

Farm Machinery and Lawn and Garden Equipment: 2002

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SUMMARY OF FINDINGS

During 2002, factory shipments of farm machinery and equipment, including parts and attachments, produced by original equipment manufacturers (OEM), totaled \$12,217.6 million, an increase of less than 1 percent from the 2001 shipments of \$12,155.4 million. Shipments of farm dairy machines, sprayers, dusters, elevators, farm blowers, and

parts totaled \$740.7 million, a decrease of less than 1 percent from the 2001 total of \$745.8 million. The value of shipments for planting, seeding, and fertilizing machinery for 2002 was \$963.3 million, down 5 percent from the 2001 value of \$1,015.7 million. The value of shipments for harvesting machinery and parts decreased 18 percent, from \$2,029.9 million in 2001 to \$1,720.0 million in 2002. Haying machinery and parts decreased 16 percent, from \$814.2 million in 2001 to \$688.0 million in 2002.

The value of shipments for commercial turf and grounds care equipment, including parts, was \$1,677.9 million in 2002, a decrease of less than 1 percent from the \$1,691.3 million reported for 2001.

The value of shipments for consumer lawn, garden, and snow equipment, including parts and attachments, stayed relatively the same with \$5,741.3 million in 2002, compared to \$5,714.0 million in 2001.

For general CIR information, explanation of general terms and historical note, see the appendix.

Address inquiries concerning these data to Investment Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call Vance Davis, 301-763-4790.

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Table 1. Value of Shipments of Farm Machinery and Lawn and Garden Equipment by Type of Equipment: 1997 to 2002
[Value in millions of dollars]

Product description	2002	2001	2000	1999	1998	1997
Farm dairy machines, sprayers, dusters, elevators, and farm blowers 1/.....	740.7	745.8	877.4	816.8	993.6	816.6
Planting, seeding, and fertilizing machinery 1/.....	963.3	1,015.7	897.9	752.4	1,091.1	1,154.6
Harvesting machinery 1/.....	1,720.0	2,092.9	1,765.7	1,553.1	3,095.6	3,259.4
Haying machinery 1/.....	688.0	814.2	705.3	638.6	848.0	794.8
Plows, harrows, rollers, pulverizers, cultivators, and weeders 1/.....	496.1	519.8	501.0	464.7	631.2	696.3
Commercial turf and grounds care equipment 2/.....	1,677.9	1,691.3	2,239.1	1,656.8	1,361.6	1,238.8
Consumer nonriding lawn, garden, and snow equipment 3/.....	2,416.7	2,740.1	2,766.8	3,082.5	2,979.1	3,051.6
Consumer riding lawn, garden, and snow equipment 3/.....	3,324.6	2,973.9	3,446.0	3,388.9	3,276.8	2,942.9

1/A "Parts" category and a 7-digit product class total from Table 2 has been summed to derive the product group totals.

2/The 7-digit product class total from Table 2 already includes the "Parts and attachments" from this product group.

3/The "Parts and attachments" categories for lawn and garden equipment have been added to the 7-digit product class total from Table 2.

Table 2. Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 2002 and 2001
[Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2002		2001	
			Quantity	Value	Quantity	Value
333111	Farm machinery and equipment, including parts and attachments	(NA)	(X)	12,217,607	(X)	12,155,374
3331111	Wheel tractors (except contractors' off-highway wheel tractors, garden tractors, turf tractors, and motor tillers) and attachments	(NA)	(X)	(D)	(X)	(D)
	Wheel tractors, farm-type (PTO hp)	(NA)	(X)	(D)	(X)	(D)
3331111101	2-wheel drive, including front wheel assist types	6	(D)	(D)	(D)	(D)
3331111106	4-wheel drive, including tractors with, equal size tires, front and rear	4	(D)	(D)	(D)	(D)
3331111111	Attachments for wheel tractors, farm-type.....	10	(X)	74,421	(X)	r/ 61,556
333111C116	Parts for wheel tractors, farm-type	13	(X)	(D)	(X)	(D)
3331113	Farm dairy machines, sprayers, dusters, elevators, and farm blowers	(NA)	(X)	655,633	(X)	648,580
3331113 pt.	Farm dairy machines and equipment	16	(X)	112,744	(X)	a/ 116,533
	Mechanical installations:					
3331113101	Milking machines, complete, suspended and floor-type bucket, single and double units	4	(D)	(D)	(D)	(D)
3331113104	Pipeline milking units, complete, including claws, shells, inflations, air tubes, with or without pulsator	6	(D)	(D)	(D)	(D)
	Other farm dairy machines and equipment.....	14	(X)	a/ 51,602	(X)	a/ 51,540
	Attachments for farm dairy machines and equipment	6	(X)	(D)	(X)	(D)
	Parts for farm dairy machines and equipment, replacement units only.....	10	(X)	58,172	(X)	61,869
3331113 pt.	Sprayers and dusters	(NA)	(X)	508,674	(X)	488,542
	Power sprayers, field and row crop types only:					
3331113116	Self-propelled	11	2,614	301,445	a/ 2,734	290,839
3331113121	Tractor mounted	20	a/ 8,984	b/ 19,321	r/ 7,157	r/ 18,490
	Other than tractor mounted:					
3331113124	Power take-off driven, piston pump type.....	7	a/ 709	2,965	a/ 779	3,395
3331113128	Nonpiston pump type	10	b/ 881	b/ 4,292	a/ 2,244	a/ 6,517
3331113132	Other power sprayers, over 4 g.p.m.	6	(X)	(D)	(X)	(D)
	Power sprayers, other than row crop and field types, over 4 g.p.m.:					
3331113136	Power take-off driven	5	b/ 263	b/ 2,458	308	r/ 2,725
3331113141	Engine-driven.....	10	b/ 872	b/ 2,962	a/ 998	3,686
3331113144	Air carried type power sprayers (field, row crop, and orchard types)	5	533	c/ 3,870	548	c/ 4,183
3331113148	Foggers and mist sprayers portable.....	3	(D)	(D)	(D)	(D)
3331113152	Hand-pulled and garden-type, 4 g.p.m. and under	10	(D)	(D)	78,870	10,741
	Sprayers, agricultural hand:					
3331113156	Under 1 gallon.....	4	774,597	3,835	694,294	3,503
	1 gallon and over:					
3331113161	Compressed air or gas	6	7,529,525	104,456	6,861,243	99,297
3331113164	Other, including knapsack, hose end and flame sprayers and sprayer pumps.....	7	(X)	19,167	(X)	20,993
3331113168	Dusters, power, hand, all types	6	b/ 81,038	a/ 782	75,546	797
3331113172	All other sprayers	8	(X)	a/ 783	(X)	r/ 924
3331113176	Attachments for sprayers and dusters	13	(X)	12,229	(X)	r/ 11,818
333111C223	Parts for sprayers and dusters, replacement units only.....	28	(X)	25,253	(X)	r/ 32,316
3331113 pt.	Farm elevators and blowers	(NA)	(X)	34,215	(X)	r/ 43,505
	Farm elevators, portable:					
3331113181	Single and double chain	10	c/ 3,658	c/ 6,935	3,910	r/ 6,540
3331113188	Auger type	7	c/ 5,216	b/ 10,920	b/ 8,516	r/ 18,737

