

# 2023 FRUIT CHEMICAL USE SURVEY

OMB No. 0535-0218  
 Approval Expires: XX/XX/XXXX  
 Project Code: 141  
 SurveyID: 1241



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ENTERPRISE

<b>VERSION</b> 01	<b>POID</b> _____	<b>SUBTRACT</b> _____
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**CONTACT RECORD**

DATE	TIME	NOTES

**INTRODUCTION:**  
 [Introduced yourself, and ask for the operator. Rephrase in your own words.]

We are collecting information on chemical use and pest management practices and need your help to make the information as accurate as possible.

The information you provide will be used for statistical purposes only. Your response will be kept confidential and any person who willfully discloses ANY identifiable information about you or your operation is subject to a jail term, a fine, or both. This survey is conducted in accordance with the Confidential Information Protection and Statistical Efficiency Act of 2018, Title III of Pub. L. No. 115-435, codified in 44 U.S.C. Ch. 35 and other applicable Federal laws. For more information on how we protect your information please visit: <https://www.nass.usda.gov/confidentiality>. Response is voluntary.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB number is 0535-0218. The time required to complete this information collection is estimated to average 45 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

We encourage you to refer to your farm records during the interview.

H H M M
004 _____

BEGINNING TIME [MILITARY].....

Name, address, and partners verified and updated if necessary.

1. During 2023, were any crops, including new plantings, livestock or poultry on the total acres operated? EXCLUDE crops produced by a tenant if target operator is landlord only.  Yes - [Go to item 1, page 2]    No - [Continue]
  
2. During 2023, did this operation sell any agricultural products or receive government agricultural payments? EXCLUDE crops produced by a tenant if target operator is landlord only.  Yes - [Go to item 1, page 2]    No - [Continue]
  
3. During 2023, were any crops stored on the total acres operated? EXCLUDE crops produced by a tenant if target operator is landlord only.  Yes - [Go to item 1, page 2]    No - [Continue]
  
4. During 2023, did this operation have any fruit acres which were operated by a management firm?  Yes - [Go to item 1, page 2]    No - [Go to page 4]

## SCREENING

1. Did this operation have any of the target crops during the 2023 crop year? [See page 3 for target crops.]

Yes - [Continue]

No - [Write notes explaining the situation then go to "Conclusion" on back page.]

2. Are the day-to-day decisions for this operation (name on label) made by -- [Check one]

one individual? [Go to Section A]

a hired manager? [Go to Section A]

partners? [Continue]

3. How many individuals are involved in the day-to-day decisions of this operation? [Enter the number of partners, including the partner named on the label. Identify the other persons in this partnership below, then go to Section A. Partners jointly operate land and share in decision making. Do not include landlords and tenants as partners].....

Number

--

Partners: POID _____	Partners: POID _____
PARTNER NAME	PARTNER NAME
ADDRESS	ADDRESS
CITY                      STATE      ZIP                      PHONE NUMBER	CITY                      STATE      ZIP                      PHONE NUMBER
Partners: POID _____	POID _____
PARTNER NAME	PARTNER NAME
ADDRESS	ADDRESS
CITY                      STATE      ZIP                      PHONE NUMBER	CITY                      STATE      ZIP                      PHONE NUMBER

**TARGET CROPS & CODES**

---

FLORIDA

320 Grapefruit  
335 Oranges, All  
748 Strawberries  
349 Tangerines/Tangelos

NEW YORK

301 Apples  
314 Cherries, Tart

SOUTH CAROLINA

340 Peaches

TEXAS

320 Grapefruit

GEORGIA

309 Blueberries  
340 Peaches

NORTH CAROLINA

309 Blueberries

WASHINGTON

301 Apples  
309 Blueberries  
312 Cherries, Sweet  
314 Cherries, Tart  
322 Grapes, Juice  
624 Grapes, Wine  
520 Pears  
345 Raspberries

OREGON

301 Apples  
309 Blueberries  
312 Cherries, Sweet  
520 Pears

MICHIGAN

301 Apples  
309 Blueberries  
314 Cherries, Tart  
340 Peaches

PENNSYLVANIA

301 Apples  
340 Peaches

NEW JERSEY

309 Blueberries  
340 Peaches

## CHANGE IN OPERATOR STATUS

---

[Enumerator Note: Skip this section if there is no change in operation name or operator.]

