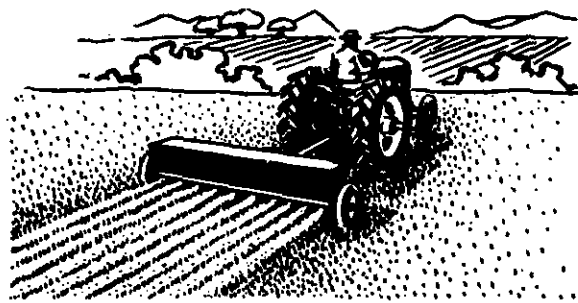


Consumption of



COMMERCIAL FERTILIZERS

By Class (Dry Bagged, Dry Bulk, Liquid)

in the United States

Year ended June 30, 1968



November 28, 1969

UNITED STATES DEPARTMENT OF AGRICULTURE
Statistical Reporting Service • Crop Reporting Board
SpCr 7 (11-69)
Washington, D.C.

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CONSUMPTION OF COMMERCIAL FERTILIZERS
By Class (Dry Bagged, Dry Bulk, Liquid) in the United States
Year Ended June 30, 1968

Liquid Fertilizer is 23 Percent of Total Use

The application of fertilizer in liquid form increased 1 percent from 1967, and was 23 percent of all fertilizer used during the 1967-68 fertilizer year. The volume of liquid fertilizer used either as a direct application material or as a mixture was estimated at 8.4 million tons for the year ended June 30, 1968, according to the Crop Reporting Board. Liquid mixed fertilizer usage in the 48 contiguous States is estimated at 2.0 million tons. Fertilizer materials used for direct application were 42 percent of the total primary nutrient materials applied. Liquid materials include anhydrous ammonia, aqua ammonia, nitrogen, phosphoric, and potassic solutions and other miscellaneous liquid materials applied directly to the soil. These figures exclude the application of secondary and micronutrient materials applied directly to the soil in liquid form.

Bagged Fertilizer Share is 38 Percent

Dry bagged fertilizer equaled about 38 percent of total fertilizer use during the 1967-68 fertilizer year. About 13.9 million tons of bagged fertilizer were applied, both by farm and nonfarm users. An estimated 10.8 million tons of mixed fertilizers were purchased in bags -- 51 percent of all mixed fertilizers. Fertilizer materials purchased in bags totaled 3.1 million tons -- 19 percent of all direct application materials containing one or more of the primary nutrients; nitrogen (N), phosphorus (P₂O₅), or potassium (K₂O).

Dry Bulk Fertilizer Represents 39 Percent

Fertilizer applied in dry bulk form totaled an estimated 14.3 million tons or 39 percent of all fertilizer consumed. Some 8.2 million tons of mixed fertilizer were applied in dry bulk form. Direct application dry bulk materials totaled 6.1 million tons or 39 percent of all primary nutrient materials.

Primary Nutrient Content of Liquids Generally Higher

The primary nutrient content of both liquid mixtures and liquid direct application materials was generally higher in 1968 than a year earlier. Primary nutrients in mixtures totaled 30.9 percent by weight compared with 29.8 percent in 1967. Fertilizer materials contained 52.7 percent primary nutrients.

Less Than 1.5 Percent of Fertilizer Contained Pesticide

Fertilizer manufacturers' data indicates less than 1.5 percent of the fertilizer used in the 1967-68 fertilizer year contained pesticides. Unknown quantities of pesticide may have been added to fertilizer just prior to application.

Tonnages and average analysis of liquid fertilizer were estimated from data supplied by fertilizer manufacturers and releases by State departments of agriculture.

Details on the following pages expand on totals published in "Consumption of Commercial Fertilizers in the United States, Year Ended June 30, 1968." Total use includes all commercial fertilizer sold or shipped for farm and nonfarm use as fertilizer. It doesn't include materials used in manufacture of registered mixes or for uses other than as fertilizer.

