S. ending stocks represented 3.5 months of average production in Crop Year 2001. The average value of marketable phosphate rock sold or used in the United States was \$25.14 per metric ton (t), compared with \$26.39 in 2000.

Exports, as reported by the U.S. Census Bureau, decreased from 343,000 t in Crop Year 2000 to 168,000 t in Crop Year 2001. A substantial amount of reported exports were believed to be exports of previously imported phosphate rock. Information was not available to formulate an accurate estimate. In the past several years, exports of phosphate rock by producers have decreased substantially as it has become more profitable to ship fertilizer products than phosphate rock. This, combined with mine and plant closures that have occurred in the past several years, makes it highly unlikely there will be any future growth in exports of domestic phosphate rock.

During Crop Year 2001, imports of phosphate rock were

estimated at 2 Mt, a slight increase from that of Crop Year 2000. Import statistics were estimated based upon data provided to the USGS by the single producer in Morocco and from the Census Bureau. Much of the import data from Morocco, the major supplier to the United States, were suppressed by Census.

The manufacturing of fertilizers and animal feed supplements accounted for more than 90% of phosphate rock consumption. The remainder was used to produce elemental phosphorus and phosphorus compounds. Estimated domestic consumption decreased 11% to 36.6 Mt, compared with 40.9 Mt in Crop Year 2000.

In August 2000, Agrifos LLC closed its Nichols Mine in Florida owing to flooding at the mine and general economic conditions (Fertilizer Markets, 2001). The company switched to using phosphate rock from Morocco at its Pasadena, TX, phosphate conversion plant. In May 2001, Agrifos filed for Chapter 11 bankruptcy protection citing low phosphate prices, expenses related to the closure of the Nichols Mine, the unwillingness of lenders to support additional borrowing, and inability to refinance or restructure its debts as reasons for bankruptcy. Operations at the Texas plant were unaffected by the bankruptcy proceedings (Green Markets, 2001).

IMC Phosphates MP, Inc., indefinitely closed its Louisiana phosphoric acid and diammonium phosphate (DAP) plants in January 2001, because of economic conditions. The plants previously were closed for 6 weeks from late July to September 2000, and operated at 70% of capacity from November to January (IMC Global, Inc., 2001).

In January, PCS Phosphates suspended production of DAP at its White Springs, FL, facility, thus reducing corresponding phosphoric acid production by 50%. The plant continued to manufacture animal feed supplements. These decrease, when combined with previous reductions at its Aurora, NC, plant, PCS had idled 40% of its DAP output during the crop year (Potash Corp. of Saskatchewan, 2001).

## References Cited

Fertilizer Markets, 2001, Complex web of Agrifos: Fertilizer Markets, v. 11, no. 41, May 11, p. 1-2.  
Green Markets, 2000, Agrifos files for chapter 11 bankruptcy protection: Green Markets, v. 25, no. 20, May 14, p. 1, 12.  
IMC Global, Inc., 2001, IMC Global announces extended shutdown of remaining

Louisiana phosphate production and fourth quarter EPS from continuing operations of approximately half of last year's level: Lake Forest, IL, IMC Global, Inc. press release, January 3, 2 p.  
Potash Corp. of Saskatchewan Inc., 2001, Potash Corp. ceases all DAP production in Florida; permanently closed Iowa feed plant: Saskatoon, Potash Corp. of Saskatchewan Inc. press release, January 19, 1 p.

TABLE 1  
SALIENT U.S. PHOSPHATE ROCK STATISTICS 1/

(Thousand metric tons and thousand dollars)

	Crop year 2/	
	2000	2001
Mine production (crude ore)	164,000	154,000
Marketable production	40,400	37,200
P <sub>2</sub> O <sub>5</sub> content	11,800	10,800
Value	\$1,060,000	\$941,000
Average, dollars per metric ton 3/	\$26.16	\$25.26
Sold or used by producers 4/	39,300	34,700
P <sub>2</sub> O <sub>5</sub> content	11,500	10,000
Value 5/	\$1,040,000	\$873,000
Average, dollars per metric ton	\$26.39	\$25.14
Exports 6/	343	168
Value	\$15,800	\$5,260
Average, dollars per metric ton 7/	\$46.05	\$31.29
Imports for consumption e/ 8/	1,930	2,000
C.i.f. value e/	\$115,000	\$110,000
Average, dollars per metric ton	\$59.88	\$54.97
Consumption e/ 9/	40,900	36,600
Stocks, June, 30: Producers	8,040	10,800

e/ Estimated.