1. Has there been a change in operation name or operator?.....

Yes=1	023
No=3	

[If item 1 = 1, complete name and address information below for new operator and continue.  
If item 1 = 3, go to Enumerator Note below.]

	Operation Name _____
	Operator Name _____
	Address _____
	_____
	Phone (_____) _____

[Enumerator Note: If the operation on the face page was in business part of the 2023 crop year, complete this questionnaire for the part of the year during which the operation did business, unless the operation has been taken over by a new operator. If the operator has changed midyear, please conduct this interview start to finish with the new operator after reading "Valid Substitution" rules in section 4 of the Interviewer's Manual.]

2. Has the operation printed on this questionnaire been combined or merged with any other farming operations?

Yes - [Go to "Conclusion"]

No - [Continue]

**A****LAND OPERATED****A**

Acres Operated

1. How many acres does this operation--

a. own?.....

+

Acres	
901	._

b. rent or lease from others or use rent free? EXCLUDE land used on an animal unit month (AUM) basis.....

+

902	._
-----	----

c. rent to others?.....

-

905	._
-----	----

2. Then the total acres operated are: [item 1a + 1b - 1c].....

=

900	._
-----	----

a. Does this include the farmstead, all cropland, woodland, pastureland, wasteland, and government program land?

 Yes - [Continue] No - [Make corrections, then continue.]

The remaining questions in this survey refer to these [item 2] acres.

3. Of the total acres operated, how many acres are considered cropland? .....

802	._
-----	----

## INCLUDE

- land in hay
- summer fallow
- cropland idle
- cropland used for pasture
- cropland in government programs

4. Of the total acres operated, how many acres are in fruit? INCLUDE bearing and non-bearing acreage in trees, vineyards, and bushes.....

803	._
-----	----

1. What target fruit crops were on these [Section A, item 4] acres during the 2023 crop year?

EXCLUDE

- new plantings
- other plantings which are not yet bearing

		Table 001
Office Use Lines in Table		
Line 99	199	

L I N E	1	2	3	4
	Crop	Crop Code	How many bearing acres of [crop] did this operation have?  Acres	Were any herbicides, insecticides, fungicides, etc. applied to this crop?  Yes = 1 No = 3
01			11 ▪__	13
02			11 ▪__	13
03			11 ▪__	13
04			11 ▪__	13
05			11 ▪__	13
06			11 ▪__	13
07			11 ▪__	13
08			11 ▪__	13
09			11 ▪__	13
10			11 ▪__	13
11			11 ▪__	13
12			11 ▪__	13
13			11 ▪__	13
14			11 ▪__	13
15			11 ▪__	13

**INCLUDE**

- Target Crops Only
- All commercial bearing acreage equal to or greater than one tenth of an acre.
- All bearing acreage of target crops for roadside stands, farmer's markets or U-pick sales.
- Bearing acreage not harvested due to weather, economic or other reasons.
- Crops planted in the fall of 2022 if they were part of the 2023 crop.

**EXCLUDE**

- All crops grown in another state.
- Non-commercial orchard and vineyard acreage (home garden).
- Non-target fruit.
- New plantings and other plantings which are not yet bearing.
- All target crops grown by institutional, experimental, research and university farms (abnormal farms).
- Abandoned orchards and vineyards.

Notes: \_\_\_\_\_

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Now I have some questions about pesticide and chemical applications to your bearing fruit acreage before harvest. Please consider all applications made to trees, vineyards or bushes which occurred after last season's harvest.

