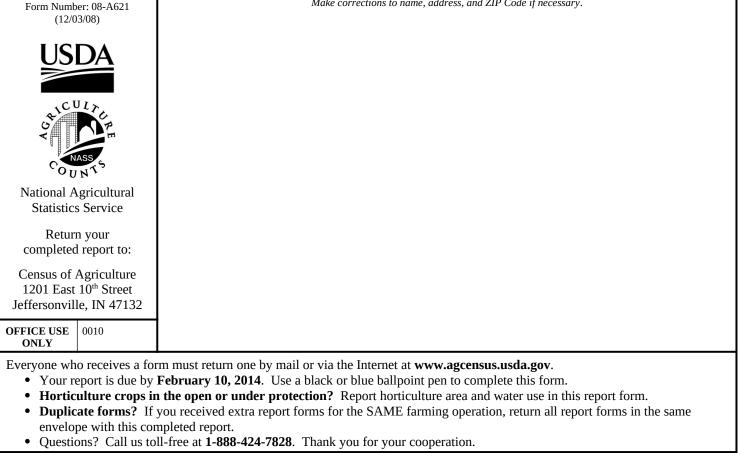
2013 FARM AND RANCH IRRIGATION SURVEY

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



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.

		None		Number of Acres
1.	All land owned			0025
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, etc.) used on a per-head or animal unit month (AUM) basis under a grazing permit.		+	0026
3.	All land rented or leased to others , including land worked on shares by others and land subleased		-	0027
				BOX A
4.	TOTAL ACRES in this operation (Items 1 + 2 - 3 = BOX A)		=	0028

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.

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 0029	None	Column 2 Acres Irrigated 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		0033		0034
2.	Pa	sture				
	a.	Permanent pasture and rangeland		0135		0136
	b.	Woodland pastured		0137		
	c.	Other pasture and grazing land (including rotational pasture) that could have been used for crops without additional improvements.		0107		0108
3.	pas	l other land – Include land not reported above. Include woodland not stured, farmsteads, home, buildings, livestock facilities, ponds, roads, steland, etc		0039		
				Total Acres on this Operation		Total Acres Irrigated
4.		DTAL ACRES – Add acres in each column and enter the totals. OX B should be the same as BOX A on page 1.)		BOX B 0041		BOX C 0042
5.	Do	es the total in BOX C equal zero? Yes – Continue No – Go to item 7				

6. Were any irrigated horticultural crops grown under protection for sale on this operation in 2013? Include irrigated nursery, floriculture, greenhouse, mushrooms, or propagative materials grown under protection.

 $_{1}$ **Yes** – Continue $_{3}$ **No** – Go to Section 22 on back page

	State
0951	

7. What State had the majority of irrigated acres in 2013?.....

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 horticulture crops grown in the open and irrigated pastureland.

	Acres Irrigated by Ground Water (from wells)		Feet of Ground Applied	OR	Average Acre-Fee Water App per Acr	olied	OR	Average Inch Water Appli			
	0444	0955			0445	•		0448			
3.	Report the area under pro (Note: The amount of ground we	0	0			2.)	None	Square Feet Under Protection Irrigated with Ground Water 0455			
4.	4. How many wells on this operation were used in 2013? Number of Wells a. Of the (item 4) wells, how many were free flowing (artesian wells)? 0486										
	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?							n i	are Feet Protection		
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											
5.	Report for the	Well # 1	Depth of Well (Feet) 0461	Depth to Water at Start of Irrigation Season (Feet) 0462	Depth to Bowls or Impellers (Feet) 0463	Pump Capacity – Discharge From Well (GPM) 0464	Operating Pressure at Well Head (PSI) 0676	Size of Engine for All Motors, Including Electric (HP) 0761	Total Hours Operated in 2013 0762		
	first three primary wells pumped in 2013	2 _3	0465 0469	0466 0470	0467 0471	0468 0472	0677 0678	0763 0765	0764 0766		
	a. Report for all other		Average Depth of Well(s) (Feet)	Average Depth to Water at Start of Irrigation Season (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		
	wells pumped in 201	3	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?

Check 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?

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.

