

ATTACHMENT B

EPA MEMORANDUM: NATIONAL AND STATE SUMMARY USE AND USAGE MATRIX

1. Updated Telone (1,3-Dichloropropene) (029001) August 25, 2020
2. Metolachlor (108801) April 30, 2020
3. S-Metolachlor (108800) April 30, 2020



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

August 25, 2020

MEMORANDUM

SUBJECT: Updated Telone (1,3-Dichloropropene) (029001) National and State Summary Use and Usage Matrix

FROM: Lindsey Hendrick, Biologist
Science Information and Analysis Branch
Biological and Economic Analysis Division (7503P)
Office of Pesticide Programs

A handwritten signature in black ink, appearing to read "L. Hendrick", is positioned to the right of the "FROM" field.

THRU: Hope Johnson, Branch Chief
Science Information and Analysis Branch
Biological and Economic Analysis Division (7503P)
Office of Pesticide Programs

A handwritten signature in black ink, appearing to read "H. Johnson", is positioned to the right of the "THRU" field.

TO: Cathy Tortorici, Division Chief
ESA Interagency Cooperation Division
Office of Protected Resources
National Oceanic and Atmospheric Administration- National Marine Fisheries Service

Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix

(August 25, 2020)

Introduction

This document contains national and state-level use and usage data on Telone® (1,3-Dichloropropene), an insecticide, fumigant, and nematicide registered for control of various pest species in food and feed crops and turf. National-level agricultural data are presented in Figure 1 and Table 1; state-level agricultural data are presented in Table 2; national-level non-agricultural data are presented in Table 3.

The Environmental Protection Agency (EPA) has been working with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) to develop a method for assessing the risks of pesticides to endangered and threatened species. Given that many listed species range over large areas, it is necessary to consider use of pesticides on a landscape scale, rather than simply a field or a small watershed. One consideration involves the percent of the crop in a given area (relevant to a listed species' range) that is treated with a pesticide. There are uncertainties in extrapolating from national level usage data to regional and state level ranges of protected species. In particular, national level data does not distinguish if there are areas of a species' range where usage is greater or less than the average national usage.

The intended use of the data presented here is to inform assumptions about how Telone is used in the United States and the extent, variability, and rate of that usage at the state-level. Pesticide usage data are not reported below the state-level; usage data at smaller levels may not be statistically valid due to reduced sample size. Extent and variability of usage at the state level are presented using minimum, maximum, and average percent crop treated (PCT) over the five-year observation period (Table 2). PCT is calculated as the percent of the acres grown for a crop (CAG) that are treated with Telone. Additionally, the data may inform assumptions about crops and states where Telone is likely not being used, by identifying crops that are surveyed but where usage is not observed during the observation period. The state-level estimates of pesticide usage presented here (especially PCT) can be used to inform estimates of the proportion of a species range that may be exposed to Telone. Please note that for some crops the California percent crop treated (PCT) estimates in Table 2 have been calculated using the PUR estimate for base acres treated (BAT) divided by the crop acres grown (CAG) estimate from the California Agricultural Statistics Review (CASR), California County Agricultural Commissioner' Reports (CCACR), or USDA Census of Agriculture. CASR provides the primary estimate of CAG where available. In instances where a CASR does not provide a CAG estimate, CCACR is used as the secondary source of CAG in determining PCT for Telone usage.

The pesticide usage data summarized herein were obtained from both public and private (proprietary) sources. As presented, the data are not proprietary, business confidential, or a trade secret. The most recent five years of available data as of December 2019 from each source were used in order to represent current usage and the most recent use trend. Additionally, Figure 1 presents the Telone usage trend for the 1999-2018 reporting period.

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Data Sources

- **Kynetec USA, Inc. The AgroTrak Study, Database Subset (Kynetec)** – proprietary pesticide usage data. These data are collected and sold by a private market research firm. The data are collected by annual surveys of agricultural users in the continental United States and provides pesticide usage data for about 60 crops, including both specialty and row crops. The survey design targets at least 80 percent of US acreage/production of the surveyed commodities. Survey methodology provides statistically valid results, typically at the state and national level.
- **United States Department of Agriculture’s National Agricultural Statistics Service (NASS)** – publicly available pesticide usage data. NASS data are based on surveys that focus on the top-producing states that together account for the majority of U.S. acres or production of the surveyed commodity. NASS survey design targets a minimum of 80 percent of the acreage/production for every fruit, vegetable, and field crop surveyed. Operation level data are combined during summary and, pending compliance with disclosure rules, published at the state and national levels. NASS does not collect data annually for each crop, but surveys for various commodities on a rotating schedule.
- **California Department of Pesticide Regulation (CADPR) Pesticide Use Reporting (PUR)** – publicly available pesticide usage data. The PUR database contains detailed records and summaries of agricultural applications of pesticides on crops based on application permits. All agricultural growers must submit their production agricultural pesticide use reports monthly and pest control businesses must submit pesticide use reports within 7 days after application. As such, CADPR data is a census of all usage rather than a survey. The Pesticide Use Summary reports are published annually.
- **California Agricultural Statistics Review (CASR)** – publicly available California crop production data. CASR data are used as the primary source for CAG data when calculating PCT estimates for California crops and based on acres planted.
- **California County Agricultural Commissioners’ Report (CCACR)** – publicly available California crop production data. CCACR data are used as a secondary source to calculate California crop PCT estimates in instances where CASR data are not available. PCT estimates using CCACR data are based on acres harvested.
- **Non-Agricultural Market Research Data (NMRD)** - Proprietary data source that provides market research data for agrochemicals/specialty pesticides for various market sectors, including professional turf and ornamental plants, professional pest control, consumer pesticides, and vegetation management. Market reports reflect usage by class/market segment and chemical and are based on sales information (manufacturer and retail) and end-user surveys. Study dates vary by market sector.

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Data Presentation

The presented usage data are averaged over the number of years of available survey data during the most recent five years of available data, based on sampling frequency (five years for Kynetec and CADPR, and 1-2 years for NASS and NMRD), regardless of whether usage is observed in each surveyed year. The presented data may thus underestimate the maximum yearly usage. For crops with less than 80% California production, Kynetec is the primary source of usage data. Kynetec is the primary data source as it collected annually and tends to provide the most robust usage data among the available data sources. NASS data are used for crops which are not surveyed by Kynetec data. The presented data may not be a reliable indicator of the variability in usage between individual years. In certain cases, data are unavailable or withheld. These cases are specified in the tables as follows:

- Some data sources do not provide all data elements. When a data element is not available, this is indicated with a “NA” notation in the relevant column.
- In some cases, not enough samples are available to establish a robust average. This is indicated with the notation “Insufficient number of reports to establish an estimate”. Generally, this indicates that the chemical is only periodically used by a small number of users.
- If a registered use site is surveyed by one of our data sources but no usage is observed, this is indicated with the notation “Surveyed but no usage reported” across the data columns. Generally, the lack of reported usage data for the pesticide on a surveyed crop indicates that there is a very low likelihood that the given pesticide is used on that crop.

If a registered use site is not surveyed nationally by any of our data sources, this is indicated with the notation “Not Surveyed at National Level” across the data columns.

Variables are rounded as follows:

- **Average pounds of active ingredient applied and average total acres treated**– Annual average pounds of the pesticide applied and total acres treated are reported for each agricultural crop (i.e., **for surveyed states**, not for the entire United States). Values are calculated by averaging within years, averaging across years, and then rounding. Any surveyed year without reported usage for the AI is included as a value of zero pounds applied in the calculation of the average. Values are rounded using common rounding rules (i.e., the half round up method). ***Note:** If the estimated value is less than 500, then that value is labeled <500. Estimated values between 500 & <1,000,000 are rounded to 1 place value. Estimated values of 1,000,000 or greater are rounded to the hundred thousands’ place value.* (Examples: 478 would be reported as “<500”; 43,873 would be reported as “40,000”; 47,873,901 would be reported as “47,900,000”)
- **Average percent of crop treated** - Values are calculated by averaging within years, averaging across years, and then rounding to the nearest multiple of 5. ***Note:** If the*

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estimated value is less than 1, then the value is labeled <1. If the estimated value is less than 2.5, then the value is labeled <2.5.

- **Maximum percent of crop treated** - Value is the single maximum annual average value reported across all years. The value is **rounded up** to the nearest multiple of 5. **Note:** *If the estimated value is less than 2.5, then the value is labeled <2.5.*

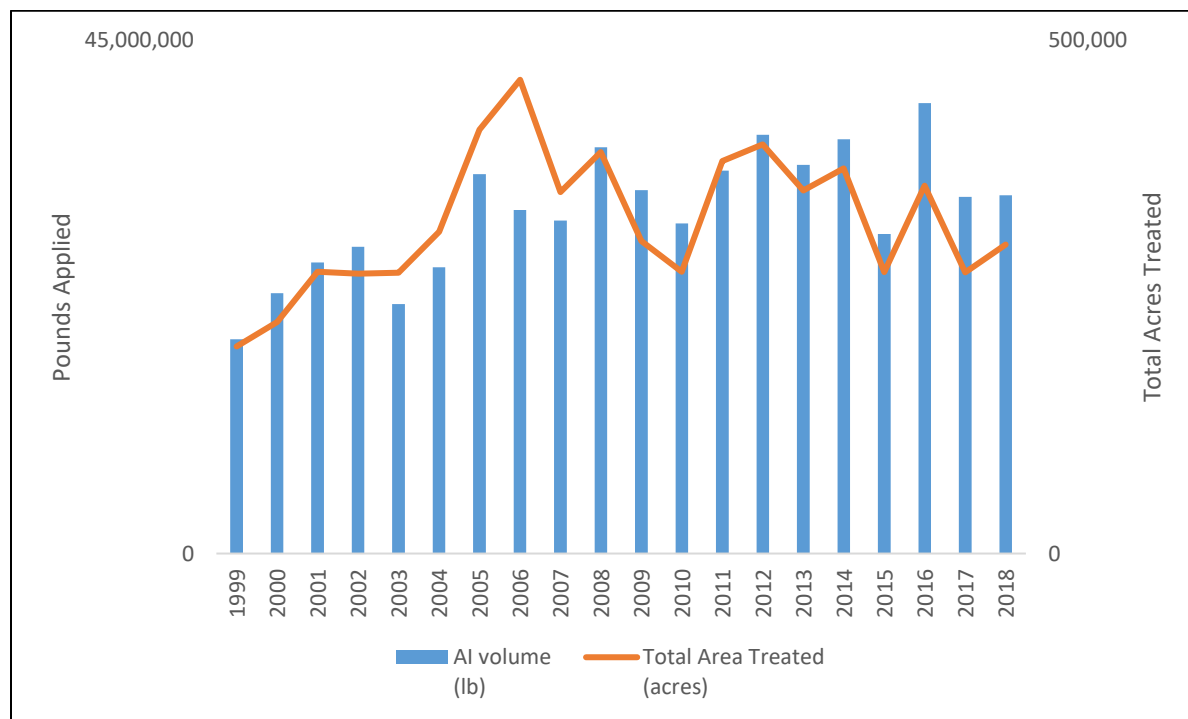
Summary

Nationally, agricultural Telone usage has remained relatively stable since 1999 (Figure 1). During the most recent five years of available survey data (2014 - 2018), an annual average of approximately 37,000,000 pounds of Telone were applied to an approximate average of 300,000 acres of agricultural crops (Table 1) in 17 states (Table 2). Approximately 75% of the pounds of Telone applied agriculturally are to potatoes (50%), tobacco (10%), peanuts (10%), and strawberries (5%). In terms of total acres treated, approximately 75% of the acres treated with Telone are for potatoes (35%), tobacco (15%), peanuts (10%), cotton (10%), and strawberries (5%). Further information on national usage of Telone by crop is available in Table 1. While the majority of Telone is applied to three crops, examination of the percent of individual crops grown by state that are treated with Telone indicates that it is an important pest control tool for certain crops in certain states. Further information on percent of crops treated with Telone by state is available in Table 2.

Agricultural Usage

Figure 1: Telone Total Acres Treated and Total Pounds A.I. Applied (1999-2018).

Source: Kynetec 1999-2018.



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Table 1. National Telone Agricultural Usage by Crop (Data averaged over reported years. Reported average annual pounds AI applied and total acres treated values are rounded according to rounding rules provided in the Introduction.)

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate	Max Labeled Single AI Rate ^c
						(lb AI/A)	(lb AI/A)
Field Crops	See individual crops below.						580.29
Alfalfa	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Barley	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Canola	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Corn	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Cotton	Kynetec (2014-2018)	AL, AR, FL, GA, SC, TX	1,100,000	40,000	0	29.61	580.29
Oats	NASS (2015)	Surveyed but no usage reported					580.29
Pasture	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Peanuts	Kynetec (2014-2018)	AL, FL, GA, NC, SC, VA	2,700,000	40,000	0	76.51	580.29
Potatoes	Kynetec (2014-2018)	CA, CO, FL, ID, MT, NC, OR, WA	17,100,000	100,000	0	148.19	580.29
Rice	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Sorghum	Kynetec (2014-2018)	Surveyed but no usage reported					580.29

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Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate	Max Labeled Single AI Rate ^c
						(lb AI/A)	(lb AI/A)
Soybean	Kynetec (2014-2018)	AR	50,000	3,000	0	20.52	580.29
Sugar Beets	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Sugarcane	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Sunflower	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Tobacco	Kynetec (2014-2018)	GA, NC, SC, VA	3,600,000	40,000	0	76.43	580.29
Wheat (Spring)	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Wheat (Winter)	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Other (Rye, Sweet Potato, etc.)	Not surveyed at national level						580.29
Fruits	See individual crops below.						580.29
Apples	Kynetec (2014-2018)	WA	4,000	<500	0	151.06	580.29
Apricots	CADPR (2013-2017)	CA	8,000	<500	0	265.95	580.29
Avocados	NASS (2015, 2017)	Surveyed but no usage reported					580.29
Blueberries	NASS (2015, 2017)	Surveyed but no usage reported					580.29

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						(lb AI/A)	(lb AI/A)
Caneberries	Kynetec (2014-2018)	CA	60,000	<500	0	117.52	580.29
Cherries	Kynetec (2014-2018)	CA, MI, WA	50,000	<500	0	252.42	580.29
Dates	NASS (2015, 2017)	Surveyed but no usage reported					580.29
Figs	CADPR (2013-2017)	CA	3,000	<500	0	133.28	580.29
Grapes, Raisin and Table	CADPR (2013-2017)	CA	600,000	2,000	0	329.97	580.29
Grapes, Wine	CADPR (2013-2017)	CA	400,000	1,000	0	331.87	580.29
Grapefruit	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Kiwifruit	CADPR (2013-2017)	CA	<500	<500	0	65.40	580.29
Lemons	CADPR (2013-2017)	CA	20,000	<500	0	199.53	580.29
Nectarines	CADPR (2013-2017)	CA	50,000	<500	0	330.78	580.29
Olives	CADPR (2013-2017)	CA	4,000	<500	0	65.53	580.29
Oranges	Kynetec (2014-2018)	CA	30,000	<500	0	272.00	580.29

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						(lb AI/A)	(lb AI/A)
Peaches	Kynetec (2014-2018)	AL, CA, SC	50,000	<500	0	267.84	580.29
Pears	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Plums	CADPR (2013-2017)	CA	30,000	<500	0	264.35	580.29
Pomegranates	CADPR (2013-2017)	CA	<500	<500	0	65.96	580.29
Prunes	CADPR (2013-2017)	CA	100,000	<500	0	333.48	580.29
Strawberries	Kynetec (2014-2018)	CA, FL	2,400,000	20,000	0	131.64	580.29
Tangelo	NASS (2015, 2017)	Surveyed but no usage reported					580.29
Tangerines	NASS (2015, 2017)	CA	D	D	NA	D	580.29
Other (Pineapple, Persimmon, etc.)	Not surveyed at national level						580.29
Nursery Crops**	Not surveyed at national level						580.29
Tree Nuts	<i>See individual crops below.</i>						580.29
Almonds	CADPR (2013-2017)	CA	2,300,000	7,000	0	333.14	580.29
Hazelnuts (Filbert)	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Pecans	Kynetec (2014-2018)	Surveyed but no usage reported					580.29

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Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate	Max Labeled Single AI Rate ^c
						(lb AI/A)	(lb AI/A)
Pistachios	CADPR (2013-2017)	CA	10,000	<500	0	199.12	580.29
Walnuts	CADPR (2013-2017)	CA	500,000	2,000	0	333.45	580.29
Other	Not surveyed at national level						580.29
Vegetables	See individual crops below.						580.29
Artichoke (Globe)	CADPR (2013-2017)	CA	<500	<500	0	51.52	580.29
Asparagus	Kynetec (2014-2018)	CA, MI	20,000	<500	0	85.84	580.29
Beans (Succulent)	See individual crops below						580.29
Beans (Lima)	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Dried Shelled Peas and Beans (except Soybean)	See individual crops below						580.29
Beans (Dry)	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	FL	50,000	1,000	0	79.05	580.29
Broccoli	Kynetec (2014-2018)	CA	100,000	2,000	0	75.95	580.29
Brussels Sprouts	CADPR (2013-2017)	CA	200,000	2,000	0	91.16	580.29

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						(lb AI/A)	(lb AI/A)
Cabbage	Kynetec (2014-2018)	CA	50,000	1,000	0	75.95	580.29
Carrots	Kynetec (2014-2018)	CA, WA	1,600,000	10,000	0	105.01	580.29
Cauliflower	Kynetec (2014-2018)	CA	30,000	<500	0	75.95	580.29
Celery	CADPR (2013-2017)	CA	<500	<500	0	39.63	580.29
Cucumbers	Kynetec (2014-2018)	FL, GA, NC	400,000	5,000	0	82.25	580.29
Eggplant	NASS (2014)	Surveyed but no usage reported					580.29
Garlic	Kynetec (2014-2018)	CA	40,000	1,000	0	75.95	580.29
Lettuce	Kynetec (2014-2018)	CA	1,000	<500	0	85.45	580.29
Melons	<i>See individual crops below.</i>						580.29
Cantaloupe	Kynetec (2014-2018)	AZ, CA, GA, NC, TX	60,000	1,000	0	65.78	580.29
Honeydew	CADPR (2013-2017)	CA	10,000	<500	0	35.67	580.29
Watermelon	Kynetec (2014-2018)	CA, FL, GA, NC	300,000	3,000	0	91.49	580.29
Other Melons	Not surveyed at national level						580.29
Onions	Kynetec (2014-2018)	CA, CO, ID, OR, WA	400,000	3,000	0	160.36	580.29

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Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate	Max Labeled Single AI Rate ^c
						(lb AI/A)	(lb AI/A)
Peas	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Peppers	Kynetec (2014-2018)	CA, FL, GA, NM, NC	1,200,000	10,000	0	78.90	580.29
Pumpkins	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Spinach	Kynetec (2014-2018)	Surveyed but no usage reported					580.29
Squash	Kynetec (2014-2018)	FL, GA, NC, SC	200,000	3,000	0	95.96	580.29
Sweet Corn	Kynetec (2014-2018)	FL	10,000	<500	0	63.31	580.29
Tomato	Kynetec (2014-2018)	CA, FL	1,200,000	10,000	0	105.44	580.29
Other (Beets, Daikon, Kale, Leek, Parsley, Chinese Cabbage, etc.)	Not surveyed at national level						580.29
Miscellaneous	See individual crops below.						
Mint	Not surveyed at national level						355.18
Other (Safflower, etc.)	Not surveyed at national level						580.29

Notes	
Kynetec (YEAR-YEAR)	Agricultural usage surveyed by market research firm(s)
NASS (YEAR-YEAR)	Surveyed by United States Department of Agriculture's National Agricultural Statistics Service, and Year(s) of data included

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CADPR (YEAR-YEAR)	Surveyed by California's Department of Pesticide Regulation, and Year(s) of data included
**	The maximum application rate for nursery crops is given in registration 11220-20, in which nursery crops is not explicitly defined. US EPA has previously characterized nurseries in this way: "Nursery producers provide pest-free stock plants that are used for the establishment of orchards and gardens. Nurseries in this sector provide plants to commercial growers of fresh and processed raspberries, rose bush stock plants, strawberry transplants and such diverse fruit crops as apricots, peaches, prunes, nectarines, cherries, plums, apples, pears, Asian pears, and ornamental pears. Nut trees produced by these nurseries include almonds, walnuts, pistachios, pecans, and chestnuts."
a	The pounds AI displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
b	Total Acres Treated accounts for multiple applications to a single area. This may overestimate the number of acres treated as some acres are treated more than once.
c	Max labeled rate from 2020 Telone Pesticide Label Use Summary (PLUS) Report
D	Data withheld by NASS to avoid disclosing data for individual operations
NA	Not available from source

Table 2. Telone Agricultural Usage by Crop and State (Data averaged over reported years. Reported average annual crop acres grown, total pounds applied, and PCT values are rounded according to rounding rules provided in the Introduction.)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Alfalfa (Forage and Hay)	Kynetec (2014-2018)	AZ	300,000	Surveyed but no usage reported			
		CO	700,000	Surveyed but no usage reported			
		ID	1,100,000	Surveyed but no usage reported			
		IL	300,000	Surveyed but no usage reported			
		IN	200,000	Surveyed but no usage reported			