Continued

Table 2. Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 2002 and 2001
[Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2002		2001	
			Quantity	Value	Quantity	Value
3331113192	Other farm portable and stationary augers and elevators	9	(X) b/	13,303	(X) a/	10,725
	Other farm blowers, including forage blowers, combination grain and forage blowers	5	(X) b/	2,055	(X)	1,433
	Attachments for farm elevators and blowers.....	4	(X)	1,002	(X)	6,070
	Parts for farm elevators and for grain and forage blowers, replacement units only.....	6	(X)	1,595	(X) a/	3,000
3331117	Planting, seeding, and fertilizing machinery	(NA)	(X) a/	863,562	(X) r/	923,147
3331117101	Corn planters, corn and cotton planters, and lister plant pull-type and mounted (total rows mounted).....	8	(D)	(D)	(D)	(D)
3331117108	Grain drills (fixed frame), all types	12	6,271	89,311	4,917	94,863
3331117111	Transplanters (pull-type or mounted) and broadcast seeders (end-gate, mounted and drawn)	9	a/ 7,646 a/	4,942 a/	8,408 a/	5,222
	Fertilizer distributors (pull-type or mounted):					
3331117118	Dry, including lime spreaders.....	26	c/ 9,094 b/	39,590 c/r/	9,134	38,029
3331117121	Liquid and anhydrous ammonia.....	17	a/ 5,407	18,317 a/	5,863 a/	20,206
3331117128	Manure spreaders, rear discharge.....	13	6,397	38,117	6,028	36,718
3331117131	Manure spreaders, side discharge.....	5	2,238	29,093	2,614	29,772
3331117138	Manure pumps, liquid.....	8	b/ 976 a/	5,059 a/	894	4,491
3331117141	Front and rear tractor mounted loaders (farm-type), manure and general utility (except beet and sugar cane loaders)	12	b/ 51,149 b/	116,520 b/r/	45,906 b/r/	128,657
3331117148	Row crop unit planters (quantity in rows)	12	39,104	107,030	43,225	64,394
3331117151	Other planting, seeding, and fertilizing machinery.....	27	(X)	(D)	(X)	(D)
3331117158	Attachments for planting, seeding, and fertilizing machinery	24	(X) a/	51,682	(X)	51,804
333111C229	Parts for planting, seeding, and fertilizing machinery, replacement units only	66	(X)	99,750	(X) r/	92,600
3331119	Harvesting machinery.....	(NA)	(X)	1,539,440	(X) a/	1,860,164
3331119101	Combines (harvester-threshers), grain-types only (self-propelled and pull-type)	10	(D)	(D)	(D)	(D)
3331119111	Small grain header for combines, all sizes	6	9,921	138,291	(D)	(D)
3331119121	Corn heads, all sizes	6	2,442	70,659	3,009	85,295
3331119131	Other grain-type combines	2	(X)	(D)	(X)	(D)
	Field forage harvesters:					
3331119141	Shear bar, self-propelled type and pull-type (basic machines)	3	1,198	30,461	1,144	25,531
3331119151	Attachments for shear bar type forage harvester	1	(X)	(D)	(X)	(D)
3331119161	Flail-type (horizontal knives or vertical free-swinging knives or hammers), including discharge spouts	3	b/ 76 c/	751	(D)	(D)
3331119171	Other harvesting machinery, including potato diggers, cane harvesting equipment, and picker-shellors	45	(X)	283,881	(X)	327,602
3331119181	Attachments for harvesting machinery, including platform and seeder, reel, straw spreaders, load levelers, weed stripper, grate unit, knife grinders, and stalk walkers.....	22	(X)	83,305	(X)	96,716
333111C22A	Parts for harvesting machinery, replacement units only	52	(X)	180,546	(X)	232,771
333111A	Haying machinery	(NA)	(X)	560,415	(X)	735,366
333111A101	Mowers, cutter bar type, including drum and disk	8	b/ 2,799 b/	14,609	4,184 r/	21,917
333111A111	Mower-conditioners and windrowers with conditioner auger and draper-type (pull-type and self-propelled)	8	14,595	227,252	14,224	229,150