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

	Acres Irrigated by On-Farm Surface Water	Total Acre-Feet of On-Farm Surface Water Applied	OR	Average Acre-Feet of On-Farm Surface Water Applied per Acre	OR	Average Inches of On-Farm Surface Water Applied per Acre
	0449	0960		0450		0453
3.	Report the area under pro The amount of on-farm surface		None	Square Feet Under Protection Irrigated with On-Farm Surface Water 0458		

Did this operation use **on-farm recycled water** to irrigate any crops, including horticultural crops, grown during 2013? 4. 0600 37 **C** · ·· **-**1 1

0000	$1 \square \mathbf{Y} \mathbf{es} - \text{Continue}$ $3 \square \mathbf{No} - \text{Go to item 5 below}$		
		Acres in the Open	Square Feet Under Protection
a.	How many acres in the open and square feet under protection were irrigated with recycled water during 2013?	0601	0936

Did this operation use **reclaimed water from on-farm livestock facilities** to irrigate any crops, including horticultural crops, 5. 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, answer "No.")

0543 1 Yes – Continue	$_{3}$ No – Go to Section 5
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a.	How many acres in the open and/or square feet under protection		Acres in the Open		Square Feet Under Protection	
	were irrigated with one or more application of reclaimed water from on-farm livestock facilities during 2013?		0587	058	38	
		None	Acre-Feet		Gallons	
b.	How much reclaimed water from on-farm livestock facilities was used for irrigation during 2013?		0599	OR	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 horticulture crops grown in the open and irrigated pastureland.

		Acres Irrigated by Off-Farm Water	Total Acr Off-Farm Wa		Average A Off-Farm V OR per		er Applied	OR		verage Inches of Farm Water Applied per Acre	
	0454		0965			0966	•		0967		
3.	-	ort the area under pro e: The amount of off-farm v	0				13.)	None	I	Feet Under Protection frrigated with ff-Farm Water	
4.	Did	you pay for the off-fa	arm water rece	ived on this o	operation?				0.450	Dollars	
	0675	$\mathbf{Yes} - \mathbf{Report tota}$	al dollars paid	for the off-fa	rm water	•••••	•••••		0456 \$	00	
		$\mathbf{N}0 - \mathbf{G}0$ to item	5								
5.		ow much of this opera transferred through a									
a. U.S. Bureau of Reclamation? Include reclamation water delivered through a local district								None	² Some ³ A		
b. Other Federal agencies such as the U.S. Army Corp of Engineers, Bureau of Indian Affairs, USDA small watershed project, etc.?								None	² Some ³ All		
	c.	All other suppliers?	Specify:	1012			0666 1	None	² Sor	me ₃ All	
6.	ope: appli	this operation use rec rations, or other off-fa cation of reclaimed water, rer "No.")	arm sources to	irrigate any o	crops in 2013	? (For the purpose	s of this irriga	ition survey, to be	e considere	ed an irrigation	
	0602 ₁	Yes – Continue	3	No – Go to S	Section 6		_				
	a.	How many acres in th	e open and/or	square feet u	inder protectio	on		Acres in the O	pen	Square Feet Under Protection	
		were irrigated with or from off-farm source					. 05	597	0598		
								Acre-Feet		Gallons	
		How much reclaimed was used for irrigation					. 00	644	OR	0645	
	c.	What sources of recla		ere used on th			I	apply.			
		¹⁰⁰³ Off-farm lives	tock operation	1004 [Other – Sp	pecify: 1005					
S	ECT	ION 6 PUMPS, C	OTHER THA	N WELL PU	UMPS, USEE	FOR IRRIGA	TION ON	THIS OPEI	RATIO	N 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
1.	Tailwater pits		0490	0774	0491	0687	0661
2.	Ponds, lakes, reservoirs, rivers, canals, etc		0492	0775	0493	0688	0662
3.	Relifting or boosting water within system.		0494	0776	0777	0778	0663

SECTION 7

ENERGY EXPENSE BY POWER SOURCE FOR ALL WELL AND OTHER IRRIGATION PUMPS 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.

