

2013 FARM AND RANCH IRRIGATION SURVEY

Form Number: 13-A621
(09/10/2013)



National Agricultural
Statistics Service

Return your
completed report to:

Census of Agriculture
1201 East 10th Street
Jeffersonville, IN 47132

13-A621

OFFICE USE ONLY

0010

Make corrections to name, address, and ZIP Code if necessary.

- **February 10, 2014** – Everyone who receives a form must return one by this date.
- **www.agcounts.usda.gov** – Use this website to report via the Internet.
- **Horticultural crops in the open or under protection** – Report these crops on this form.
- Use **blue or black ballpoint pen** to complete this form.
- **Duplicate form(s)** – If you received extra report forms for the SAME farming operation, return all report forms in the same envelope as the completed report.
- **Questions** – Call us toll-free at 1-888-424-7828. Thank you for your cooperation.

SECTION 1 ACREAGE IN 2013

Report land owned, rented, or used by you, your spouse, or by the partnership, corporation, or organization named on the label above. Round to whole acres. Include ALL LAND, regardless of location or use – cropland, pastureland, rangeland, woodland, idle land, **greenhouses or other area under protection**, farmsteads, Conservation Reserve Program (CRP) land, etc.

				Number of Acres
1. All land owned	0025	<input type="checkbox"/>	None	<input style="width: 100%;" type="text"/>
2. All land rented or leased from others , including land worked by you on shares, used rent free, in exchange for services, payment of taxes, etc. Include Federal, State and railroad land leased on a per-acre basis. Exclude leased land (e.g., private, Federal, State, railroad) used on a per-head or animal unit month (AUM) basis under a grazing permit	0026	<input type="checkbox"/>	+	<input style="width: 100%;" type="text"/>
3. All land rented or leased to others , including land worked on shares by others and land subleased.	0027	<input type="checkbox"/>	-	<input style="width: 100%;" type="text"/>
4. TOTAL ACRES in this operation (Items 1 + 2 - 3 = BOX A)	0028	<input type="checkbox"/>	=	BOX A <input style="width: 100%;" type="text"/>

NOTICE: Response to this inquiry is required by law (Title 7, U.S. Code). By the same law and Public Law 107-347, YOUR REPORT IS CONFIDENTIAL and will only be used for statistical purposes. Your report CANNOT be used for purposes of taxation, investigation, or regulation. The law also provides that copies retained in your files are immune from legal process. http://www.agcensus.usda.gov/About_the_Census/Regulations_Guiding_NASS/index.asp

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 0535-0234. 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.

SECTION 2 LAND IN 2013

Of the acres reported in **Box A** on the previous page, report how all the land was used in **column 1** below. Round to whole acres. If the same land had more than one use in 2013, report that land only one time in items 1 through 3. The total acres in **BOX B** must equal the total acres reported in **BOX A**. **Include area under protection.** (Under protection includes horticultural crops grown under glass, rigid plastic, and plastic film, including "tunnel" protection and hoop houses.)

Irrigated acres in column 2 – Report irrigated land in this operation in items 1 and 2 and the total irrigated land in **BOX C**. Include the irrigated area under protection and round all entries to the nearest whole acre. Include as irrigated any land to which partial, supplemental, or preplant irrigation water was applied. Hayland, pastureland, or rangeland should be reported as irrigated only if water was spread by canals, ditches, spreader dikes, pipes, or other man-made works.

1. Cropland – Exclude cropland used only for pasture.

a. Cropland harvested – Include all land from which crops were harvested or hay was cut. Include acreage in orchards, citrus groves, vineyards, berries, Christmas trees, short-rotation woody crops, and **nursery and greenhouse crops in the open and under protection.**

None	Column 1 Number of Acres	None	Column 2 Acres Irrigated
<input type="checkbox"/>	0029	<input type="checkbox"/>	0030

b. Cropland not harvested or grazed – Include cropland on which all crops failed, cropland idle, cropland used for cover crops or CRP, and cropland in summer fallow

<input type="checkbox"/>	0033	<input type="checkbox"/>	0034
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2. Pasture

a. Permanent pasture and rangeland

<input type="checkbox"/>	0135	<input type="checkbox"/>	0136
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b. Woodland pastured

<input type="checkbox"/>	0137		
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c. Other pasture and grazing land (including rotational pasture) that could have been used for crops without additional improvements.

<input type="checkbox"/>	0107	<input type="checkbox"/>	0108
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3. All other land – Include land not reported above. Include woodland not pastured, farmsteads, home, buildings, livestock facilities, ponds, roads, wasteland, etc.

<input type="checkbox"/>	0039		
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4. TOTAL ACRES – Add acres in each column and enter the totals.

None	Total Acres on this Operation BOX B	None	Total Acres Irrigated BOX C
<input type="checkbox"/>	0041	<input type="checkbox"/>	0042

(**BOX B** should be the same as **BOX A** on page 1.)

5. Was any area in the open or under protection irrigated on this operation in 2013? Include irrigated field crops; irrigated hay; and irrigated nursery, floriculture, greenhouse, mushrooms, and propagative materials grown under protection.

0003 1 **Yes - Continue** 3 **No - Go to Section 22 on back page**

6. What State had the majority of irrigated acres on this operation in 2013? 0951

State

SECTION 3 GROUND WATER FROM WELLS USED ON THIS OPERATION IN 2013

1. Did this operation irrigate with ground water from wells on this operation in 2013?

0760

1 **Yes** - Continue

3 **No** - Go to Section 4

If exact amounts are not available, provide your best estimate for quantity of water applied. If total area irrigated in the open is less than one acre, report as one acre in item 2. If the wells are not on the operation, such as a municipal or rural water system, report this as off-farm water in Section 5.