Table 2. Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 2002 and 2001
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Product code	Product description	No. of cos.	2002		2001	
			Quantity	Value	Quantity	Value
333111A121	Rakes, side delivery, cylinder type, and finger wheel type	11	9,812 a/	31,593	9,724	37,391
333111A131	Hay balers, hay stackers, (field type), hay bale loaders, bale throwing attachments	10	(D)	(D)	22,412	391,058
333111A141	Other haying machinery	16	(X) c/	33,389	(X)	(D)
333111A151	Other attachments for haying machinery (stripper, bale chute and knife attachments).....	10	(X)	(D)	(X)	(D)
333111C22C	Parts for haying machinery, replacement units only	24	(X) a/	127,626	(X)	78,868
333111E	Plows, harrows, rollers, pulverizers, cultivators, and weeders	(NA)	(X)	376,922	(X)	400,130
333111E pt.	Plows (primary tillage equipment)	(NA)	(X) a/	96,230	(X)	97,175
333111E101	Subsoilers, deep tillage	24 a/	4,264 a/	35,782	4,241	34,802
333111E109	Terracing and ditching plows	10 a/	456 a/	1,297	r/ 483	r/ 1,325
	Chisel plows, deep tillage (chisel or sweep type):					
333111E111	Pull-type	11	1,038	17,822	935	12,075
333111E119	Mounted	13 b/	799 c/	2,197	r/ 665	2,799
333111E121	Other plows (except snow plows)	14	(X)	11,595	(X) r/	12,635
333111E159	Middlebusters and disc bedders	15	2,709	2,893	2,756	2,741
333111E131	Attachments for plows (coulters, jointers, root cutters subsoilers, fertilizer distributors, etc.), excluding lister planting attachments	21	(X)	19,971	(X)	25,868
333111E139	Plowshares (quantity in thousands of pounds)	6 c/	3,790,807 c/	4,673	b/r/ 4,007,271	4,930
333111C22E	Parts for plows (except plowshares, replacement units only)	19	(X) b/	44,881	(X)	42,392
333111E pt.	Harrows, rollers, pulverizers and similar equipment (secondary tillage)	(NA)	(X) b/	180,274	(X)	186,082
333111E141	Spike-tooth harrow sections and spring-tooth and tine-tooth harrow sections	20	16,946	8,241	17,611	13,449
333111E149	Disc harrows, single, tandem, and offset	20 b/	12,834 a/	75,733	12,093	80,013
333111E151	Combination tillage equipment, roller/harrows, disc or coulters/field cultivators, disc or coulters/spring tooth	26 c/	5,481	27,332	6,027	27,780
333111E158	Blade terracers or scrapers (farm-size)	34 b/	34,725 b/	19,303	41,261	23,605
333111E161	Land levelers	11	3,485 a/	9,178	r/ 3,269	r/ 2,273
333111E169	Other harrows, rollers, pulverizers, and similar equipment	27	(X)	28,255	(X)	28,590
333111E171	Attachments for harrows, rollers, pulverizers, and similar equipment	16	(X)	12,232	(X)	10,372
333111C22G	Parts for harrows, rollers, pulverizers, and similar equipment, replacement units only.....	37	(X) b/	41,749	(X) r/	42,533
333111E pt.	Cultivators and weeders	(NA)	(X) a/	100,418	(X)	116,873
333111E179	Corn and cotton type cultivators, shank and sweep type (front and rear mounted).....	16 c/	1,127 b/	6,471	c/ 1,623	a/ 11,004
333111E181	Rotary cultivators, ground and power driven.....	8 c/	2,682 c/	5,855	2,885	6,428
333111E189	Field cultivators	14 a/	4,835	53,297	5,862	62,140
333111E191	Other cultivators and weeders, including tool bars (basic units)	17	(X) a/	7,088	(X) a/	7,624
333111E199	Attachments for cultivators and weeders (front mounting frame, disc weeders, rear section, and drawbars)	21	(X) b/	27,707	(X)	29,677
333111C22J	Parts for cultivators and weeders, replacement units only	27	(X) b/	32,510	(X)	34,729