		Number of Wells and	Cost of Energy Used to Power		Area Irrigated with Water from Wells		Area Irrigated with Surface Water (Both on- and off-farm)		
PO	WER SOURCE	None	Other Pumps Used (<i>Reported in</i> Sections 3 & 6)	Pumps (Dollars)		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		0493	\$. 00	0497	0124	0/01	0337
			0498	በፈባባ		0500	0125	0782	0538
2.	Natural gas			\$. 00				
			0501	0502		0503	0126	0783	0539
3.	LP gas, propane, or butane			\$. 00				
			0504	0505		0506	0127	0784	0540
4.	Diesel and biodiesel fuel			\$. 00				
			0507	0508		0509	0128	0890	0541
5.	Gasoline, ethanol, and blends			\$. 00				
6.	Solar and other pumps without direct energy expense.		0779			0780	0129	0786	0542

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 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 horticulture crops grown in the open. Exclude crops grown under protection: glass, rigid plastic, plastic film, including "tunnel" protection. (Methods for crops grown under protection 13.)

				Acres in the Open Irrigated by Gravity System (Field Water Conveyance System)										
1.	Gra	avity irrigation	None	Total	Unli Op Dit	oen Ope	n (or other sir	ngle- Abo ay- Pij	ove Ground pe (except oly pipe) ¹	l Underground Pipe ²				
	a.	Down rows or furrows		0855	0859	0857	0056	0057		0858				
	b.	Controlled flooding (between borders or within basins)		0865	0869	0867	0066	0067		0868				
	c.	Uncontrolled flooding (rangeland, pastureland, etc.).		0875										
	d.	Other gravity systems		0885	po and ris	or or hydrant system	ns connected to abov	o ground ni						
						ystems connected to			ре .					
						Acres	in the Open Irrig	ated by Sr	orinkler S	System				
2.	Spr	inkler irrigation – Inlet pressure			None	Very Low Pressure (Under 15 PSI)	Low Pressure (15 to 29 PSI)	Med Press (30 to 5	sure	High Pressure (60 PSI or more)				
	a.	Center pivot systems (circle)				0569	0576	0575		0570				
	b.	Linear move tower systems (and c linear continuous move drive syste				0571	0577	0578		0579				
	c.	Solid set and permanent systems (except low-flow micro systems).				0568	0565	0566		0567				
		Masharial mana sustains								cres Irrigated				
	d.	Mechanical move systems		hanical maria				None	0240	ll pressures)				
		(i) Side roll, wheel move, or othe and other discrete move syste							0240					
		(ii) Big gun or traveler systems			•••••				0241					
	e.	Hand-move systems, including ha	nd wa	tered horticultu	ire crop	s grown in the o	pen		0242					
	f.	Other sprinkler systems	••••						0243					
3.	Dri	p, trickle, or low-flow micro irrigat	ion - e	except poly and	lay-fla	t tubing		None		cres Irrigated ll pressures)				
	a.	Surface drip (on or above ground)							0248					
	b.	Sub-surface drip (root zone)			•••••				0246					
	c.	Low-flow micro sprinklers or spra and are not self-propelled or easily							0247					
	d.	Other drip, trickle, or low-flow mi							0249					
		-	5											

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 horticulture crops grown in the open in item 16.**

		Includ			d Land emental or semi-i	rriga	tion	Non-Irrigated Land			
	Crops		Irrigated Acres	Average Y per Irrigated		Average Esti of Water Ap			Non-Irrigated Acres	Avera Yield per	Non-
			Harvested	Harvest		Acre-Feet per Acre or		Inches per Acre	Harvested	Irrigated Acre Harvested	
1.	Corn for grain or seed – Exclude popcorn and sweet corn	None	0050	0051	Dec	0052	or	0053	0054	0055	Du
2.	Corn for silage or greenchop –		0060	0061	Bu.	0062	or	0063	0064	0065	Bu.
	Exclude popcorn and sweet corn			•	Tons	•	01			•	Tons
3.	Sorghum for grain or seed		0070	0071	Bu.	0072	or	0073	0074	0075	Bu.
4.	Wheat for grain or seed		0080	0081	Bu.	0082	or	0083	0084	0085	Bu.
	-		0106	0101		0102	or	0103	0104	0105	
5.	Soybeans for beans		0110	0111	Bu.	•	01	0113	0114	0115	Bu.
6.	Beans, dry edible		0110	0111	Cwt.	•	or	0110		0110	Cwt.
7.	Rice (including post harvest water		0120	0121		0122		0123			
	applied to improve residue decomposition				Cwt.	•	or				
8.	Other small grains (barley,oats, rye, etc.)		0130			0132	or	0133	0134		
9.	Alfalfa and alfalfa mixtures		0140	0141		0142		0143	0144	0145	
э.	(dry hay, greenchop, and silage)			•	Tons, dry	•	or			•	Tons, dry
10.	All other hay and haylage, including		0150	0151		0152		0153	0154	0155	
	small grain, other tame, and wild hay (dry hay, greenchop, and silage)			•	Tons, dry	•	or			•	Tons, dry