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Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Alfalfa (Forage and Hay)	Kynetec (2014-2018)	IO	800,000	Surveyed but no usage reported			
		KS	600,000	Surveyed but no usage reported			
		KY	200,000	Surveyed but no usage reported			
		MI	600,000	Surveyed but no usage reported			
		MN	1,000,000	Surveyed but no usage reported			
		MO	300,000	Surveyed but no usage reported			
		MT	1,800,000	Surveyed but no usage reported			
		NE	800,000	Surveyed but no usage reported			
		NV	100,000	Surveyed but no usage reported			
		NM	100,000	Surveyed but no usage reported			
		NY	300,000	Surveyed but no usage reported			
		ND	1,500,000	Surveyed but no usage reported			
		OH	300,000	Surveyed but no usage reported			
		OK	300,000	Surveyed but no usage reported			
		OR	400,000	Surveyed but no usage reported			
		PA	400,000	Surveyed but no usage reported			
		SD	1,800,000	Surveyed but no usage reported			
		TX	100,000	Surveyed but no usage reported			
		UT	500,000	Surveyed but no usage reported			
		VA	100,000	Surveyed but no usage reported			
		WA	400,000	Surveyed but no usage reported			
		WI	1,100,000	Surveyed but no usage reported			
		WY	500,000	Surveyed but no usage reported			

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Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Alfalfa (Forage and Hay)	CADPR and CASR (2013-2017)	<i>See individual sites below</i>	1,600,000	1,000	*	*	*
Forage (as Greenchop)	CADPR and CASR (2013-2017)	CA (2%) ⁺	800,000	NA	*	*	*
Hay	CADPR and CASR (2013-2017)	CA (4%) ⁺	800,000	NA	*	*	*
Almonds	CADPR and CASR (2013-2017)	CA (100%) ⁺	900,000	2,300,000	*	*	*
Apples	Kynetec (2014-2018)	MI	40,000	Surveyed but no usage reported			
		NY	50,000	Surveyed but no usage reported			
		NC	3,000	Surveyed but no usage reported			
		OH	2,000	Surveyed but no usage reported			
		OR	2,000	Surveyed but no usage reported			
		PA	20,000	Surveyed but no usage reported			
		VA	10,000	Surveyed but no usage reported			
		WA	200,000	4,000	0	<2.5	<1
		WV	2,000	Surveyed but no usage reported			
Apples	CADPR and CASR (2013-2017)	CA (4%) ⁺	10,000	10,000	*	*	*

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Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Apricots	CADPR and CASR (2013-2017)	CA (85%) ⁺	9,000	8,000	0	<2.5	<1
Apricots	NA	Other States	Not surveyed at the state level				
Artichoke (Globe)	CADPR and CASR (2013-2017)	CA (98%) ⁺	7,000	<500	*	*	*
Artichoke (Globe)	NA	Other States	Not surveyed at the state level				
Asparagus	Kynetec (2014-2018)	CA	9,000	10,000	<1	10	<2.5
		MI	10,000	4,000	0	<2.5	<1
		WA	3,000	Surveyed but no usage reported			
Avocados	CADPR and CASR (2013-2017)	CA (89%)+	50,000	Surveyed but no usage reported			
Avocados	NA	Other States	Not surveyed at the state level				
Barley	Kynetec (2014-2018)	CA	80,000	Surveyed but no usage reported			
		CO	60,000	Surveyed but no usage reported			
		ID	600,000	Surveyed but no usage reported			
		MN	90,000	Surveyed but no usage reported			
		MT	900,000	Surveyed but no usage reported			
		ND	600,000	Surveyed but no usage reported			
		OR	50,000	Surveyed but no usage reported			
		PA	60,000	Surveyed but no usage reported			
		SD	20,000	Surveyed but no usage reported			
		UT	30,000	Surveyed but no usage reported			
		VA	40,000	Surveyed but no usage reported			
		WA	100,000	Surveyed but no usage reported			
		WY	80,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Beans (Succulent)	See individual crops below						
Beans (Lima)	Kynetec (2014-2018)	CA	6,000	Surveyed but no usage reported			
		DE	9,000	Surveyed but no usage reported			
		IL	2,000	Surveyed but no usage reported			
		MD	1,000	Surveyed but no usage reported			
		SC	<500	Surveyed but no usage reported			
		WA	2,000	Surveyed but no usage reported			
		WI	5,000	Surveyed but no usage reported			
Dried Shelled Peas and Beans (except Soybean)	See individual crops below						
Beans (Dry)	Kynetec (2014-2018)	CA	50,000	Surveyed but no usage reported			
		CO	50,000	Surveyed but no usage reported			
		ID	200,000	Surveyed but no usage reported			
		MI	200,000	Surveyed but no usage reported			
		MN	200,000	Surveyed but no usage reported			
		MT	800,000	Surveyed but no usage reported			
		NE	200,000	Surveyed but no usage reported			
		NY	5,000	Surveyed but no usage reported			
		ND	1,200,000	Surveyed but no usage reported			
		TX	20,000	Surveyed but no usage reported			
		WA	300,000	Surveyed but no usage reported			
		WY	20,000	Surveyed but no usage reported			
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	FL	30,000	50,000	0	10	<2.5
		GA	7,000	Surveyed but no usage reported			
		IL	10,000	Surveyed but no usage reported			
		IN	1,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	MI	20,000	Surveyed but no usage reported			
		NY	30,000	Surveyed but no usage reported			
		NC	2,000	Surveyed but no usage reported			
		OR	10,000	Surveyed but no usage reported			
		PA	9,000	Surveyed but no usage reported			
		TN	9,000	Surveyed but no usage reported			
		TX	1,000	Surveyed but no usage reported			
		WI	70,000	Surveyed but no usage reported			
Beans (Snap, Bush, Pole, String)	CADPR and CASR (2013-2017)	CA (Dry excluding lima and chickpea: 1%, Dry lima: 89%, Snap: 3%, Green lima: 8%) ⁺	6,000	2,000	*	*	*
Beets (Garden)	CADPR and CCACR (2013-2017)	CA (15%) ⁺	1,000	4,000	*	*	*
Beets (Garden)	NA	Other States	Not surveyed at the state level				
Bitter Melon	CADPR (2013-2017)	CA ^b	NA	<500	*	*	*
Bitter Melon	NA	Other States	Not surveyed at the state level				
Blueberry	NASS (2015, 2017)	AL	1,000	Surveyed but no usage reported			
		AK	D	Surveyed but no usage reported			
		AZ	<500	Surveyed but no usage reported			
		AR	<500	Surveyed but no usage reported			
		CO	<500	Surveyed but no usage reported			
		CT	<500	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Blueberry	NASS (2015, 2017)	DE	<500	Surveyed but no usage reported			
		FL	7,000	Surveyed but no usage reported			
		GA	20,000	Surveyed but no usage reported			
		ID	<500	Surveyed but no usage reported			
		IL	<500	Surveyed but no usage reported			
		IN	1,000	Surveyed but no usage reported			
		IO	<500	Surveyed but no usage reported			
		KS	<500	Surveyed but no usage reported			
		KY	<500	Surveyed but no usage reported			
		LA	<500	Surveyed but no usage reported			
		ME	40,000	Surveyed but no usage reported			
		MD	<500	Surveyed but no usage reported			
		MA	1,000	Surveyed but no usage reported			
		MI	20,000	Surveyed but no usage reported			
		MN	<500	Surveyed but no usage reported			
		MS	2,000	Surveyed but no usage reported			
		MO	<500	Surveyed but no usage reported			
		MT	<500	Surveyed but no usage reported			
		NE	<500	Surveyed but no usage reported			
		NV	D	Surveyed but no usage reported			
		NH	1,000	Surveyed but no usage reported			
		NJ	10,000	Surveyed but no usage reported			
		NM	<500	Surveyed but no usage reported			
		NY	2,000	Surveyed but no usage reported			
		NC	10,000	Surveyed but no usage reported			
		ND	Z	Surveyed but no usage reported			
		OH	<500	Surveyed but no usage reported			
		OK	<500	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Blueberry	NASS (2015, 2017)	OR	10,000	Surveyed but no usage reported			
		PA	1,000	Surveyed but no usage reported			
		RI	<500	Surveyed but no usage reported			
		SC	1,000	Surveyed but no usage reported			
		SD	<500	Surveyed but no usage reported			
		TN	<500	Surveyed but no usage reported			
		TX	1,000	Surveyed but no usage reported			
		UT	D	Surveyed but no usage reported			
		VT	<500	Surveyed but no usage reported			
		VA	1,000	Surveyed but no usage reported			
		WA	10,000	Surveyed but no usage reported			
		WV	<500	Surveyed but no usage reported			
		WI	<500	Surveyed but no usage reported			
Blueberry	CADPR and CASR (2013-2017)	CA (5%) ⁺	6,000	10,000	*	*	*
Broccoli	Kynetec (2014-2018)	CA	100,000	100,000	<1	5	<2.5
Brussels Sprouts	CADPR and CCACR (2013-2017)	CA (85%) ⁺	4,000	200,000	*	*	*
Brussels Sprouts	NA	Other States	Not surveyed at the state level				
Cabbage	Kynetec (2014-2018)	AZ	1,000	Surveyed but no usage reported			
		CA	10,000	50,000	<2.5	10	5
		CO	<500	Surveyed but no usage reported			
		FL	7,000	Surveyed but no usage reported			
		GA	4,000	Surveyed but no usage reported			
		MI	4,000	Surveyed but no usage reported			
		NY	9,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Cabbage	Kynetec (2014-2018)	NC	3,000	Surveyed but no usage reported			
		TX	4,000	Surveyed but no usage reported			
		WI	5,000	Surveyed but no usage reported			
Caneberries	Kynetec (2014-2018)	CA	10,000	60,000	0	35	10
		OR	10,000	Surveyed but no usage reported			
		WA	5,000	Surveyed but no usage reported			
Canola	Kynetec (2014-2018)	MN	3,000	Surveyed but no usage reported			
		MT	70,000	Surveyed but no usage reported			
		ND	1,400,000	Surveyed but no usage reported			
		OK	100,000	Surveyed but no usage reported			
Cantaloupe	Kynetec (2014-2018)	AZ	20,000	20,000	0	10	<2.5
		CA	30,000	20,000	0	5	<1
		FL	3,000	Surveyed but no usage reported			
		GA	2,000	7,000	0	10	<2.5
		IN	<500	Surveyed but no usage reported			
		NC	1,000	5,000	0	20	5
		SC	<500	Surveyed but no usage reported			
		TX	2,000	2,000	0	10	<2.5
Carrots	Kynetec (2014-2018)	CA	70,000	1,000,000	10	20	15
		MI	4,000	Surveyed but no usage reported			
		WA	6,000	600,000	35	85	65
		WI	4,000	Surveyed but no usage reported			
Cauliflower	Kynetec (2014-2018)	AZ	2,000	Surveyed but no usage reported			
		CA	40,000	30,000	0	5	<2.5
Celery	Kynetec (2014-2018)	MI	1,000	Surveyed but no usage reported			
Celery	CADPR and CASR (2013-2017)	CA (81%) ⁺	30,000	<500	*	*	*

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Cherries	Kynetec (2014-2018)	CA	40,000	40,000	0	<2.5	<1
		MI	40,000	1,000	0	<2.5	<1
		OR	6,000	Surveyed but no usage reported			
		WA	40,000	6,000	0	<2.5	<1
Chinese Cabbage (Napa)	CADPR (2013-2017)	CA ^b	NA	30,000	*	*	*
Chinese Cabbage (Napa)	NA	Other States	Not surveyed at the state level				
Corn	Kynetec (2014-2018)	AL	300,000	Surveyed but no usage reported			
		AR	600,000	Surveyed but no usage reported			
		CO	1,300,000	Surveyed but no usage reported			
		DE	200,000	Surveyed but no usage reported			
		GA	400,000	Surveyed but no usage reported			
		ID	300,000	Surveyed but no usage reported			
		IL	11,500,000	Surveyed but no usage reported			
		IN	5,600,000	Surveyed but no usage reported			
		IO	13,600,000	Surveyed but no usage reported			
		KS	4,700,000	Surveyed but no usage reported			
		KY	1,400,000	Surveyed but no usage reported			
		LA	500,000	Surveyed but no usage reported			
		MD	500,000	Surveyed but no usage reported			
		MI	2,500,000	Surveyed but no usage reported			
		MN	8,200,000	Surveyed but no usage reported			
		MS	600,000	Surveyed but no usage reported			
		MO	3,400,000	Surveyed but no usage reported			
		NE	9,600,000	Surveyed but no usage reported			
		NM	100,000	Surveyed but no usage reported			
		NY	1,100,000	Surveyed but no usage reported			
		NC	900,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Corn	Kynetec (2014-2018)	ND	3,300,000	Surveyed but no usage reported			
		OH	3,600,000	Surveyed but no usage reported			
		OK	300,000	Surveyed but no usage reported			
		PA	1,400,000	Surveyed but no usage reported			
		SC	300,000	Surveyed but no usage reported			
		SD	5,400,000	Surveyed but no usage reported			
		TN	900,000	Surveyed but no usage reported			
		TX	2,400,000	Surveyed but no usage reported			
		VA	500,000	Surveyed but no usage reported			
		WA	200,000	Surveyed but no usage reported			
		WI	4,100,000	Surveyed but no usage reported			
		WY	90,000	Surveyed but no usage reported			
Corn (Forage-Fodder)	CADPR (2013-2017)	<i>See individual sites below</i>	500,000	4,000	*	*	*
as Grain		CA (<1%) ⁺	100,000	NA	*	*	*
as Silage		CA (7%) ⁺	400,000	NA	*	*	*
Corn (Forage-Fodder)	NA	Other States	Not surveyed at the state level				
Cotton	Kynetec (2014-2018)	AL	400,000	40,000	0	<2.5	<1
		AR	100,000	200,000	0	10	<2.5
		AK	400,000	Surveyed but no usage reported			
		FL	100,000	70,000	0	15	5
		GA	1,300,000	600,000	<1	5	<2.5
		KS	20,000	Surveyed but no usage reported			
		LA	200,000	Surveyed but no usage reported			
		MS	500,000	Surveyed but no usage reported			
		MO	300,000	Surveyed but no usage reported			
		NC	400,000	Surveyed but no usage reported			
		OK	400,000	Surveyed but no usage reported			
		SC	200,000	100,000	0	15	<2.5
		TN	300,000	Surveyed but no usage reported			
		TX	6,100,000	8,000	0	<2.5	<1

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Cotton	CADPR and CASR (2013-2017)	CA (3%) ⁺	200,000	20,000	*	*	*
Cucumbers	Kynetec (2014-2018)	CA	9,000	Surveyed but no usage reported			
		DE	2,000	Surveyed but no usage reported			
		FL	30,000	20,000	0	5	<1
		GA	9,000	90,000	0	45	15
		MD	<500	Surveyed but no usage reported			
		MI	40,000	Surveyed but no usage reported			
		MO	<500	Surveyed but no usage reported			
		NJ	1,000	Surveyed but no usage reported			
		NC	10,000	300,000	5	65	30
		SC	<500	Surveyed but no usage reported			
		TX	7,000	Surveyed but no usage reported			
		WA	<500	Surveyed but no usage reported			
		WI	6,000	Surveyed but no usage reported			
Dates	NASS (2015, 2017)	AZ	3,000	Surveyed but no usage reported			
		CA	6,000	Surveyed but no usage reported			
		TX	<500	Surveyed but no usage reported			
Daikon	CADPR (2013-2017)	CA (43%) ⁺	NA	<500	*	*	*
Daikon	NA	Other States	Not surveyed at the state level				
Eggplant	CADPR and CCACR (2013-2017)	CA (13%) ⁺	1,000	20,000	*	*	*

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Eggplant	NASS (2014)	AL	<500	Surveyed but no usage reported			
		AZ	<500	Surveyed but no usage reported			
		AR	<500	Surveyed but no usage reported			
		CO	<500	Surveyed but no usage reported			
		CT	<500	Surveyed but no usage reported			
		DE	<500	Surveyed but no usage reported			
		FL	1,000	Surveyed but no usage reported			
		GA	<500	Surveyed but no usage reported			
		HI	<500	Surveyed but no usage reported			
		ID	<500	Surveyed but no usage reported			
		IL	<500	Surveyed but no usage reported			
		IN	<500	Surveyed but no usage reported			
		IO	<500	Surveyed but no usage reported			
		KS	<500	Surveyed but no usage reported			
		KY	<500	Surveyed but no usage reported			
		LA	<500	Surveyed but no usage reported			
		ME	<500	Surveyed but no usage reported			
		MD	<500	Surveyed but no usage reported			
		MA	<500	Surveyed but no usage reported			
		MI	<500	Surveyed but no usage reported			
		MN	<500	Surveyed but no usage reported			
		MS	<500	Surveyed but no usage reported			
		MO	<500	Surveyed but no usage reported			
		MT	<500	Surveyed but no usage reported			
		NE	<500	Surveyed but no usage reported			
		NV	<500	Surveyed but no usage reported			
		NH	<500	Surveyed but no usage reported			
		NJ	1,000	Surveyed but no usage reported			
		NM	<500	Surveyed but no usage reported			
		NY	<500	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Eggplant	NASS (2014)	NC	<500	Surveyed but no usage reported			
		ND	D	Surveyed but no usage reported			
		OH	<500	Surveyed but no usage reported			
		OK	<500	Surveyed but no usage reported			
		OR	<500	Surveyed but no usage reported			
		PA	<500	Surveyed but no usage reported			
		RI	<500	Surveyed but no usage reported			
		SC	<500	Surveyed but no usage reported			
		SD	D	Surveyed but no usage reported			
		TN	<500	Surveyed but no usage reported			
		TX	D	Surveyed but no usage reported			
		UT	<500	Surveyed but no usage reported			
		VT	<500	Surveyed but no usage reported			
		VA	<500	Surveyed but no usage reported			
		WA	<500	Surveyed but no usage reported			
		WV	<500	Surveyed but no usage reported			
		WI	<500	Surveyed but no usage reported			
Figs	CADPR and CASR (2013-2017)	CA (92%) ⁺	7,000	3,000	0	<2.5	<1
Figs	NA	Other States	Not surveyed at the state level				
Garlic	Kynetec (2014-2018)	CA	30,000	40,000	0	5	<2.5

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Grapes	<i>See individual sites below</i>						
Grape, Table/Raisin	CADPR and CASR (2013-2017)	CA (all grapes: 92%) ⁺	300,000	600,000	<1	<2.5	<1
Grape, Table/Raisin	Kynetec (2014-2018)	NY	1,000	Surveyed but no usage reported			
Grape, Wine	CADPR and CASR (2013-2017)	CA (all grapes: 92%) ⁺	600,000	400,000	<1	<2.5	<1
Grape, Wine	Kynetec (2014-2018)	NY	7,000	Surveyed but no usage reported			
Grape, Wine	Kynetec (2014-2018)	WA	60,000	Surveyed but no usage reported			
Grapefruit	Kynetec (2014-2018)	FL	40,000	Surveyed but no usage reported			
		TX	7,000	Surveyed but no usage reported			
Grapefruit	CADPR and CASR (2013-2017)	CA (14%) ⁺	10,000	1,000	*	*	*
Hazelnuts (Filbert)	Kynetec (2014-2018)	OR	40,000	Surveyed but no usage reported			
Honeydew	NASS (2016, 2018)	AL	<500	Surveyed but no usage reported			
		AZ	<500	Surveyed but no usage reported			
		AR	-	Surveyed but no usage reported			
		CO	<500	Surveyed but no usage reported			
		CT	<500	Surveyed but no usage reported			
		DE	D	Surveyed but no usage reported			
		FL	-	Surveyed but no usage reported			
		GA	D	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Honeydew	NASS (2016, 2018)	HI	D	Surveyed but no usage reported			
		ID	-	Surveyed but no usage reported			
		IL	D	Surveyed but no usage reported			
		IN	<500	Surveyed but no usage reported			
		IO	<500	Surveyed but no usage reported			
		KS	D	Surveyed but no usage reported			
		KY	<500	Surveyed but no usage reported			
		LA	-	Surveyed but no usage reported			
		ME	D	Surveyed but no usage reported			
		MD	D	Surveyed but no usage reported			
		MA	<500	Surveyed but no usage reported			
		MI	<500	Surveyed but no usage reported			
		MN	D	Surveyed but no usage reported			
		MO	<500	Surveyed but no usage reported			
		MT	<500	Surveyed but no usage reported			
		NE	-	Surveyed but no usage reported			
		NV	-	Surveyed but no usage reported			
		NH	-	Surveyed but no usage reported			
		NJ	<500	Surveyed but no usage reported			
		NM	<500	Surveyed but no usage reported			
		NY	<500	Surveyed but no usage reported			
		NC	D	Surveyed but no usage reported			
		ND	D	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Honeydew	NASS (2016, 2018)	OH	<500	Surveyed but no usage reported			
		OK	-	Surveyed but no usage reported			
		OR	D	Surveyed but no usage reported			
		PA	<500	Surveyed but no usage reported			
		RI	D	Surveyed but no usage reported			
		SC	<500	Surveyed but no usage reported			
		SD	-	Surveyed but no usage reported			
		TN	<500	Surveyed but no usage reported			
		TX	1,000	Surveyed but no usage reported			
		UT	<500	Surveyed but no usage reported			
		VT	<500	Surveyed but no usage reported			
		VA	<500	Surveyed but no usage reported			
		WA	D	Surveyed but no usage reported			
		WV	D	Surveyed but no usage reported			
		WI	<500	Surveyed but no usage reported			
Honeydew	CADPR and CASR (2013-2017)	CA (81%) ⁺	10,000	10,000	0	5	5
Kale	CADPR and CCACR (2013-2017)	CA (46%) ⁺	6,000	<500	*	*	*
Kale	NA	Other States	Not surveyed at the state level				
Kiwifruit	CADPR and CASR (2013-2017)	CA (96%) ⁺	4,000	<500	0	<2.5	<1
Kiwifruit	NA	Other States	Not surveyed at the state level				
Leeks	CADPR and CCACR (2013-2017)	CA ^b	1,000	1,000	*	*	*
Leeks	NA	Other States	Not surveyed at the state level				