2. Report acres in the open irrigated with ground water and amount of water applied in 2013. Include irrigated horticultural crops grown in the open and irrigated pastureland

Acres in the Open Irrigated by Ground Water		Quantity of Ground Water Applied		Unit of Measure [Enter unit code] 1 Total Acre Feet 2 Total Gallons 3 Inches/Acre	
0444		0446		0447	

3. Report the area under protection irrigated with ground water in 2013. (Note: The amount of ground water applied to the area under protection will be reported in a later section.)

None

Square Feet Under Protection Irrigated with Ground Water	
0455	

4. How many wells on this operation were used in 2013?

None

Number of Wells	
0460	

a. Of the (item 4) wells, how many were free flowing (artesian wells)?

0486	
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b. Of the (item 4) wells, how many used backflow prevention devices (check valves) and how many acres and/or square feet under protection were irrigated with these wells in 2013?

None

Number of Wells		Acres in the Open		Square Feet Under Protection	
0770		0771		0679	

c. Of the (item 4) wells, how many had flow meters or other flow measurement devices and how many acres and/or square feet under protection were irrigated with these wells in 2013?

0683		0772		0680	
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5. Report for the first three primary wells pumped in 2013.

WELL #	Depth of Well (Feet)		Depth to Bowls or Impellers (Feet)		Pump Capacity – Discharge From Well (GPM)		Operating Pressure at Well Head (PSI)		Size of Engine for All Motors, Including Electric (HP)		Total Hours Operated in 2013			
	1	0461		0462		0463		0464		0676		0761		0762
2	0465		0466		0467		0468		0677		0763		0764	
3	0469		0470		0471		0472		0678		0765		0766	

a. Report for all other wells pumped in 2013.

OTHER WELLS	Average Depth of Well(s) (Feet)		Average Depth to Bowls or Impellers (Feet)		Average Pump Capacity – Discharge From Well (GPM)		Average Operating Pressure at Well Head (PSI)		Average Size of Engine for All Motors, Including Electric (HP)		Average Hours Operated in 2013		
	0481		0482		0483		0484		0681		0767		0768

6. For the wells used on this operation, what is the best description for the depth to water over the last five years? Mark (X) one.

0487

1 Depth to water did not change

2 Depth to water increased

3 Depth to water decreased



SECTION 4 ON-FARM SURFACE WATER USED ON THIS OPERATION IN 2013

1. Did this operation irrigate with on-farm surface water including recycled water and on-farm reclaimed water in 2013?

Recycled water is the reuse of surface or groundwater that was previously used to irrigate a crop (e.g. water from a tailwater reuse pit used for irrigation).

On-farm reclaimed water is on-farm livestock wastewater that has been treated for non-potable reuse purposes. (For the purposes of this irrigation survey, to be considered an irrigation application of reclaimed water, at least 0.5 inches of reclaimed water must be applied on the area during the growing season.)

0438 1 **Yes - Continue** 3 **No - Go to Section 5**

If exact amounts are not available, provide your best estimate for quantity of water applied. If total area irrigated in the open is less than one acre, report as one acre in item 2.

2. Report acres in the open irrigated with on-farm surface water and amount of water applied in 2013. Include irrigated horticultural crops grown in the open and irrigated pastureland.

Acres in the Open Irrigated by On-Farm Surface Water		Quantity of On-Farm Surface Water Applied		Unit of Measure [Enter unit code] 1 Total Acre Feet 2 Total Gallons 3 Inches/Acre	
0449		0451		0452	

3. Report the area under protection irrigated with on-farm surface water in 2013.

(Note: The amount of on-farm surface water applied to the area under protection will be reported in a later section.)

Square Feet Under Protection Irrigated with On-Farm Surface Water	
None <input type="checkbox"/>	0458

4. Did this operation use **on-farm recycled water** to irrigate any crops, including horticultural crops, grown during 2013?

0600 1 **Yes - Continue** 3 **No - Go to Item 5 below**

a. How many acres in the open and square feet under protection were irrigated with **on-farm recycled water** during 2013?

Acres in the Open		Square Feet Under Protection	
0601		0936	

5. Did this operation use **reclaimed water from on-farm livestock facilities** to irrigate any crops, including horticultural crops, grown during 2013? (For the purposes of this irrigation survey, to be considered an irrigation application of reclaimed water, at least 0.5 inches of reclaimed water must be applied on the area during the growing season. If this minimum amount is not met, mark (X) "No" below.)

0543 1 **Yes - Continue** 3 **No - Go to Section 5**

a. How many acres in the open and/or square feet under protection were irrigated with one or more applications of **reclaimed water from on-farm livestock facilities** during 2013?

Acres in the Open		Square Feet Under Protection	
0587		0588	

b. How much **reclaimed water from on-farm livestock facilities** was used for irrigation during 2013?

Acre-Feet		OR	Gallons	
0599			0561	

SECTION 5 OFF-FARM WATER FROM ALL SUPPLIERS USED ON THIS OPERATION IN 2013

1. Did this operation irrigate with off-farm water in 2013?

INCLUDE

- acres in the open and area under protection irrigated with off-farm water from all suppliers
- all off-farm surface water, municipal water, and rural water suppliers
- area irrigated with reclaimed water from off-farm sources such as municipal reclaimed water, industrial, off-farm livestock operations, or other off-farm sources

0457 1 **Yes - Continue** 3 **No - Go to Section 6**

If exact amounts are not available, provide your best estimate for quantity of water applied. If total area irrigated in the open is less than one acre, report as one acre in item 2. **Off-farm reclaimed water** is wastewater that has been treated for non-potable reuse purposes.

2. Report acres in the open irrigated with off-farm water and amount of water applied in 2013. Include irrigated horticultural crops grown in the open and irrigated pastureland

Acres in the Open Irrigated by Off-Farm Water		Quantity of Off-Farm Water Applied		Unit of Measure [Enter unit code]	
				1 Total Acre Feet 2 Total Gallons 3 Inches/Acre	
0454		0968		0969	

3. Report the area under protection irrigated with off-farm surface water in 2013. (Note: The amount of off-farm water applied to the area under protection will be reported in a later section.)