Table 1.--Mixtures: Consumption of mixed fertilizer, by class, by States, year ended June 30, 1968

State and region	Mixtures			Percent of total mixtures		
	Dry bagged	Dry bulk	Liquid	Dry bagged	Dry bulk	Liquid
	1,000 tons			Percent		
New England	242.7	68.5	27.5	72	20	8
New York	431.4	128.9	2.8	77	23	2/
New Jersey	152.4	50.8	6.3	73	24	3
Pennsylvania	376.0	132.1	27.0	70	25	5
Delaware	51.4	47.4	1.5	51	47	2
Dist. of Columbia	4.6	.2	1/	96	4	2/
Maryland	171.8	135.0	11.0	54	42	4
West Virginia	40.3	8.3	1/	83	17	2/
Middle Atlantic	1,228.0	502.7	48.6	69	28	3
Virginia	431.8	203.2	37.0	64	30	6
North Carolina	993.0	280.1	51.0	75	21	4
South Carolina	378.3	309.5	27.0	53	43	4
Georgia	563.9	811.5	51.8	40	57	3
Florida	574.6	898.7	22.6	38	60	2
South Atlantic	2,941.6	2,503.0	189.4	52	44	4
Ohio	527.9	382.3	52.8	55	40	5
Indiana	632.8	421.8	190.0	51	34	15
Illinois	520.4	500.0	389.0	37	35	28
Michigan	328.5	279.9	17.4	52	45	3
Wisconsin	282.4	132.9	11.2	66	31	3
East North Central	2,292.0	1,716.9	660.4	49	37	14
Minnesota	261.0	332.2	44.6	41	52	7
Iowa	326.0	398.4	261.7	33	40	27
Missouri	365.3	446.5	128.0	39	48	13
North Dakota	119.4	42.0	22.3	65	23	12
South Dakota	35.1	57.2	18.7	32	51	17
Nebraska	77.0	125.6	83.0	27	44	29
Kansas	200.2	163.8	32.7	51	41	8
West North Central	1,384.0	1,565.7	591.0	39	44	17
Kentucky	377.4	139.6	15.5	71	26	3
Tennessee	426.1	174.0	10.4	70	28	2
Alabama	433.4	301.1	7.4	58	41	1
Mississippi	268.1	138.1	2.1	66	34	2/
East South Central	1,505.0	752.8	35.4	66	33	1
Arkansas	160.3	136.6	14.2	51	44	5
Louisiana	216.2	72.1	32.0	67	23	10
Oklahoma	103.3	126.2	9.0	43	53	4
Texas	386.2	356.5	107.1	45	42	13
West South Central	866.0	691.4	162.3	50	40	10
Montana	19.1	34.0	2.6	34	61	5
Idaho	5.0	33.4	15.0	9	63	28
Wyoming	2.6	14.7	1.1	14	80	6
Colorado	12.3	49.3	20.0	15	60	25
New Mexico	9.7	9.7	6.2	38	38	24
Arizona	20.3	10.5	9.2	51	26	23
Utah	11.3	16.8	1/.4	40	60	--
Nevada	1.3	1.7	.5	37	49	14
Mountain	81.6	170.1	54.6	27	55	18
Washington	36.7	68.2	25.8	28	52	20
Oregon	24.3	24.3	9.9	41	42	17
California	225.7	150.5	184.0	40	27	33
Pacific	286.7	243.0	219.7	38	32	30
48 States & D.C.	10,827.6	8,214.1	1,988.9	51	39	10

1/ Less than 500.

2/ Less than .5 percent.