SECTION 9 Continued

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

9

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 horticulture crops grown in the open in item 16.**

			Includ	II le preplant an	ion	Non-Irrigated Land					
	Crops		Irrigated Acres	Average Yie Irrigated A		Average Esti of Water Ap			Non-Irrigated Acres	Average Yield per Non-	
			Harvested	Harvested		Acre-Feet per Acre or		Inches per Acre	Harvested	Irrigated Acre Harvested	
		None	0550	0551		0552		0553	0554	0555	
11.	Peanuts				Lbs.	•	or				Lbs.
12.	Cotton		0160	0161	Lbs. lint	0162	or	0163	0164	0165	The line
			0186		lint	•		0188	0189		Lbs.lint
13.	All land from which vegetables, potatoes, and melons were harvested		0100			0107	or	0100	0105		
			•			•			•		
			0850	0851		0852	or	0853	0854	0975	
	a. Sweet corn		•		Cwt.	•	01		•		Cwt.
			0860	0861		0862	or	0863	0864	0985	
	b. Tomatoes in the open		•		Cwt.	•	01		•		Cwt.
			0870	0871		0872	or	0873	0874	0995	
	c. Lettuce and romaine		•		Cwt.	•	01		•		Cwt.
	d. Potatoes – Exclude sweet potatoes.		0190	0191		0192	or	0193	0194	0195	
			•		Cwt.	•	01		•		Cwt.
			0560			0562	or	0563	0564		
14.	All berries		•			•	01		•		
15.	Land in bearing and non-bearing fruit		0210			0212		0213	0214		
	orchards, citrus or other groves,						or				
	vineyards, and nut trees		•			•			•		
16.	All other crops grown in the open and not listed – Include horticulture crops		0220			0222		0223	0224		
	grown in the open (Note: Report horticulture crops grown under protection in Section 13.)						or				
	Specify:					•					
			0230			0232		0233	0234		
17.	Pastureland, all types					•	or				

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

PRESSURE AND GRAVITY IRRIGATION SYSTEMS I.D. CODES for column 1 below

PRESSURE SYSTEMS	GRAVITY SYSTEMS
01 = Hand-move system	15 = Down rows or furrows from unlined open ditches
02 = Solid or permanent set system	16 = Down rows or furrows from lined open ditches
03 = Side roll or wheel line system	17 = Down rows or furrows from poly pipe, lay-flat tubing, or above
04 = Big gun or traveling gun system	or underground pipe
05 = Linear move system (under 15 PSI)	18 = Controlled flooding within field borders from unlined open
06 = Linear move system (15 to 29 PSI)	ditches
07 = Linear move system (30 to 59 PSI)	19 = Controlled flooding within field borders from lined open ditches
08 = Linear move system (60 PSI or more)	20 = Controlled flooding within field borders from poly pipe, lay-flat
09 = Center pivot system (under 15 PSI)	tubing, or above ground pipe
10 = Center pivot system (15 to 29 PSI)	21 = Controlled flooding within field borders from below ground pipe
11 = Center pivot system (30 to 59 PSI)	22 = Uncontrolled flooding (rangeland, pastureland, etc.) including
12 = Center pivot system (60 PSI or more)	open discharge from a well or pump
13 = Low-flow irrigation (drip, trickle, or micro sprinkler system)	23 = Other gravity system – Specify:
14 = Other pressure system – Specify:	1007
1006	

Report only for irrigated acres harvested. For each irrigated crop harvested, 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 for column 1.