Square Feet Under Protection Irrigated with Off-Farm Water	
None <input type="checkbox"/>	0428

4. Did you pay for the off-farm water received on this operation?

0675 1 **Yes - Report the total dollars paid for the off-farm water.** 0456 \$.00
3 **No - Continue**

5. How much of this operation's off-farm water was supplied, delivered, or transferred through a project financed, constructed, or managed by –

- a. U.S. Bureau of Reclamation? Include reclamation water delivered through a local district. 0664 1 None 2 Some 3 All
- b. Other Federal agencies such as the U.S. Army Corp of Engineers, Bureau of Indian Affairs, and USDA small watershed project? 0665 1 None 2 Some 3 All
- c. All other suppliers? Specify → 1012 0666 1 None 2 Some 3 All

6. Did this operation use **reclaimed water from off-farm sources** such as municipal reclaimed water, industrial, off-farm livestock operations, or other off-farm sources to irrigate any crops in 2013? (For the purposes of this irrigation survey, to be considered an irrigation application of reclaimed water, at least 0.5 inches of reclaimed water must be applied on the area during the growing season. If this minimum amount is not met, mark (X) "No" below.)

0602 1 **Yes - Continue** 3 **No - Go to Section 6**

a. How many acres in the open and/or square feet under protection were irrigated with one or more applications of **reclaimed water from off-farm sources** during 2013?

Acres in the Open		Square Feet Under Protection	
0597		0598	

b. How much **reclaimed water from off-farm sources** was used for irrigation during 2013?

Acre-Feet		Gallons	
0644		0645	

OR

c. What sources of reclaimed water were used on this operation in 2013? Mark (X) all that apply.

- 1001 Municipal 1002 Industrial
1003 Off-farm livestock operation 1004 Other - Specify → 1005

SECTION 6 PUMPS, OTHER THAN WELL PUMPS, USED FOR IRRIGATION ON THIS OPERATION IN 2013

Report for all surface water source pumps used on this operation for irrigation during 2013.

	None	Number of Pumps Used	Vertical Lift (Average Feet)	Discharge Capacity (Average GPM)	Discharge Operating Pressure (Average PSI)	Average Hours Operated in 2013
		0490	0774	0491	0687	0661
1. Tailwater pits	<input type="checkbox"/>					
		0492	0775	0493	0688	0662
2. Ponds, lakes, reservoirs, rivers, canals, etc.	<input type="checkbox"/>					
		0494	0776	0777	0778	0663
3. Relifting or boosting water within system	<input type="checkbox"/>					

SECTION 7 ENERGY EXPENSE BY POWER SOURCE FOR ALL WELL AND OTHER IRRIGATION PUMPS USED ON THIS OPERATION IN 2013

Report the energy expense by power source. Report the fuel and power expense used for pumping irrigation water for the well pumps used in Section 3 and other pumps used in Section 6 above. Report energy expense for acres in the open and area under protection. If irrigated acres in the open were less than one acre, round to one acre. Include the cost of any additional charges such as the fuel adjustment charge or any other type of charge which was based on the amount of power or fuel purchased. Include landlord's share.

POWER SOURCE	None	Number of Wells and Other Pumps Used (Reported in Sections 3 & 6)	Cost of Energy Used to Power Pumps (Dollars)	Area Irrigated with Water Pumped from Wells		Area Irrigated with Pumped Surface Water (Both on- and off-farm)	
				Acres in the Open (Whole Acres)	Square Feet Under Protection	Acres in the Open (Whole Acres)	Square Feet Under Protection
		0495	0496	0497	0124	0781	0537
1. Electricity	<input type="checkbox"/>		\$.00				
		0498	0499	0500	0125	0782	0538
2. Natural gas	<input type="checkbox"/>		\$.00				
		0501	0502	0503	0126	0783	0539
3. LP gas, propane, or butane	<input type="checkbox"/>		\$.00				
		0504	0505	0506	0127	0784	0540
4. Diesel and biodiesel fuel	<input type="checkbox"/>		\$.00				
		0507	0508	0509	0128	0890	0541
5. Gasoline, ethanol, and blends	<input type="checkbox"/>		\$.00				
		0779		0780	0129	0786	0542
6. Solar and other pumps without direct energy expense	<input type="checkbox"/>						

SECTION 8 METHOD OF WATER DISTRIBUTION IN FIELDS IN THE OPEN ON THIS OPERATION IN 2013

Report acres irrigated by each type of FIELD distribution or delivery system listed below. If the same land was irrigated by more than one method of distribution, report acres irrigated by each method used. Report information for the field distribution system, NOT for the delivery system used to convey water from the source to the field, if different. Include acres of horticultural crops grown in the open. Exclude crops grown under protection: glass, rigid plastic, plastic film, including "tunnel" protection. (Methods for crops grown under protection will be reported in Section 13.)

		Acres in the Open Irrigated by Gravity System (Field Water Conveyance System)					
		Total	Unlined Open Ditch	Lined Open Ditch	Poly Pipe (or other single-year use, lay-flat tubing)	Above Ground Pipe (except poly pipe) ¹	Underground Pipe ²
1. Gravity irrigation	None	0855	0859	0857	0056	0057	0858
a. Down rows or furrows.	<input type="checkbox"/>						
b. Controlled flooding (between borders or within basins).	<input type="checkbox"/>	0865	0869	0867	0066	0067	0868
c. Uncontrolled flooding (rangeland, pastureland, etc.)	<input type="checkbox"/>	0875					
d. Other gravity systems.	<input type="checkbox"/>	0885					

¹ Include gated pipe and riser or hydrant systems connected to above ground pipe.
² Include riser or hydrant systems connected to underground pipe.