1. Since last year's (2022) harvest, did you use herbicides on any of your bearing fruit acreage?.....  Yes  No
2. Since last year's (2022) harvest, did you use insecticides, nematicides, or miticide on any of your bearing fruit acreage?.....  Yes  No
3. Since last year's (2022) harvest, did you use any fungicides on any of your bearing fruit acreage?.....  Yes  No
4. Since last year's (2022) harvest, did you use any other chemicals such as chemical thinners, growth regulators, microbial agents, pheromones, rodenticides, etc. on any of your bearing fruit acreage?.....  Yes  No

[Enumerator Action: If all items 1 - 4 are No, go to Section E, page 12, otherwise continue.]

**PESTICIDE APPLICATIONS**

[Enumerator Action: If pesticides were reported in Section B, column 5, continue. Otherwise, go to Section E.]

5. Now I need to get complete information on all of the chemicals applied, including applications made by you and/or by custom applicators during the 2023 crop year to each of the target fruit crops you grew. Let's start with the first application to your crop since the 2022 crop year harvest.

INCLUDE the table for all chemical applications to the target fruit crops. Use supplemental tables if necessary.

INCLUDE herbicides, insecticides, nematocides, miticide fungicides, chemical thinners, growth regulators, microbial agents, pheromones, rodenticides, and soil fumigants.

EXCLUDE seed treatments, foliar applications of nutrients, and applications made to fruit after harvest.

Office Use Lines in Table	Table 001	399
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Chemical Product Name	L I N E	1  Crop	2  Crop Code	3  What products were applied to the [crop]? [Enter product code.]	4  Was this product bought in liquid or dry form? [Enter L or D.]	5  Was this part of a tank mix? [If tank mix, enter line number of first product in mix.]
	01			61		63
	02			61		63
	03			61		63
	04			61		63
	05			61		63
	06			61		63
	07			61		63
	08			61		63
	09			61		63
	10			61		63
	11			61		63
	12			61		63
	13			61		63
	14			61		63
	15			61		63

[For pesticides not listed in Respondent Booklet, specify--]

Line No.	Pesticide Type (Herbicide, Insecticide, fungicide, etc.)	Trade Name and Formulation	Form Purchased (Liquid or Dry)	EPA Reg. No.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____



**PESTICIDE APPLICATIONS**

Codes for Column 8

1 Pounds	30 Grams
12 Gallons	40 Kilograms
13 Quarts	41 Liters
14 Pints	46 Spirals
15 Ounces, Liquid	47 Packets
28 Ounces, Dry	50 Other (Specify: _____)

Office Use

300

LINE	6	OR	7	8	9	10	11
	How much was applied per acre per application?		What was the total amount applied per application?	[Enter unit code from above.] Code	What percent of the rows were covered with an airblast application? 100 All Rows 50 Every Other Row --- Other Percent	How many acres were treated with this product? [INCLUDE bearing acres only.] Bearing Acres	How many times was this product applied? Number
01	65		73	74	75	77	79
02	65		73	74	75	77	79
03	65		73	74	75	77	79
04	65		73	74	75	77	79
05	65		73	74	75	77	79
06	65		73	74	75	77	79
07	65		73	74	75	77	79
08	65		73	74	75	77	79
09	65		73	74	75	77	79
10	65		73	74	75	77	79
11	65		73	74	75	77	79
12	65		73	74	75	77	79
13	65		73	74	75	77	79
14	65		73	74	75	77	79
15	65		73	74	75	77	79

[For pesticides not listed in Respondent Booklet, specify--]

Line No.	Pesticide Type (Herbicide, Insecticide, fungicide, etc.)	Trade Name and Formulation	Form Purchased (Liquid or Dry)	EPA Reg. No.