	Irrigated Crops		Primary metho of field water distribution (Enter irrigation sys I.D. code from abo	tem	crop acres	Water source totals may exceed reported in Sectio one water source	Acres on which chemigation was applied through the irrigation system		
			Column 1		Ground Water from Wells	On-Farm Surface Water ¹	Water from Off-Farm Suppliers ²	Commercial Fertilizer	Pesticide Application
			Enter system cod	e	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)
1.	Corn for grain or seed – Exclude popcorn and	None	0250		0255	0254	0256	0252	0253
	sweet corn			I.D.					
2.	Corn for silage or greenchop – Exclude popcorn and	_	0260		0265	0264	0266	0262	0263
	sweet corn			I.D.					
3.	Sorghum for grain or seed		0270	I.D.	0275	0274	0276	0272	0273
4.	Wheat for grain or seed		0280	I.D.	0285	0284	0286	0282	0283
5.	Soybeans for beans		0300	I.D.	0305	0304	0306	0302	0303
6.	Beans, dry edible		0310	I.D.	0315	0314	0316	0312	0313
7.	Rice		0320	I.D.	0325	0324	0326	0322	0323
8.	Other small grains (barley, oats, rye, etc.)		0330	I.D.	0335	0334	0336	0332	0333
9.	Alfalfa and alfalfa mixtures (dry hay, greenchop and silage)		0340		0345	0344	0346	0342	0343
10.	All other hay including small grain, other tame, and wild hay (dry hay, greenchop and silage)		0350	I.D.	0355	0354	0356	0352	0353

On-farm water source includes recycled water and reclaimed water from on-farm livestock operations. 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

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

PRESSURE and GRAVITY IRRIGATION SYSTEMS I.D. CODES for column 1 below

PRESSURE SYSTEMS	GRAVITY SYSTEMS
01 = Hand-move system	15 = Down rows or furrows from unlined open ditches
02 = Solid or permanent set system	16 = Down rows or furrows from lined open ditches
03 = Side roll or wheel line system	17 = Down rows or furrows from poly pipe, lay-flat tubing, or above
04 = Big gun or traveling gun system	or underground pipe
05 = Linear move system (under 15 PSI)	18 = Controlled flooding within field borders from unlined open
06 = Linear move system (15 to 29 PSI)	ditches
07 = Linear move system (30 to 59 PSI)	19 = Controlled flooding within field borders from lined open ditches
08 = Linear move system (60 PSI or more)	20 = Controlled flooding within field borders from poly pipe, lay-flat
09 = Center pivot system (under 15 PSI)	tubing, or above ground pipe
10 = Center pivot system (15 to 29 PSI)	21 = Controlled flooding within field borders from below ground pipe
11 = Center pivot system (30 to 59 PSI)	22 = Uncontrolled flooding (rangeland, pastureland, etc.) including
12 = Center pivot system (60 PSI or more)	open discharge from a well or pump
13 = Low-flow irrigation (drip, trickle, or micro sprinkler system)	23 = Other gravity system – Specify:
14 = Other pressure system – Specify:	1007
1006	

Report only for irrigated acres harvested. For each irrigated crop harvested, 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 for column 1.