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Lemons	Kynetec (2014-2018)	AZ	3,000	Surveyed but no usage reported			
Lemons	CADPR and CASR (2013-2017)	CA (88%) ⁺	50,000	20,000	0	<2.5	<1
Lettuce	Kynetec (2014-2018)	AZ	70,000	Surveyed but no usage reported			
		CA	200,000	1,000	0	<2.5	<1
Peppermint	CADPR and CASR (2013-2017)	CA (2%) ⁺	2,000	Surveyed but no usage reported			
Peppermint	NA	Other States	Not surveyed at the state level				
Nectarines	NASS (2015, 2017)	AL	D	Surveyed but no usage reported			
		AZ	D	Surveyed but no usage reported			
		AR	D	Surveyed but no usage reported			
		CO	<500	Surveyed but no usage reported			
		CT	D	Surveyed but no usage reported			
		DE	D	Surveyed but no usage reported			
		FL	<500	Surveyed but no usage reported			
		GA	<500	Surveyed but no usage reported			
		ID	<500	Surveyed but no usage reported			
		IL	D	Surveyed but no usage reported			
		ID	D	Surveyed but no usage reported			
		IO	D	Surveyed but no usage reported			
		KS	<500	Surveyed but no usage reported			
		KY	Z	Surveyed but no usage reported			
		ME	Z	Surveyed but no usage reported			
		MD	<500	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Nectarines	NASS (2015, 2017)	MA	<500	Surveyed but no usage reported			
		MI	<500	Surveyed but no usage reported			
		MS	D	Surveyed but no usage reported			
		MO	<500	Surveyed but no usage reported			
		NE	D	Surveyed but no usage reported			
		NV	D	Surveyed but no usage reported			
		NH	D	Surveyed but no usage reported			
		NJ	<500	Surveyed but no usage reported			
		NM	<500	Surveyed but no usage reported			
		NY	<500	Surveyed but no usage reported			
		NC	<500	Surveyed but no usage reported			
		OH	<500	Surveyed but no usage reported			
		OK	D	Surveyed but no usage reported			
		OR	<500	Surveyed but no usage reported			
		PA	<500	Surveyed but no usage reported			
		RI	D	Surveyed but no usage reported			
		SC	<500	Surveyed but no usage reported			
		TN	<500	Surveyed but no usage reported			
		TX	<500	Surveyed but no usage reported			
		UT	<500	Surveyed but no usage reported			
		VA	D	Surveyed but no usage reported			
		WA	2,000	Surveyed but no usage reported			
		WV	<500	Surveyed but no usage reported			
		WI	-	Surveyed but no usage reported			
Nectarines	CADPR and CASR (2013-2017)	CA (86%) ⁺	20,000	50,000	*	*	*
Nursery Crops	Not surveyed at the state level						

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Oats	NASS (2015)	AL	10,000	Surveyed but no usage reported			
		AK	1,000	Surveyed but no usage reported			
		AZ	D	Surveyed but no usage reported			
		AR	7,000	Surveyed but no usage reported			
		CA	10,000	Surveyed but no usage reported			
		CO	7,000	Surveyed but no usage reported			
		CT	D	Surveyed but no usage reported			
		DE	D	Surveyed but no usage reported			
		FL	2,000	Surveyed but no usage reported			
		GA	10,000	Surveyed but no usage reported			
		ID	10,000	Surveyed but no usage reported			
		IL	20,000	Surveyed but no usage reported			
		IN	2,000	Surveyed but no usage reported			
		IO	40,000	Surveyed but no usage reported			
		KS	30,000	Surveyed but no usage reported			
		KY	1,000	Surveyed but no usage reported			
		LA	3,000	Surveyed but no usage reported			
		ME	20,000	Surveyed but no usage reported			
		MD	1,000	Surveyed but no usage reported			
		MA	<500	Surveyed but no usage reported			
		MI	30,000	Surveyed but no usage reported			
		MN	80,000	Surveyed but no usage reported			
		MS	1,000	Surveyed but no usage reported			
		MO	10,000	Surveyed but no usage reported			
		MT	20,000	Surveyed but no usage reported			
		NE	30,000	Surveyed but no usage reported			
		NV	D	Surveyed but no usage reported			
		NH	D	Surveyed but no usage reported			
		NJ	1,000	Surveyed but no usage reported			
		NM	<500	Surveyed but no usage reported			
		NY	30,000	Surveyed but no usage reported			
		NC	9,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Oats	NASS (2015)	ND	80,000	Surveyed but no usage reported			
		OH	20,000	Surveyed but no usage reported			
		OK	10,000	Surveyed but no usage reported			
		OR	10,000	Surveyed but no usage reported			
		PA	50,000	Surveyed but no usage reported			
		SC	8,000	Surveyed but no usage reported			
		SD	70,000	Surveyed but no usage reported			
		TN	1,000	Surveyed but no usage reported			
		TX	60,000	Surveyed but no usage reported			
		UT	2,000	Surveyed but no usage reported			
		VT	<500	Surveyed but no usage reported			
		VA	2,000	Surveyed but no usage reported			
		WA	4,000	Surveyed but no usage reported			
		WV	<500	Surveyed but no usage reported			
		WI	90,000	Surveyed but no usage reported			
		WY	6,000	Surveyed but no usage reported			
Olives	NASS (2015, 2017)	AL	D	Surveyed but no usage reported			
		AZ	D	Surveyed but no usage reported			
		FL	D	Surveyed but no usage reported			
		GA	<500	Surveyed but no usage reported			
		IL	<500	Surveyed but no usage reported			
		LA	-	Surveyed but no usage reported			
		MS	-	Surveyed but no usage reported			
		NJ	D	Surveyed but no usage reported			
		OR	<500	Surveyed but no usage reported			
		TN	-	Surveyed but no usage reported			
		TX	1,000	Surveyed but no usage reported			
Olives	CADPR and CASR (2013-2017)	CA (83%) ⁺	40,000	4,000	0	<2.5	<1

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Onions	Kynetec (2014-2018)	CA	50,000	20,000	<1	<2.5	<1
		CO	2,000	6,000	0	10	<2.5
		GA	7,000	Surveyed but no usage reported			
		ID	8,000	20,000	0	15	<2.5
		NY	8,000	Surveyed but no usage reported			
		OR	20,000	200,000	0	25	10
		TX	5,000	Surveyed but no usage reported			
		WA	20,000	200,000	0	10	5
Oranges	Kynetec (2014-2018)	CA	200,000	30,000	0	<2.5	<1
		FL	400,000	Surveyed but no usage reported			
Parsley	CADPR and CCACR (2013-2017)	CA (58%) ⁺	4,000	20,000	*	*	*
Parsley	NA	Other States	Not surveyed at the state level				
Pasture	Kynetec (2014-2018)	AL	2,400,000	Surveyed but no usage reported			
		AR	3,300,000	Surveyed but no usage reported			
		CO	1,000,000	Surveyed but no usage reported			
		FL	3,600,000	Surveyed but no usage reported			
		GA	1,500,000	Surveyed but no usage reported			
		ID	1,300,000	Surveyed but no usage reported			
		IL	1,000,000	Surveyed but no usage reported			
		IN	600,000	Surveyed but no usage reported			
		IO	2,100,000	Surveyed but no usage reported			
		KS	2,500,000	Surveyed but no usage reported			
		KY	3,500,000	Surveyed but no usage reported			
		LA	2,000,000	Surveyed but no usage reported			
		MD	90,000	Surveyed but no usage reported			
		MI	500,000	Surveyed but no usage reported			
		MN	1,400,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Pasture	Kynetec (2014-2018)	MS	1,900,000	Surveyed but no usage reported			
		MO	7,600,000	Surveyed but no usage reported			
		MT	4,000,000	Surveyed but no usage reported			
		NE	1,800,000	Surveyed but no usage reported			
		NY	800,000	Surveyed but no usage reported			
		NC	1,100,000	Surveyed but no usage reported			
		ND	1,200,000	Surveyed but no usage reported			
		OH	1,200,000	Surveyed but no usage reported			
		OK	8,400,000	Surveyed but no usage reported			
		OR	1,700,000	Surveyed but no usage reported			
		PA	900,000	Surveyed but no usage reported			
		SC	700,000	Surveyed but no usage reported			
		SD	2,100,000	Surveyed but no usage reported			
		TN	3,300,000	Surveyed but no usage reported			
		TX	16,300,000	Surveyed but no usage reported			
		UT	700,000	Surveyed but no usage reported			
		VA	2,600,000	Surveyed but no usage reported			
		WA	900,000	Surveyed but no usage reported			
		WV	1,200,000	Surveyed but no usage reported			
		WI	1,200,000	Surveyed but no usage reported			
		WY	600,000	Surveyed but no usage reported			
Pasture	CADPR and CCACR (2013-2017)	CA ^b	10,000,000	<500	*	*	*
Peaches	Kynetec (2014-2018)	AL	1,000	<500	0	<2.5	<1
		CA	50,000	20,000	0	<2.5	<1
		CO	1,000	Surveyed but no usage reported			
		GA	10,000	Surveyed but no usage reported			
		IL	<500	Surveyed but no usage reported			
		MI	3,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Peaches	Kynetec (2014-2018)	NJ	4,000	Surveyed but no usage reported			
		NY	<500	Surveyed but no usage reported			
		PA	5,000	Surveyed but no usage reported			
		SC	20,000	30,000	0	<2.5	<1
		TX	5,000	Surveyed but no usage reported			
		WA	1,000	Surveyed but no usage reported			
Peanuts	Kynetec (2014-2018)	AL	200,000	80,000	0	5	<1
		FL	200,000	300,000	0	10	<2.5
		GA	700,000	2,100,000	<2.5	10	5
		NC	100,000	30,000	0	<2.5	<1
		OK	20,000	Surveyed but no usage reported			
		SC	100,000	90,000	0	10	<2.5
		TX	200,000	Surveyed but no usage reported			
		VA	20,000	60,000	0	10	5
Pears	Kynetec (2014-2018)	OR	20,000	Surveyed but no usage reported			
		WA	20,000	Surveyed but no usage reported			
Pears	CADPR and CASR (2013-2017)	CA (Pear: 19%; Asian Pear ^b) ⁺	10,000	1,000	0	10	<1
Peas	Kynetec (2014-2018)	MN	60,000	Surveyed but no usage reported			
		NY	3,000	Surveyed but no usage reported			
		OR	20,000	Surveyed but no usage reported			
		WA	40,000	Surveyed but no usage reported			
		WI	30,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Pecans	Kynetec (2014-2018)	AL	3,000	Surveyed but no usage reported			
		AZ	7,000	Surveyed but no usage reported			
		GA	100,000	Surveyed but no usage reported			
		LA	3,000	Surveyed but no usage reported			
		NM	40,000	Surveyed but no usage reported			
		OK	100,000	Surveyed but no usage reported			
		TX	200,000	Surveyed but no usage reported			
Pecans	CADPR and CASR (2013-2017)	CA (All: 1%, Improved: 2%) ⁺	3,000	1,000	*	*	*
Peppers	Kynetec (2014-2018)	AZ	<500	Surveyed but no usage reported			
		CA	30,000	90,000	0	10	5
		FL	10,000	400,000	5	75	35
		GA	3,000	400,000	50	100	90
		NJ	1,000	Surveyed but no usage reported			
		NM	8,000	80,000	0	60	15
		NC	2,000	200,000	50	90	75
		OH	1,000	Surveyed but no usage reported			
TX	1,000	Surveyed but no usage reported					
Persimmons	CADPR and CASR (2013-2017)	CA (76%) ⁺	NA	<500	0	<2.5	<1
Persimmons	NA	Other States	Not surveyed at the state level				
Pineapple	Not surveyed at the state level						
Pistachios	CADPR and CASR (2013-2017)	CA (97%) ⁺	200,000	10,000	*	*	*
Pistachio	NA	Other States	Not surveyed at the state level				

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Plums	CADPR and CASR (2013-2017)	CA (76%) ⁺	20,000	30,000	0	<2.5	<1
Plums	NA	Other States	Not surveyed at the state level				
Pomegranates	CADPR and CCACR (2013-2017)	CA (98%) ⁺	20,000	<500	*	*	*
Pomegranates	NA	Other States	Not surveyed at the state level				
Prunes	CADPR and CASR (2013-2017)	CA (98%) ⁺	50,000	100,000	<1	5	<1
Prunes	NA	Other States	Not surveyed at the state level				
Potatoes	Kynetec (2014-2018)	CA	40,000	100,000	0	15	5
		CO	60,000	200,000	0	15	5
		FL	30,000	1,800,000	40	85	65
		ID	300,000	2,700,000	5	10	10
		ME	50,000	Surveyed but no usage reported			
		MI	50,000	Surveyed but no usage reported			
		MN	40,000	Surveyed but no usage reported			
		MT	10,000	70,000	0	20	5
		NE	10,000	Surveyed but no usage reported			
		NY	20,000	Surveyed but no usage reported			
		NC	10,000	80,000	0	35	10
		ND	80,000	Surveyed but no usage reported			
		OR	40,000	1,600,000	5	40	25
		PA	3,000	Surveyed but no usage reported			
		TX	10,000	Surveyed but no usage reported			
		WA	200,000	10,600,000	35	60	45
		WI	70,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Pumpkins	Kynetec (2014-2018)	CA	6,000	Surveyed but no usage reported			
		CO	<500	Surveyed but no usage reported			
		CT	1,000	Surveyed but no usage reported			
		IL	20,000	Surveyed but no usage reported			
		IN	5,000	Surveyed but no usage reported			
		MD	<500	Surveyed but no usage reported			
		MA	2,000	Surveyed but no usage reported			
		MI	5,000	Surveyed but no usage reported			
		MN	2,000	Surveyed but no usage reported			
		MO	1,000	Surveyed but no usage reported			
		NJ	2,000	Surveyed but no usage reported			
		NM	<500	Surveyed but no usage reported			
		NY	5,000	Surveyed but no usage reported			
		NC	2,000	Surveyed but no usage reported			
		OH	7,000	Surveyed but no usage reported			
		OR	2,000	Surveyed but no usage reported			
		PA	5,000	Surveyed but no usage reported			
		TN	<500	Surveyed but no usage reported			
		TX	3,000	Surveyed but no usage reported			
		VA	2,000	Surveyed but no usage reported			
		WA	2,000	Surveyed but no usage reported			
		WI	2,000	Surveyed but no usage reported			
Rice	Kynetec (2014-2018)	AK	1,500,000	Surveyed but no usage reported			
		CA	500,000	Surveyed but no usage reported			
		LA	400,000	Surveyed but no usage reported			
		MS	200,000	Surveyed but no usage reported			
		MO	200,000	Surveyed but no usage reported			
		TX	200,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Rye	CADPR and CCACR (2013-2017)	CA (<1%) ⁺	5,000	3,000	*	*	*
Rye	NA	Other States	Not surveyed at the state level				
Safflower	CADPR and CCACR (2013-2017)	CA (38%) ⁺	30,000	<500	*	*	*
Safflower	NA	Other States	Not surveyed at the state level				
Sorghum	Kynetec (2014-2018)	AK	200,000	Surveyed but no usage reported			
		CO	400,000	Surveyed but no usage reported			
		GA	30,000	Surveyed but no usage reported			
		IL	30,000	Surveyed but no usage reported			
		KS	3,000,000	Surveyed but no usage reported			
		LA	50,000	Surveyed but no usage reported			
		MO	80,000	Surveyed but no usage reported			
		NE	200,000	Surveyed but no usage reported			
		NM	70,000	Surveyed but no usage reported			
		OK	400,000	Surveyed but no usage reported			
		SD	300,000	Surveyed but no usage reported			
		TX	2,200,000	Surveyed but no usage reported			
Soybeans	Kynetec (2014-2018)	AL	500,000	Surveyed but no usage reported			
		AR	3,400,000	50,000	0	<2.5	<1
		DE	200,000	Surveyed but no usage reported			
		GA	300,000	Surveyed but no usage reported			
		IL	10,300,000	Surveyed but no usage reported			
		IN	5,800,000	Surveyed but no usage reported			
		IO	10,000,000	Surveyed but no usage reported			
		KS	4,300,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Soybeans	Kynetec (2014-2018)	KY	1,900,000	Surveyed but no usage reported			
		LA	1,400,000	Surveyed but no usage reported			
		MD	500,000	Surveyed but no usage reported			
		MI	2,200,000	Surveyed but no usage reported			
		MN	7,800,000	Surveyed but no usage reported			
		MS	2,200,000	Surveyed but no usage reported			
		MO	5,600,000	Surveyed but no usage reported			
		NE	5,400,000	Surveyed but no usage reported			
		NY	300,000	Surveyed but no usage reported			
		NC	1,700,000	Surveyed but no usage reported			
		ND	6,300,000	Surveyed but no usage reported			
		OH	4,900,000	Surveyed but no usage reported			
		OK	500,000	Surveyed but no usage reported			
		PA	600,000	Surveyed but no usage reported			
		SC	400,000	Surveyed but no usage reported			
		SD	5,200,000	Surveyed but no usage reported			
		TN	1,700,000	Surveyed but no usage reported			
		TX	200,000	Surveyed but no usage reported			
		VA	600,000	Surveyed but no usage reported			
		WI	2,000,000	Surveyed but no usage reported			
Spinach	Kynetec (2014-2018)	AZ	10,000	Surveyed but no usage reported			
		CO	<500	Surveyed but no usage reported			
		NJ	1,000	Surveyed but no usage reported			
		OK	1,000	Surveyed but no usage reported			
		TX	<500	Surveyed but no usage reported			
Spinach	CADPR and CASR (2013-2017)	CA (69%) ⁺	30,000	1,000	*	*	*

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Squash	Kynetec (2014-2018)	CT	1,000	Surveyed but no usage reported			
		FL	5,000	70,000	0	30	15
		GA	4,000	100,000	15	50	30
		MA	2,000	Surveyed but no usage reported			
		MI	6,000	Surveyed but no usage reported			
		NJ	3,000	Surveyed but no usage reported			
		NY	4,000	Surveyed but no usage reported			
		NC	3,000	50,000	0	70	20
		OH	2,000	Surveyed but no usage reported			
		OR	3,000	Surveyed but no usage reported			
		PA	<500	Surveyed but no usage reported			
		SC	1,000	1,000	0	10	<2.5
		TX	2,000	Surveyed but no usage reported			
		WI	1,000	Surveyed but no usage reported			
Squash	CADPR and CASR (2013-2017)	CA (11%) ⁺	6,000	1,000	*	*	*
Strawberries	Kynetec (2014-2018)	CA	40,000	2,100,000	30	55	40
		FL	10,000	300,000	0	45	20
		MI	<500	Surveyed but no usage reported			
		NY	<500	Surveyed but no usage reported			
		OR	1,000	Surveyed but no usage reported			
		PA	<500	Surveyed but no usage reported			
		WA	<500	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Sugar Beets	Kynetec (2014-2018)	CA	10,000	Surveyed but no usage reported			
		CO	30,000	Surveyed but no usage reported			
		ID	200,000	Surveyed but no usage reported			
		MI	100,000	Surveyed but no usage reported			
		MN	400,000	Surveyed but no usage reported			
		MT	40,000	Surveyed but no usage reported			
		NE	50,000	Surveyed but no usage reported			
		ND	200,000	Surveyed but no usage reported			
		WY	30,000	Surveyed but no usage reported			
Sugarcane	Kynetec (2014-2018)	FL	200,000	Surveyed but no usage reported			
		LA	200,000	Surveyed but no usage reported			
Sunflower	Kynetec (2014-2018)	CO	70,000	Surveyed but no usage reported			
		KS	60,000	Surveyed but no usage reported			
		MN	70,000	Surveyed but no usage reported			
		NE	40,000	Surveyed but no usage reported			
		ND	600,000	Surveyed but no usage reported			
		SD	600,000	Surveyed but no usage reported			
		TX	70,000	Surveyed but no usage reported			
Sweet Corn	Kynetec (2014-2018)	FL	40,000	10,000	0	5	<1
		GA	20,000	Surveyed but no usage reported			
		IL	20,000	Surveyed but no usage reported			
		MI	4,000	Surveyed but no usage reported			
		MN	100,000	Surveyed but no usage reported			
		NJ	3,000	Surveyed but no usage reported			
		NY	30,000	Surveyed but no usage reported			
		OH	10,000	Surveyed but no usage reported			
		OR	20,000	Surveyed but no usage reported			
		PA	5,000	Surveyed but no usage reported			
		WA	90,000	Surveyed but no usage reported			
		WI	60,000	Surveyed but no usage reported			