Table 2. Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 2002 and 2001
[Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2002		2001	
			Quantity	Value	Quantity	Value
333111G	All other farm machinery and equipment (except parts)	(NA)	(X)	1,889,795	(X) r/	1,603,965
333111G pt.	Stalk shredders and cutters or rotary mowers (PTO)	39	(X) b/	237,603	(X)	231,863
333111G102	Flail type (without spout)	15 a/	2,188 b/	15,063	a/r/ 1,804 b/r/	12,516
333111G104	Horizontal blade type: 66 inches cutting width and under	24 b/	79,016 b/	45,159	87,086	55,281
333111G106	Over 66 inches up to 100 inches cutting width	21 b/	50,821 b/	66,690	r/ 52,193 r/	70,207
333111G108	Over 100 inches cutting width	16 a/	14,480 a/	110,691	r/ 12,478	93,859
333111C22L	Parts for stalk shredders, and cutters or rotary mowers (PTO), replacement units only.....	27	(X) b/	32,814	(X)	33,042
333111G pt.	Machines for preparing crops for market or for use	(NA)	(X) a/	201,181	(X) a/r/	242,115
333111G112	Feed grinders and crushers, power	12	(D)	(D)	r/ 1,067 r/	32,350
333111G114	Feed mixers, farm-size, stationary and portable	16	2,777	57,222	3,468	64,774
333111G116	Combination grinder-mixers	4	(D)	(D)	(D)	(D)
333111G117	Cotton ginning machinery.....	(NA)	-	-	-	-
333111G118	Dryers (grain, hay, and seed): Heated air crop dryers	14 b/	3,905 a/	22,649	b/ 6,221 a/	30,661
333111G122	Crop drying fans (over 15,000 c.f.m. at approximately 1-inch pressure)	7	7,164 a/	6,803	7,300	7,512
333111G124	Other machines for preparing crops for market or for use	33	(X) a/	64,128	(X) r/	84,735
333111G126	Attachments for machines for preparing crops for market or for use	13	(X)	6,453	(X)	13,299
333111C22N	Parts for machines for preparing crops for market or for use, replacement units only.....	38	(X) a/	37,878	(X) a/	34,425
333111G pt.	Farm poultry equipment	(NA)	(X) a/	308,872	(X) r/	272,846
333111G128	Incubators, quantity represents egg capacity in thousands	8 c/	45,619 b/	44,523	43,266	42,055
333111G132	Brooders, floor and hanging (gas, electric, oil, coal, wood and battery)	11 a/	206,454 b/	27,373	124,805	23,924
333111G134	Nests and cages	9 a/	1,985,684	30,420	a/r/ 2,564,998	38,064
333111G136	Poultry feeders (trough, hanging, and mechanical) and waterers (except turkey feeders and waterers)	12	7,307,839	72,303	a/r/ 6,288,147 r/	65,702
333111G138	Other farm poultry equipment, including turkey waterers, mechanized egg graders, and egg washers	17	(X)	125,890	(X)	94,886
333111G142	Attachments for farm poultry equipment.....	14	(X) a/	8,363	(X)	8,215
333111C22P	Parts for farm poultry equipment, replacement units only.....	15	(X) a/	16,980	(X)	17,787
333111G pt.	Hog equipment	(NA)	(X)	122,171	(X)	133,922
333111G144	Feeding equipment	24 a/	147,733	48,533	a/r/ 166,052	53,196
333111G146	Handling equipment	13 a/	484,109	35,582	a/ 523,338	40,802
333111G148	Watering equipment	17 a/	386,371 a/	3,382	421,700	3,705
333111G152	Other hog equipment	21	(X)	(D)	(X)	(D)
333111G154	Attachments for hog equipment	10	(X)	1,368	(X)	1,452
333111C22T	Parts for hog equipment, replacement units only	15	(X)	(D)	(X)	(D)
333111G pt.	Other barn and barnyard equipment	(NA)	(X) a/	218,966	(X) r/	204,429
333111G156	Silo and grain bin unloaders, forage and grain, including sealed storage unloaders (farm-type)	13 a/	3,811	22,241	c/ 13,854	33,262
333111G158	Cattle and dairy barn equipment: Feeding equipment	28	93,140 a/	49,306	79,926	37,906
333111G162	Handling equipment	29	788,034 a/	51,099	582,068 b/	42,329
333111G164	Water equipment	21	412,210 b/	43,199	412,613 r/	38,246
333111G166	Other barn and barnyard equipment	33	(X)	22,569	(X) r/	24,591