		Acres In the Open Irrigated by Sprinkler System			
		Very Low Pressure (Under 15 PSI)	Low Pressure (15 to 29 PSI)	Medium Pressure (30 to 59 PSI)	High Pressure (60 PSI or more)
2. Sprinkler irrigation – Inlet pressure	None	0569	0576	0575	0570
a. Center pivot systems (circle).	<input type="checkbox"/>				
b. Linear move tower systems (and other linear continuous move drive systems)	<input type="checkbox"/>	0571	0577	0578	0579
c. Solid set or permanent systems (except low-flow micro systems)	<input type="checkbox"/>	0568	0565	0566	0567

		Acres Irrigated (all pressures)	
d. Mechanical move systems	None		
(i) Side roll, wheel move, or other mechanical move systems and other discrete move systems	<input type="checkbox"/>	0240	
(ii) Big gun or traveler systems	<input type="checkbox"/>	0241	
e. Hand-move systems, including hand watered horticultural crops grown in the open	<input type="checkbox"/>	0242	
f. Other sprinkler systems	<input type="checkbox"/>	0243	

		Acres Irrigated (all pressures)	
3. Drip, trickle, or low-flow micro irrigation	None		
a. Surface drip (on or above ground)	<input type="checkbox"/>	0248	
b. Sub-surface drip (root zone)	<input type="checkbox"/>	0246	
c. Low-flow micro sprinklers or sprays (apply water at low pressure and are not self-propelled or easily moved)	<input type="checkbox"/>	0247	
f. Other drip, trickle, or low-flow micro systems	<input type="checkbox"/>	0249	

SECTION 9 ACRES HARVESTED IN THE OPEN AND CROP YIELDS ON THIS OPERATION IN 2013

For each crop listed, report separately the harvested irrigated land and the harvested non-irrigated land. For selected crops, report the average yield from irrigated land and non-irrigated land. Report harvested crops as irrigated if any water was artificially applied either before planting or during the crop's growing season in 2013. Report the crop as irrigated if water was applied to supplement rainfall, even if the amount of water applied was not sufficient to obtain maximum yields. **Include horticultural crops grown in the open in item 16.**

Crops	Irrigated Land Include preplant and supplemental or semi-irrigation						Non-Irrigated Land			
	Irrigated Acres Harvested	Average Yield per Irrigated Acre Harvested		Average Estimated Quantity of Water Applied per Acre			Non-Irrigated Acres Harvested	Average Yield per Non-Irrigated Acre Harvested		
				Acres-Feet	Tenths	OR		Inches		
1. Corn for grain or seed – Exclude popcorn and sweet corn <input type="checkbox"/>	0050	0051		0052			0053	0054	0055	
			Bu.			OR				Bu.
2. Corn for silage or greenchop – Exclude popcorn and sweet corn. <input type="checkbox"/>	0060	0061	Tenths	0062			0063	0064	0065	Tenths
			Tons			OR				Tons
3. Sorghum for grain or seed <input type="checkbox"/>	0070	0071		0072			0073	0074	0075	
			Bu.			OR				Bu.
4. Wheat for grain or seed. <input type="checkbox"/>	0080	0081		0082			0083	0084	0085	
			Bu.			OR				Bu.
5. Soybeans for beans <input type="checkbox"/>	0106	0101		0102			0103	0104	0105	
			Bu.			OR				Bu.
6. Beans, dry edible <input type="checkbox"/>	0110	0111		0112			0113	0114	0115	
			Cwt.			OR				Cwt.
7. Rice – Include post harvest water applied to improve residue decomposition <input type="checkbox"/>	0120	0121		0122			0123			
			Cwt.			OR				
8. Other small grains (barley, oats, rye, etc.) . . . <input type="checkbox"/>	0130			0132			0133	0134		
						OR				
9. Alfalfa and alfalfa mixtures (dry hay, greenchop, and silage) . . <input type="checkbox"/>	0140	0141	Tenths	0142			0143	0144	0145	Tenths
			Tons, dry			OR				Tons, dry
10. All other hay and haylage including small grain, other tame, and wild hay (dry hay, greenchop, and silage) . . <input type="checkbox"/>	0150	0151	Tenths	0152			0153	0154	0155	Tenths
			Tons, dry			OR				Tons, dry

SECTION 9 Continued –

Crops		Irrigated Land Include preplant and supplemental or semi-irrigation						Non-Irrigated Land		
		Irrigated Acres Harvested	Average Yield per Irrigated Acre Harvested		Average Estimated Quantity of Water Applied per Acre			Non-Irrigated Acres Harvested	Average Yield per Non-Irrigated Acre Harvested	
				Lbs.	Acres-Feet	Tenths	OR		Inches	
11. Peanuts	None <input type="checkbox"/>	0550	0551		0552			0553	0554	0555
	<input type="checkbox"/>			Lbs.						Lbs.
12. Cotton	<input type="checkbox"/>	0160	0161		0162			0163	0164	0165
	<input type="checkbox"/>			Lbs. lint						Lbs. lint
13. All land from which vegetables, potatoes, and melons were harvested	<input type="checkbox"/>	0186	Tenths		0187			0188	0189	Tenths
	<input type="checkbox"/>									
a. Sweet corn	<input type="checkbox"/>	0850	Tenths	0851	0852			0853	0854	Tenths
	<input type="checkbox"/>									Cwt.
b. Tomatoes in the open	<input type="checkbox"/>	0860	Tenths	0861	0862			0863	0864	Tenths
	<input type="checkbox"/>									Cwt.
c. Lettuce and romaine	<input type="checkbox"/>	0870	Tenths	0871	0872			0873	0874	Tenths
	<input type="checkbox"/>									Cwt.
d. Potatoes – Exclude sweet potatoes	<input type="checkbox"/>	0190	Tenths	0191	0192			0193	0194	Tenths
	<input type="checkbox"/>									Cwt.
14. All berries	<input type="checkbox"/>	0560	Tenths		0562			0563	0564	Tenths
	<input type="checkbox"/>									
15. Land in bearing and non-bearing fruit orchards, citrus or other groves, vineyards, and nut trees	<input type="checkbox"/>	0210	Tenths		0212			0213	0214	Tenths
	<input type="checkbox"/>									
16. All other crops grown in the open and not listed – Include horticultural crops grown in the open (Note: Horticultural crops grown under protection will be reported in a later section.) Specify below ↴		0220			0222			0223	0224	
	0221 <input type="checkbox"/>									
17. Pastureland, all types	<input type="checkbox"/>	0230			0232			0233		
	<input type="checkbox"/>									

