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Mineral Industry Surveys

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MARKETABLE PHOSPHATE ROCK AND POTASH—CROP YEAR 2013

Because the growth cycles for most agricultural commodities do not coincide with the calendar year, the fertilizer industry tracks fertilizer use by crop year (July 1−June 30 of 2 consecutive years). Taking that into account, the U.S. Geological Survey compiles phosphate rock and potash data by calendar year and crop year.

Marketable Phosphate Rock

U.S. production of marketable phosphate rock was 31.9 million metric tons (Mt) in crop year 2013 compared with 28.8 Mt in crop year 2012

Marketable phosphate rock used was 28.4 Mt, compared with 28.2 Mt in crop year 2012. No sales of phosphate rock were reported because all phosphate rock is used internally by the companies that mine it. The manufacturing of wet-process phosphoric acid for fertilizers and animal feed supplements was estimated to have accounted for more than 95% of phosphate rock consumption. The remainder was used to produce elemental phosphorus, or defluorinated phosphate rock.

Data for this report were collected through semi-annual canvasses of U.S. phosphate rock producers. All companies that produced phosphate rock in the United States participated in the voluntary surveys, representing 100% of the production, use, and value data shown in the tables.

Estimated domestic consumption increased to 34.5 Mt in crop year 2013, from 31.3 Mt in crop year 2012. Producers' stocks increased by 27% to 7.14 Mt in crop year 2013, from 5.60 Mt in crop year 2012

The average value of marketable phosphate rock used in the United States was $96.05 per metric ton, compared with $100.51 per ton in crop year 2012. Imports of phosphate rock were estimated to be 2.58 Mt, using U.S. Census Bureau and PIERS data, because import and value data for some phosphate rock imports were not reported by Census. No exports of phosphate rock were reported by mining companies in crop year 2013.

Potash

U.S. production and sales of potash each were 960,000 metric tons (t) K_2O equivalent[1] in crop year 2013 compared with 910,000 t for production and 950,000 t for sales in crop year 2012.

Exports of potash increased by 33% to 134,000 t from 101,000 t in crop year 2012. Imports increased by 15% to 7.72 Mt from 6.70 Mt in crop year 2012. The total customs value of potash imports remained unchanged from crop year 2012, at $2,130,000.

Data for this report were collected through semi-annual canvasses of U.S. potash producers. All companies that produced potash in the United States participated in the voluntary surveys, representing 100% of the production, use, and value data shown in the tables.

Apparent consumption of all forms of potash increased by 12% to 5.50 Mt from 4.90 Mt in crop year 2012, owing to higher potash fertilizer use.

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[1] All tonnages are reported in K_2O equivalent, unless otherwise noted.

TABLE 1
SALIENT U.S. PHOSPHATE ROCK STATISTICS[1]

(Thousand metric tons and thousand dollars)

	Crop year[2]	
	2012	2013
Mine production (crude ore)	140,000	150,000
Marketable phosphate rock production	28,800	31,900
P_2O_5 content	8,310	9,120
Value	2,830,000	3,180,000
Average, dollars per metric ton[3]	98.36	99.58
Used by producers	28,200	28,400
P_2O_5 content	8,170	8,060
Value	2,830,000	2,720,000
Average, dollars per metric ton[3]	100.51	96.05
Imports for consumption:[e, 4]	3,160	2,580
Cost, insurance, and freight value	477,000	305,000
Average, dollars per metric ton	151.05	118.11
Consumption[e, 5]	31,300	34,500
Stocks, June 30, producers'	5,600	7,140

[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 used values.
[4]Some phosphate rock import tonnage and value data were not reported by the U.S. Census Bureau. Estimates are based on reports from the U.S. Census Bureau and PIERS.
[5]Expressed as used plus imports.

TABLE 2
PRODUCTION OF PHOSPHATE ROCK IN THE UNITED STATES[1]

(Thousand metric tons and thousand dollars)

	Mine production, crude ore		Marketable production, beneficated			
Period	Rock	P_2O_5 content	Rock	P_2O_5 content	Value[2]	Stocks, end of period, rock
Crop Year 2012	140,000	14,400	28,800	8,310	2,830,000	5,600
Crop Year 2013:						
July–December 2012	78,500	8,160	15,600	4,440	1,580,000	6,700
January–June 2013	71,700	7,540	16,300	4,680	1,590,000	7,140
Total	150,000	15,700	31,900	9,120	3,180,000	7,140

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Based on the per ton sold or used values.