Continued

Table 2. Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 2002 and 2001
[Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2002		2001	
			Quantity	Value	Quantity	Value
333111G168	Attachments for barn and barnyard equipment....	18	(X)	30,552	(X)	r/ 28,095
333111C22U	Parts for barn and barnyard equipment, replacement units only	25	(X)	15,884	(X)	14,980
333111G pt.	Farm wagons, and other farm transportation equipment	(NA)	(X) a/	123,370	(X)	133,077
333111G172	Wagons (chassis only) and trailer gears, excluding motor trucks, 4-wheel.....	30 a/	16,927 a/	35,808	18,945	42,177
	Boxes and racks for mounting on wagons and trailer gears:					
333111G174	Manual unloading or dump	6	1,035	3,688	1,114	r/ 3,253
333111G176	Gravity unloading, grain-type only.....	7	5,270	6,590	4,783	6,901
333111G178	Power unloading	15	2,483	24,655	2,290	22,404
333111G182	Boxes with integral running gear, grain- and forage-types	11	2,761	20,867	r/ 2,731	19,610
333111G184	Other farm transportation equipment	17	(X) a/	30,007	(X)	37,604
333111G186	Attachments for farm transportation equipment	9	(X)	(D)	(X)	(D)
333111C232	Parts for farm transportation equipment, including operator cabs for farm tractors.....	30	(X)	(D)	(X)	(D)
333111G pt.	Irrigation systems	(NA)	(X)	677,632	(X)	b/r/ 385,713
333111G188	Self-propelled irrigation systems, center-pivot (quantity is in ten-tower equivalents).....	7	20,584	593,482	r/ 11,293	a/r/ 340,165
333111G192	All other systems using 100-foot flexible hose feeder line and over	8	(X)	(D)	(X)	(D)
333111C22V	Parts for irrigation systems, replacement units only.....	7	(X)	(D)	(X)	(D)
333111J	Commercial turf and grounds care equipment, including parts and attachments	(NA)	(X)	1,677,857	(X)	r/ 1,691,301
333111J pt.	Commercial turf and grounds mowing equipment....	(NA)	(X)	1,378,991	(X)	r/ 1,390,817
333111J101	Powered nonriding mowers	17	76,646	124,826	r/ 77,186	r/ 121,151
333111J106	Riding reel-type turf mowers, including greens mowers	5	(D)	(D)	(D)	(D)
333111J111	Riding rotary turf mowers	20	106,457	738,110	r/ 111,501	r/ 754,722
333111J116	Gang rotary cutting units, reel and rotary, individual sections	8	44,629	75,324	50,898	85,430
333111J121	Flail mower cutting units, including gang.....	6	705	7,516	1,209	12,888
333111J126	Other mowing equipment	8	(X) b/	38,403	(X)	r/ 53,430
333111J131	Parts for commercial turf and grounds mowing equipment	34	(X)	148,956	(X)	142,507
333111J136	Attachments for commercial turf and grounds mowing equipment	21	(X)	65,076	(X)	42,602
333111J pt.	Other commercial turf and grounds care equipment	(NA)	(X)	298,866	(X)	300,484
333111J141	Sod cutters and sod harvesters	3	(D)	(D)	(D)	(D)
333111J146	Seeders, spreaders, and top dresser attachments..	10	809,026 b/	25,834	895,511	r/ 29,376
333111J151	Aerators, spikers, and pluggers	14 b/	12,573 b/	21,591	11,719	25,124
333111J156	Dethatchers	12	(D)	(D)	7,262	4,998
333111J161	Power brooms, blowers, vacuums, and sweepers	15	15,600	25,182	17,725	25,310
333111J166	Irrigation systems (except agricultural and residential)	2	(D)	(D)	(D)	(D)
333111J171	Other commercial turf and grounds care equipment, including trap rakes, transport trailers and turf tractors and trucks.....	23	(X) b/	130,350	(X)	138,162
333111J176	Parts for other commercial turf and grounds care equipment	25	(X) a/	28,696	(X)	17,273
333111J181	Attachments for other commercial turf and and grounds care equipment	19	(X) a/	39,066	(X)	40,748

Continued

Table 2. Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 2002 and 2001
[Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2002		2001	
			Quantity	Value	Quantity	Value
333112	Lawn and garden equipment	(NA)	(X)	5,741,306	(X) r/	5,713,930
3331121 pt.	Consumer nonriding lawn, garden, and snow equipment	(NA)	(X)	2,271,237	(X)	2,587,162
	Lawnmowers:					
3331121104	Push-type: reel (powered and nonpowered) rotary-gas powered	16	3,486,330	518,251	3,839,378	535,251
3331121106	Rotary, self-propelled, gas-powered	16	1,863,508	443,514	2,199,205	606,104
3331121121	Electric, all types, including battery-powered....	5	(D)	(D)	(D)	(D)
3331121126	Rotary garden motor tillers	11	410,023	119,221	397,899	107,070
3331121131	2-wheel tractors walking type (except rotary tillers)	3	(D)	(D)	(D)	(D)
	Snow throwers (snow blowers) (except attachment-type):					
3331121136	Single stage	7	309,044	96,917	438,045	129,781
3331121141	Dual stage	6	320,753	197,958	436,720	263,527
	Powered lawn edgers/trimmers:					
3331121146	Fixed blade	11	847,926	125,379	576,630	77,487
3331121151	Other than fixed blades	11	5,570,407	388,579	7,862,480	504,960
3331121156	Shredders and shredder-grinders	4	110,078	36,040	92,748	32,275
3331121161	Yard vacuums and blowers	7	2,772,747	222,259	3,045,772	241,669
3331121166	Other consumer nonriding lawn, garden, and snow equipment	16	(X)	77,312	(X) r/	40,963
3331123 pt.	Consumer riding lawn, garden, and snow equipment	(NA)	(X) a/	2,713,845	(X) r/	2,386,539
	Lawn tractors and riding mowers, front engine:					
3331123101	Under 10.0 hp (under 7.5 kW)	3	(D)	(D)	b/	4,623
3331123111	10.0 hp and over (7.5 kW and over)	8	1,458,934	1,817,567	1,342,977	1,578,861
	Lawn tractors and riding mowers, rear engine:					
3331123121	Under 10.0 hp (under 7.5 kW)	5	(D)	(D)	(D)	(D)
3331123131	10.0 hp and over (7.5 kW and over)	14	83,332	129,499	103,454 r/	160,852
	Garden tractors:					
3331123141	Under 16.0 hp (under 12.0 kW)	6	(D)	(D)	6,183	19,837
3331123151	16.0 hp to 19.9 hp (12.0 kW to 14.9 kW).....	6	(D)	(D)	(D)	(D)
333113161	20.0 hp and over (15.0 kW and over)	10	124,963	277,501	114,518	319,626
3331123171	Other consumer riding lawn, garden, and snow equipment	6	(X) a/	37,854	(X) b/	30,433
3331127 pt.	Parts and attachments for consumer lawn, garden, and snow equipment	(NA)	(X)	756,224	(X) r/	740,229
	Nonriding:					
3331127101	Parts	33	(X)	109,345	(X)	117,662
3331127111	Attachments	12	(X)	36,152	(X)	35,245
	Riding:					
	Parts:					
3331127121	For tractors and riding mowers	22	(X)	334,093	(X) r/	320,016
3331127131	For other equipment	7	(X) a/	6,197	(X) a/	6,694
	Attachments:					
3331127141	Rotary mower decks	9	(X)	55,430	(X)	56,216
3331127151	Rotary tiller attachments	10	(X)	6,718	(X)	2,367
3331127161	Blades, dozer	12	(X) a/	24,982	(X)	21,928
3331127171	Snow throwers	9	(X)	24,457	(X)	18,420
3331127181	Carts and wagons	13	(X) a/	32,265	(X) r/	33,893
3331127191	All other attachments	26	(X)	126,585	(X)	127,788