Irrigated Crops			Primary metho of field water distribution (Enter irrigation sys I.D. code from abo	tem	crop acres	Water source totals may exceed reported in Section one water source w	Acres on which chemigation was applied through the irrigation system		
			Column 1		Ground Water from Wells	On-Farm Surface Water ¹	Water from Off-Farm Suppliers ²	Commercial Fertilizer	Pesticide Application
			Enter system cod	e	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)
		None	0580		0585	0584	0586	0582	0583
11.	Peanuts			I.D.					
12.	Cotton		0360	I.D.	0365	0364	0366	0362	0363
13.	All acres in the open from which		0474		0479	0478	0480	0476	0477
	vegetables, potatoes, and melons were harvested			I.D.	·	·	·	·	·
	a. Sweet corn		0900	I.D.	0905	0904 •	0906 •	0902 •	0903 •
	b. Tomatoes in the open		0910	I.D.	0915 •	0914 •	0916 •	0912 •	0913 •
	c. Lettuce and romaine		0920	I.D.	0925 •	0924 •	0926 •	0922 •	0923
	d. Potatoes – Exclude		0390		0395	0394	0396	0392	0393
	sweet potatoes			I.D.	·	·	·	·	
14.	All berries		0590	I.D.	0595 •	0594 •	0596	0592	0593 •
15.	Land in bearing and non-bearing fruit orchards,		0410		0415	0414	0416	0412	0413
	citrus or other groves, vineyards, and nut trees			I.D.	·	·	·	·	·
4.0			0420		0425	0424	0426	0422	0423
16.	All other crops grown in the open and not listed – Include horticulture crops grown in the open (<i>Note: Report horticulture crops</i> grown under protection in Section 13.)								
	Specify:			I.D.	·	·	·	·	
17.	Pastureland, all types		0430	I.D.	0435	0434	0436	0432	0433
¹ On	-farm water source includes recycled water and	reclaime	d water from on-farm	livest	ock operations.				

2 Off-fain water supplies may include water and rectained water infinite metal investock operations. 2 Off-fain 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
$_{1} \square \mathbf{Yes} - \text{Continue}$	$_3 \square$ No – Go to Section 1

Report total acres and irrigated acres for horticultural crops

2.

	Acres in the Open									
None	Total Acres (Nearest Tenth)	Irrigated Acres (Nearest Tenth)								
	0737	0738								
	•	•								

- grown in the open (including natural shade).
- 3. For horticultural crops only, enter the total acres and irrigated acres by horticultural crop category on this operation in 2013.

HORTICULTURAL CROPS	None	Total Acres (Nearest Tenth)	Irrigated Acres (Nearest Tenth)
a. Floriculture and bedding crops		0739	0740
b. Nursery crops		0741	0742
c. Sod		0743	0744
d. Propagative materials		0745	0746
e. Christmas trees and short rotation woody crops		0747	0748
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 used on this operation. If total quantity of water (column 2a) and the unit of measure (column 2b) are known, then skip column 3.

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

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	2	3				
			Ground Water from Wells	On-Farm Surface Water	Off-Farm Water (All Suppliers)	Total			
IRI	RIGATION METHODS	None	(Percent)	(Percent)	(Percent)				
a.	Hand watered		0832	0833	0834	100%			
b.	Gravity irrigation.		0835	0836	0837	100%			
c.	Sprinkler		0838	0839	0840	100%			
d.	Drip, trickle, or low-flow micro irrigation		0841	0842	0843	100%			
e.	Subirrigation (including hydroponic)		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, plastic film, including "tunnel" protection.)

0627	1	Yes – Continue
------	---	----------------

 $_{3}$ **No** – Go to Section 15

- Square Feet Under Protection

 None
 Total Area

 Irrigated Area
 0628

 0628
 0629
- 3. For horticultural crops under protection, enter the total area and irrigated area by horticultural crop category on this operation in 2013.

НС	RTICULTURAL CROPS	None	Total Area (Square Feet)	Irrigated Area (Square Feet)
a.	Floriculture and bedding crops.		0630	0631
b.	Nursery crops.		0632	0633
c.	Propagative materials		0636	0637
d.			0638	0639
e.	Mushroom crops.		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, report all that apply. Report quantity of water in the unit or units of measure most used on this operation. If total quantity of water (column 2a) and the unit of measure (column 2b) are known, then skip column 3.

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

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	2	3			
		Ground Water from Wells	On-Farm Surface Water	Off-Farm Water (All Suppliers)	Total		
IRRIGATION METHODS	None	(Percent)	(Percent)	(Percent)			
a. Hand watered		0646	0647	0648	100%		
b. Gravity irrigation		0649	0650	0651	100%		
c. Sprinkler		0652	0653	0654	100%		
d. Drip, trickle, or low-flow micro irrigation		0655	0656	0657	100%		
e. Subirrigation (including hydroponic)		0658	0659	0660	100%		
		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

Report the 2013 expenditure cost, acres affected, primary purpose of expenditure made, 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), etc.

