2023 FRUIT CHEMICAL USE SURVEY

USDA **NATIONAL AGRICULTURAL STATISTICS SERVICE**

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ENTERPRISE

VERSION 01	POID __ __ __ __ __ __ __ __ __	SUBTRACT __ __

CONTACT RECORD

DATE	TIME	NOTES

BEGINNING TIME [MILITARY]..

	H H M M
004	__ __ __ __

☐ 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

GEORGIA

309	Blueberries
340	Peaches

MICHIGAN

301	Apples
309	Blueberries
314	Cherries, Tart
340	Peaches

NEW JERSEY

309	Blueberries
340	Peaches

NEW YORK

301	Apples
314	Cherries, Tart

NORTH CAROLINA

309	Blueberries

OREGON

301	Apples
309	Blueberries
312	Cherries, Sweet
520	Pears

PENNSYLVANIA

301	Apples
340	Peaches

SOUTH CAROLINA

340	Peaches

TEXAS

320	Grapefruit

WASHINGTON

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

CHANGE IN OPERATOR STATUS

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

Code

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 <div align="center">**LAND OPERATED**</div> **A**

Acres Operated

1. How many acres does this operation—   Acres

   a. own?.. **+** | 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 . __ |

B <div align="center">**FRUIT ACREAGE**</div> **B**

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

LINE	1 Crop	2 Crop Code	3 How many bearing acres of [crop] did this operation have? Acres	4 Were any commercial fertilizers applied to this crop? Yes = 1 No = 3	5 Were any herbicides, insecticides, fungicides, etc. applied to this crop? Yes = 1 No = 3
01			11 .___	12	13
02			11 .___	12	13
03			11 .___	12	13
04			11 .___	12	13
05			11 .___	12	13
06			11 .___	12	13
07			11 .___	12	13
08			11 .___	12	13
09			11 .___	12	13
10			11 .___	12	13
11			11 .___	12	13
12			11 .___	12	13
13			11 .___	12	13
14			11 .___	12	13
15			11 .___	12	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: _____

_____

_____

_____

_____

C   **FERTILIZER APPLICATIONS**   **C**

Enumerator Note—
If column 4 of the table in Section B is Yes for any crops, continue with item 1.
If column 4 of the table in Section B is No for all crops, go to Section D.

1. I need to record complete information on all commercial fertilizers applied to the bearing acres of target fruit grown during the 2023 crop year. INCLUDE all applications regardless of how they were applied such as irrigation water, foliar applications, etc. Record amount of an analysis of fertilizers applied or pounds of actual plant nutrients applied. Complete the table below and any necessary supplemental fertilizer tables. EXCLUDE micronutrients, lime, and gypsum.

Office Use
200

Office Use
Lines in Table | Table 001 | 299

LINE	1 Crop	2 Crop Code	3 NITROGEN N	4 PHOSPHATE P_2O_5	5 POTASH K_2O	6 SULFUR S	7 How much was applied per acre per application? [Leave this column blank if actual nutrients were reported.]	8 Unit Codes 1 Pounds 12 Gallons 13 Quarts 15 Liquid Oz. 28 Dry Oz. 19 Actual Nutrients	9 How many acres was this applied to? [Include bearing acres only] Acres	10 How many times was it applied? Number
01			31	32	33	34	36 ._	37	40 ._	41
02			31	32	33	34	36 ._	37	40 ._	41
03			31	32	33	34	36 ._	37	40 ._	41
04			31	32	33	34	36 ._	37	40 ._	41
05			31	32	33	34	36 ._	37	40 ._	41
06			31	32	33	34	36 ._	37	40 ._	41
07			31	32	33	34	36 ._	37	40 ._	41
08			31	32	33	34	36 ._	37	40 ._	41
09			31	32	33	34	36 ._	37	40 ._	41
10			31	32	33	34	36 ._	37	40 ._	41
11			31	32	33	34	36 ._	37	40 ._	41
12			31	32	33	34	36 ._	37	40 ._	41
13			31	32	33	34	36 ._	37	40 ._	41
14			31	32	33	34	36 ._	37	40 ._	41
15			31	32	33	34	36 ._	37	40 ._	41
16			31	23	33	34	36 ._	37	40 ._	41
17			31	32	33	34	36 ._	37	40 ._	41