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. pt. Part. r/Revised by 5 percent or more from previously published data. X Not applicable.

Note: Percent of estimation of each item is indicated as follows: a/10 to 25 percent of the item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of item is estimated.

Table 3. Shipments, Exports, and Imports of Farm Machinery and Equipment: 2002 and 2001
[Quantity in units. Value in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise 1/		Imports for consumption 2/	
	Quantity	Value	Quantity	Value	Quantity	Value
2002						
Farm-type wheel tractors.....	(D)	(D)	30,858	869,590	134,963	1,517,500
Sprayers and dusters (except aerial types).....	(X)	496,445	(X)	45,640	(X)	32,620
Planting machinery and fertilizer distributors, pull-type or mounted...	(X)	811,880	16,342	87,704	162,849	66,659
Disc harrows.....	12,834	75,733	1,151	8,962	73,818	1,591
Other harrows, rollers, pulverizers, and similar equipment	66,564	92,309	3,734	5,337	5,420	13,304
Combines.....	(D)	(D)	3,742	315,251	2,135	75,468
Other harvesting machines.....	16,307	499,200	2,396	34,338	11,268	52,436
Field forage harvesters.....	1,274	31,212	1,062	12,401	1,175	29,053
Hay mowers, mower-conditioners and windrowers.....	254,997	623,781	17,892	50,776	45,693	108,507
Other haymaking machines.....	(X)	(D)	1,507	19,522	12,931	26,719
Balers, including pickup balers.....	11,468	193,591	7,421	99,421	6,794	37,245
Other plows.....	(X)	71,586	4,773	8,143	134,294	6,458
Cultivators and weeders.....	12,189	72,711	9,745	13,429	151,162	38,265
Machinery for preparing animal feed.....	(D)	(D)	5,118	31,506	47,797	36,935
Other machines for preparing crops for market or for use.....	(D)	(D)	3,271	23,743	26,601	4,985
Farm poultry incubators and brooders.....	(X)	57,793	27,130	13,793	118,618	2,603
Nests and cages (poultry equipment).	(X)	30,420	59,100	47,997	112,095	10,155
Self-propelled irrigation systems, center-pivot.....	20,584	593,482	2,136	42,122	72	315
All other self-propelled irrigation systems using 100 feet flexible hose feeder line and over.....	(D)	(D)	(X)	189,955	(X)	25,259
Farm wagons and other farm transportation equipment.....	34,143	121,615	-	-	192,028	12,123
Riding turf mowers and flail and gang mowers.....	(D)	(D)	16483	69,456	8,110	2,703
Snowblowers (snowthrowers).....	629,797	294,875	54,072	31,746	74,016	26,151
Powered lawn and hedge trimmers....	6,418,333	513,958	464,843	39,560	2,351,550	147,931

2001

Farm-type wheel tractors.....	(D)	(D)	32,788	722,072	109,925	1,383,860
Sprayers and dusters (except aerial types).....	(X)	488,484	(X)	34,070	(X)	29,419
Planting machinery and fertilizer distributors, pull-type or mounted...	(X)	806,824	18,739	64,688	133,695	33,603
Disc harrows.....	12,111	80,026	1,096	5,841	67,563	2,113

Continued

Table 3. Shipments, Exports, and Imports of Farm Machinery and Equipment: 2002 and 2001
[Quantity in units. Value in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise 1/		Imports for consumption 2/	
	Quantity	Value	Quantity	Value	Quantity	Value
Other harrows, rollers, pulverizers, and similar equipment	68,096	93,131	5,116	5,480	14,345	9,457
Combines.....	(D)	(D)	4,830	349,934	1,263	108,237
Other harvesting machines.....	18,589	581,362	2,407	52,456	5,755	44,756
Field forage harvesters.....	1,008	21,597	1,266	14,889	799	47,597
Hay mowers, mower-conditioners and windrowers.....	165,246	478,229	19,852	52,360	58,229	103,735
Other haymaking machines.....	(X)	(D)	2,106	24,808	7,016	14,529
Balers, including pickup balers.....	22,260	391,459	10,990	92,296	2,661	15,558
Other plows.....	(X)	68,044	3,959	11,708	34,958	3,363
Cultivators and weeder.....	14,191	87,607	14,792	18,308	203,368	35,844
Machinery for preparing animal feed.....	(D)	(D)	5,266	41,615	67,397	27,216
Other machines for preparing crops for market or for use.....	(D)	(D)	3,441	22,162	48,465	9,640
Farm poultry incubators and brooders.....	(X)	61,420	26,960	13,950	38,648	2,760
Nests and cages (poultry equipment).	(X)	30,891	115,289	67,956	200,895	11,968
Self-propelled irrigation systems, center-pivot.....	8,368	258,267	2,420	42,738	69	558
All other self-propelled irrigation systems using 100 feet flexible hose feeder line and over.....	6,040	25,076	(X)	192,811	(X)	21,242
Farm wagons and other farm transportation equipment.....	36,787	134,003	-	-	102,351	12,652
Riding turf mowers and flail and gang mowers.....	(D)	(D)	18648	61,839	3,484	2,155
Snowblowers (snowthrowers).....	874,765	393,308	69,200	38,339	12,751	10,130
Powered lawn and hedge trimmers.....	8,439,191	582,447	1,354,900	89,604	4,353,832	206,968