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Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Sweet Corn (as Human Consumption)	CADPR (2013-2017)	CA (6%) ⁺	30,000	<500	*	*	*
Sweet Potato	CADPR (2013-2017)	CA (12%) ⁺	NA	800,000	*	*	*
Sweet Potato	NA	Other States	Not surveyed at the state level				
Tangelo	NASS (2015, 2017)	AL	<500	Surveyed but no usage reported			
		AZ	D	Surveyed but no usage reported			
		CA	5,000	Surveyed but no usage reported			
		FL	2,000	Surveyed but no usage reported			
		GA	D	Surveyed but no usage reported			
		HI	D	Surveyed but no usage reported			
		MS	D	Surveyed but no usage reported			
		TX	-	Surveyed but no usage reported			
Tangelo	CADPR and CCACR (2013-2017)	CA (70%) ⁺	2,000	4,000	*	*	*
Tangerines	NASS (2015, 2017)	AL	<500	Surveyed but no usage reported			
		AZ	D	Surveyed but no usage reported			
		AR	-	Surveyed but no usage reported			
		CA	50,000	D	D	D	D
		FL	8,000	Surveyed but no usage reported			
		GA	<500	Surveyed but no usage reported			
		HI	<500	Surveyed but no usage reported			
		LA	<500	Surveyed but no usage reported			
		MS	D	Surveyed but no usage reported			
		SC	D	Surveyed but no usage reported			
		TX	<500	Surveyed but no usage reported			

Continued on next page

Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Tobacco	Kynetec (2014-2018)	GA	10,000	1,000,000	55	95	80
		KY	80,000	Surveyed but no usage reported			
		NC	200,000	2,300,000	5	15	10
		OH	1,000	Surveyed but no usage reported			
		PA	8,000	Surveyed but no usage reported			
		SC	10,000	200,000	0	60	20
		TN	20,000	Surveyed but no usage reported			
		VA	30,000	200,000	5	15	10
Tomato	Kynetec (2014-2018)	CA	300,000	100,000	0	<2.5	<1
		FL	30,000	1,100,000	0	70	35
Walnuts	CADPR and CASR (2013-2017)	CA (99%) ⁺	300,000	500,000	*	*	*
Walnuts	NA	Other States	Not surveyed at the state level				
Watermelon	Kynetec (2014-2018)	AL	1,000	Surveyed but no usage reported			
		AZ	1,000	Surveyed but no usage reported			
		CA	10,000	20,000	0	5	<2.5
		FL	20,000	100,000	0	20	5
		GA	20,000	200,000	0	50	10
		IN	7,000	Surveyed but no usage reported			
		MD	1,000	Surveyed but no usage reported			
		MS	<500	Surveyed but no usage reported			
		MO	1,000	Surveyed but no usage reported			
		NC	6,000	10,000	0	20	5
		OK	2,000	Surveyed but no usage reported			
		SC	8,000	Surveyed but no usage reported			
		TX	30,000	Surveyed but no usage reported			

Continued on next page

Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Wheat, Spring	Kynetec (2014-2018)	AZ	90,000	Surveyed but no usage reported			
		CA	50,000	Surveyed but no usage reported			
		ID	500,000	Surveyed but no usage reported			
		MN	1,400,000	Surveyed but no usage reported			
		MT	3,300,000	Surveyed but no usage reported			
		ND	7,200,000	Surveyed but no usage reported			
		OR	90,000	Surveyed but no usage reported			
		SD	1,200,000	Surveyed but no usage reported			
		WA	600,000	Surveyed but no usage reported			
Wheat, Winter	Kynetec (2014-2018)	AK	300,000	Surveyed but no usage reported			
		CA	400,000	Surveyed but no usage reported			
		CO	2,500,000	Surveyed but no usage reported			
		GA	200,000	Surveyed but no usage reported			
		ID	800,000	Surveyed but no usage reported			
		IL	600,000	Surveyed but no usage reported			
		IN	300,000	Surveyed but no usage reported			
		KS	8,500,000	Surveyed but no usage reported			
		KY	500,000	Surveyed but no usage reported			
		MI	500,000	Surveyed but no usage reported			
		MO	800,000	Surveyed but no usage reported			
		MT	2,100,000	Surveyed but no usage reported			
		NE	1,300,000	Surveyed but no usage reported			
		NM	200,000	Surveyed but no usage reported			
		NC	600,000	Surveyed but no usage reported			
		ND	200,000	Surveyed but no usage reported			
		OH	500,000	Surveyed but no usage reported			
		OK	4,900,000	Surveyed but no usage reported			
		OR	700,000	Surveyed but no usage reported			
		SD	1,100,000	Surveyed but no usage reported			
		TN	400,000	Surveyed but no usage reported			
		TX	5,200,000	Surveyed but no usage reported			
		VA	200,000	Surveyed but no usage reported			
		WA	1,700,000	Surveyed but no usage reported			
		WI	300,000	Surveyed but no usage reported			

Telone (1,3-Dichloropropene): National and State Summary Use and Usage Matrix
(August 25, 2020)

Notes	
Kynetec (YEAR-YEAR)	Agricultural usage surveyed by market research firm(s)
CADPR (YEAR-YEAR)	Surveyed by the California Department of Pesticide Regulation. Over 80% of crop grown in California
+	Percent of crop grown in California based on the 2017 NASS Census of Agriculture
†	Crop Acres Grown (CAG) represents the total number of acres that are grown of the crop in each state. It is independent of treatment with any pesticide. CAG values for the data sources come from the following: Kynetec comes from Kynetec estimate, NASS comes from the 2012 NASS Census of Agriculture, and CDPR estimates come from the 2017-2018 California Agricultural Statistics Review (CASR) or 2012-2016 California County Agricultural Commissioners' Reports (CCACR).
*	Due to the inconsistent reporting of crop acreages between California counties for these crops, CalPUR state-level summary usage statistics (based on acreages) are unreliable.
a	The pounds AI displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
b	Percent grown in California unavailable
D	Data withheld by NASS to avoid disclosing data for individual operations
Z	Less than half of the unit shown
-	Represents negligible usage
NA	Not available from source

Non-Agricultural Usage

Table 3. Telone Non-agricultural Usage.

Site	Data Source	Avg. Annual Pounds AI Applied ^a	Avg. Annual Acres Treated ^b	Max Single Labeled Rate (lb ai/a) ^c
Grass/Turf	NMRD (2012, 2014)	Surveyed but no usage reported.		49.25
Grass/Turf: Golf Course				

Notes	
NMRD (YEAR)	Nonagricultural usage surveyed by market research firms.
a	The pounds AI displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
b	Total Acres Treated accounts for multiple applications to a single area. This may overestimate the number of acres treated as some acres are treated more than once.
c	Max labeled rate from 2020 Telone Pesticide Label Use Summary (PLUS) Report.



April 30, 2020

MEMORANDUM

SUBJECT: Metolachlor (108801) National and State Use and Usage Summary

FROM: Briana Otte, Biologist
Science Information and Analysis Branch
Biological and Economic Analysis Division (7503P)

Briana Otte

THRU: Matthew Crowley, Acting Branch Chief
Science Information and Analysis Branch
Biological and Economic Analysis Division (7503P)

Matthew Crowley

TO: Cathy Tortorici, Division Chief
ESA Interagency Cooperation Division
Office of Protected Resources
National Oceanic and Atmospheric Administration- National Marine Fisheries Service

Metolachlor: National and State Summary Use and Usage Matrix

Metolachlor: National and State Use and Usage Summary

(April 30, 2020)

Introduction

This document presents a summary of the use and usage data that are available to the Agency on the active ingredient, during the years listed.

This document provides all available estimates of pesticide usage data for the active ingredient, nationally and by state. All registered use sites as of March 2020 are listed although usage data are not available for every site.

The intended use of the data presented here is to inform assumptions about how the active ingredient is used in the United States, and the extent, variability, and rate of that usage at the state level. Pesticide usage data are reported at the state level; usage data at more granular levels may not be statically valid due to reduced sample size. Extent and variability of usage at the state level are presented using minimum, maximum, and average percent crop treated (PCT) over the five-year observation period. PCT is calculated as the percent of the acres grown for a crop that are treated with the active ingredient. Additionally, the data may inform assumptions about crops and states where the active ingredient is likely not being used, by identifying crops that are surveyed for but where usage is not observed during the observation period. The state level estimates of pesticide usage presented here (especially PCT) can be used to inform estimates of the proportion of the species range that may be exposed to the active ingredient.

The pesticide usage data summarized herein were obtained from both public and private (proprietary) sources. As presented, the data are not proprietary, business confidential, or a trade secret. The most recent five years of available data as of March 2020 were used in order to represent current usage and the most recent use trend.

Data Sources

Kynetec USA, Inc. The AgroTrak Study, Database Subset (Kynetec)— proprietary pesticide usage. These data are collected and sold by a private market research firm. The data are collected by annual surveys of agricultural users in the continental United States and provides pesticide usage data for about 60 crops, including both specialty and row crops. The survey design targets at least 80 percent of US acreage/production of the surveyed commodities. Survey methodology provides statistically valid results, typically at the state and national levels. Kynetec USA, Inc. 2019. The AgroTrak® Study from Kynetec USA, Inc.

United States Department of Agriculture's National Agricultural Statistics Service (NASS) – publicly available pesticide usage data. NASS data are based on surveys that focus on the top-producing states that together account for the majority of U.S. acres or production of the surveyed commodity. NASS survey design targets a minimum of 80 percent of the

Metolachlor: National and State Summary Use and Usage Matrix

acreage/production for every fruit, vegetable, and field crop surveyed. Operation level data are combined during summary and, pending compliance with disclosure rules, published at the state and national levels. NASS does not collect data annually for each crop, but surveys for various commodities on a rotating schedule. USDA-NASS (United States Department of Agriculture's National Agricultural Statistics Service) Quick Stats. <https://quickstats.nass.usda.gov/>.

California Department of Pesticide Regulation (CADPR) Pesticide Use Reporting (PUR) – publicly available pesticide usage data. The PUR database contains detailed records and summaries of agricultural applications of pesticides on crops based on application permits. All agricultural growers must submit their production agricultural pesticide use reports monthly and pest control businesses must submit pesticide use reports within 7 days after application. As such, CADPR data are a census of all usage rather than a survey and are published annually. California Department of Pesticide Regulation Pesticide Use Reporting (CalPUR). <https://calpip.cdpr.ca.gov/main.cfm>.

The usage statistics presented are arithmetic averages of the survey results for the most recent five year period of available data. The average is obtained by dividing the total of the usage observed by the sampling frequency for the survey (five years for Kynetec and CADPR, and 1-2 years for NASS), regardless of whether usage is observed in each surveyed year (i.e., survey years are counted even if no usage was reported in that year). The presented data may thus underestimate the maximum yearly usage. Kynetec is the primary source of usage data because it is collected nationally and annually. It also provides usage data for the most sites among the available data sources. NASS data are used for crops which are not surveyed by Kynetec. CADPR data are used when neither national source surveys a crop. When over 80% of a crop is grown in California, California usage is considered to be representative of National usage. In these cases, CADPR data may be included in Table 1. When less than 80% of a crop is grown in California, but none of the national sources survey the crop, CADPR is included in Table 2 to represent only California usage. The presented data may not be a reliable indicator of the variability in usage between individual years. In certain cases, data are unavailable or withheld. These cases are specified in the tables as follows:

If a registered use site is surveyed by one of our data sources but no usage is observed, this is indicated with “Surveyed but no usage reported”. Lack of reported usage data for the pesticide on a surveyed crop indicates that there is a very low likelihood that the given pesticide is used on that crop.

If a registered use site is not surveyed nationally by any of our data sources, this is indicated with “Not Surveyed at the National Level”.

For some crops, CADPR has reported usage, but due to a reporting issue the data are not sufficiently reliable to provide an estimate. In these cases, Percent Crop Treated data are withheld. This is indicated with “Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate”.

Metolachlor: National and State Summary Use and Usage Matrix

Summary

Metolachlor is an herbicide, registered for control of grasses and broadleaf weeds in cereal grains, legumes, tomatoes, safflower, sunflower, potatoes, and cotton. There are no non-agricultural use sites registered for metolachlor. The agricultural usage trend for metolachlor since 1998 is presented in Figure 1. Nationally, agricultural metolachlor usage in terms of both pounds of active ingredient (lbs AI) applied and total acres treated (TAT) was at its peak at or before 1998 and declined from 1998- 2002. From 2002-2004 national agricultural metolachlor usage was limited; since 2004 metolachlor usage has been increasing. During the most recent five years of available agricultural usage data (2014-2018), an annual average of approximately 7.3 million lbs AI were applied to approximately 6 million TAT of agricultural crops (Kynetec 2019). Approximately 95% of total lbs AI applied and TAT agriculturally are to three crops: corn (2.4 million lbs AI; 1.9 million TAT), soybeans (3.8 million lbs AI; 3.2 million TAT), and sorghum (585,000 lbs AI; 515,000 TAT) (Kynetec 2019, 2014-2018). However, less than 5% of corn and soybean acres and approximately 5% of sorghum acres were treated with metolachlor during this period (Kynetec 2019, 2014-2018). Percent crop treated (PCT) is highest for beans (snap, bush, pole, and string) (15%) and tomatoes (10%) (Kynetec 2019, 2014-2018). Percent crop treated for each of the remaining crops is less than 5% (Kynetec 2019, 2014-2018). Crops treated aurally include cotton, sorghum, soybeans, and sweet corn (2014-2018). Less than 1% of total lbs AI applied and the TAT were applied aurally across all crops from 2014-2018 (Kynetec 2019). Further information on national usage of metolachlor by crop is available in Table 1. Further information on percent of crops treated with metolachlor by state is available in Table 2. Normally an additional table is provided describing non-agricultural pesticide usage, however, there are no registered non-agricultural uses of metolachlor, therefore this table is not included.

Metolachlor: National and State Summary Use and Usage Matrix

Agricultural Usage

Metolachlor is an herbicide registered on the use sites listed in the tables below. The following document presents a summary of the use and usage data that are available to the Agency on this active ingredient, during the years listed.

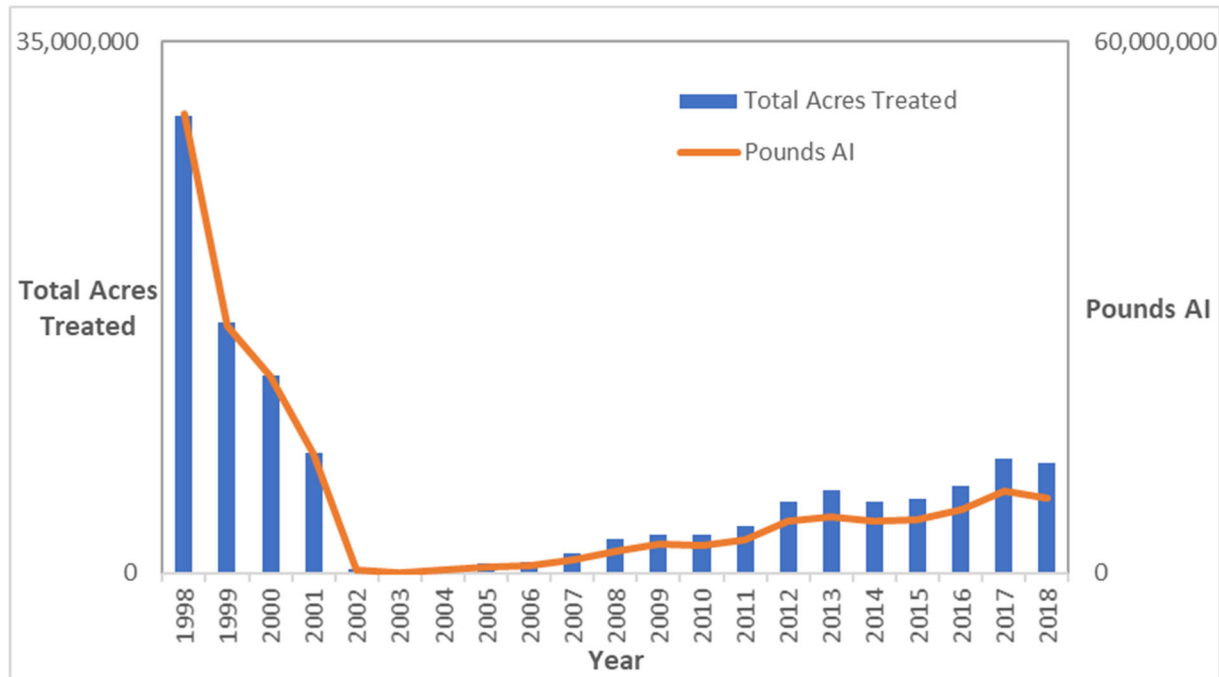


Figure 1: Metolachlor Total Acres Treated and Total Pounds A.I. Applied (1998-2018).
(Does not include crops surveyed only by NASS and CADPR, as indicated in Table 1)

Source: Kynetec USA, Inc. 2019. "The AgroTrak® Study from Kynetec USA, Inc." Database Subset: 1998-2018

Metolachlor: National and State Summary Use and Usage Matrix

Table 1. National Metolachlor Agricultural Use and Usage by Crop (Reported values are Averaged Over Reported Years and Rounded)

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate (lb AI/A) ^c
Cereal Grains	<i>See individual crops below.</i>						Full Crop Group Not Registered
Corn	Kynetec (2014-2018)	AR, CA, CO, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, NE, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI	2,400,000	1,900,000	0%	1.28	2.68
Sorghum (Milo)	Kynetec (2014-2018)	AR, CO, GA, IL, KS, LA, MO, NE, OK, SD, TX	600,000	500,000	<1%	1.11	1.68
Sweet Corn	Kynetec (2014-2018)	FL, IL, MN, NJ, NY, OH, WI	30,000	20,000	<1%	1.33	2.68
Fruiting Vegetables	<i>See individual crops below.</i>						Full Crop Group Not Registered
Tomatoes	Kynetec (2014-2018)	CA	50,000	30,000	0%	1.56	2.00
Legume Vegetables	<i>See individual crops below.</i>						Full Crop Group Not Registered
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	IL, NY, OR, PA, TN, WI	30,000	30,000	0%	1.24	2.00
Dry Beans/Peas	Kynetec (2014-2018)	CA, ID, MI, MN, NE, ND, WA	30,000	20,000	0%	1.36	2.00
Lima Beans	Kynetec (2014-2018)	CA, MD, WI	<500	<500	0%	1.41	2.00

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Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate (lb AI/A) ^c
Peanuts	Kynetec (2014-2018)	AL, FL, GA, NC, OK, SC, TX, VA	60,000	50,000	0%	1.35	2.00
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	MN, WI	5,000	3,000	0%	1.45	2.00
Soybeans	Kynetec (2014-2018)	AL, AR, DE, GA, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, ND, NE, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI	3,800,000	3,200,000	<2.5%	1.2	(MS 2.10) ^d (US 2.75)
Oilseed Group	<i>See individual crops below.</i>						Full Crop Group Not Registered
Cotton	Kynetec (2014-2018)	AL, AR, FL, GA, KS, LA, MS, MO, NC, OK, SC, TN, TX	200,000	200,000	<2.5%	1.05	2.10
Safflower	<i>Not Surveyed at the National Level</i>						2.00
Sunflowers	Kynetec (2014-2018)	KS, NE, SD, TX,	10,000	10,000	0%	0.9	1.90
Root and Tuber Vegetables	<i>See individual crops below.</i>						Full Crop Group Not Registered
Potatoes	Kynetec (2014-2018)	FL, ID, ME, MI, MN, NY, ND, PA, WI	50,000	30,000	0%	1.55	2.75

Notes	
Kynetec (YEAR-YEAR)	Agricultural usage surveyed by market research firm(s). Values rounded.
a	The pounds AI displayed in this document may differ from those displayed in the Screening Level Usage Analysis (SLUA) and other BEAD documents, because different calculation methods were used.
b	Total Acres Treated accounts for multiple applications to a single area. This may overestimate the number of acres treated as some acres are treated more than once.
c	Max labeled rate from the 2014 Label Data Report, updated in 2020.
d	This rate is from registration number MS120002.