SECTION 10

PRIMARY METHOD OF FIELD WATER DISTRIBUTION, WATER SOURCE, AND ACREAGE OF CHEMIGATION IN IRRIGATION WATER FOR CROPS IRRIGATED IN THE OPEN IN 2013

WATER DISTRIBUTION I.D. CODES

PRESSURE SYSTEMS

- 01 = Hand-move system
- 02 = Solid set or permanent system
- 03 = Side roll or wheel line system
- 04 = Big gun or traveling gun system
- 05 = Linear move system (under 15 PSI)
- 06 = Linear move system (15 to 29 PSI)
- 07 = Linear move system (30 to 59 PSI)
- 08 = Linear move system (60 PSI or more)
- 09 = Center pivot system (under 15 PSI)
- 10 = Center pivot system (15 to 29 PSI)
- 11 = Center pivot system (30 to 59 PSI)
- 12 = Center pivot system (60 PSI or more)
- 13 = Low-flow irrigation (drip, trickle, or micro sprinkler system)
- 14 = Other pressure system – Specify below ↴

1006

GRAVITY SYSTEMS

- 15 = Down rows or furrows from unlined open ditches
- 16 = Down rows or furrows from lined open ditches
- 17 = Down rows or furrows from poly pipe, lay-flat tubing, or above ground or underground pipe
- 18 = Controlled flooding within field borders from unlined open ditches
- 19 = Controlled flooding within field borders from lined open ditches
- 20 = Controlled flooding within field borders from poly pipe, lay-flat tubing, or above ground pipe
- 21 = Controlled flooding within field borders from underground pipe
- 22 = Uncontrolled flooding (rangeland, pastureland, etc.) including open discharge from a well or pump
- 23 = Other gravity system – Specify below ↴

1007

Report for irrigated acres in the open. For each irrigated crop in the open, report separately the primary field distribution method, acres irrigated by water source, and acres on which chemigation was used in the irrigation system. Refer to the table above for the water distribution I.D. codes.

Irrigated Crops	None	I.D.	Primary method of field water distribution (Enter I.D. code from above.)	Water source (Column totals may exceed irrigated crop acres reported in Section 9 when more than one water source was used.)			Acres on which chemigation was applied through the irrigation system	
				Ground Water from Wells (Acres)	On-Farm Surface Water ¹ (Acres)	Off-Farm Water (All Suppliers) ² (Acres)	Commercial Fertilizer (Acres)	Pesticide Application (Acres)
1. Corn for grain or seed – Exclude popcorn and sweet corn	<input type="checkbox"/>		0250	0255	0254	0256	0252	0253
2. Corn for silage or greenchop – Exclude popcorn and sweet corn	<input type="checkbox"/>		0260	0265	0264	0266	0262	0263
3. Sorghum for grain or seed. . .	<input type="checkbox"/>		0270	0275	0274	0276	0272	0273
4. Wheat for grain or seed.	<input type="checkbox"/>		0300	0305	0304	0306	0302	0303
5. Soybeans for beans.	<input type="checkbox"/>		0310	0315	0314	0316	0312	0313
6. Beans, dry edible.	<input type="checkbox"/>		0320	0325	0324	0326	0322	0323
7. Rice	<input type="checkbox"/>		0330	0335	0334	0336	0332	0333
8. Other small grains (barley, oats, rye, etc.).	<input type="checkbox"/>		0340	0345	0344	0346	0342	0343
9. Alfalfa and alfalfa mixtures (dry hay, greenchop, and silage).	<input type="checkbox"/>		0350	0355	0354	0356	0352	0353
10. All other hay including small grain, other tame, and wild hay (dry hay, greenchop, and silage)	<input type="checkbox"/>							

¹ On-farm water source includes recycled water and reclaimed water from on-farm livestock operations.
² Off-farm water supplies may include water purchased from the U.S. Bureau of Reclamation; a State, county, or local district; mutual, private, cooperative, or neighborhood ditches; or commercial or municipal water systems.