- Represents zero. D Withheld to avoid disclosing data for individual companies. X Not applicable.

1/Source: Census Bureau report, EM 545, U.S. Exports.

2/Source: Census Bureau report, IM 145, U.S. Imports for Consumption.

Note: For comparison of North American Industry Classification System (NAICS)-based product codes, Schedule codes, and HTSUSA import codes, see Table 4.

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes, and HTSUSA Import Codes: 2002

Product code	Product description	Export code 1/	Import code 2/
3331111101, 106, 3331123141, 151, 161	Farm-type wheel tractors.....	8701.90.1005 8701.90.1010 8701.90.1015 8701.90.1030 8701.90.1035 8701.90.1040 8701.90.1045 8701.90.1050 8701.90.1055 8701.90.1060 8701.90.1065 8701.90.1070	8701.90.1005 8701.90.1010 8701.90.1015 8701.90.1030 8701.90.1035 8701.90.1040 8701.90.1045 8701.90.1050 8701.90.1055 8701.90.1060 8701.90.1065 8701.90.1070
3331113116, 121, 124, 128, 132, 136, 141, 144, 148, 152, 156, 161, 164, 168, 172	Sprayers and dusters (except aerial types).....	8424.81.1000 8424.81.9030	8424.81.1000 8424.81.9040 8424.81.9090
3331117101, 108, 111, 148	Planting machinery.....	8432.30.0010 8432.30.0090	8432.30.0010 8432.30.0090
3331117118, 121, 128, 131, 138, 141, 151	Fertilizer distributors pull-type or mounted.....	8432.40.0000	8432.40.0000
333111E141, 151, 158, 161, 169	Other harrows, rollers, pulverizers, and similar equipment.....	8432.29.0090	8432.29.0090
333111E149	Disc harrows.....	8432.21.0000	8432.21.0000
3331119101	Combines.....	8433.51.0010 8433.51.0090	8433.51.0010 8433.51.0090
3331119111, 121, 131, 171	Other harvesting machines.....	8433.52.0000 8433.59.0090 8433.53.0000	8433.52.0000 8433.59.0090 8433.53.0000
3331119141, 161	Field forage harvesters.....	8433.59.0010	8433.59.0010

Continued

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes, and HTSUSA Import Codes: 2002

Product code	Product description	Export code 1/	Import code 2/
333111A101, 111, 333111G102, 104, 106, 108	Hay mowers, mower-conditioners and windrowers.....	8433.20.0020 8433.20.0040 8433.20.0060	8433.20.0020 8433.20.0040 8433.20.0060
333111A121, 141	Other haymaking machinery.....	8433.30.0000	8433.30.0000
333111A131	Balers, including pickup balers.....	8433.40.0000	8433.40.0000
333111E101, 109, 111, 119, 121, 159	Other plows.....	8432.10.0040 8432.10.0060	8432.10.0040 8432.10.0060
333111E179, 181, 189, 191	Cultivators and weeders.....	8432.29.0040 8432.29.0060 8432.29.0080	8432.29.0040 8432.29.0060 8432.29.0080
333111G112, 114, 116	Machinery for preparing animal feed.....	8436.10.0000	8436.10.0000
333111G124, 118, 122	Other machines for preparing crops for market or for use.....	8419.31.0000 8436.80.0060	8419.31.0000 8436.80.0060
333111G128, 132	Farm poultry incubators and brooders.....	8436.21.0000	8436.21.0000
333111G134	Nests and cages (poultry equipment).....	8436.29.0000 8433.60.0000	8436.29.0000 8433.60.0000
333111G188	Self-propelled irrigation systems, center-pivot.....	8424.81.9010	8424.81.9010
333111G192	All other self-propelled irrigation systems using 100 feet flexible hose feeder line and over.....	8424.81.9020	8424.81.9020
333111G172, 174, 176, 178, 182, 184	Farm wagons and other farm transportation equipment.....	8716.80.1000	8716.80.1000
333111J101, 126	Other commercial and turf grounds mowers.....	8433.19.0040 8433.19.0050	8433.19.0040 8433.19.0050
333111J106, 111, 116	Riding turf mowers.....	8433.19.0010 8433.19.0030	8433.19.0010 8433.19.0030

Continued

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes, and HTSUSA Import Codes: 2002

Product code	Product description	Export code 1/	Import code 2/
333111J121	Flail and gang mowers.....	8433.19.0020	8433.19.0020
3331121136, 141	Snowblowers (snowthrowers).....	8430.20.0060	8430.20.0060
3331121146, 151	Powered lawn and hedge trimmers.....	8467.89.5030 8508.80.0070	8467.89.5030 8508.80.0070

1/Source: 2002 edition, Harmonized System-based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated, (2002).