Metolachlor: National and State Summary Use and Usage Matrix

Table 2. National Metolachlor Agricultural Use and Usage by Crop and State (Reported values are Averaged Over Reported Years and Rounded).

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT ^b	Max. Annual PCT ^b	Avg. Annual PCT ^b
Cereal Grains	<i>See individual crops below.</i>						
Corn	Kynetec (2014-2018)	AR	600,000	100,000	5%	20%	10%
Corn	Kynetec (2014-2018)	CA	500,000	20,000	0%	5%	5%
Corn	Kynetec (2014-2018)	CO	1,300,000	50,000	0%	10%	5%
Corn	Kynetec (2014-2018)	GA	400,000	<500	0%	<1%	<1%
Corn	Kynetec (2014-2018)	IA	13,600,000	300,000	<1%	5%	<2.5%
Corn	Kynetec (2014-2018)	ID	300,000	20,000	<1%	10%	5%
Corn	Kynetec (2014-2018)	IL	11,500,000	300,000	<2.5%	<2.5%	<2.5%
Corn	Kynetec (2014-2018)	IN	5,600,000	100,000	<1%	5%	<2.5%
Corn	Kynetec (2014-2018)	KS	4,700,000	200,000	<1%	5%	5%
Corn	Kynetec (2014-2018)	KY	1,400,000	20,000	0%	5%	<1%
Corn	Kynetec (2014-2018)	LA	500,000	30,000	0%	30%	5%
Corn	Kynetec (2014-2018)	MD	500,000	40,000	0%	30%	5%
Corn	Kynetec (2014-2018)	MI	2,500,000	50,000	<1%	<2.5%	<2.5%
Corn	Kynetec (2014-2018)	MN	8,200,000	30,000	<1%	<1%	<1%
Corn	Kynetec (2014-2018)	MO	3,400,000	200,000	5%	5%	5%
Corn	Kynetec (2014-2018)	MS	600,000	7,000	0%	15%	5%
Corn	Kynetec (2014-2018)	NC	1,000,000	20,000	<1%	5%	<2.5%

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Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT ^b	Max. Annual PCT ^b	Avg. Annual PCT ^b
Corn	Kynetec (2014-2018)	NE	10,000,000	200,000	<1%	5%	<2.5%
Corn	Kynetec (2014-2018)	NY	1,100,000	70,000	<2.5%	15%	5%
Corn	Kynetec (2014-2018)	OH	3,600,000	100,000	<1%	5%	<2.5%
Corn	Kynetec (2014-2018)	OK	300,000	30,000	<1%	15%	5%
Corn	Kynetec (2014-2018)	PA	1,400,000	100,000	5%	10%	5%
Corn	Kynetec (2014-2018)	SC	300,000	2,000	0%	<2.5%	<1%
Corn	Kynetec (2014-2018)	SD	5,400,000	10,000	0%	<1%	<1%
Corn	Kynetec (2014-2018)	TN	900,000	70,000	<2.5%	10%	5%
Corn	Kynetec (2014-2018)	TX	2,400,000	20,000	<1%	<2.5%	<1%
Corn	Kynetec (2014-2018)	VA	500,000	30,000	<2.5%	15%	5%
Corn	Kynetec (2014-2018)	WI	4,000,000	200,000	5%	5%	5%
Corn	Kynetec (2014-2018)	AL, DE, NM, ND, WA, WY	4,000,000	Surveyed but No Usage Reported			
Sorghum (Milo)	Kynetec (2014-2018)	AR	200,000	40,000	5%	55%	35%
Sorghum (Milo)	Kynetec (2014-2018)	CO	400,000	9,000	0%	5%	<2.5%
Sorghum (Milo)	Kynetec (2014-2018)	GA	30,000	2,000	0%	5%	5%
Sorghum (Milo)	Kynetec (2014-2018)	IL	30,000	4,000	0%	50%	10%
Sorghum (Milo)	Kynetec (2014-2018)	KS	3,000,000	300,000	5%	10%	10%
Sorghum (Milo)	Kynetec (2014-2018)	LA	50,000	3,000	0%	40%	10%

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Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT ^b	Max. Annual PCT ^b	Avg. Annual PCT ^b
Sorghum (Milo)	Kynetec (2014-2018)	MO	80,000	20,000	<1%	55%	20%
Sorghum (Milo)	Kynetec (2014-2018)	NE	200,000	1,000	0%	<2.5%	<1%
Sorghum (Milo)	Kynetec (2014-2018)	OK	400,000	70,000	<1%	40%	15%
Sorghum (Milo)	Kynetec (2014-2018)	SD	300,000	20,000	5%	15%	10%
Sorghum (Milo)	Kynetec (2014-2018)	TX	2,200,000	100,000	<1%	10%	5%
Sorghum (Milo)	Kynetec (2014-2018)	AR, NM	200,000	Surveyed but No Usage Reported			
Sorghum (Milo)	NASS (2015, 2017)	CA	10,000	Surveyed but No Usage Reported			
Sweet Corn	Kynetec (2014-2018)	FL	40,000	<500	0%	<2.5%	<1%
Sweet Corn	Kynetec (2014-2018)	IL	20,000	1,000	<1%	5%	5%
Sweet Corn	Kynetec (2014-2018)	MN	100,000	7,000	0%	10%	<2.5%
Sweet Corn	Kynetec (2014-2018)	NJ	3,000	<500	0%	5%	<1%
Sweet Corn	Kynetec (2014-2018)	NY	30,000	<500	0%	5%	<1%
Sweet Corn	Kynetec (2014-2018)	OH	10,000	<500	0%	<2.5%	<1%
Sweet Corn	Kynetec (2014-2018)	WI	60,000	20,000	20%	35%	25%
Sweet Corn	Kynetec (2014-2018)	CA, GA, MI, OR, PA, WA	200,000	Surveyed but No Usage Reported			
Fruiting Vegetables	See individual crops below.						
Tomatoes	Kynetec (2014-2018)	CA	300,000	50,000	5%	15%	10%
Tomatoes	Kynetec (2014-2018)	FL	30,000	Surveyed but No Usage Reported			

(Continued on next page)

Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT ^b	Max. Annual PCT ^b	Avg. Annual PCT ^b
Legume Vegetables	<i>See individual crops below.</i>						
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	IL	10,000	2,000	0%	35%	15%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	NY	30,000	1,000	0%	15%	5%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	OR	10,000	<500	0%	5%	<1%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	PA	10,000	3,000	15%	45%	30%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	TN	10,000	6,000	0%	80%	40%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	WI	70,000	20,000	25%	30%	25%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	CA, FL, GA, IN, MI, NC, TX	70,000	Surveyed but No Usage Reported			
Dry Beans/Peas	Kynetec (2014-2018)	CA	50,000	3,000	0%	15%	5%
Dry Beans/Peas	Kynetec (2014-2018)	ID	200,000	2,000	0%	<2.5%	<1%
Dry Beans/Peas	Kynetec (2014-2018)	MI	200,000	9,000	0%	5%	5%
Dry Beans/Peas	Kynetec (2014-2018)	MN	200,000	7,000	0%	10%	5%
Dry Beans/Peas	Kynetec (2014-2018)	NE	200,000	2,000	0%	5%	<2.5%
Dry Beans/Peas	Kynetec (2014-2018)	ND	1,200,000	2,000	0%	<1%	<1%
Dry Beans/Peas	Kynetec (2014-2018)	WA	300,000	900	0%	<2.5%	<1%
Dry Beans/Peas	Kynetec (2014-2018)	CO, MT, NY, TX, WY	900,000	Surveyed but No Usage Reported			

(Continued on next page)

Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT ^b	Max. Annual PCT ^b	Avg. Annual PCT ^b
Lima Beans	Kynetec (2014-2018)	CA	6,000	<500	0%	<2.5%	<1%
Lima Beans	Kynetec (2014-2018)	MD	1,000	<500	0%	25%	5%
Lima Beans	Kynetec (2014-2018)	WI	5,000	<500	0%	10%	5%
Lima Beans	Kynetec (2014-2018)	DE, IL, SC	10,000	Surveyed but No Usage Reported			
Peanuts	Kynetec (2014-2018)	AL	200,000	3,000	0%	5%	<2.5%
Peanuts	Kynetec (2014-2018)	FL	200,000	20,000	0%	20%	5%
Peanuts	Kynetec (2014-2018)	GA	700,000	8,000	0%	<2.5%	<1%
Peanuts	Kynetec (2014-2018)	NC	100,000	2,000	0%	5%	<2.5%
Peanuts	Kynetec (2014-2018)	OK	20,000	20,000	0%	90%	55%
Peanuts	Kynetec (2014-2018)	SC	100,000	10,000	0%	15%	5%
Peanuts	Kynetec (2014-2018)	TX	200,000	6,000	0%	10%	<2.5%
Peanuts	Kynetec (2014-2018)	VA	20,000	1,000	0%	5%	5%
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	MN	60,000	2,000	0%	10%	5%
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	WI	30,000	2,000	<1%	10%	5%
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	NY, OR, WA	60,000	Surveyed but No Usage Reported			
Soybeans	Kynetec (2014-2018)	AL	500,000	10,000	0%	5%	<2.5%
Soybeans	Kynetec (2014-2018)	AR	3,400,000	500,000	5%	20%	10%
Soybeans	Kynetec (2014-2018)	DE	200,000	1,000	0%	5%	<2.5%

(Continued on next page)

Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT ^b	Max. Annual PCT ^b	Avg. Annual PCT ^b
Soybeans	Kynetec (2014-2018)	GA	300,000	1,000	0%	<2.5%	<1%
Soybeans	Kynetec (2014-2018)	IA	9,900,000	600,000	5%	5%	5%
Soybeans	Kynetec (2014-2018)	IL	10,300,000	600,000	5%	5%	5%
Soybeans	Kynetec (2014-2018)	IN	5,800,000	300,000	<1%	10%	5%
Soybeans	Kynetec (2014-2018)	KS	4,300,000	200,000	5%	5%	5%
Soybeans	Kynetec (2014-2018)	KY	1,900,000	50,000	<2.5%	5%	5%
Soybeans	Kynetec (2014-2018)	LA	1,400,000	60,000	0%	5%	5%
Soybeans	Kynetec (2014-2018)	MD	500,000	<500	0%	<1%	<1%
Soybeans	Kynetec (2014-2018)	MI	2,200,000	90,000	<1%	5%	5%
Soybeans	Kynetec (2014-2018)	MN	7,800,000	200,000	<2.5%	5%	5%
Soybeans	Kynetec (2014-2018)	MO	5,600,000	200,000	<2.5%	5%	5%
Soybeans	Kynetec (2014-2018)	MS	2,200,000	200,000	<1%	20%	10%
Soybeans	Kynetec (2014-2018)	NC	1,700,000	9,000	0%	<2.5%	<1%
Soybeans	Kynetec (2014-2018)	ND	6,300,000	30,000	0%	<2.5%	<1%
Soybeans	Kynetec (2014-2018)	NE	5,400,000	100,000	<2.5%	5%	<2.5%
Soybeans	Kynetec (2014-2018)	NY	300,000	50,000	0%	55%	10%
Soybeans	Kynetec (2014-2018)	OH	4,900,000	300,000	5%	5%	10%
Soybeans	Kynetec (2014-2018)	OK	500,000	8,000	0%	5%	<2.5%

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Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT ^b	Max. Annual PCT ^b	Avg. Annual PCT ^b
Soybeans	Kynetec (2014-2018)	PA	600,000	9,000	0%	<2.5%	<2.5%
Soybeans	Kynetec (2014-2018)	SC	400,000	1,000	0%	<2.5%	<1%
Soybeans	Kynetec (2014-2018)	SD	5,200,000	100,000	0%	5%	<2.5%
Soybeans	Kynetec (2014-2018)	TN	1,700,000	70,000	0%	5%	5%
Soybeans	Kynetec (2014-2018)	TX	200,000	10,000	0%	20%	5%
Soybeans	Kynetec (2014-2018)	VA	600,000	30,000	0%	10%	5%
Soybeans	Kynetec (2014-2018)	WI	2,000,000	30,000	0%	<2.5%	<2.5%
Oilseed Group	<i>See individual crops below.</i>						
Cotton	Kynetec (2014-2018)	AL	400,000	<500	0%	<1%	<1%
Cotton	Kynetec (2014-2018)	AR	400,000	60,000	0%	25%	10%
Cotton	Kynetec (2014-2018)	FL	100,000	2,000	0%	15%	5%
Cotton	Kynetec (2014-2018)	GA	1,300,000	9,000	0%	<2.5%	<1%
Cotton	Kynetec (2014-2018)	KS	20,000	1,000	0%	25%	5%
Cotton	Kynetec (2014-2018)	LA	200,000	8,000	0%	10%	5%
Cotton	Kynetec (2014-2018)	MS	500,000	20,000	0%	15%	5%
Cotton	Kynetec (2014-2018)	MO	300,000	2,000	0%	5%	<1%
Cotton	Kynetec (2014-2018)	NC	400,000	3,000	0%	<2.5%	<1%
Cotton	Kynetec (2014-2018)	OK	400,000	500	0%	<1%	<1%

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Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT ^b	Max. Annual PCT ^b	Avg. Annual PCT ^b
Cotton	Kynetec (2014-2018)	SC	200,000	3,000	0%	<2.5%	<1%
Cotton	Kynetec (2014-2018)	TN	300,000	30,000	0%	20%	5%
Cotton	Kynetec (2014-2018)	TX	6,100,000	70,000	<1%	5%	<2.5%
Cotton	Kynetec (2014-2018)	AZ, CA	400,000	Surveyed but No Usage Reported			
Safflower	CADPR (2013-2017)	CA (32%)	50,000	<500	Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate		
Safflower	<i>Not Surveyed at the National Level</i>	<i>Other States</i>	<i>Not Surveyed at the National Level</i>				
Sunflowers	Kynetec (2014-2018)	KS	60,000	7,000	0%	25%	10%
Sunflowers	Kynetec (2014-2018)	NE	40,000	1,000	0%	10%	<2.5%
Sunflowers	Kynetec (2014-2018)	SD	600,000	3,000	0%	<2.5%	<1%
Sunflowers	Kynetec (2014-2018)	TX	70,000	3,000	0%	15%	5%
Sunflowers	Kynetec (2014-2018)	CO, MN, ND	700,000	Surveyed but No Usage Reported			
Sunflowers	CADPR (2013-2017)	CA (3%)	50,000	<500	Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate		
Root and Tuber Vegetables	<i>See individual crops below.</i>						
Potatoes	Kynetec (2014-2018)	FL	30,000	7,000	0%	50%	20%
Potatoes	Kynetec (2014-2018)	ID	300,000	2,000	0%	<1%	<1%

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Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT ^b	Max. Annual PCT ^b	Avg. Annual PCT ^b
Potatoes	Kynetec (2014-2018)	ME	50,000	800	0%	5%	<2.5%
Potatoes	Kynetec (2014-2018)	MI	50,000	8,000	<2.5%	25%	10%
Potatoes	Kynetec (2014-2018)	MN	40,000	7,000	0%	25%	10%
Potatoes	Kynetec (2014-2018)	NY	20,000	2,000	0%	25%	10%
Potatoes	Kynetec (2014-2018)	ND	80,000	3,000	0%	10%	<2.5%
Potatoes	Kynetec (2014-2018)	PA	3,000	<500	0%	15%	5%
Potatoes	Kynetec (2014-2018)	WI	70,000	20,000	0%	30%	15%
Potatoes	Kynetec (2014-2018)	CA, CO, MT, NE, NC, OR, TX, WA	300,000	Surveyed but No Usage Reported			

Notes	
Kynetec (YEAR-YEAR)	Agricultural usage surveyed by market research firm(s). Values rounded.
NASS (YEAR)	Surveyed by United States Department of Agriculture National Agricultural Statistics Service. Values rounded.
CADPR (YEAR)	Surveyed by the California Department of Pesticide Regulation. Percent grown in California is in parentheses. Values rounded.
a	The pounds AI displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
b	The PCTs displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
†	CAG represents the total number of acres that are grown of the crop in each state. It is independent of treatment with any pesticide. CAG source is the 2012 Census of Agriculture for NASS and CADPR sites, and Kynetec for Kynetec sites. Kynetec calculated CAG yearly based on the Census of Agriculture and other NASS data.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C., 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

April 30, 2020

MEMORANDUM

SUBJECT: S- Metolachlor (108800) National and State Use and Usage Summary

FROM: Briana Otte, Biologist
Science Information and Analysis Branch
Biological and Economic Analysis Division (7503P)

Briana Otte

THRU: Matthew Crowley, Acting Branch Chief
Science Information and Analysis Branch
Biological and Economic Analysis Division (7503P)

Matthew Crowley

TO: Cathy Tortorici, Division Chief
ESA Interagency Cooperation Division
Office of Protected Resources
National Oceanic and Atmospheric Administration- National Marine Fisheries Service

S-Metolachlor: National and State Summary Use and Usage Matrix

S-Metolachlor: National and State Use and Usage Summary

(April 30, 2020)

Introduction

This document presents a summary of the use and usage data that are available to the Agency on the active ingredient, during the years listed.

This document provides all available estimates of pesticide usage data for the active ingredient, nationally and by state. All registered use sites as of March 2020 are listed although usage data are not available for every site.

The intended use of the data presented here is to inform assumptions about how the active ingredient is used in the United States, and the extent, variability, and rate of that usage at the state level. Pesticide usage data are reported at the state level; usage data at more granular levels may not be statically valid due to reduced sample size. Extent and variability of usage at the state level are presented using minimum, maximum, and average percent crop treated (PCT) over the five-year observation period. PCT is calculated as the percent of the acres grown for a crop that are treated with the active ingredient. Additionally, the data may inform assumptions about crops and states where the active ingredient is likely not being used, by identifying crops that are surveyed for but where usage is not observed during the observation period. The state level estimates of pesticide usage presented here (especially PCT) can be used to inform estimates of the proportion of the species range that may be exposed to the active ingredient.

The pesticide usage data summarized herein were obtained from both public and private (proprietary) sources. As presented, the data are not proprietary, business confidential, or a trade secret. The most recent five years of available data as of March 2020 were used in order to represent current usage and the most recent use trend.

Data Sources

Kynetec USA, Inc. The AgroTrak Study, Database Subset (Kynetec)— proprietary pesticide usage. These data are collected and sold by a private market research firm. The data are collected by annual surveys of agricultural users in the continental United States and provides pesticide usage data for about 60 crops, including both specialty and row crops. The survey design targets at least 80 percent of US acreage/production of the surveyed commodities. Survey methodology provides statistically valid results, typically at the state and national levels. Kynetec USA, Inc. 2019. The AgroTrak® Study from Kynetec USA, Inc.

United States Department of Agriculture's National Agricultural Statistics Service (NASS) – publicly available pesticide usage data. NASS data are based on surveys that focus on the top-producing states that together account for the majority of U.S. acres or production of the surveyed commodity. NASS survey design targets a minimum of 80 percent of the acreage/production for every fruit, vegetable, and field crop surveyed. Operation level data are combined during summary and, pending compliance with disclosure rules, published at the state and national levels. NASS does not

S-Metolachlor: National and State Summary Use and Usage Matrix

collect data annually for each crop, but surveys for various commodities on a rotating schedule. USDA- NASS (United States Department of Agriculture's National Agricultural Statistics Service) Quick Stats. <https://quickstats.nass.usda.gov/>.

California Department of Pesticide Regulation (CADPR) Pesticide Use Reporting (PUR) – publicly available pesticide usage data. The PUR database contains detailed records and summaries of agricultural applications of pesticides on crops based on application permits. All agricultural growers must submit their production agricultural pesticide use reports monthly and pest control businesses must submit pesticide use reports within 7 days after application. As such, CADPR data are a census of all usage rather than a survey and are published annually. California Department of Pesticide Regulation Pesticide Use Reporting (CalPUR). <https://calpip.cdpr.ca.gov/main.cfm>.

The usage statistics presented are arithmetic averages of the survey results for the most recent five year period of available data. The average is obtained by dividing the total of the usage observed by the sampling frequency for the survey (five years for Kynetec and CADPR, and 1-2 years for NASS), regardless of whether usage is observed in each surveyed year (i.e., survey years are counted even if no usage was reported in that year). The presented data may thus underestimate the maximum yearly usage. Kynetec is the primary source of usage data because it is collected nationally and annually. It also provides usage data for the most sites among the available data sources. NASS data are used for crops which are not surveyed by Kynetec. CADPR data are used when neither national source surveys a crop. When over 80% of a crop is grown in California, California usage is considered to be representative of National usage. In these cases, CADPR data may be included in Table 1. When less than 80% of a crop is grown in California, but none of the national sources survey the crop, CADPR is included in Table 2 to represent only California usage. The presented data may not be a reliable indicator of the variability in usage between individual years. In certain cases, data are unavailable or withheld. These cases are specified in the tables as follows:

Some data sources do not provide all data elements. When a data element is not available this is indicated with a “—” notation in the relevant column.

If a registered use site is surveyed by one of our data sources and years listed but no usage is observed, this is indicated with “Surveyed but no usage reported”. Lack or reported usage data for the pesticide on a surveyed crop indicates that there is a very low likelihood that the given pesticide is used on that crop.