C   **FERTILIZER APPLICATIONS**   **C**

LINE	1 Crop	2 Crop Code	3 NITROGEN N	4 PHOSPHATE P_2O_5	5 POTASH K_2O	6 SULFUR S	7 How much was applied per acre per application? [Leave this column blank if actual nutrients were reported.]	8 Unit Codes 1 Pounds 12 Gallons 13 Quarts 15 Liquid Oz. 28 Dry Oz. 19 Actual Nutrients	9 How many acres was this applied to? [INCLUDE bearing acres only] Acres	10 How many times was it applied? Number
18			31	32	33	34	36 .___	37	40 .___	41
19			31	32	33	34	36 .___	37	40 .___	41
20			31	32	33	34	36 .___	37	40 .___	41
21			31	32	33	34	36 .___	37	40 .___	41
22			31	32	33	34	36 .___	37	40 .___	41
23			31	32	33	34	36 .___	37	40 .___	41
24			31	32	33	34	36 .___	37	40 .___	41
25			31	32	33	34	36 .___	37	40 .___	41
26			31	32	33	34	36 .___	37	40 .___	41
27			31	32	33	34	36 .___	37	40 .___	41
28			31	32	33	34	36 .___	37	40 .___	41
29			31	32	33	34	36 .___	37	40 .___	41
30			31	32	33	34	36 .___	37	40 .___	41
31			31	32	33	34	36 .___	37	40 .___	41
32			31	32	33	34	36 .___	37	40 .___	41
33			31	23	33	34	36 .___	37	40 .___	41
34			31	32	33	34	36 .___	37	40 .___	41
35			31	32	33	34	36 .___	37	40 .___	41
36			31	32	33	34	36 .___	37	40 .___	41
37			31	32	33	34	36 .___	37	40 .___	41
38			31	32	33	34	36 .___	37	40 .___	41
39			31	32	33	34	36 .___	37	40 .___	41
40			31	32	33	34	36 .___	37	40 .___	41

D   **PESTICIDE APPLICATIONS**   **D**

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.]

D   **PESTICIDE APPLICATIONS**   **D**

[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, nematicides, 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

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.

D   **PESTICIDE APPLICATIONS**   **D**

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 How much was applied per acre per application?	OR 7 What was the total amount applied per application?	8 [Enter unit code from above.] Code	9 What percent of the rows were covered with an airblast application? 100 All Rows 50 Every Other Row -- Other Percent	10 How many acres were treated with this product? [INCLUDE bearing acres only.] Bearing Acres	11 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.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

D   **PESTICIDE APPLICATIONS**   **D**

Chemical Product Name	LINE	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.

D   # PESTICIDE APPLICATIONS   **D**

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:_____)

L I N E	6 OR How much was applied per acre per application?	7 What was the total amount applied per application?	8 [Enter unit code from above.] Code	9 What percent of the rows were covered with an airblast application? 100 All Rows 50 Every Other Row -- Other Percent	10 How many acres were treated with this product? [INCLUDE bearing acres only.] Bearing Acres	11 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**   **E**

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]

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

4. In 2023, how were your fruit acres primarily scouted for insects, weeds, diseases, and/or beneficial organisms?....

> 1 By deliberately going to the fruit acres specifically for scouting activities. [Enter code 1 and go to item 5.]
>
> 2 By conducting general observations while performing routine tasks. [Enter code 2 and go to item 7.]
>
> 3 The fruit acres were not scouted. [Enter code 3 and go to item 10.]

Code: 608

		Code
5. Was an established scouting process used such as systemic sampling, recording counts, insect traps, etc., on any fruit acres?	Yes=1 No=3	609

6. Was scouting for pests done on these fruit acres due to—

		Code
a. a pest advisory warning?	Yes=1 No=3	610
b. a pest development model?	Yes=1 No=3	611

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

E   **PEST MANAGEMENT PRACTICES**   **E**

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

CONCLUSION

[Enumerator Note: Thank the respondent, then review this questionnaire.]

Office Use Only				
Ending Time (Military)		OR	Total Hours	
Hours	Minutes		Hours	Minutes
0005		0008		

1. Ending time..

Record Use

Code

Did respondent use operation records to report pesticide data?.. Yes=1 No=3 | 064 |

Supplement Use

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

Number

Pesticide Supplements... | 068 |

Contact Information

Operator Email:		Operator Phone:	
9929	9917 Check to receive results by email ☐	9918 ( ) _____	check if cell phone ☐

Operation Email: (if different from above)		Operation Phone: (if different from above)	
9937	9920 Check to receive results by email ☐	9936 ( ) _____	check if cell phone ☐

Respondent Name:	Respondent Phone (if different from above)		
9912	9911 ( ) _____	check if cell phone ☐	9910 MM DD YY Date: __ __ __ __ __ __

This completes the survey. The results will be available on the release date at nass.usda.gov/results
Thank you for your help.