Appendix G. Herbicide Applications in Conventional Sugar Beets

Tables G–1 through G–11 present herbicide use by State, in conventional sugar beets, for 2000. These herbicide use data were gathered from the USDA Agricultural Chemical Use Database (USDA, 2008). The data for acres planted were obtained from the USDA 2000 Crop Production Survey (USDA, 2001). Data are presented for the 11 sugar beet production States in 5 regions: Imperial Valley (California); Great Lakes (Michigan); Great Plains (Colorado, Montana, Nebraska, Wyoming); Midwest (Minnesota and North Dakota); and Northwest (Idaho, Oregon, Washington). These data provide a regional perspective on sugar beet herbicide use and represent the most current regional herbicide use data in sugar beets for the entire United States. Further discussion of herbicide use by region, including a regional summary table is presented in section III.B.1.d.

Table G- 1. Herbicide Applications to Conventional Sugar Beet Acres in California (Imperial Valley Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clethodim	Select®	1	7%	1	0.09	0.08	ND[2]
Desmedipham	Betanex®	1	69%	1.5	0.17	0.11	11,000
Ethofumesate	Nortron®	8	6%	1.2	0.53	0.44	3,000
Glyphosate	(Several)	9	15%	1	0.6	0.6	9,000
Phenmedipham	Betamix®	5	69%	1.5	0.17	0.11	11,000
Sethoxydim	Poast®	1	51%	1.5	0.51	0.33	25,000
Trifluralin	Treflan® HFP	3	9%	1	0.72	0.72	7,000
Triflusulfuron-methyl	Upbeet®	2	26%	1.1	0.01	0.01	ND

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).
[1] Source: Heap, 2011; WSSA, 2007.
[2] ND = No data were reported for total herbicide applied per year (lb), although the available data indicated that the herbicide was applied in California (Imperial Valley Region).

Table G- 2. Herbicide Applications to Conventional Sugar Beet Acres in Michigan (Great Lakes Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clopyralid	Stinger®	4	78%	2.5	0.07	0.03	10,000
Cycloate	Ro-Neet™	8	3%	1	3.03	3.03	16,000
Desmedipham	Betanex®	5	92%	2	0.12	0.06	21,000
Ethofumesate	Nortron®	8	14%	1.5	0.13	0.08	3,000
Phenmedipham	Betamix®	5	90%	2	0.11	0.06	19,000
Pyrazon	Pyramin®	5	35%	1	0.99	0.97	66,000
Quizalofop-p-ethyl	Assure® II	1	12%	1.3	0.07	0.05	2,000
Triflusulfuron-methyl	Upbeet®	2	87%	2	0.01	0.01	2,000

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).
[1] Source: Heap, 2011; WSSA, 2007.

Table G- 3. Herbicide Applications to Conventional Sugar Beet Acres in Colorado (Great Plains Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clethodim	Select®	1	36%	1	0.02	0.02	1,000
Clopyralid	Stinger®	4	46%	1.2	0.07	0.05	2,000
Cycloate	Ro-Neet™	8	8%	1	1.31	1.31	7,000
Desmedipham	Betanex®	5	83%	1.2	0.06	0.05	3,000
Ethofumesate	Nortron®	8	65%	1	0.14	0.13	7,000
Phenmedipham	Betamix®	5	83%	1.2	0.06	0.05	3,000
Quizalofop-p-ethyl	Assure® II	1	12%	1	0.05	0.05	ND[2]
Triflusulfuron-methyl	Upbeet®	2	80%	1.2	0.01	0.009	ND

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).
[1] Source: Heap, 2011; WSSA, 2007.
[2] ND = No data were reported for total herbicide applied per year (lb), although the available data indicated that the herbicide was applied in Colorado (Great Plains Region).