If a registered use site is not surveyed nationally by any of our data sources, this is indicated with “Not Surveyed at the National Level”.

If a registered use site is not surveyed in the registered state by any of our data sources, this is indicated with “Not Surveyed in Registered States”.

For some crops, CADPR has reported usage, but due to a reporting issue the data are not sufficiently reliable to provide an estimate. In these cases, Percent Crop Treated data are withheld. This is indicated with “Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate”.

S-Metolachlor: National and State Summary Use and Usage Matrix

Summary

S-Metolachlor is an herbicide registered for use on various berries, vegetables, grains, and field crops. The agricultural usage trend for s-metolachlor since 1998 is presented in Figure 1. Nationally, agricultural S-metolachlor usage in terms of both lbs AI applied and TAT has steadily increased from 1998-2018 (Kynetec 2019). During the most recent five years of available agricultural usage data (2014-2018), an annual average of approximately 10.7 million pounds of S-metolachlor were applied to approximately 10 million acres of agricultural crops (Kynetec 2019). Approximately 90% of total agricultural lbs AI applied and 90% of TAT from 2014-2018 were associated with corn (5.7 million pounds AI; 5.4 million TAT) and soybeans (3.5 million lbs AI; 3 million TAT) (Kynetec 2019). However, only 30% of corn acres and 15% of soybean acres were treated with s-metolachlor during this period (2014-2018; Kynetec, 2019). Percent crop treated with S-metolachlor is highest in tomatoes (60%), lima beans (60%), pumpkins (45%), peanuts (40%), and beans (snap, bush, pole, string [40%]) (2014-2018; Kynetec 2019). Based on the available data, aerial application of s-metolachlor occurs on beans (snap, bush, pole, string), corn, cotton, dry beans/peas, peanuts, potatoes, sorghum, soybeans, sugar beets, sunflower, sweet corn and tomatoes, although, only about 1% of the total lbs AI applied and 1% TAT were applied aerially across all crops from 2014-2018 (Kynetec 2019). Aerial applications are most common for sunflowers (3% of lbs AI applied; 3% of TAT) and sugar beets (2% lbs of AI applied; 2% of TAT) (2014-2018; Kynetec 2019). For the remaining crops, aerial applications accounted for no more than 1% lbs AI applied or TAT (Kynetec 2019). Further information on national s-metolachlor usage by crop is available in Table 1. Further information on percent of crops treated with s-metolachlor by state is available in Table 2. National-level non-agricultural usage data are available in Table 3.

S-Metolachlor: National and State Summary Use and Usage Matrix

Agricultural Usage

S-Metolachlor is an herbicide registered on the use sites listed in the tables below. The following document presents a summary of the use and usage data that are available to the Agency on this active ingredient, during the years listed.

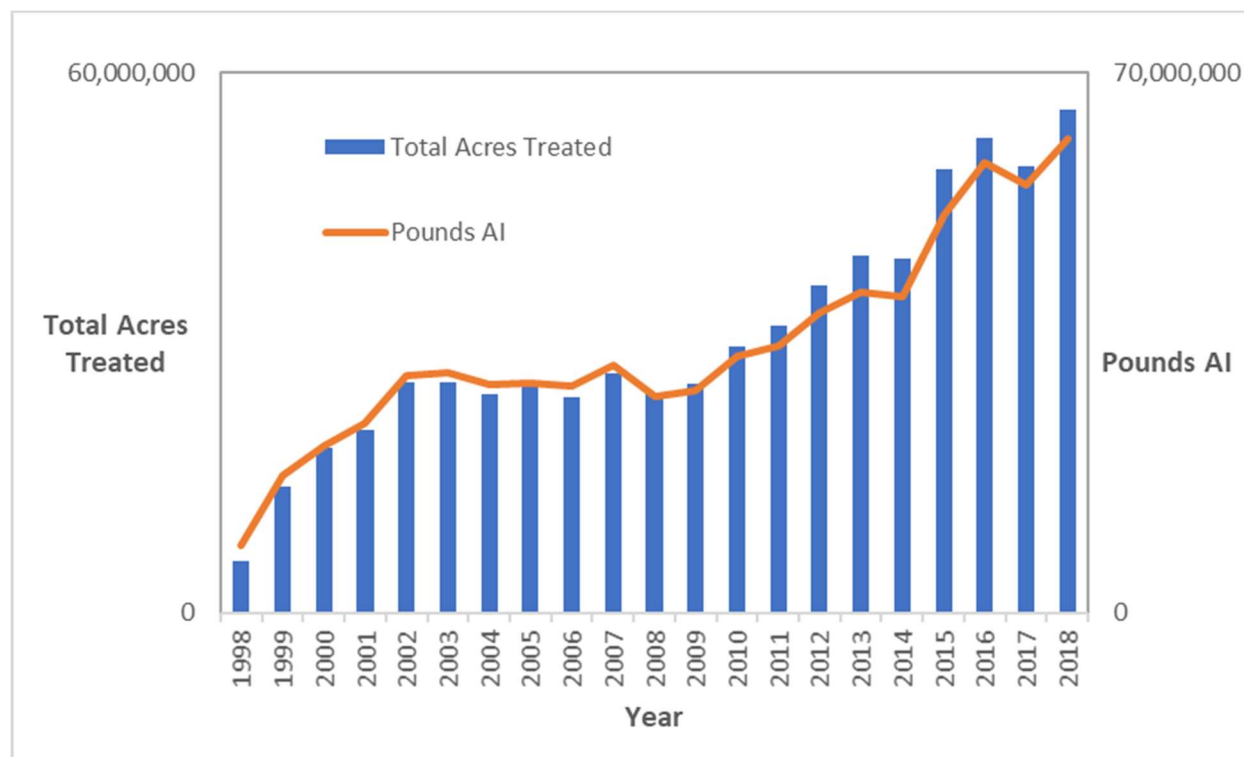


Figure 1: S-Metolachlor Total Acres Treated and Total Pounds A.I. Applied (1998-2018).

(Does not include crops surveyed only by NASS and CADPR, as indicated in Table 1)

Source: Kynetec USA, Inc. 2019. "The AgroTrak® Study from Kynetec USA, Inc." Database Subset: 1998-2018

S-Metolachlor: National and State Summary Use and Usage Matrix

Table 1. National S-Metolachlor Agricultural Use and Usage by Crop (Reported values are Averaged Over Reported Years and Rounded)

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
BERRY AND SMALL FRUIT	See individual crops below.						Full Crop Group Not Registered
Blueberries (registered in IL, IN, MA, MI, NC, NJ, OR)	NASS (2015, 2017)	MI, NJ, OR	(D)	--	--	1.2	(MA 1.26) (All other registered states 1.27)
Currant (registered in IL, IN, MI)	Not Surveyed in Registered States						1.27
Elderberry (registered in IL, IN, MI)	Not Surveyed in Registered States						1.27
Gooseberry (registered in IL, IN, MI)	Not Surveyed in Registered States						1.27
Huckleberry (registered in IL, IN, MI)	Not Surveyed in Registered States						1.27
Strawberries (registered in IL, IN, MI, OR)	Kynetec (2014-2018)	MI, OR	Surveyed but No Usage Reported				(OR 0.95) (IL, IN, MI 1.27)
CANEBERRY (Blackberry and raspberry subgroup 13A) (registered in MA)	Not Surveyed in Registered States						1.30
Blackberries (registered in IL, IN, MI, NC, OR)	NASS (2015, 2017)	OR	(D)	--	--	(D)	1.91
Raspberries (black and red) (registered in IL, IN, MI, NC, OR)	NASS (2015)	OR	(D)	--	--	(D)	1.91
Loganberry (registered in IN)	Not Surveyed in Registered States						1.91

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
BULB VEGETABLES	<i>See individual crops below.</i>						
Chive (fresh leaves and chinese chive fresh leaves) (registered in IN, MI)	<i>Not Surveyed in Registered States</i>						(IN 1.24) (MI 1.27)
Garlic (registered in IL, IN, MA, MI)	<i>Not Surveyed in Registered States</i>						(MA 1.27) (IN 1.24) (IL & MI 1.27)
Leek (registered in IL, IN, MI, NJ, WI)	<i>Not Surveyed in Registered States</i>						(IN 1.24) (IL, MI, NJ, WI 1.27)
Onions (registered in CA, CO, ID, IN, KS, MA, MI, MN, NC, NJ, NM, PA, TX, UT, VA)	Kynetec (2014-2018)	CO, ID	1,000	2,000	0%	0.4	(NC 0.95) (IN 1.24) (All other registered states 1.27)
Onion, Dry Bulb (registered in WI)	NASS (2014)	WI	(D)	--	--	(D)	(WI 1.27)
Onion, Green (registered in WI)	<i>Not Surveyed in Registered States</i>						(WI 1.27)
Shallot (registered in IN, MI)	<i>Not Surveyed in Registered States</i>						(IN 1.24) (MI 1.27)
CEREAL GRAINS	<i>See individual crops below.</i>						Full Crop Group Not Registered
Corn	Kynetec (2014-2018)	AL, AR, CA, CO, DE, GA, ID, IL, IN, IA, KS, KY, LA, MD, MI, MN, MS, MO, NE, NM, NY, NC, ND, OH, OK, PA, SC, SD, TN, TX, VA, WA, WI	28,500,000	27,200,000	<1%	1.00	2.48

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
Sorghum (Milo)	Kynetec (2014-2018)	AR, CO, GA, IL, KS, LA, MO, NE, NM, OK, SD, TX	2,700,000	2,500,000	<2.5%	1.10	1.68
Sweet Corn	Kynetec (2014-2018)	CA, FL, GA, IL, MI, MN, NJ, NY, OH, OR, PA, WA, WI	200,000	200,000	<1%	1.30	1.83
CUCURBITS VEGETABLES	<i>See individual crops below.</i>						Full Crop Group Not Registered
Cantaloupes (registered in AR, IL, MA, MO)	<i>Not Surveyed in Registered States</i>						(AR 0.95 seasonal rate) (IL, MA, MO 1.21)
Citron (registered in IL, IN, MA, MI)	<i>Not Surveyed in Registered States</i>						1.21
Cucumbers (registered in AR, IL, IN, MA, MI, WI)	Kynetec (2014-2018)	MI, WI	900	700	0%	0.30	(WI & MA 1.27) (all other registered states 0.95)
Muskmelon (registered in IL, IN, MA, MI)	<i>Not Surveyed in Registered States</i>						1.21
Pumpkins	Kynetec (2014-2018)	CA, CO, CT, IL, IN, MA, MI, MN, MO, NJ, NY, NC, OH, OR, PA, TN, TX, VA, WI	30,000	30,000	0%	1.00	(IL, IN, MA, MI, TX 1.27) (US 1.3)
Squash (registered in IL, IN, MI for summer and winter squash) (registered in AR for summer squash) (registered in MA, CT, MN for winter squash)	Kynetec (2014-2018)	CT, MI	600	600	0%	0.70	1.27

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
Watermelons (registered in AR, DE, IL, IN, MA, MI, MO, TX, VA)	Kynetec (2014-2018)	IN	6,000	5,000	0%	0.60	(AR, DE, IL, IN, MA, MI, MO, VA 1.21) (TX 1.27)
FRUITING VEGETABLES GROUP	<i>See individual crops below.</i>						Full Crop Group Not Registered
Eggplant (registered in IL, IN, MI, WI)	<i>Not Surveyed in Registered States</i>						1.27
Okra (registered in IL, IN, MI)	NASS (2014-2016)	IL, IN, MI	Surveyed but No Usage Reported				1.91
Peppers (registered in CA, FL, GA, NC, NM, OR, PA, VA for Bell Peppers) (registered in ID, IL, IN, MA, MI, NJ, OK, TX, WI for Bell and Non-Bell Peppers) (registered in CA, NM for Chili Type) ^d	Kynetec (2014-2018)	CA, FL, GA, NJ, NM, NC	20,000	20,000	0%	0.92	(Bell Peppers: CA & OR 1.60) (Bell Peppers: VA 1.27) (Bell Peppers: FL, GA, NC, NM, PA 0.95) (Bell and Non-Bell Peppers: ID 1.60) (Bell and Non-Bell Peppers: NJ 1.27) (Bell and Non-Bell Peppers: IL, IN, MA, MI, OK, TX, WI 0.95) (Chili Peppers: CA 1.60) (Chili Peppers: NM 1.27)
Peppers, Tabasco (registered in LA)	<i>Not Surveyed in Registered States</i>						2.48
Tomatoes	Kynetec (2014-2018)	CA, FL	300,000	200,000	<1%	1.30	(CA 1.60) (US 1.91)

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
BRASSICA LEAFY VEGETABLES	See individual crops below.						
Broccoli (registered in AR, IL, IN, MA, MI, NC, VA, WI)	NASS (2014,2016)	AR, IL, IN, MA, MI, NC, VA, WI	Surveyed but No Usage Reported				(AR & IN 1.24) (NC 1.19) (all other registered states 1.27)
Brussel Sprouts (registered in IN, WI)	Not Surveyed in Registered States						(IN 1.24) (WI 1.27)
Chinese Cabbage (registered in AR, IN, NC, MI, VA, WI)	Not Surveyed in Registered States						(AR & IN 1.24) (NC 1.19) (MI, VA & WI 1.27)
Cauliflower (registered in IN, NC, VA, WI)	NASS (2014,2016)	IN, NC, VA, WI	Surveyed but No Usage Reported				(NC 1.19) (IN 1.24) (VA and WI 1.27)
Cabbage (registered in AR, FL, GA, IL, IN, MA, MI, NC, NJ, PA, TX, VA, WI) ^e	Kynetec (2014-2018)	FL, GA, MI, NC, TX	8,000	7,000	0%	0.50	(GA & NC 1.19) (IN & AR 1.24) (FL 3.81) (all other registered states 1.27)
LEAFY BRASSICA GREENS Subgroup 5B	See individual crops below.						
Broccoli Raab (registered in IL, IN, MA, MI, TN)	Not Surveyed in Registered States						(TN 0.64) (IL, IN, MA, MI 1.27)
Chinese Cabbage (Bok Choy) (registered in IL, IN, MA, MI, NC, TN)	Not Surveyed in Registered States						(NC 1.19) (TN 0.64) (all other registered states 1.27)
Mustard Spinach (registered in IN, MA, MI, TN)	Not Surveyed in Registered States						(TN 0.64) (IN, MA, MI 1.27)

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
Rape Greens (registered in IN, MA, MI, TN)	<i>Not Surveyed in Registered States</i>						(TN 0.64) (IN, MA, MI 1.27)
Collards (registered in AR, ID, IL, IN, MA, MI, NC, VA)	<i>Not Surveyed in Registered States</i>						(ID 0.64) (NC 1.19) (all other registered states 1.27)
Mizuna (registered in IN, MA, MI, TN)	<i>Not Surveyed in Registered States</i>						(TN 0.64) (IN, MA, MI 1.27)
Mustard Greens (registered in AR, ID, IL, IN, MA, MI)	<i>Not Surveyed in Registered States</i>						(ID 0.64) (all other registered states 1.27)
Kale (registered in AR, ID, IL, IN, MA, MI, NC, TN, VA)	<i>Not Surveyed in Registered States</i>						(AR, IL, IN, MA, MI, VA 1.27) (NC 1.19) (ID, TN 0.64)
LEAFY VEGETABLES	<i>See individual crops below.</i>						Full Crop Group Not Registered
Celery (registered in CA, IN, MI, WI)	Kynetec (2014-2018)	CA, MI	<500	<500	0%	0.40	(CA 1.27) (all other registered states 1.91)
Cilantro (registered in IN, MI)	<i>Not Surveyed in Registered States</i>						0.95
Rhubarb	<i>Not Surveyed at the National Level</i>						1.3
Spinach (registered in CA, CO, DE, IL, IN, MA, MI, MO, NC, NJ, OK, OR, PA, TX, VA, WI)	Kynetec (2014-2018)	CA, CO, NJ, OK, TX	3,000	4,000	0%	0.30	(CO, DE, MA, MO, NC, NJ, OK, OR, TX, VA 0.64) (all other registered states 0.95)

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
Swiss Chard (registered in CA, IL, IN, MA, MI, NJ, OR, TX, WI)	<i>Not Surveyed in Registered States</i>						(CA 1.27) (all other registered states 0.95)
Turnip Greens (registered in AR, IL, IN, MI, TN)	<i>Not Surveyed in Registered States</i>						(TN 0.64) (AR, IL, IN, MI 1.27)
LEGUME VEGETABLES (SUCCULENT OR DRIED)	<i>See individual crops below.</i>						1.91 (except soybeans)
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	CA, FL, GA, IL, IN, MI, NY, NC, OR, PA, TN, WI	90,000	80,000	<1%	1.10	(TN 0.71) (US 1.91)
Dry Beans/Peas	Kynetec (2014-2018)	CA, CO, ID, MI, MN, MT, NE, ND, TX, WA	400,000	300,000	<1%	1.20	(ND 1.28) (US 1.91)
Lentils	<i>Not Surveyed at the National Level</i>						1.91
Lima Beans	Kynetec (2014-2018)	CA, DE, IL, MD, WA, WI	20,000	10,000	0%	1.30	(TN 0.71) (US 1.91)
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	MN, NY, OR, WA, WI	10,000	10,000	0%	1.30	(southern pea in TN 0.71) (US 1.91)
Soybeans	Kynetec (2014-2018)	AL, AR, DE, GA, IL, IN, IA, KS, KY, LA, MD, MI, MN, MS, MO, NE, NY, NC, ND, OH, OK, PA, SC, SD, TN, TX, VA, WI	17,400,000	15,300,000	<2.5%	1.10	2.48
Soybeans, Edible (Edamame)	<i>Not Surveyed at the National Level</i>						1.91

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
NONGRASS ANIMAL FEEDS (FORAGE, FODDER, STRAW AND HAY)	See individual crops below.						Full Crop Group Not Registered
Alfalfa (registered in NV, OR)	Kynetec (2014-2018)	NV, OR	Surveyed but No Usage Reported				(OR 3.20) (NV 3.15)
OILSEED GROUP	See individual crops below.						Full Crop Group Not Registered
Cotton	Kynetec (2014-2018)	AL, AR, CA, FL, GA, KS, LA, MS, MO, NC, OK, SC, TN, TX	2,100,000	2,200,000	<1%	1.00	1.60
Safflower	Not Surveyed at the National Level						1.91
Sesame (registered in AL, FL, KS, OK, TX)	Not Surveyed in Registered States						1.27
Sunflowers	Kynetec (2014-2018)	CO, KS, MN, NE, ND, SD, TX	200,000	200,000	5%	1.00	1.91
ROOT AND TUBER VEGETABLES	See individual crops below.						Full Crop Group Not Registered
Daikon radish (registered in ID, IL, IN, MI, WI)	Not Surveyed in Registered States						(ID 0.64) (IN 1.24) (IL, MI, WI 1.27)
Horseradish	Not Surveyed at the National Level						1.3
Parsnip (registered in ID, IL, IN, MI, WI)	Not Surveyed in Registered States						(ID 0.64) (IN 1.24) (IL, MI, WI 1.27)
Rutabaga (registered in ID, IL, IN, MI, WI)	Not Surveyed in Registered States						(ID 0.64) (IN 1.24) (IL, MI, WI 1.27)

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
Sweet Potatoes (registered in AR, ID, IL, IN, LA, MI, MO, MS, NC, OK, OR, TX, WI)	<i>Not Surveyed in Registered States</i>						(ID 0.64) (NC 0.95) (IN, MO, OK 1.24) (LA 1.27) (all other registered states 1.27)
Sugar Beets	Kynetec (2014-2018)	CO, ID, MI, MN, MT, NE, ND	200,000	300,000	<2.5%	1.00	(MN ND 1.91) (all other registered states 1.60)
Turnip (registered in ID, IL, IN, MI, WI)	<i>Not Surveyed in Registered States</i>						(ID 0.64) (IN 1.24) (IL, MI, WI 1.27)
ROOT VEGETABLES (except sugar beet and horseradish) subgroup 1B (registered in CA, FL)	<i>Crop Group Not Surveyed</i>						1.27
Garden Beets (registered in CA, FL, ID, IN, IL, MA, MI, OR, TX, WI)	<i>Not Surveyed in Registered States</i>						(ID 0.64) (TX, MA, OR 0.64) (CA, FL, MI, IL, IN, WI 1.27)
Carrots (registered in CA, FL, IL, IN, MA, MI, MN, NJ, WI)	Kynetec (2014-2018)	CA, MI, WI	900	600	0%	0.40	(IL, IN, MI, NJ, MN, WI 1.91) (CA, FL, MA 1.27)
Celeriac (registered in CA, FL)	<i>Not Surveyed in Registered States</i>						1.27
Radish (registered in CA, FL, OR, WY)	<i>Not Surveyed in Registered States</i>						1.27

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
STALK, STEM, AND LEAF PETIOLE VEGETABLE GROUP	<i>See individual crops below.</i>						Full Crop Group Not Registered
Asparagus (registered in DE, IL, IN, MA, MI, NJ)	Kynetec (2014-2018)	MI	10,000	8,000	0%	1.30	1.91
TUBEROUS AND CORM VEGETABLES	<i>See individual crops below.</i>						Full Crop Group Not Registered
Tuberous and Corm Vegetables Subgroup 1C (except potato and chufa) (registered in FL)	<i>Not Surveyed in Registered States</i>						1.27
Tuberous and Corm Vegetables Subgroup 1C (CA)	<i>Not Surveyed in Registered States</i>						1.27
Potatoes	Kynetec (2014-2018)	CA, CO, FL, ID, ME, MI, MN, MT, NE, NY, NC, ND, OR, PA, WA, WI	300,000	200,000	<1%	1.30	2.48

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied ^a	Avg. Annual Total Acres Treated ^b	% Acres Treated by Air	Avg. Single AI Rate (lb AI/A)	Max Labeled Single AI Rate ^c (lb AI/A)
MISC CROPS	<i>See individual crops below.</i>						
Peanuts (registered in south and south-eastern states)	Kynetec (2014-2018)	AL, FL, GA, NC, OK, SC, TX, VA	800,000	700,000	<1%	1.20	(Southeast 1.92) (TX, OK, NM 1.28)
Stevia (registered in NC)	<i>Not Surveyed in Registered States</i>						1.27

Notes	
Kynetec (YEAR-YEAR)	Agricultural usage surveyed by market research firm(s). Values rounded.
NASS (YEAR)	Surveyed by the United States Department of Agriculture National Agricultural Statistics Service. Values rounded.
a	The pounds AI displayed in this document may differ from those displayed in the Screening Level Usage Analysis (SLUA) and other BEAD documents, because different calculation methods were used.
b	Total Acres Treated accounts for multiple applications to a single area. This may overestimate the number of acres treated as some acres are treated more than once.
c	Max labeled rate from the 2014 Label Data Report, updated in 2020.
d	Special Local Need (SLN) registration FL990007 is included in this report due to significant usage reported, despite the since-passed labeled expiration (expired July 31, 2009); the SLN registration has not been formally cancelled. SLN registration GA090001 (expired December 31, 2019) is also included in this report due to the active registration during the years of this report and the significant amount of usage reported.
e	Registration number FL990006 (expired July 31, 2009) is included in this report due to significant usage reported. Although the registration is expired it legally can still be used as it is not formally cancelled. Registration number GA090001 (expired December 31, 2019) is included in this report due to the active registration during the years of this report and the significant amount of usage reported.
(D)	Data withheld by NASS to avoid disclosing data for individual operations.
--	Data unavailable.