TABLE 3
PHOSPHATE ROCK USED BY PRODUCERS
IN THE UNITED STATES[1]

(Thousand metric tons and thousand dollars)

Period	Rock	P_2O_5 content	Value[2]
Crop Year 2012	28,200	8,170	2,830,000
Crop Year 2013:			
July–December 2012	14,100	3,960	1,340,000
January–June 2013	14,300	4,100	1,380,000
Total	28,400	8,060	2,720,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Free on board mine.

TABLE 4
SALIENT POTASH STATISTICS[1, 2]

(Thousand metric tons and thousand dollars unless otherwise specified)

		Year ending June 30	
		2012	2013
United States:			
Production:[3]			
Gross weight		2,100	2,200
K_2O equivalent		910	960
Sales by producers:			
Quantity:[3]			
Gross weight		2,200	2,200
K_2O equivalent		950	960
Value[3, 4]		720,000	720,000
Average value:[5]			
Gross weight	dollars per metric ton	327	327
K_2O equivalent	do.	758	750
Exports:			
Gross weight		179	232
K_2O equivalent		101	134
Imports for consumption:[6, 7]			
Quantity:			
Gross weight		6,700	7,720
K_2O equivalent		4,060	4,670
Value, customs		2,130,000	2,130,000
Consumption, apparent:[3, 8]			
Gross weight		8,700	9,600
K_2O equivalent		4,900	5,500

[e]Estimated. do. Ditto.
[1]Includes muriate of potash, sulfate of potash, potassium magnesium sulfate, and some parent salts. Excludes other chemical compounds that contain potassium.
[2]Data are rounded to no more than three significant digits unless otherwise specified.
[3]Data are rounded to no more than two significant digits.
[4]Free on board mine.
[5]Rounded to the nearest $5 to avoid disclosing proprietary data.
[6]Excludes potassium chemicals and mixed fertilizers.
[7]Includes nitrate of potash.
[8]Calculated from sales plus imports minus exports.

TABLE 5
PRICES OF U.S. POTASH, BY TYPE AND GRADE[1, 2]

(Dollars per metric ton of K_2O equivalent)

Type and grade	Crop Year 2012		Crop Year 2013	
	July–December 2011	January–June 2012	July–December 2012	January–June 2013
Muriate, 60% K_2O minimum:				
Standard	740	715	705	715
Granular	690	670	700	655

[1]Average prices, free on board mine, based on sales.
[2]Data rounded to nearest $5.

TABLE 6
U.S. EXPORTS OF POTASH[1]

(Metric tons, unless otherwise specified)

Type	Approximate average K_2O content (percent)	July-December 2012		January-June 2013		Year ending June 30, 2013	
		Product	K_2O equivalent[e]	Product	K_2O equivalent[e]	Product	K_2O equivalent[e]
Potassium chloride, all grades	61	87,400	53,300	76,300	46,500	164,000	99,900
Potassium nitrate	45	7,700	3,470	6,700	3,020	14,400	6,480
Potassium sulfate	51	35,000	17,900	19,800	10,100	54,700	27,900
Total	XX	130,000	74,600	103,000	59,700	233,000	134,000

[e]Estimated. XX Not applicable.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 7

U.S. IMPORTS FOR CONSUMPTION OF POTASH[1]

(Metric tons, unless otherwise specified)

Type	Approximate average K_2O content (percent)	July–December 2012			January–June 2013			Year ending June 30, 2013		
		Product	K_2O equivalent[e]	Customs value (thousands)	Product	K_2O equivalent[e]	Customs value (thousands)	Product	K_2O equivalent[e]	Customs value (thousands)
Potassium chloride[2, 3]	61	3,620,000	2,210,000	$1,260,000	3,840,000	2,340,000	$710,000	7,460,000	4,550,000	$1,970,000
Potassium sulfate	51	45,100	23,000	22,200	74,600	38,000	33,500	120,000	61,000	55,700
Potassium nitrate	45	87,300	39,300	66,100	45,700	20,600	35,300	133,000	59,900	101,000
Potassium nitrate mixtures	14	400	56	200	800	112	300	1,200	168	500
Total	XX	3,750,000	2,270,000	1,350,000	3,960,000	2,400,000	779,000	7,720,000	4,670,000	2,130,000

[e]Estimated. XX Not applicable.

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

[2]Purchases of muriate by U.S. companies were subtracted from imports to prevent double counting due to conversion to sulfate of potash.

[3]Contains imports listed under Harmonized Code Category 3104.10.0000.

Source: U.S. Census Bureau, as adjusted by the U.S. Geological Survey.