Table G- 4. Herbicide Applications to Conventional Sugar Beet Acres in Montana (Great Plains Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clethodim	Select®	1	65%	2.6	0.12	0.04	5,000
Clopyralid	Stinger®	4	92%	2.5	0.08	0.03	5,000
Desmedipham	Betanex®	8	99%	2.7	0.15	0.05	9,000
Ethofumesate	Nortron®	5	41%	2.3	0.17	0.07	4,000
Glyphosate	(Several)	8	67%	1	0.42	0.42	17,000
Phenmedipham	Betamix®	5	97%	2.7	0.13	0.05	8,000
Quizalofop-p-ethyl	Assure® II	1	5%	2	0.04	0.02	ND[2]
Triflusulfuron-methyl	Upbeet®	2	91%	2.6	0.03	0.01	2,000

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).
[1] Source: Heap, 2011; WSSA, 2007.
[2] ND = No data were reported for total herbicide applied per year (lb), although the available data indicated that the herbicide was applied in Montana (Great Plains).

Table G- 5. Herbicide Applications to Conventional Sugar Beet Acres in Nebraska (Great Plains Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clethodim	Select®	1	41%	1	0.09	0.09	3,000
Clopyralid	Stinger®	4	66%	1.8	0.08	0.04	4,000
Cycloate	Ro-Neet™	8	17%	1	1.72	1.72	23,000
Desmedipham	Betanex®	5	90%	2	0.15	0.08	11,000
Ethofumesate	Nortron®	8	70%	1.2	0.22	0.18	12,000
Phenmedipham	Betamix®	5	86%	2	0.15	0.07	10,000
Sethoxydim	Poast® II	1	3%	1	0.16	0.16	ND[2]
Triflusulfuron-methyl	Upbeet®	2	70%	2	0.02	0.01	1,000

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).
[1] Source: Heap, 2011; WSSA, 2007.
[2] ND = No data were reported for total herbicide applied per year (lb), although the available data indicated that the herbicide was applied in Nebraska (Great Plains Region).

Table G- 6. Herbicide Applications to Conventional Sugar Beet Acres in Wyoming (Great Plains Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clethodim	Select®	1	35%	1.7	0.11	0.06	2,000
Clopyralid	Stinger®	4	71%	2.1	0.07	0.03	3,000
Cycloate	Ro-Neet™	8	15%	1	0.79	0.78	7,000
Desmedipham	Betanex®	5	86%	2.1	0.1	0.05	5,000
EPTC	Eptam®	8	12%	1	2.15	2.15	15,000
Ethofumesate	Nortron®	8	37%	1.1	0.17	0.15	4,000
Phenmedipham	Betamix®	5	78%	2.2	0.09	0.04	4,000
Triflusulfuron-methyl	Upbeet®	2	79%	2.1	0.02	0.009	1,000

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).
[1] Source: Heap, 2011; WSSA, 2007.

Table G- 7. Herbicide Applications to Conventional Sugar Beet Acres in North Dakota1 (Midwest Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[2]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clethodim	Select®	1	83%	2.9	0.11	0.04	24,000
Clopyralid	Stinger®	4	85%	3.1	0.1	0.03	22,000
Desmedipham	Betanex®	5	98%	3.3	0.21	0.06	54,000
Ethofumesate	Nortron®	8	32%	2.5	0.12	0.05	10,000
Glyphosate	(Several)	9	9%	1	0.67	0.64	16,000
Phenmedipham	Betamix®	5	75%	3	0.14	0.05	28,000
Quizalofop-p-ethyl	Assure® II	1	8%	1.4	0.06	0.04	1,000
Sethoxydim	Poast®	1	4%	3.4	0.21	0.06	2,000
Triflusulfuron-methyl	Upbeet®	2	87%	3.2	0.02	0.006	4,000

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).

[1] For North Dakota in 2000, 242,400 acres of sugar beets were planted in eastern North Dakota and 15,600 acres were planted in the two western counties (Williams and McKenzie). The NASS herbicide usage database does not break out by county, so North Dakota data were grouped with the Midwest region.

[2] Source: www.weedscience.org; www.hracglobalcom.