S-Metolachlor: National and State Summary Use and Usage Matrix

Table 2. National S-Metolachlor Agricultural Use and Usage by Crop and State (Reported values are Averaged Over Reported Years and Rounded).

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
BERRY AND SMALL FRUIT	See individual crops below.						
Blueberries	NASS (2015, 2017)	MI	20,000	(D)	(D)	(D)	(D)
Blueberries	NASS (2015, 2017)	NJ	10,000	(D)	(D)	(D)	(D)
Blueberries	NASS (2015, 2017)	OR	9,000	(D)	(D)	(D)	(D)
Blueberries	Not Surveyed in Registered States	IL, IN, MA, NC	9,000	Not Surveyed in Registered States			
Currant	Not Surveyed in Registered States	IL, IN, MI	<500	Not Surveyed in Registered States			
Elderberry	Not Surveyed in Registered States	IL, IN, MI	--	Not Surveyed in Registered States			
Gooseberry	Not Surveyed in Registered States	IL, IN, MI	--	Not Surveyed in Registered States			
Huckleberry	Not Surveyed in Registered States	IL, IN, MI	--	Not Surveyed in Registered States			
Strawberries	Kynetec (2014-2018)	MI, OR	10,000	Surveyed but No Usage Reported			
Strawberries	Not Surveyed in Registered States	IL, IN	600	Not Surveyed in Registered States			
CANEBERRY (Blackberry and raspberry subgroup 13A)	Not Surveyed in Registered States						
Blackberries	NASS (2015)	IN, OR	7,000	Surveyed but No Usage Reported			
Blackberries	Not Surveyed in Registered States	IL, MI, NC	900	Not Surveyed in Registered States			
Raspberries (black and red)	NASS (2015)	OR	3,000	(D)	(D)	(D)	(D)

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Raspberries (black and red)	NASS (2015)	MI	600	Surveyed but No Usage Reported			
Raspberries (black and red)	<i>Not Surveyed in Registered States</i>	IL, IN, NC	<500	<i>Not Surveyed in Registered States</i>			
Loganberry	<i>Not Surveyed in Registered States</i>	IN	--	<i>Not Surveyed in Registered States</i>			
BULB VEGETABLES	See individual crops below.						
Chive	<i>Not Surveyed in Registered States</i>	IN, MI	--	<i>Not Surveyed in Registered States</i>			
Garlic	NASS (2014, 2016)	MA	<500	Surveyed but No Usage Reported			
Garlic	<i>Not Surveyed in Registered States</i>	IL, IN, MI	<500	<i>Not Surveyed in Registered States</i>			
Leek	<i>Not Surveyed in Registered States</i>	IL, IN, MI, NJ, WI	--	<i>Not Surveyed in Registered States</i>			
Onions	Kynetec (2014-2018)	CA	50,000	Surveyed but No Usage Reported			
Onions	Kynetec (2014-2018)	CO	2,000	1,000	0%	90%	25%
Onions	Kynetec (2014-2018)	ID	8,000	600	0%	40%	15%
Onions	Kynetec (2014-2018)	TX	5,000	Surveyed but No Usage Reported			
Onions	<i>Not Surveyed in Registered States</i>	IN, KS, MA, MI, MN, NC, NJ, NM, PA, UT, VA	(D)	<i>Not Surveyed in Registered States</i>			
Onion, Dry	NASS (2014)	WI	2,000	(D)	(D)	(D)	(D)
Onion, Green	<i>Not Surveyed in Registered States</i>	WI	<500	<i>Not Surveyed in Registered States</i>			
Shallot	<i>Not Surveyed in Registered States</i>	IN, MI	--	<i>Not Surveyed in Registered States</i>			

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
CEREAL GRAINS	<i>See individual crops below.</i>						
Corn	Kynetec (2014-2018)	AL	300,000	80,000	10%	45%	25%
Corn	Kynetec (2014-2018)	AR	600,000	400,000	40%	70%	55%
Corn	Kynetec (2014-2018)	CA	500,000	50,000	<1%	25%	10%
Corn	Kynetec (2014-2018)	CO	1,300,000	400,000	25%	40%	30%
Corn	Kynetec (2014-2018)	DE	200,000	70,000	20%	75%	40%
Corn	Kynetec (2014-2018)	GA	400,000	30,000	<2.5%	40%	15%
Corn	Kynetec (2014-2018)	ID	300,000	20,000	<2.5%	10%	5%
Corn	Kynetec (2014-2018)	IL	11,500,000	4,800,000	35%	45%	40%
Corn	Kynetec (2014-2018)	IN	5,600,000	1,900,000	25%	35%	30%
Corn	Kynetec (2014-2018)	IA	13,600,000	3,800,000	25%	30%	25%
Corn	Kynetec (2014-2018)	KS	4,700,000	2,100,000	35%	45%	40%
Corn	Kynetec (2014-2018)	KY	1,400,000	500,000	25%	35%	30%
Corn	Kynetec (2014-2018)	LA	500,000	200,000	15%	50%	35%
Corn	Kynetec (2014-2018)	MD	500,000	300,000	35%	80%	60%
Corn	Kynetec (2014-2018)	MI	2,500,000	800,000	25%	30%	30%
Corn	Kynetec (2014-2018)	MN	8,200,000	1,500,000	15%	20%	20%
Corn	Kynetec (2014-2018)	MS	600,000	300,000	30%	65%	45%
Corn	Kynetec (2014-2018)	MO	3,400,000	1,500,000	35%	40%	40%
Corn	Kynetec (2014-2018)	NE	9,600,000	3,500,000	30%	35%	35%
Corn	Kynetec (2014-2018)	NM	100,000	60,000	0%	55%	30%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Corn	Kynetec (2014-2018)	NY	1,100,000	500,000	30%	45%	35%
Corn	Kynetec (2014-2018)	NC	900,000	400,000	25%	60%	40%
Corn	Kynetec (2014-2018)	ND	3,300,000	100,000	<2.5%	10%	5%
Corn	Kynetec (2014-2018)	OH	3,600,000	1,200,000	25%	30%	30%
Corn	Kynetec (2014-2018)	OK	300,000	200,000	20%	65%	50%
Corn	Kynetec (2014-2018)	PA	1,400,000	600,000	35%	45%	40%
Corn	Kynetec (2014-2018)	SC	300,000	90,000	15%	55%	30%
Corn	Kynetec (2014-2018)	SD	5,400,000	700,000	10%	20%	15%
Corn	Kynetec (2014-2018)	TN	900,000	300,000	20%	50%	40%
Corn	Kynetec (2014-2018)	TX	2,400,000	500,000	10%	35%	25%
Corn	Kynetec (2014-2018)	VA	500,000	300,000	40%	55%	45%
Corn	Kynetec (2014-2018)	WA	200,000	30,000	0%	35%	20%
Corn	Kynetec (2014-2018)	WI	4,100,000	1,400,000	30%	35%	30%
Corn	Kynetec (2014-2018)	WY	90,000	Surveyed but No Usage Reported			
Sorghum (Milo)	Kynetec (2014-2018)	AR	200,000	90,000	30%	65%	45%
Sorghum (Milo)	Kynetec (2014-2018)	CO	400,000	100,000	5%	40%	20%
Sorghum (Milo)	Kynetec (2014-2018)	GA	30,000	20,000	20%	75%	50%
Sorghum (Milo)	Kynetec (2014-2018)	IL	30,000	10,000	10%	85%	55%
Sorghum (Milo)	Kynetec (2014-2018)	KS	3,000,000	1,600,000	40%	55%	45%
Sorghum (Milo)	Kynetec (2014-2018)	LA	50,000	50,000	0%	85%	50%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Sorghum (Milo)	Kynetec (2014-2018)	MO	80,000	40,000	20%	50%	35%
Sorghum (Milo)	Kynetec (2014-2018)	NE	200,000	70,000	10%	60%	30%
Sorghum (Milo)	Kynetec (2014-2018)	NM	70,000	10,000	0%	30%	10%
Sorghum (Milo)	Kynetec (2014-2018)	OK	400,000	200,000	20%	50%	40%
Sorghum (Milo)	Kynetec (2014-2018)	SD	300,000	70,000	10%	55%	25%
Sorghum (Milo)	Kynetec (2014-2018)	TX	2,200,000	600,000	25%	35%	25%
Sorghum (Milo)	NASS (2015, 2017)	CA	10,000	Surveyed but No Usage Reported			
Sweet Corn	Kynetec (2014-2018)	CA	30,000	6,000	5%	30%	15%
Sweet Corn	Kynetec (2014-2018)	FL	40,000	2,000	<1%	15%	5%
Sweet Corn	Kynetec (2014-2018)	GA	20,000	7,000	0%	95%	35%
Sweet Corn	Kynetec (2014-2018)	IL	20,000	10,000	35%	70%	55%
Sweet Corn	Kynetec (2014-2018)	MI	4,000	4,000	0%	85%	35%
Sweet Corn	Kynetec (2014-2018)	MN	100,000	50,000	25%	35%	30%
Sweet Corn	Kynetec (2014-2018)	NJ	3,000	3,000	0%	100%	40%
Sweet Corn	Kynetec (2014-2018)	NY	30,000	30,000	65%	100%	85%
Sweet Corn	Kynetec (2014-2018)	OH	10,000	10,000	35%	85%	65%
Sweet Corn	Kynetec (2014-2018)	OR	20,000	10,000	30%	60%	45%
Sweet Corn	Kynetec (2014-2018)	PA	5,000	6,000	0%	100%	40%
Sweet Corn	Kynetec (2014-2018)	WA	90,000	10,000	5%	25%	10%
Sweet Corn	Kynetec (2014-2018)	WI	60,000	40,000	45%	60%	50%
Sweet Corn	NASS (2014)	CO	5,000	(D)	(D)	(D)	(D)

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Sweet Corn	NASS (2016)	IN	6,000	(D)	(D)	(D)	(D)
Sweet Corn	NASS (2014)	NC	5,000	<500	0%	15%	5%
Sweet Corn	NASS (2016)	TX	5,000	(D)	(D)	(D)	(D)
CUCURBITS VEGETABLES	<i>See individual crops below.</i>						
Cantaloupes	<i>Not Surveyed in Registered States</i>	AR, IL, MA, MO	--	<i>Not Surveyed in Registered States</i>			
Citron	<i>Not Surveyed in Registered States</i>	IL, IN, MA, MI	--	<i>Not Surveyed in Registered States</i>			
Cucumbers	Kynetec (2014-2018)	MI	40,000	1,000	0%	10%	<2.5%
Cucumbers	Kynetec (2014-2018)	WI	6,000	<500	0%	5%	<1%
Cucumbers	<i>Not Surveyed in Registered States</i>	AR, IL, IN, MA	2,000	<i>Not Surveyed in Registered States</i>			
Muskmelon	<i>Not Surveyed in Registered States</i>	IL, IN, MA, MI	--	<i>Not Surveyed in Registered States</i>			
Pumpkins	Kynetec (2014-2018)	CA	6,000	<500	0%	<2.5%	<1%
Pumpkins	Kynetec (2014-2018)	CO	<500	<500	0%	35%	10%
Pumpkins	Kynetec (2014-2018)	CT	1,000	700	20%	100%	55%
Pumpkins	Kynetec (2014-2018)	IL	20,000	10,000	35%	90%	65%
Pumpkins	Kynetec (2014-2018)	IN	5,000	2,000	<2.5%	90%	45%
Pumpkins	Kynetec (2014-2018)	MA	2,000	1,000	45%	100%	70%
Pumpkins	Kynetec (2014-2018)	MI	5,000	900	15%	20%	20%
Pumpkins	Kynetec (2014-2018)	MN	2000	<500	0%	<2.5%	<1%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Pumpkins	Kynetec (2014-2018)	MO	1,000	<500	0%	80%	25%
Pumpkins	Kynetec (2014-2018)	NJ	2,000	<500	0%	50%	15%
Pumpkins	Kynetec (2014-2018)	NY	5,000	3,000	35%	100%	70%
Pumpkins	Kynetec (2014-2018)	NC	2,000	<500	0%	30%	10%
Pumpkins	Kynetec (2014-2018)	OH	7,000	4,000	60%	80%	70%
Pumpkins	Kynetec (2014-2018)	OR	2,000	<500	0%	15%	10%
Pumpkins	Kynetec (2014-2018)	PA	5,000	2,000	10%	70%	40%
Pumpkins	Kynetec (2014-2018)	TN	<500	500	0%	100%	20%
Pumpkins	Kynetec (2014-2018)	TX	3,000	2,000	0%	85%	35%
Pumpkins	Kynetec (2014-2018)	VA	2,000	2,000	75%	90%	85%
Pumpkins	Kynetec (2014-2018)	WI	2,000	700	5%	60%	35%
Pumpkins	Kynetec (2014-2018)	MD, NM, WA	2,000	Surveyed but No Usage Reported			
Squash	Kynetec (2014-2018)	CT	800	<500	0%	65%	25%
Squash	Kynetec (2014-2018)	MI	6,000	<500	0%	20%	10%
Squash	Kynetec (2014-2018)	MA	2,000	Surveyed but No Usage Reported			
Squash	<i>Not Surveyed in Registered States</i>	AR, IL, IN, MN	2,000	<i>Not Surveyed in Registered States</i>			
Watermelons	Kynetec (2014-2018)	IN	7,000	4,000	0%	85%	50%
Watermelons	Kynetec (2014-2018)	MO, TX	30,000	Surveyed but No Usage Reported			
Watermelons	<i>Not Surveyed in Registered States</i>	AR, DE, IL, MA, MI, VA	--	<i>Not Surveyed in Registered States</i>			

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
FRUITING VEGETABLES GROUP	<i>See individual crops below.</i>						
Eggplant	<i>Not Surveyed in Registered States</i>	IL, IN, MI, WI	<500	<i>Not Surveyed in Registered States</i>			
Okra	NASS (2014-2016)	IL, IN, MI	<500	Surveyed but No Usage Reported			
Peppers	Kynetec (2014-2018)	CA	30,000	9,000	10%	40%	25%
Peppers	Kynetec (2014-2018)	FL	10,000	5,000	0%	65%	35%
Peppers	Kynetec (2014-2018)	GA	3,000	800	0%	85%	35%
Peppers	Kynetec (2014-2018)	NJ	1,000	600	0%	50%	20%
Peppers	Kynetec (2014-2018)	NM	8,000	5,000	10%	95%	60%
Peppers	Kynetec (2014-2018)	NC	2,000	800	20%	90%	40%
Peppers	Kynetec (2014-2018)	TX	700	Surveyed but No Usage Reported			
Peppers	NASS (2014, 2016)	MI	2,000	Surveyed but No Usage Reported			
Peppers	<i>Not Surveyed in Registered States</i>	ID, IL, IN, MA, OK, OR, PA, VA, WI	3,000	<i>Not Surveyed in Registered States</i>			
Peppers, Tabasco	<i>Not Surveyed in Registered States</i>	LA	--	<i>Not Surveyed in Registered States</i>			
Tomatoes	Kynetec (2014-2018)	CA	300,000	300,000	60%	70%	65%
Tomatoes	Kynetec (2014-2018)	FL	30,000	10,000	15%	65%	40%
Tomatoes	NASS (2014, 2016)	NJ	4,000	<500	0%	20%	10%
Tomatoes	NASS (2014, 2016)	NC	4,000	(D)	(D)	(D)	(D)
Tomatoes	NASS (2014, 2016)	OH	5,000	(D)	(D)	(D)	(D)

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Tomatoes	NASS (2014, 2016)	TN	4,000	(D)	(D)	(D)	(D)
BRASSICA LEAFY VEGETABLES	<i>See individual crops below.</i>						
Broccoli	NASS (2014,2016)	MI	<500	Surveyed but No Usage Reported			
Broccoli	<i>Not Surveyed in Registered States</i>	AR, IL, IN, MA, NC, VA, WI	1,000	<i>Not Surveyed in Registered States</i>			
Brussel Sprouts	<i>Not Surveyed in Registered States</i>	IN, WI	<500	<i>Not Surveyed in Registered States</i>			
Chinese Cabbage	<i>Not Surveyed in Registered States</i>	AR, IN, NC, MI, VA, WI	<500	<i>Not Surveyed in Registered States</i>			
Cauliflower	<i>Not Surveyed in Registered States</i>	IN, NC, VA, WI	<500	<i>Not Surveyed in Registered States</i>			
Cabbage	Kynetec (2014-2018)	FL	7,000	3,000	0%	100%	30%
Cabbage	Kynetec (2014-2018)	GA	4,000	2,200	0%	100%	60%
Cabbage	Kynetec (2014-2018)	MI	4,000	2,000	15%	90%	55%
Cabbage	Kynetec (2014-2018)	NC	3,000	<500	0%	20%	5%
Cabbage	Kynetec (2014-2018)	TX	4,000	<500	0%	30%	10%
Cabbage	NASS (2014, 2018)	WI	5,000	(D)	(D)	(D)	(D)
Cabbage	NASS (2014, 2018)	NJ	1,000	Surveyed but No Usage Reported			
Cabbage	<i>Not Surveyed in Registered States</i>	AR, IL, IN, MA, PA, VA	(D)	<i>Not Surveyed in Registered States</i>			

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
LEAFY BRASSICA GREENS Subgroup 5B	See individual crops below.						
Broccoli Raab	Not Surveyed in Registered States	IL, IN, MA, MI, TN	--	Not Surveyed in Registered States			
Chinese Cabbage (Bok Choy)	Not Surveyed in Registered States	IL, IN, MA, MI, NC, TN	--	Not Surveyed in Registered States			
Mustard Spinach	Not Surveyed in Registered States	IN, MA, MI, TN	--	Not Surveyed in Registered States			
Rape Greens	Not Surveyed in Registered States	IN, MA, MI, TN	--	Not Surveyed in Registered States			
Collards	Not Surveyed in Registered States	AR, ID, IL, IN, MA, MI, NC, VA	--	Not Surveyed in Registered States			
Mizuna	Not Surveyed in Registered States	IN, MA, MI, TN	--	Not Surveyed in Registered States			
Mustard Greens	Not Surveyed in Registered States	AR, ID, IL, IN, MA, MI	--	Not Surveyed in Registered States			
Kale	Not Surveyed in Registered States	AR, ID, IL, IN, MA, MI, NC, TN, VA	--	Not Surveyed in Registered States			
LEAFY VEGETABLES	See individual crops below.						
Celery	Kynetec (2014-2018)	CA	30,000	<500	0%	<1%	<1%
Celery	Kynetec (2014-2018)	MI	700	<500	0%	20%	10%
Celery	Not Surveyed in Registered States	IN, WI	<500	Not Surveyed in Registered States			
Cilantro	Not Surveyed in Registered States	IN, MI	--	Not Surveyed in Registered States			
Rhubarb	Not Surveyed at the National Level						