1/ Data are rounded to no more than three significant digits; except prices.

2/ July 1-June 30.

3/ Average value is based on sold or used values.

4/ Includes domestic sales and exports.

5/ Total value of all domestic and export sales.

6/ Source: U.S. Census Bureau.

7/ Value of exports reported to the U. S. Geological Survey by companies.

8/ Some phosphate rock import tonnage and value were suppressed by the U.S. Census Bureau. Estimates are based on reports from the U.S. Census Bureau and the Moroccan phosphate rock producer.

9/ Expressed as sold or used plus imports minus exports.

TABLE 2  
PRODUCTION OF PHOSPHATE ROCK IN THE UNITED STATES, BY REGION 1/

(Thousand metric tons and thousand dollars)

Period and region	Mine production (Crude ore)		Marketable production			Ending stocks, rock
	Rock	P <sub>2</sub> O <sub>5</sub> content	Beneficiated		Value 2/	
			Rock	P <sub>2</sub> O <sub>5</sub> content		
<b>Crop year 2000:</b>						
Florida and North Carolina	153,000	14,500	34,600	10,200	913,000	6,430
Idaho and Utah	10,200	2,010	5,750	1,650	144,000	1,620
Total	164,000	16,500	40,400	11,800	1,060,000	8,040
<b>Crop year 2001:</b>						
<b>July-December, 2000:</b>						
Florida and North Carolina	75,100	6,810	15,900	4,640	384,000	6,620
Idaho and Utah	3,880	873	2,560	717	57,000	1,550
Total	78,900	7,680	18,500	5,350	441,000	8,170
<b>January-June, 2001:</b>						
Florida and North Carolina	70,400	6,620	15,500	4,500	416,000	8,520
Idaho and Utah	4,290	977	3,320	915	84,300	2,280
Total	74,700	7,600	18,800	5,410	500,000	10,800
Grand total	154,000	15,300	37,200	10,800	941,000	XX

XX Not applicable.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Calculated value based on the sold or used value.

TABLE 3  
PHOSPHATE ROCK SOLD OR USED BY PRODUCERS  
IN THE UNITED STATES, BY GRADE 1/

(Thousand metric tons and thousand dollars)

Period, grade, region (percent BPL 2/ content)	P <sub>2</sub> O <sub>5</sub>		Value 3/
	Rock	content	
Crop year 2000	39,300	11,500	1,040,000
Crop year 2001:			
July-December 2000:			
60 to less than 66	15,600	4,560	380,000
Other 4/	2,710	725	65,400
Total	18,400	5,280	445,000
January-June 2001:			
60 to less than 66	11,300	3,330	308,000
Other 4/	5,040	1,380	120,000
Total	16,400	4,710	428,000
Grand total	34,700	10,000	873,000
Florida and North Carolina	29,500	8,590	753,000
Idaho and Utah	5,220	1,400	120,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ 1.0% BPL (bone phosphate of lime or tricalcium phosphate) = 0.458% P<sub>2</sub>O<sub>5</sub>

3/ F.o.b. mine.

4/ Includes less than 60% and greater than 70% BPL content.

TABLE 4  
VALUE OF U. S. PHOSPHATE ROCK, BY GRADE

(Dollars per metric ton, f.o.b. mine)

Grade (percent BPL 1/ content)	Crop year 2000			Crop year 2001		
	Domestic	Export	Average	Domestic	Export	Average
70 to more than 74	W	W	W	W	W	W
66 to less than 70	28.30	--	28.30	31.87	--	31.87
Less than 66	26.18	W	26.34	24.65	W	21.38
Weighted average	26.25	46.05	26.39	25.13	31.29	25.14

W Withheld to avoid disclosing company proprietary data; included in "Average" and/or "Weighted average." -- Zero.

1/ 1.0% BPL (bone phosphate of lime or tricalcium phosphate) = 0.458% P<sub>2</sub>O<sub>5</sub>.