Table G- 8. Herbicide Applications to Conventional Sugar Beet Acres in Minnesota (Midwest Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clethodim	Select®	1	75%	2.6	0.04	0.1	38,000
Clopyralid	Stinger®	4	95%	3.2	0.03	0.1	46,000
Desmedipham	Betanex®	5	100%	3.3	0.07	0.25	121,000
Ethofumesate	Nortron®	8	20%	2.1	0.04	0.08	8,000
Glyphosate	(Several)	9	4%	1	0.5	0.5	10,000
Phenmedipham	Betamix®	5	70%	3	0.05	0.15	52,000
Quizalofop-p-ethyl	Assure® II	1	9%	1.4	0.04	0.06	3,000
Sethoxydim	Poast®	1	16%	1.7	0.16	0.28	21,000
Trifluralin	Treflan® HFP	3	6%	1	0.84	0.84	23,000
Triflusulfuron-methyl	Upbeet®	2	94%	3.3	0.007	0.02	10,000

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).

[1] Source: www.weedscience.org; www.hracglobalcom.

Table G- 9. Herbicide Applications to Conventional Sugar Beet Acres in Idaho (Northwest Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clopyralid	Stinger®	4	62%	2.2	0.07	0.03	9,000
Cycloate	Ro-Neet™	8	13%	1	2.39	2.39	65,000
Desmedipham	Betanex®	5	100%	2.9	0.13	0.04	28,000
EPTC	Eptam®	8	20%	1	2.93	2.93	125,000
Ethofumesate	Nortron®	8	94%	2.7	0.12	0.05	25,000
Glyphosate	(Several)	9	24%	1	0.4	0.39	20,000
Phenmedipham	Betamix®	5	100%	2.9	0.13	0.04	28,000
Quizalofop-p-ethyl	Assure® II	1	23%	2	0.07	0.03	3,000
Sethoxydim	Poast®	1	13%	1	0.26	0.24	7,000
Trifluralin	Treflan® HFP	3	9%	1	0.5	0.5	10,000
Triflusulfuron-methyl	Upbeet®	2	84%	2.6	0.04	0.02	7,000

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).
[1] Source: www.weedscience.org; www.hracglobalcom.

Table G- 10. Herbicide Applications to Conventional Sugar Beet Acres in Oregon (Northwest Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clopyralid	Stinger®	4	58%	2.6	0.09	0.03	1,000
Desmedipham	Betanex®	5	89%	2.8	0.15	0.05	2,000
EPTC	Eptam®	8	15%	1.3	3.79	2.75	9,000
Ethofumesate	Nortron®	8	31%	2.9	0.2	0.07	1,000
Glyphosate	(Several)	9	39%	1	0.45	0.45	3,000
Phenmedipham	Betamix®	5	89%	2.8	0.15	0.05	2,000
Quizalofop-p-ethyl	Assure® II	1	10%	1	0.07	0.07	ND[2]
Trifluralin	Treflan® HFP	3	27%	1	0.55	0.55	2,000
Triflusulfuron-methyl	Upbeet®	2	88%	2.6	0.03	0.01	ND

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).
[1] Source: www.weedscience.org; www.hracglobalcom.
[2] ND = No data were reported for total herbicide applied per year (lb), although the available data indicated that the herbicide was applied in Oregon (Northwest).

Table G- 11. Herbicide Applications to Conventional Sugar Beet Acres in Washington (Northwest Region), 2000

Agricultural Chemical (Herbicide)	Trade Name (typical)	WSSA Mechanism of Action Group No.[1]	Acreage Treated (%)	No. of Applications per Year	Rate per Application (lb/app./acre)	Rate per Acre (lb/acre)	Total Applied per Year (lb)
Clethodim	Select®	1	41%	1.9	0.24	0.12	3,000
Cycloate	Ro-Neet™	8	32%	1	1.57	1.57	14,000
Desmedipham	Betanex®	5	83%	2.6	0.21	0.08	5,000
EPTC	Eptam®	8	38%	1	2.11	2.11	22,000
Ethofumesate	Nortron®	8	57%	1.5	0.28	0.17	5,000
Phenmedipham	Betamix®	5	83%	2.6	0.2	0.07	5,000
Triflusulfuron-methyl	Upbeet®	2	80%	2.4	0.03	0.01	1,000

Pesticide Usage Source: National Agriculture Statistics Service, Agricultural Chemical Use Database (http://www.pestmanagement.info/nass/app_usage.cfm).
[1] Source: www.weedscience.org; www.hracglobalcom.