Table 2.--Materials ^{1/}: Consumption of direct application primary nutrient materials, by class, by States, year ended June 30, 1968

State and region	Materials			Percent of total materials		
	Dry bagged	Dry bulk	Liquid	Dry bagged	Dry bulk	Liquid
	--- 1,000 tons ---			--- Percent ---		
New England	35.2	11.2	3.6	70	22	8
New York	43.8	17.1	24.6	51	20	29
New Jersey	19.3	7.5	2.0	67	26	7
Pennsylvania	64.7	26.4	28.4	54	22	24
Delaware	3.9	3.0	9.7	24	18	58
Dist. of Columbia8	.1	.0	89	11	0
Maryland	12.7	13.2	28.3	23	24	53
West Virginia	16.5	2.2	1.9	80	11	9
Middle Atlantic	161.7	69.5	95.0	49	21	30
Virginia	35.2	43.0	71.5	23	29	48
North Carolina	119.8	51.3	201.2	32	14	54
South Carolina	74.6	15.3	129.6	34	7	59
Georgia	141.4	35.3	319.8	29	7	64
Florida	78.6	88.7	56.7	35	40	25
South Atlantic	449.6	233.6	778.8	31	16	53
Ohio	64.4	193.3	150.8	16	47	37
Indiana	28.4	208.5	425.1	4	32	64
Illinois	135.2	904.6	747.9	7	51	42
Michigan	58.4	71.3	73.2	29	35	36
Wisconsin	70.6	223.4	95.7	18	57	25
East North Central	357.0	1,601.1	1,492.7	10	47	43
Minnesota	46.2	309.3	243.1	8	52	40
Iowa	52.0	598.0	782.6	3	42	55
Missouri	43.5	246.5	205.9	9	50	41
North Dakota	95.2	63.4	19.3	53	36	11
South Dakota	9.3	83.2	35.8	7	65	28
Nebraska	43.0	264.0	613.0	5	29	66
Kansas	98.5	219.2	356.7	15	32	53
West North Central	387.7	1,783.6	2,256.5	9	40	51
Kentucky	82.8	79.6	47.7	39	38	23
Tennessee	89.8	15.8	56.6	55	10	35
Alabama	119.3	101.7	89.4	38	33	29
Mississippi	130.2	98.2	80.2	42	32	26
East South Central	422.1	295.3	273.9	42	30	28
Arkansas	71.3	102.7	45.8	32	47	21
Louisiana	66.0	80.6	57.2	32	40	28
Oklahoma	61.2	142.8	92.2	21	48	31
Texas	323.0	298.1	326.6	31	29	40
West South Central	521.5	624.2	609.3	30	35	35
Montana	34.5	64.1	12.0	31	58	11
Idaho	41.9	157.6	64.9	16	60	24
Wyoming	4.3	24.7	5.2	13	72	15
Colorado	23.1	92.2	56.0	13	54	33
New Mexico	12.4	30.3	28.1	17	43	40
Arizona	38.7	71.8	92.9	19	35	46
Utah	17.2	34.8	1.8	32	65	3
Nevada	4.1	3.0	1.2	49	36	15
Mountain	176.2	478.5	262.0	19	52	29
Washington	108.1	121.9	191.9	26	29	45
Oregon	80.5	187.7	62.9	24	57	19
California	372.9	692.5	541.1	23	43	34
Pacific	561.5	1,002.1	795.9	24	42	34
48 States & D.C.	3,072.5	6,099.3	6,567.7	19	39	42

^{1/} Includes anhydrous ammonia and aqua ammonia; nitrogen, phosphoric and potassic solution; and other miscellaneous liquid materials applied directly to the soil. Excludes secondary and micro-nutrient materials.

Table 3.--Total Fertilizers: Consumption of mixtures and direct application materials, by class, by States, year ended June 30, 1968