SECTION 10 Continued –

Irrigated Crops	Primary method of field water distribution (Enter I.D. code from previous page.)	Water source (Column totals may exceed irrigated crop acres reported in Section 9 when more than one water source was used.)						Acres on which chemigation was applied through the irrigation system				
		Ground Water from Wells (Acres)		On-Farm Surface Water ¹ (Acres)		Off-Farm Water (All Suppliers) ² (Acres)		Commercial Fertilizer (Acres)		Pesticide Application (Acres)		
None	0580	0585		0584		0586		0582		0583		
11. Peanuts	<input type="checkbox"/> I.D.											
	0360	0365		0364		0366		0362		0363		
12. Cotton	<input type="checkbox"/> I.D.											
13. All acres in the open from which vegetables, potatoes, and melons were harvested	<input type="checkbox"/> I.D.	0474	0479	Tenths	0478	Tenths	0480	Tenths	0476	Tenths	0477	Tenths
	<input type="checkbox"/> I.D.											
	0900	0905	Tenths	0904	Tenths	0906	Tenths	0902	Tenths	0903	Tenths	
a. Sweet corn	<input type="checkbox"/> I.D.											
	0910	0915	Tenths	0914	Tenths	0916	Tenths	0912	Tenths	0913	Tenths	
b. Tomatoes in the open	<input type="checkbox"/> I.D.											
	0920	0925	Tenths	0924	Tenths	0926	Tenths	0922	Tenths	0923	Tenths	
c. Lettuce and romaine	<input type="checkbox"/> I.D.											
	0390	0395	Tenths	0394	Tenths	0396	Tenths	0392	Tenths	0393	Tenths	
d. Potatoes – Exclude sweet potatoes	<input type="checkbox"/> I.D.											
	0590	0595	Tenths	0594	Tenths	0596	Tenths	0592	Tenths	0593	Tenths	
14. All berries	<input type="checkbox"/> I.D.											
15. Land in bearing and non-bearing fruit orchards, citrus or other groves, vineyards, and nut trees	<input type="checkbox"/> I.D.	0410	0415	Tenths	0414	Tenths	0416	Tenths	0412	Tenths	0413	Tenths
	<input type="checkbox"/> I.D.											
16. All other crops grown in the open and not listed – Include horticultural crops grown in the open (Note: Horticultural crops grown under protection will be reported in a later section.) Specify below ↴												
0419	<input type="checkbox"/> I.D.	0420	0425		0424		0426		0422		0423	
	<input type="checkbox"/> I.D.											
	0430	0435		0434		0436		0432		0433		
17. Pastureland, all types	<input type="checkbox"/> I.D.											

¹ On-farm water source includes recycled water and reclaimed water from on-farm livestock operations.
² Off-farm water supplies may include water purchased from the U.S. Bureau of Reclamation; a State, county, or local district; mutual, private, cooperative, or neighborhood ditches; or commercial or municipal water systems.

SECTION 11 IRRIGATION AREA, METHODS, AND WATER APPLIED TO HORTICULTURAL CROPS GROWN IN THE OPEN IN 2013

1. Were any irrigated floriculture, nursery, sod, propagative materials, Christmas trees, or other horticultural crops grown in the open (including natural shade) on this operation in 2013?

0751 1 **Yes** - Continue 3 **No** - Go to Section 13

Acres in the Open			
Total Acres	Tenths	Irrigated Acres	Tenths
0737		0738	

2. Report total acres and irrigated acres for horticultural crops grown in the open (including natural shade). None

3. For horticultural crops in the open, enter the total acres and irrigated acres by horticultural crop category on this operation in 2013.

HORTICULTURAL CROPS IN THE OPEN

None

Total Acres	Tenths	Irrigated Acres	Tenths
0739		0740	
0741		0742	
0743		0744	
0745		0746	
0747		0748	

- a. Floriculture and bedding crops
- b. Nursery crops
- c. Sod
- d. Propagative materials
- e. Christmas trees and short rotation woody crops

f. Other horticultural crops - Specify

1010 . . .

0749		0750	
------	--	------	--

4. For horticultural crops in the open, report area irrigated or watered in 2013 by method used. If more than one method was used on the same area, report for all methods that apply. Report quantity of water in the unit or units of measure most often used on this operation. If total quantity of water (column 2a) and the unit of measure (column 2b) are known, then skip column 3.

IRRIGATION METHODS	None	1		2		OR	3		
		Total Acres Irrigated or Watered	Tenths	a. Quantity of Water Applied	b. Unit of Measure [Enter unit code] 1 Acre Feet 2 Gallons 3 Inches/Acre		a. Average Flow Rate (Gallons per Minute)	b. Number of Hours per Week Used in 2013	c. Number of Weeks Used in 2013
		0796		0797	0798		0799	0800	0801
a. Hand watered	<input type="checkbox"/>	0802		0803	0804		0805	0806	0807
b. Gravity irrigation	<input type="checkbox"/>	0808		0809	0810		0811	0812	0813
c. Sprinkler	<input type="checkbox"/>	0814		0815	0816		0817	0818	0819
d. Drip, trickle, or low-flow micro irrigation	<input type="checkbox"/>	0820		0821	0822		0823	0824	0825
e. Subirrigation (including hydroponic)	<input type="checkbox"/>								

SECTION 12 IRRIGATION OF HORTICULTURAL CROPS GROWN IN THE OPEN BY WATER SOURCE IN 2013

1. For each method used to irrigate or water horticultural crops in the open, report water sources by percent of source applied. If more than one source was used, report all that apply. For example, if the only source for hand-watered crops was ground water, then report 100 percent in column 1. If this operation used gravity irrigation and half of the water came from ground water and half came from on-farm surface water, then report 50 percent in column 1, row b and 50 percent in column 2, row b.

		Water Source			
		1 Ground Water from Wells (Percent)	2 On-Farm Surface Water (Percent)	3 Off-Farm Water (All Suppliers) (Percent)	Total
IRRIGATION METHODS	None	0832	0833	0834	
	a. Hand watered <input type="checkbox"/>				100%
	b. Gravity irrigation <input type="checkbox"/>	0835	0836	0837	
					100%
	c. Sprinkler <input type="checkbox"/>	0838	0839	0840	
					100%
	d. Drip, trickle, or low-flow micro irrigation <input type="checkbox"/>	0841	0842	0843	
					100%
	e. Subirrigation (including hydroponic). <input type="checkbox"/>	0844	0845	0846	
					100%

For each irrigation method used, columns 1 + 2 + 3 must equal 100 percent.

SECTION 13 IRRIGATION AREA, METHODS, AND WATER APPLIED TO HORTICULTURAL CROPS GROWN UNDER PROTECTION IN 2013

1. Were any irrigated nursery, greenhouse, floriculture, mushrooms, propagative materials, or other horticultural crops grown under protection on this operation in 2013? Include horticultural crops grown under glass, rigid plastic, and plastic film, including "tunnel" protection and hoop houses.