Appendix.

General CIR Survey Information, Explanation of General Terms and Historical Note

GENERAL

The CIR program has been providing monthly, quarterly, and annual measures of industrial activity for many years. Since 1904, with its cotton and fats and oils surveys, the CIR program has formed an essential part of an integrated statistical system involving the quinquennial economic census, manufacturing sector, and the annual survey of manufactures. The CIR surveys, however, provide current statistics at a more detailed product level than either of the other two statistical programs.

The primary objective of the CIR program is to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision making in the private sector. The product-level data generated by these surveys are used extensively by individual firms, trade associations, and market analysts in planning or recommending marketing and legislative strategies, particularly if their industry is significantly affected by foreign trade. Although production and shipments information are the two most common data items collected, the CIR program collects other measures also such as inventories, orders, and consumption. These surveys measure manufacturing activity in important commodity areas such as textiles and apparel, chemicals, primary metals, computer and electronic components, industrial equipment, aerospace equipment, and consumer goods.

The CIR program uses a unified data collection, processing, and publication system. The U.S. Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic census, manufacturing sector. The manufacturing sector provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is too large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. The CIR program includes a group of mandatory and voluntary surveys. Typically the monthly and quarterly surveys are conducted on a voluntary basis. Those companies that choose not to respond to the voluntary surveys are required to submit a mandatory annual counterpart corresponding to the more frequent survey.

NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS), 1997

The adoption of the North American Industry Classification System (NAICS) in the 1997 Economic Census has had a major impact on the comparability of current and historic data. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those that left manufacturing are logging and portions of publishing. Prominent among the industries that came into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. The net effect of the classification changes are such that if the 1997 value of shipments data for all manufacturers were tabulated on an SIC basis, it would be approximately 3 percent higher.

Listed below are the NAICS sectors:

- 21 Mining
- 22 Utilities
- 23 Construction
- 31–33 Manufacturing
- 42 Wholesale Trade
- 44–45 Retail Trade
- 48–49 Transportation and Warehousing
- 51 Information
- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste Management and Remediation Services
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Food Services
- 81 Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

FUNDING

The Census Bureau funds most of the surveys. However, a number of surveys are paid for either fully or partially by other Federal Government agencies or private trade associations. A few surveys are mandated, but all are authorized by Title 13 of the United States Code.

RELIABILITY OF DATA

Survey error may result from several sources including the inability to obtain information about all cases in the survey, response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding the reported data, and other errors of collection, response, coverage, and estimation. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to these nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is the imputing of data for nonrespondents, for late reporters, and for data that fail logic edits. Missing figures are imputed based on period-to-period movements shown by reporting firms. A figure is considered to be an impute if the value was not directly reported on the questionnaire, directly derived from other reported items, directly available from supplemental sources, or obtained from the respondent during the analytical review phase. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are suppressed or footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

DATA REVISIONS

Statistics for previous years may be revised as the result of corrected figures from respondents, late reports for which imputations were originally made, or other corrections. Data that have been revised by more than 5 percent from previously published data are indicated by footnotes.

DISCLOSURE

The Census Bureau collects the CIR data under the authority of Title 13, United States Code, which specifies that the information can only be used for statistical purposes and cannot be published or released in any manner that would identify a person, household, or establishment. "D" indicates that data in the cell have been suppressed to avoid disclosure of information pertaining to individual companies.

EXPLANATION OF GENERAL TERMS

Capacity. The maximum quantity of a product that can be produced in a plant in 1 day if operating for 24 hours. Includes the capacity of idle plants until the plant is reported to be destroyed, dismantled, or abandoned.

Consumption. Materials used in producing or processing a product or otherwise removing the product from the inventory.

Exports. Includes all types of products shipped to foreign countries, or to agents or exporters for reshipment to foreign countries.

Gross shipments. The quantity or value of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

Interplant transfers. Shipments to other domestic plants within a company for further assembly, fabrication, or manufacture.

Inventories. The quantity or value of finished goods, work in progress, and materials on hand.

Machinery in place. The number of machines of a particular type in place as of a particular date whether the machinery was used for production, prototype, or sampling, or was idle. Machinery in place includes all machinery set up in operating positions.

Net receipts. Derived by subtracting the materials held at the end of the previous month from the sum of materials used during the current month.

Production. The total volume of products produced, including: products sold; products transferred or added to inventory after adjustments for breakage, shrinkage, and obsolescence, plus any other inventory adjustment; and products that undergo further manufacture at the same establishment.

Quantities produced and consumed. Quantities of each type of product produced by a company for internal consumption within that same company.

Quantity and value of new orders. The sales value of orders received during the current reporting period for products and services to be delivered immediately or at some future date. Also represents the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those that are supported by binding legal documents such as signed contracts or letter contracts.

Quantity and value of shipments. The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and

returns. Shipments to a company's own branches are assigned the same value as comparable appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

Stocks. Total quantity of ending finished inventory.

Unfilled orders (backlog). Calculated by adding net new orders and subtracting net sales from the backlog at the end of the preceding year.

HISTORICAL NOTE

Data on farm machinery and equipment have been collected by the Census Bureau since 1920; data on lawn and garden equipment since 1978. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library.