State and region	Mixtures and materials			Percent of total fertilizer		
	Dry bagged	Dry bulk	Liquid	Dry bagged	Dry bulk	Liquid
	1,000 tons			Percent		
New England	277.9	79.7	31.2	72	20	8
New York	475.2	146.0	27.4	73	23	4
New Jersey	171.7	58.3	8.4	72	24	4
Pennsylvania	440.7	158.5	55.4	67	24	9
Delaware	55.3	50.5	11.2	47	43	10
Dist. of Columbia	5.4	.3	---	95	5	0
Maryland	184.5	148.2	39.3	50	40	10
West Virginia	56.9	10.5	1.9	82	15	3
Middle Atlantic	1,389.7	572.4	143.6	66	27	7
Virginia	467.0	246.2	108.5	57	30	13
North Carolina	1,112.8	331.4	252.2	66	19	15
South Carolina	452.9	324.8	156.6	48	35	17
Georgia	705.3	846.8	371.6	37	44	19
Florida	653.2	987.4	79.3	38	57	5
South Atlantic	3,391.2	2,736.6	968.2	48	38	14
Ohio	592.3	575.6	203.6	43	42	15
Indiana	661.2	630.3	615.1	35	33	32
Illinois	655.6	1,404.6	1,136.9	20	44	36
Michigan	386.9	351.2	90.6	47	42	11
Wisconsin	353.0	356.3	106.9	43	44	13
East North Central	2,649.0	3,318.0	2,153.1	33	41	26
Minnesota	307.2	641.5	261.8	26	53	21
Iowa	378.0	996.4	1,044.3	14	43	43
Missouri	408.8	693.0	329.7	29	48	23
North Dakota	214.6	105.4	41.6	59	29	12
South Dakota	44.4	140.4	54.5	19	58	23
Nebraska	120.0	389.6	696.0	10	32	58
Kansas	298.7	383.0	389.4	28	36	36
West North Central	1,771.7	3,349.3	2,817.4	22	43	35
Kentucky	460.2	219.2	67.2	62	29	9
Tennessee	515.9	189.8	67.0	67	24	9
Alabama	552.7	402.8	96.8	53	38	9
Mississippi	398.3	236.3	82.3	56	33	11
East South Central	1,927.1	1,048.1	313.3	59	32	9
Arkansas	231.6	239.3	60.0	44	45	11
Louisiana	282.2	152.7	89.2	54	29	17
Oklahoma	164.5	269.0	101.2	31	50	19
Texas	709.2	654.6	437.6	38	36	26
West South Central	1,387.5	1,315.6	688.0	41	38	21
Montana	53.6	98.1	14.6	32	59	9
Idaho	46.9	191.0	67.2	15	64	21
Wyoming	6.9	39.4	6.3	13	75	12
Colorado	35.4	141.5	76.0	14	56	30
New Mexico	22.1	40.0	34.3	23	41	36
Arizona	59.0	82.3	102.1	24	34	42
Utah	28.5	51.6	2.2	34	63	3
Nevada	5.4	4.7	1.7	46	40	14
Mountain	257.8	648.6	304.3	21	54	25
Washington	144.8	190.1	217.7	26	34	40
Oregon	104.8	212.0	64.7	28	55	17
California	598.6	843.0	725.1	28	39	33
Pacific	848.2	1,245.1	1,007.5	27	40	33
48 States and D. C.	13,900.1	14,313.4	8,426.6	38	39	23

Table 4.--Liquid fertilizer average analysis: Average primary-nutrient content of liquid fertilizers consumed as mixtures and materials, by States, year ended June 30, 1968