0627 1 **Yes - Continue** 3 **No - Go to Section 15**

2. Report total area and irrigated area for horticultural crops grown under protection None

Square Feet Under Protection			
Total Area		Irrigated Area	
0628		0629	

3. For horticultural crops under protection, enter the total area and irrigated area by horticultural crop category on this operation in 2013.

HORTICULTURAL CROPS UNDER PROTECTION

None

	Total Area (Square Feet)	Irrigated Area (Square Feet)
a. Floriculture and bedding crops <input type="checkbox"/>	0630	0631
b. Nursery crops <input type="checkbox"/>	0632	0633
c. Propagative materials <input type="checkbox"/>	0636	0637
d. Food crops grown under protection <input type="checkbox"/>	0638	0639
e. Mushroom crops <input type="checkbox"/>	0640	0641

f. Other horticultural crops - Specify

1011

0642		0643	
------	--	------	--

4. For horticultural crops under protection, report area irrigated or watered in 2013 by method used. If more than one method was used on the same area, report for all methods that apply. Report quantity of water in the unit or units of measure most often used on this operation. If total quantity of water (column 2a) and the unit of measure (column 2b) are known, then skip column 3.

IRRIGATION METHODS	None	1	2		OR	3		
		Total Area Irrigated or Watered (Square Feet)	a. Quantity of Water Applied	b. Unit of Measure [Enter unit code] 1 Acre Feet 2 Gallons 3 Gallons/Sq Ft 4 Inches/Sq Ft		a. Average Flow Rate (Gallons per Minute) Tenths	b. Number of Hours per Week Used in 2013	c. Number of Weeks Used in 2013
		0701	0702	0703		0704	0705	0706
a. Hand watered <input type="checkbox"/>	<input type="checkbox"/>	0707	0708	0709		0710	0711	0712
b. Gravity irrigation <input type="checkbox"/>	<input type="checkbox"/>	0713	0714	0715		0716	0717	0718
c. Sprinkler <input type="checkbox"/>	<input type="checkbox"/>	0719	0720	0721		0722	0723	0724
d. Drip, trickle, or low-flow micro irrigation <input type="checkbox"/>	<input type="checkbox"/>	0725	0726	0727		0728	0729	0730
e. Subirrigation (including hydroponic) . . . <input type="checkbox"/>	<input type="checkbox"/>							

SECTION 14 IRRIGATION OF HORTICULTURAL CROPS GROWN UNDER PROTECTION BY WATER SOURCE IN 2013

1. For each method used to irrigate or water horticultural crops under protection, report water sources by percent of source applied. If more than one source was used, report all that apply. For example, if the only source for hand-watered crops was ground water, then report 100 percent in column 1. If this operation used gravity irrigation and half of the water came from ground water and half came from on-farm surface water, then report 50 percent in column 1, row b and 50 percent in column 2, row b.

		Water Source			
		1 Ground Water from Wells (Percent)	2 On-Farm Surface Water (Percent)	3 Off-Farm Water (All Suppliers) (Percent)	Total
IRRIGATION METHODS	None	0646	0647	0648	
	a. Hand watered	<input type="checkbox"/>			100%
	b. Gravity irrigation	<input type="checkbox"/>			100%
	c. Sprinkler	<input type="checkbox"/>			100%
	d. Drip, trickle, or low-flow micro irrigation	<input type="checkbox"/>			100%
	e. Subirrigation (including hydroponic)	<input type="checkbox"/>			100%
			0658	0659	0660

For each irrigation method used, columns 1 + 2 + 3 must equal 100 percent.

SECTION 15 EXPENDITURES FOR IRRIGATION FACILITIES AND EQUIPMENT ON THIS OPERATION IN 2013

I.D. CODES

PRIMARY PURPOSE OF EXPENDITURE	PRIMARY SOURCE OF FUNDING ASSISTANCE
1 = New expansion	1 = No funding assistance
2 = Water conservation	2 = EQIP
3 = Energy conservation	3 = Other USDA financial assistance
4 = Scheduled replacement or maintenance	4 = Non-USDA financial assistance

Report the 2013 expenditure cost, acres affected (rounded to the nearest acre), primary purpose of expenditure, and primary source of funding assistance by expenditure category. Include the portion of the expenditures made by or shared with others (landlords or government agencies), including programs such as Environmental Quality Incentive Program (EQIP). Refer to the table above for I.D. codes for the last two columns.

EXPENDITURE TYPE	None	Total Cost of Expenditure (Include amount financed)	Irrigated Acres Affected by Expenditure (Acres)	Primary Purpose of Expenditure (Enter I.D. code from above.)	Primary Source of Funding Assistance (Enter I.D. code from above.)
1. Purchase of new or replacement irrigation equipment and machinery – Include sprinklers, pipes, siphons, nozzles, pumps, engines, motors, filtration equipment, etc. Exclude computers, computer control panels, and software	<input type="checkbox"/>	0511 \$.00	0514	0512 I.D.	0513 I.D.
2. New well construction or deepening of existing wells – Include drilling costs, cost of casing, and any costs to prepare well for installation of pump. Exclude cost of pumps or motors	<input type="checkbox"/>	0515 \$.00	0518	0516 I.D.	0517 I.D.
3. Construction or improvement of permanent storage and distribution systems – Include dams, ponds, reservoirs, permanent ditches, canals, flumes, etc.	<input type="checkbox"/>	0519 \$.00	0522	0520 I.D.	0521 I.D.
4. Computers, control panels, computer controlled valves, software, and software controlled hardware for irrigation water management.	<input type="checkbox"/>	0544 \$.00	0547	0545 I.D.	0546 I.D.
5. Clearing or leveling non-irrigated land for new irrigation acres (the primary purpose is expansion of irrigation acres).	<input type="checkbox"/>	0548 \$.00	0526		0549 I.D.
6. Land leveling of previously irrigated land (the primary purpose cannot be new expansion).	<input type="checkbox"/>	0556 \$.00	0559	0557 I.D.	0558 I.D.