PESTICIDE APPLICATIONS

Chemical Product Name	L I N E	1  Crop	2  Crop Code	3 What products were applied to the [crop]? [Enter product code.]	4 Was this product bought in liquid or dry form? [Enter L or D.]	5 Was this part of a tank mix? [If tank mix, enter line number of first product in mix.]
	16			61		63
	17			61		63
	18			61		63
	19			61		63
	20			61		63
	21			61		63
	22			61		63
	23			61		63
	24			61		63
	25			61		63
	26			61		63
	27			61		63
	28			61		63
	29			61		63
	30			61		63
	31			61		63
	32			61		63
	33			61		63

[For pesticides not listed in Respondent Booklet, specify--]

Line No.	Pesticide Type (Herbicide, Insecticide, fungicide, etc.)	Trade Name and Formulation	Form Purchased (Liquid or Dry)	EPA Reg. No.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**PESTICIDE APPLICATIONS**

Codes for Column 8

1 Pounds	30 Grams
12 Gallons	40 Kilograms
13 Quarts	41 Liters
14 Pints	46 Spirals
15 Ounces, Liquid	47 Packets
28 Ounces, Dry	50 Other (Specify: _____)

LINE	6	OR	7	8	9	10	11
	How much was applied per acre per application?		What was the total amount applied per application?	[Enter unit code from above.] Code	What percent of the rows were covered with an airblast application? 100 All Rows 50 Every Other Row --- Other Percent	How many acres were treated with this product? [INCLUDE bearing acres only.] Bearing Acres	How many times was this product applied? Number
16	65		73	74	75	77	79
17	65		73	74	75	77	79
18	65		73	74	75	77	79
19	65		73	74	75	77	79
20	65		73	74	75	77	79
21	65		73	74	75	77	79
22	65		73	74	75	77	79
23	65		73	74	75	77	79
24	65		73	74	75	77	79
25	65		73	74	75	77	79
26	65		73	74	75	77	79
27	65		73	74	75	77	79
28	65		73	74	75	77	79
29	65		73	74	75	77	79
30	65		73	74	75	77	79
31	65		73	74	75	77	79
32	65		73	74	75	77	79
33	65		73	74	75	77	79

[For pesticides not listed in Respondent Booklet, specify--]

Line No.	Pesticide Type (Herbicide, Insecticide, fungicide, etc.)	Trade Name and Formulation	Form Purchased (Liquid or Dry)	EPA Reg. No.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**E PEST MANAGEMENT PRACTICES**

Now I have some questions about pest management practices you may have used on any of the total fruit acres on this operation. INCLUDE bearing and non-bearing acreage of both target and non-target fruit crops grown. By pests, we mean insects, weeds, and diseases.

[Enumerator Action: Were pesticide applications reported in Section B, column 5 on page 6?]

Yes - [Continue]     No - [Go to item 4]

- |                                                                                                                                                                                                                                          |               |             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|
| <p>1. Was weather data used to assist in determining either the need or when to make pesticide applications?.....</p>                                                                                                                    | Yes=1<br>No=3 | Code<br>600 |
| <p>2. Were any biological pesticides such as Bt (<i>Bacillus thuringiensis</i>), insect growth regulators, such as Courier, Intrepid, etc., Neem or other natural/biological based products sprayed or applied to manage pests?.....</p> | Yes=1<br>No=3 | Code<br>601 |
| <p>3. Were pesticides with different mechanisms of action rotated or tank mixed for the primary purpose of keeping pests from becoming resistant to pesticides?.....</p>                                                                 | Yes=1<br>No=3 | Code<br>602 |

- |                                                                                                                                |                                                                                                                                                                                                                                                                                                                    |             |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <p>4. In 2023, how were your fruit acres primarily scouted for insects, weeds, diseases, and/or beneficial organisms?.....</p> | <p>1 By deliberately going to the fruit acres specifically for scouting activities. [Enter code 1 and go to item 5.]</p> <p>2 By conducting general observations while performing routine tasks. [Enter code 2 and go to item 7.]</p> <p>3 The fruit acres were not scouted. [Enter code 3 and go to item 10.]</p> | Code<br>608 |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|

- |                                                                                                                                                      |                                    |                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------|
| <p>5. Was an established scouting process used such as systemic sampling, recording counts, insect traps, etc., on any fruit acres?.....</p>         | Yes=1<br>No=3                      | Code<br>609                    |
| <p>6. Was scouting for pests done on these fruit acres due to--</p> <p>a. a pest advisory warning?.....</p> <p>b. a pest development model?.....</p> | Yes=1<br>No=3<br><br>Yes=1<br>No=3 | Code<br>610<br><br>Code<br>611 |