State and region	Liquid mixtures				Liquid materials			
	N	Available: P ₂ O ₅	K ₂ O	Total N, available P ₂ O ₅ and K ₂ O	N	Available: P ₂ O ₅	K ₂ O	Total N, available P ₂ O ₅ and K ₂ O
----- Percent -----								
New England	11.5	6.8	8.7	27.0	31.1	0	0	31.1
New York	6.3	16.1	8.2	30.6	39.6	0	0	39.6
New Jersey	6.1	13.1	12.1	31.3	37.8	0	0	37.8
Pennsylvania	10.3	11.8	6.6	28.7	34.9	0	0	34.9
Delaware	8.0	16.9	6.6	31.5	35.4	0	0	35.4
Dist. of Columbia	0.0	0.0	0.0	0.0	31.1	0	0	31.1
Maryland	8.1	12.1	7.1	27.3	41.4	0	0	41.4
West Virginia	10.4	8.4	5.3	24.1	29.7	0	0	29.7
Middle Atlantic	8.6	12.7	8.1	29.4	38.0	0	0	38.0
Virginia	5.9	7.4	10.9	24.2	30.8	0	0	30.8
North Carolina	4.3	7.7	11.5	23.5	34.3	0	0	34.3
South Carolina	6.3	6.7	10.4	23.4	28.1	0	0	28.1
Georgia	5.5	10.6	12.0	28.1	38.6	0	0	38.6
Florida	9.6	4.7	9.0	23.3	31.0	0	0	31.0
South Atlantic	5.5	8.7	11.4	25.6	34.5	0	0	34.5
Ohio	6.9	16.1	8.1	31.1	50.7	0.6	0	51.3
Indiana	8.6	15.5	10.6	34.7	51.4	0	0	51.4
Illinois	6.7	12.0	8.8	27.5	54.3	1.3	0	55.6
Michigan	8.6	13.5	6.8	35.0	53.5	0	0	53.5
Wisconsin	8.9	14.3	8.0	31.2	48.1	0.1	0	48.2
E. North Central	7.4	13.6	9.2	30.2	52.7	0.7	0	53.4
Minnesota	7.7	19.3	7.1	34.1	65.6	0.1	0	65.7
Iowa	5.5	13.7	8.5	27.7	64.2	0	0	64.2
Missouri	6.9	9.9	9.1	25.9	64.0	0	0	64.0
North Dakota	9.2	27.5	3.3	40.0	40.2	0	0	40.2
South Dakota	10.5	24.4	3.5	38.4	46.7	0	0	46.7
Nebraska	9.0	26.7	3.4	39.1	65.6	0	0	65.6
Kansas	10.2	27.2	5.2	42.6	57.7	0	0	57.7
W. North Central	7.3	17.5	6.9	31.7	63.2	0	0	63.2
Kentucky	6.2	13.8	11.4	31.4	49.8	0	0	49.8
Tennessee	8.8	18.2	5.4	32.4	43.9	0	0	43.9
Alabama	8.8	8.2	8.9	25.9	39.4	0	0	39.4
Mississippi	8.7	10.6	10.2	29.5	56.8	0	0	56.8
E. South Central	8.0	11.7	9.7	29.4	47.2	0.1	0	47.3
Arkansas	8.8	8.2	8.1	25.1	42.4	0	0	42.4
Louisiana	8.6	21.1	5.6	35.3	61.6	1.3	0	62.9
Oklahoma	11.2	27.3	0.7	39.2	48.4	0.1	0	48.5
Texas	12.2	20.8	1.6	34.6	71.3	0.3	0	71.6
W. South Central	11.3	21.0	2.5	34.8	63.6	0.3	0	63.9
Montana	9.9	32.6	0.5	43.0	27.6	20.0	0	47.6
Idaho	9.5	31.7	0.0	41.2	37.1	9.3	0	46.4
Wyoming	10.1	34.3	0.0	44.4	47.1	0.7	0	47.8
Colorado	9.4	31.1	1.6	42.1	63.2	3.0	0	66.2
New Mexico	10.2	32.8	0.4	43.4	65.8	0.8	0	66.6
Arizona	9.6	30.6	0.2	40.4	59.7	2.9	0	62.6
Utah	10.9	7.4	5.9	24.2	36.6	4.2	0	40.8
Nevada	10.0	10.0	5.6	25.6	78.2	0	0	78.2
Mountain	9.6	31.5	0.7	41.8	53.7	5.0	0	58.7
Washington	8.8	27.8	0.1	36.7	42.7	0.3	0	43.0
Oregon	9.1	29.8	0.1	39.0	36.1	0.2	0	36.3
California	8.2	23.5	0.2	31.9	35.7	1.4	0	37.1
Pacific	8.6	26.4	0.1	35.1	37.4	1.1	0	38.5
48 States & D.C.	7.5	15.3	8.1	30.9	52.6	0.1	0	52.7

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