SECTION 18 IRRIGATION PRACTICES IN 2013

1. How did you decide when to schedule water use in 2013? Mark (X) all that apply –

- 1020 Condition of crop (observation or experience)
- 1021 Feel of the soil
- 1022 Use of soil moisture-sensing devices (moisture blocks, tensiometers, capacitance, other electronic sensors)
- 1023 Use of plant moisture-sensing devices such as pressure (chamber) bombs or infrared (IR) thermometer
- 1024 Use of irrigation scheduling service, including commercial and government
- 1025 Reports on daily crop-water evapo-transpiration (ET) use (Internet, newspapers, radio, TV, fax, or email)
- 1026 When water was delivered or available by irrigation water supplier (no choice by water user)
- 1027 Personal calendar schedule
- 1028 Computer simulation models (not from a commercial service)
- 1029 When neighbors began to irrigate

2. Did you have to discontinue irrigation during 2013 long enough to affect crop yields?

- 0669 1 **Yes** - Continue 3 **No** - Go to Section 19

a. What were the reasons for discontinuing irrigation? Mark (X) all that apply –

- 1030 Shortage of surface water (water from reservoirs, lakes, streams, water supply organizations, etc.)
- 1031 Shortage of ground water (lowering water level of wells or depletion of ground water)
- 1032 Irrigation equipment failure
- 1033 Energy price increases or energy shortage
- 1034 Water salinity too high
- 1035 Loss of water rights not due to voluntary transfers
- 1036 Cost of purchased water
- 1037 Other – Specify → ¹⁰³⁸

SECTION 19 LABOR USED FOR IRRIGATION ON THIS OPERATION IN 2013

1. Did you have any paid labor for the irrigation portion of your operation in 2013?

- 0731 1 **Yes** - Continue 3 **No** - Go to Section 20

a. Report total hours and average hourly wage for hired irrigation labor. (Exclude contract labor.)

None

Total Hours of Paid Irrigation Labor		Average Hourly Wage	
		Cents	
0732	<input style="width: 150px;" type="text"/>	0733	\$ <input style="width: 100px;" type="text"/>

b. Report contract irrigation labor expenses on this operation in 2013.

None

Total Expenses for Contract Irrigation Labor		
0788	\$ <input style="width: 150px;" type="text"/>	<input style="width: 50px;" type="text"/> .00



SECTION 22 IRRIGATED LAND IN 2012

Complete this section ONLY if you DID NOT irrigate any land in 2013

1. Was any land irrigated on this operation in 2012?

- 0528 1 **Yes** - Continue 3 **No** - Go to Section 23

2. What were the reasons for not irrigating in 2013? Mark (X) all that apply –

- | | |
|---|---|
| 1050 <input type="checkbox"/> Sufficient soil moisture – no irrigation needed | 1057 <input type="checkbox"/> Sold or leased irrigated land or irrigated area under protection to others and did not irrigate during 2013 |
| 1052 <input type="checkbox"/> Shortage of surface water (water from reservoirs, lakes, streams, water supply organizations, etc.) | 1058 <input type="checkbox"/> Restrictions on water use |
| 1053 <input type="checkbox"/> Shortage of ground water (lowering water level of wells or depletion of ground water) | 1059 <input type="checkbox"/> Converted to non-agricultural use |
| 1054 <input type="checkbox"/> Irrigation uneconomical due to high fuel and power costs and/or low commodity prices | 1060 <input type="checkbox"/> Converted to an agricultural enterprise not requiring irrigation |
| 1055 <input type="checkbox"/> Loss of water rights (not due to voluntary transfers) | 1061 <input type="checkbox"/> Available surface water too salty |
| 1056 <input type="checkbox"/> Sold or leased water rights or annual water allocation | 1062 <input type="checkbox"/> Other - Specify <input type="checkbox"/> |

1063

3. Do you consider your discontinuance of irrigation to be permanent?

- 0530 1 **Yes** 3 **No**

SECTION 23 VALUE OF SALES IN 2013

1. What was the gross value of all agricultural products sold from this operation in 2013 including landlord's share? Mark (X) only one –

- 0980 1 \$0 - \$9,999 2 \$10,000 - \$24,999 3 \$25,000 - \$49,999 4 \$50,000 - \$99,999
 5 \$100,000 - \$249,999 6 \$250,000 - \$499,999 7 \$500,000 - \$999,999 8 \$1,000,000 and over

2. What percent of total sales were from **irrigated** crop sales, including irrigated horticultural crops?

Percent	
0981	<input style="width: 100%;" type="text"/>
0982	<input style="width: 100%;" type="text"/>

3. What percent of total sales were from **non-irrigated** crop sales and livestock sales?

100%

SECTION 24 PERSON COMPLETING THIS FORM – Please print

Name Area Code and Phone Number Date (MM DD YY)

Survey Results: To receive the complete results of this survey on the release date, go to www.agcensus.usda.gov.

Would you rather have a brief summary mailed to you at a later date? 0099 1 **Yes** 3 **No**

Thank you for your response

OFFICE USE

Response	Respondent	Mode	Enum.	Eval.	R. Unit	Change	Optional Use
1-Comp 2-R 3-Inac	9901 1-Op/Mgr 2-Sp 3-Acct/Bkpr 4-Partner 9-Oth	9902 1-Mail 2-Tel 3-Face-to-Face	9903 0098	0100	0921	0785	0407 0408 9906 9916

S/E Name