<p>7. Were your fruit acres scouted for --</p> <p style="text-align: right;">Yes = 1 No = 3</p>	<p>[If column 1 is Yes, ask--]</p> <p>Who did the majority of the scouting for column 1?</p> <p>1 Operator, partner or family member</p> <p>2 An employee</p> <p>3 Farm supply or chemical dealer</p> <p>4 Independent crop consultant or commercial scout</p>	
<p>a. weeds?.....</p>	612	614
<p>b. insects or mites?.....</p>	615	617
<p>c. disease?.....</p>	618	620

		Code
8. Were written or electronic records kept to track the activity or numbers of weeds, insects or diseases?.....	Yes=1 No=3	623
9. Was scouting data compared to published information on infestation thresholds to determine when to take measures to manage pests?.....	Yes=1 No=3	624
10. Was field mapping data used for making pest management decisions?.....	Yes=1 No=3	625
11. Were the services of a diagnostic laboratory used for pest identification or soil or plant tissue pest analysis?.....	Yes=1 No=3	626
12. Were crop residues, including drops, rotting fruit and/or debris, removed to manage pests?.....	Yes=1 No=3	627
13. Were ground covers, mulches, or other physical barriers maintained to manage pest problems?.....	Yes=1 No=3	629
14. Were any beneficial organisms such as insects, nematodes, or fungi applied or released to manage pests?	Yes=1 No=3	636
15. Were floral lures, attractant repellants, pheromone traps or other biological pest controls used on any fruit acres?.....	Yes=1 No=3	637
16. Were any fruit acres cultivated for weed control during the growing season?.....	Yes=1 No=3	640
17. Were field edges, lanes, ditches, roadways or fence lines chopped, mowed, plowed, or burned to manage pests on any fruit acres?.....	Yes=1 No=3	642
18. Were equipment and implements cleaned after completing field work to reduce the spread of pests?.....	Yes=1 No=3	643
19. Were any fruit acres irrigated for the 2023 crop?.....	Yes=1 No=3	644
[If item 19 = Yes, ask--]		
a. Were water management practices, excluding chemigation, such as irrigation scheduling, controlled drainage, or treatment of retention water used to manage pests?.....	Yes=1 No=3	645

COMPLETION CODE for PEST MANAGEMENT PRACTICES	
1 Incomp/R	500

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**Use This Space for Notes and Comments.**

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**Use This Space for Notes and Comments.**

## CONCLUSION

1. To receive the complete results of this survey on the release date, go to  
[https://www.nass.usda.gov/Surveys/Guide\\_to\\_NASS\\_Surveys/](https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/)

To have a summary emailed to you at a later date, please enter your email address.

1095
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[Thank the respondent, then review this questionnaire.]

Ending time [Military].....

H H M M
0005
Office Use Time in Hours
006

### Record Use

Did respondent use operation records to report pesticide data?

Code	064
Yes=1 No=3	

### Supplement Use

[Record the total number of supplements used to complete this interview.]

Pesticide Supplements.....

Number	068
--------	-----

### Contact Information

Operation Email: (if different from above)

Operation Phone:

9937	9936 (    ) - _____	check if cell phone <input type="checkbox"/>
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Respondent Name:

Respondent Phone: (if different from above)

9912	9911 (    ) - _____	check if cell phone <input type="checkbox"/>	9910	MM	DD	YYYY	Date: ___ ___ ____
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OFFICE USE									
R. Unit	Ptr 1 Str	Ptr 2 Str	Ptr 3 Str	Ptr 4 Str	OPS	SSO 1	ADJ	Optional Use	
9921	9922	9923	9927	9928	923	9907	922	9906	9916
Response		Respondent		Mode		Enum.	POID		
1-Comp 2-R 3-Inac 4-Office Hold	9901	1-Op/Mgr 2-Spouse 3-Acct/Bkpr 4-Partner 9-Other	9902	2-PATI (tel) 3-PAPI (Face-to-Face)	9903	9998	9989		
							Eval.	Change	
							9900	9985	