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Spinach	Kynetec (2014-2018)	CA	30,000	2,000	5%	15%	10%
Spinach	Kynetec (2014-2018)	CO	<500	<500	0%	70%	15%
Spinach	Kynetec (2014-2018)	NJ	1,000	700	0%	100%	40%
Spinach	Kynetec (2014-2018)	OK	800	<500	0%	40%	10%
Spinach	Kynetec (2014-2018)	TX	<500	<500	0%	95%	20%
Spinach	<i>Not Surveyed in Registered States</i>	DE, IL, IN, MA, MI, MO, NC, OR, PA, VA, WI	1,000	<i>Not Surveyed in Registered States</i>			
Swiss Chard	CADPR (2013-2017)	CA (--)	--	<500	Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate		
Swiss Chard	<i>Not Surveyed in Registered States</i>	IL, IN, MA, MI, NJ, OR, TX, WI	--	<i>Not Surveyed in Registered States</i>			
Turnip Greens	<i>Not Surveyed in Registered States</i>	AR, IL, IN, MI, TN	--	<i>Not Surveyed in Registered States</i>			
LEGUME VEGETABLES (SUCCULENT OR DRIED)	<i>See individual crops below.</i>						
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	CA	8,000	900	0%	25%	10%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	FL	30,000	9,000	0%	80%	30%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	GA	7,000	4,000	0%	85%	30%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	IL	10,000	5,000	35%	70%	50%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	IN	1,000	1,000	0%	100%	20%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	MI	20,000	10,000	20%	85%	60%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	NY	30,000	10,000	10%	70%	40%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	NC	2,000	1,000	0%	70%	15%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	OR	10,000	7,000	55%	70%	65%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	PA	9,000	6,000	60%	85%	70%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	TN	9,000	2,000	0%	70%	20%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	WI	70,000	30,000	35%	45%	40%
Beans (Snap, Bush, Pole, String)	Kynetec (2014-2018)	TX	800	Surveyed but No Usage Reported			
Dry Beans/Peas	Kynetec (2014-2018)	CA	50,000	30,000	10%	55%	40%
Dry Beans/Peas	Kynetec (2014-2018)	CO	50,000	20,000	10%	65%	30%
Dry Beans/Peas	Kynetec (2014-2018)	ID	200,000	20,000	<2.5%	15%	10%
Dry Beans/Peas	Kynetec (2014-2018)	MI	200,000	100,000	30%	50%	40%
Dry Beans/Peas	Kynetec (2014-2018)	MN	200,000	20,000	0%	25%	15%
Dry Beans/Peas	Kynetec (2014-2018)	MT	800,000	5,000	0%	<2.5%	<1%
Dry Beans/Peas	Kynetec (2014-2018)	NE	200,000	20,000	5%	15%	10%
Dry Beans/Peas	Kynetec (2014-2018)	ND	1,200,000	100,000	<2.5%	20%	10%
Dry Beans/Peas	Kynetec (2014-2018)	TX	20,000	20,000	0%	90%	50%
Dry Beans/Peas	Kynetec (2014-2018)	WA	300,000	30,000	<2.5%	25%	15%
Dry Beans/Peas	Kynetec (2014-2018)	NY, WY	30,000	Surveyed but No Usage Reported			

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Lentils	<i>Not Surveyed at the National Level</i>	ID, MN, MT, ND, OR, SD, WA	(D)	<i>Not Surveyed at the National Level</i>			
Lima Beans	Kynetec (2014-2018)	CA	6,000	4,000	15%	80%	50%
Lima Beans	Kynetec (2014-2018)	DE	9,000	9,000	0%	100%	70%
Lima Beans	Kynetec (2014-2018)	IL	2,000	500	0%	45%	20%
Lima Beans	Kynetec (2014-2018)	MD	800	<500	0%	60%	15%
Lima Beans	Kynetec (2014-2018)	WA	2,000	3,000	55%	100%	85%
Lima Beans	Kynetec (2014-2018)	WI	5,000	2,000	15%	35%	25%
Lima Beans	Kynetec (2014-2018)	SC	<500	Surveyed but No Usage Reported			
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	MN	60,000	9,000	5%	25%	15%
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	NY	3,000	<500	0%	5%	<1%
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	OR	20,000	<500	0%	5%	<2.5%
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	WA	40,000	<500	0%	<2.5%	<1%
Peas (Fresh/Green/Sweet)	Kynetec (2014-2018)	WI	30,000	4,000	5%	30%	15%
Soybeans	Kynetec (2014-2018)	AL	500,000	100,000	5%	45%	20%
Soybeans	Kynetec (2014-2018)	AR	3,400,000	2,700,000	35%	60%	55%
Soybeans	Kynetec (2014-2018)	DE	200,000	1,000	0%	5%	<1%
Soybeans	Kynetec (2014-2018)	GA	300,000	100,000	10%	55%	35%
Soybeans	Kynetec (2014-2018)	IL	10,300,000	2,500,000	5%	30%	20%
Soybeans	Kynetec (2014-2018)	IN	5,800,000	500,000	5%	15%	10%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Soybeans	Kynetec (2014-2018)	IA	9,900,000	1,300,000	5%	15%	15%
Soybeans	Kynetec (2014-2018)	KS	4,300,000	1,100,000	10%	30%	20%
Soybeans	Kynetec (2014-2018)	KY	1,900,000	200,000	<2.5%	20%	10%
Soybeans	Kynetec (2014-2018)	LA	1,400,000	800,000	10%	50%	40%
Soybeans	Kynetec (2014-2018)	MD	500,000	10,000	0%	10%	5%
Soybeans	Kynetec (2014-2018)	MI	2,200,000	200,000	10%	10%	10%
Soybeans	Kynetec (2014-2018)	MN	7,800,000	700,000	<1%	15%	10%
Soybeans	Kynetec (2014-2018)	MS	2,200,000	1,500,000	35%	70%	45%
Soybeans	Kynetec (2014-2018)	MO	5,600,000	1,600,000	20%	30%	25%
Soybeans	Kynetec (2014-2018)	NE	5,400,000	600,000	5%	15%	10%
Soybeans	Kynetec (2014-2018)	NY	300,000	8,000	0%	10%	5%
Soybeans	Kynetec (2014-2018)	NC	1,700,000	600,000	10%	45%	30%
Soybeans	Kynetec (2014-2018)	ND	6,300,000	400,000	<1%	15%	10%
Soybeans	Kynetec (2014-2018)	OH	4,900,000	300,000	5%	10%	5%
Soybeans	Kynetec (2014-2018)	OK	500,000	300,000	10%	65%	40%
Soybeans	Kynetec (2014-2018)	PA	600,000	30,000	0%	10%	5%
Soybeans	Kynetec (2014-2018)	SC	400,000	100,000	10%	45%	30%
Soybeans	Kynetec (2014-2018)	SD	5,200,000	600,000	5%	15%	10%
Soybeans	Kynetec (2014-2018)	TN	1,700,000	800,000	20%	65%	40%
Soybeans	Kynetec (2014-2018)	TX	200,000	20,000	0%	35%	15%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Soybeans	Kynetec (2014-2018)	VA	600,000	80,000	<1%	25%	10%
Soybeans	Kynetec (2014-2018)	WI	2,000,000	100,000	5%	15%	10%
Soybeans	CADPR (2013-2017)	CA (D)	(D)	<500	Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate		
Soybeans, Edible (Edamame)	Not Surveyed at the National Level						
NONGRASS ANIMAL FEEDS (FORAGE, FODDER, STRAW AND HAY)	See individual crops below.						
Alfalfa	Kynetec (2014-2018)	NV, OR	500,000	Surveyed but No Usage Reported			
OILSEED GROUP	See individual crops below.						
Cotton	Kynetec (2014-2018)	AL	400,000	80,000	10%	30%	20%
Cotton	Kynetec (2014-2018)	AR	400,000	200,000	25%	50%	35%
Cotton	Kynetec (2014-2018)	CA	200,000	100,000	0%	10%	<2.5 %
Cotton	Kynetec (2014-2018)	FL	100,000	6,000	0%	20%	10%
Cotton	Kynetec (2014-2018)	GA	1,300,000	300,000	15%	30%	25%
Cotton	Kynetec (2014-2018)	KS	10,000	4,000	0%	30%	15%
Cotton	Kynetec (2014-2018)	LA	200,000	80,000	40%	60%	45%
Cotton	Kynetec (2014-2018)	MS	500,000	200,000	35%	50%	45%
Cotton	Kynetec (2014-2018)	MO	300,000	100,000	10%	60%	35%
Cotton	Kynetec (2014-2018)	NC	400,000	100,000	20%	40%	30%
Cotton	Kynetec (2014-2018)	OK	400,000	20,000	<1%	15%	5%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Cotton	Kynetec (2014-2018)	SC	200,000	50,000	10%	30%	20%
Cotton	Kynetec (2014-2018)	TN	300,000	200,000	25%	55%	45%
Cotton	Kynetec (2014-2018)	TX	6,100,000	800,000	10%	25%	15%
Cotton	Kynetec (2014-2018)	AZ	100,000	Surveyed but No Usage Reported			
Safflower	CADPR (2013-2017)	CA (32%)	50,000	2,000	Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate		
Safflower	Not Surveyed at the National Level	CO, ID, KS, MT, NE, ND, OK, OR, SD, TX, UT, WA, WY	(D)	Not Surveyed at the National Level			
Sesame	Not Surveyed in Registered States	AL, FL, KS, OK, TX	(D)	Not Surveyed in Registered States			
Sunflowers	Kynetec (2014-2018)	CO	70,000	7,000	0%	15%	10%
Sunflowers	Kynetec (2014-2018)	KS	60,000	30,000	10%	70%	35%
Sunflowers	Kynetec (2014-2018)	MN	70,000	5,000	0%	20%	10%
Sunflowers	Kynetec (2014-2018)	NE	40,000	4,000	0%	30%	10%
Sunflowers	Kynetec (2014-2018)	ND	600,000	50,000	5%	15%	10%
Sunflowers	Kynetec (2014-2018)	SD	600,000	80,000	10%	20%	15%
Sunflowers	Kynetec (2014-2018)	TX	70,000	20,000	0%	35%	20%
Sunflowers	CADPR (2013-2017)	CA (3%)	50,000	10,000	Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate		

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
ROOT AND TUBER VEGETABLES	<i>See individual crops below.</i>						
Daikon Radish	<i>Not Surveyed in Registered States</i>	ID, IL, IN, MI, WI	--	<i>Not Surveyed in Registered States</i>			
Horseradish	<i>Not Surveyed in Registered States</i>	AL, CA, CO, ID, IL, IN, IO, ME, MD, MA, MI, MN, MO, NH, NJ, NY, NC, OH, PA, SD, TN, VA, WA, WI	(D)	<i>Not Surveyed in Registered States</i>			
Parsnip	<i>Not Surveyed in Registered States</i>	ID, IL, IN, MI, WI	--	<i>Not Surveyed in Registered States</i>			
Rutabaga	<i>Not Surveyed in Registered States</i>	ID, IL, IN, MI, WI	--	<i>Not Surveyed in Registered States</i>			
Sweet Potatoes	<i>Not Surveyed in Registered States</i>	AR, ID, IL, IN, LA, MI, MO, MS, NC, OK, OR, TX, WI	(D)	<i>Not Surveyed in Registered States</i>			
Sugar Beets	Kynetec (2014-2018)	CO	30,000	20,000	20%	80%	45%
Sugar Beets	Kynetec (2014-2018)	ID	200,000	<500	0%	<1%	<1%
Sugar Beets	Kynetec (2014-2018)	MI	100,000	30,000	5%	25%	15%
Sugar Beets	Kynetec (2014-2018)	MN	400,000	100,000	<2.5%	40%	25%
Sugar Beets	Kynetec (2014-2018)	MT	40,000	900	0%	10%	<2.5%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Sugar Beets	Kynetec (2014-2018)	NE	50,000	4,000	0%	50%	10%
Sugar Beets	Kynetec (2014-2018)	ND	200,000	60,000	0%	30%	20%
Sugar Beets	Kynetec (2014-2018)	CA, WY	40,000	Surveyed but No Usage Reported			
Turnip	<i>Not Surveyed in Registered States</i>	ID, IL, IN, MI, WI	1,000	<i>Not Surveyed in Registered States</i>			
ROOT VEGETABLES (except sugar beet and horseradish) subgroup 1B	<i>See individual crops below.</i>						
Garden Beets	CADPR (2013-2017)	CA (21%)	3,000	<500	Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate		
Garden Beets	<i>Not Surveyed in Registered States</i>	FL, ID, IN, IL, MA, MI, OR, TX, WI	5,000	<i>Not Surveyed in Registered States</i>			
Carrots	Kynetec (2014-2018)	CA	70,000	1,000	0%	5%	<1%
Carrots	Kynetec (2014-2018)	MI	4,000	<500	0%	25%	10%
Carrots	Kynetec (2014-2018)	WI	4,000	<500	0%	5%	<2.5 %
Carrots	NASS (2014)	MN	900	(D)	(D)	(D)	(D)
Carrots	<i>Not Surveyed in Registered States</i>	FL, IL, IN, MA, NJ	700	<i>Not Surveyed in Registered States</i>			
Celeriac	CADPR (2013-2017)	CA (NR)	--	<500	Usage has been reported, but due to a reporting issue the data are not sufficiently reliable to provide an estimate		
Celeriac	<i>Not Surveyed in Registered States</i>	FL	--	<i>Not Surveyed in Registered States</i>			

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Radish	<i>Not Surveyed in Registered States</i>	CA, FL, OR, WY	9,000	<i>Not Surveyed in Registered States</i>			
STALK, STEM, AND LEAF PETIOLE VEGETABLE GROUP	<i>See individual crops below.</i>						
Asparagus	Kynetec (2014-2018)	MI	10,000	10,000	50%	95%	80%
Asparagus	NASS (2014, 2016)	IL	<500	Surveyed but No Usage Reported			
Asparagus	NASS (2014, 2016)	NJ	1,000	Surveyed but No Usage Reported			
Asparagus	<i>Not Surveyed in Registered States</i>	DE, IN, MA, MI	10,000	<i>Not Surveyed in Registered States</i>			
TUBEROUS AND CORM VEGETABLES	<i>See individual crops below.</i>						
Tuberous and Corm Vegetables Subgroup 1C (except potato and chufa)	<i>Not Surveyed in Registered States</i>						
Tuberous and Corm Vegetables Subgroup 1C	<i>Not Surveyed in Registered States</i>						
Potatoes	Kynetec (2014-2018)	CA	40,000	10,000	0%	55%	15%
Potatoes	Kynetec (2014-2018)	CO	60,000	50,000	45%	75%	60%
Potatoes	Kynetec (2014-2018)	FL	30,000	20,000	10%	65%	45%
Potatoes	Kynetec (2014-2018)	ID	300,000	60,000	15%	20%	15%
Potatoes	Kynetec (2014-2018)	ME	50,000	2,000	0%	5%	5%
Potatoes	Kynetec (2014-2018)	MI	50,000	40,000	50%	75%	65%
Potatoes	Kynetec (2014-2018)	MN	40,000	20,000	15%	60%	30%
Potatoes	Kynetec (2014-2018)	MT	10,000	600	0%	20%	5%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Potatoes	Kynetec (2014-2018)	NE	10,000	10,000	0%	100%	50%
Potatoes	Kynetec (2014-2018)	NY	10,000	10,000	20%	100%	60%
Potatoes	Kynetec (2014-2018)	NC	10,000	10,000	30%	100%	65%
Potatoes	Kynetec (2014-2018)	ND	80,000	10,000	<2.5%	20%	10%
Potatoes	Kynetec (2014-2018)	OR	40,000	20,000	15%	55%	35%
Potatoes	Kynetec (2014-2018)	PA	3,000	3,000	0%	80%	40%
Potatoes	Kynetec (2014-2018)	WA	200,000	20,000	10%	30%	15%
Potatoes	Kynetec (2014-2018)	WI	70,000	30,000	20%	35%	25%
Potatoes	Kynetec (2014-2018)	TX	10,000	Surveyed but No Usage Reported			
MISC CROPS	See individual crops below.						
Peanuts	Kynetec (2014-2018)	AL	200,000	100,000	30%	65%	50%
Peanuts	Kynetec (2014-2018)	FL	200,000	70,000	20%	45%	35%
Peanuts	Kynetec (2014-2018)	GA	700,000	300,000	25%	50%	40%
Peanuts	Kynetec (2014-2018)	NC	100,000	100,000	70%	85%	80%
Peanuts	Kynetec (2014-2018)	OK	20,000	4,000	0%	100%	35%
Peanuts	Kynetec (2014-2018)	SC	100,000	70,000	45%	80%	60%
Peanuts	Kynetec (2014-2018)	TX	200,000	80,000	5%	30%	20%
Peanuts	Kynetec (2014-2018)	VA	20,000	20,000	25%	100%	70%

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S-Metolachlor: National and State Summary Use and Usage Matrix

Crop	Data Source	State	Avg. Annual Crop Acres Grown [†]	Avg Annual Total Lbs. AI Applied ^a	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Stevia	<i>Not Surveyed in Registered States</i>	--	--	<i>Not Surveyed in Registered States</i>			

Notes	
Kynetec (YEAR-YEAR)	Agricultural usage surveyed by market research firm(s). Values rounded.
NASS (YEAR)	Surveyed by United States Department of Agriculture National Agricultural Statistics Service. Values rounded.
CADPR (YEAR-YEAR)	Surveyed by the California Department of Pesticide Regulation. Percent grown in California is in parentheses. Values rounded.
^a	The pounds AI displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
^b	The PCTs displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
[†]	CAG represents the total number of acres that are grown of the crop in each state. It is independent of treatment with any pesticide. CAG source is the 2012 Census of Agriculture for NASS and CADPR sites, and Kynetec for Kynetec sites. Kynetec calculated CAG yearly based on the Census of Agriculture and other NASS data.
(D)	Data withheld by NASS to avoid disclosing data for individual operations.
--	Data unavailable.

S-Metolachlor: National and State Summary Use and Usage Matrix

Table 3. National S-Metolachlor Non-agricultural Use and Usage by Use Site. (Reported Values are Averaged and Rounded).

Site	Data Source	Avg. Annual Pounds AI Applied ^a	Avg. Annual Acres Treated ^b	Max Single Labeled Rate (lb ai/a) ^c
Rights of Way	<i>See individual crops below.</i>			3.75
Roadways	Kline (2016)	Surveyed but No Usage Reported		3.75
Railways	Kline (2016)	Surveyed but No Usage Reported		3.75
Utility and Pipeline Rows	Kline (2016)	Surveyed but No Usage Reported		3.75
Agricultural Turf (grass or turfgrass seed and sod production)	<i>See individual crops below.</i>			
Ornamental Sod Farm (Turf)	Kline (2013)	Surveyed but No Usage Reported		2.6
Grass or Turfgrass Seed Production	<i>Not Surveyed at the National Level</i>			1.3
Ornamental Lawns, Turf, and associated Ornamentals (in residential, commercial, industrial, institutional, and government areas)	<i>See individual crops below.</i>			3.75
Applied by Consumers (applications to household/domestic dwellings and outdoor premises)	Kline (2016)	Surveyed but No Usage Reported		3.75
Applied by Landscape Contractors (includes applications to turf, trees, flowers, and other ornamentals)	Kline (2013)	Surveyed but No Usage Reported		3.75
Applied by Lawn Care Operators (primarily includes applications to lawns/turf)	Kline (2013)	Surveyed but No Usage Reported		3.75
Institutional Turf Facilities (including educational facilities, cemeteries, and parks)	<i>See individual crops below.</i>			3.75
Institutional Turf Facilities	Kline (2013)	Surveyed but No Usage Reported		3.75
Golf Courses (includes treatment to associated ornamentals)	<i>See individual crops below.</i>			3.75
Golf Courses	Kline (2013)	Surveyed but No Usage Reported		3.75

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S-Metolachlor: National and State Summary Use and Usage Matrix

Site	Data Source	Avg. Annual Pounds AI Applied ^a	Avg. Annual Acres Treated ^b	Max Single Labeled Rate (lb ai/a) ^c
Nursery and Greenhouse Ornamentals	See individual crops below.			3.75
Nursery and Greenhouse Ornamentals	Kline (2013)	Surveyed but No Usage Reported		3.75
Other Non-Cropland Uses not listed above	Not Surveyed at the National Level			3.75

Notes	
Kline (YEAR)	Nonagricultural usage surveyed by market research firm(s).
a	The pounds AI displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
b	Total Acres Treated accounts for multiple applications to a single area. This may overestimate the number of acres treated as some acres are treated more than once.
c	Max labeled rate from 2020 S-Metolachlor Abbreviated Pesticide Label Use Summary (PLUS) Report.