EX	PENDITURE TYPE	None	Total Cost of Expenditure (Include amount financed)	Irrigated Acres Affected by Expenditure	Primary Purpose of Expenditure (Mark (X) primary purpose only)	Primary Source of Funding Assistance (Mark (X) primary source only)
		rtone	0511	0514	0512	0513
1.	Purchase of new or replacement irrigation equipment and		0011			
	machinery – Include sprinklers, pipes, siphons, nozzles, pumps,				1 New expansion 2 Water conservation	1 No funding assistance 2 EQIP
	engines, motors, filtration equipment, etc. Exclude				³ Energy conservation	$_{3}$ Other USDA financial
	computers, computer control panels, software. Report these in item 4		\$.00	Acres	4 Scheduled replacement or maintenance	assistance 4 Non-USDA financial assistance
			0515	0518	0516	0517
2.	New well construction or				1 New expansion	1 No funding assistance
2.	deepening of existing wells –				² Water conservation	2 EQIP
	Include drilling costs, cost of casing, and any costs to prepare				³ Energy conservation	3 Other USDA financial assistance
	well for installation of pump. Exclude cost of pumps or				4 Scheduled replacement	4 Non-USDA financial
	motors		\$.00	Acres	or maintenance	assistance
			0519	0522	0520	0521
					1 New expansion	$_1$ No funding assistance
3.	Construction or improvement				² Water conservation	2 EQIP
	of permanent storage and distribution systems – Include				³ Energy conservation	³ Other USDA financial assistance
	dams, ponds, reservoirs, permanent ditches, canals,				4 Scheduled replacement	4 Non-USDA financial
	flumes, etc		\$.00	Acres	or maintenance	assistance
			0544	0547	0545	0546
					¹ New expansion	$_1$ No funding assistance
					² Water conservation	₂ EQIP
4.	Computers, control panels, computer controlled valves,				³ Energy conservation	3 Other USDA financial assistance
	software, and software controlled hardware for				4 Scheduled replacement	4 Non-USDA financial
	irrigation water management		\$.00	Acres	or maintenance	assistance
			0548	0526		0549
						¹ No funding assistance
5.	Clearing or leveling non-					2 EQIP
	irrigated land for new irrigation acres (the principal purpose is					3 Other USDA financial assistance
	expansion of irrigation acres).		¢ 00			4 Non-USDA financial
			\$.00	Acres	0557	assistance
			0556	0559	0557	0558
					1 New expansion 2 Water conservation	¹ No funding assistance
						² EQIP 3 Other USDA financial
					3 Energy conservation	assistance
6.	Land leveling of previously				4 Scheduled replacement	4 Non-USDA financial
	irrigated land		.00	Acres	or maintenance	assistance

SECTION 16

BARRIERS TO IMPLEMENTING IMPROVEMENTS TO REDUCE ENERGY USE OR CONSERVE WATER IN THIS OPERATION'S IRRIGATION SYSTEM DURING THE PAST FIVE YEARS

1. Were there any barriers to implementing improvements that would have reduced energy and/or conserved water in your irrigation system during the past five years?

⁰⁶⁹² ¹ **Yes** – Continue ³ **No** – Go to Section 17

2. What were the barriers? Mark (X) all that apply –

¹⁰⁷⁰ Investigating improvements is not a priority at this time

¹⁰⁷¹ Risk of reduced yield or poorer quality crop from not meeting water needs

¹⁰⁷² Physical field or crop conditions limit system improvements

- ¹⁰⁷³ Improvements will reduce costs, but not enough to recover implementation costs
- ¹⁰⁷⁴ Cannot finance improvements
- ¹⁰⁷⁵ Landlord(s) will not share cost of improvements
- ¹⁰⁷⁶ Uncertainty about future availability of water
- ¹⁰⁷⁷ Will not be farming this operation long enough to justify new improvements
- ¹⁰⁷⁸ Improvements will increase management time or cost

SECTION 17 WATER MANAGEMENT PRACTICES FOR GRAVITY IRRIGATION SYSTEMS

1.	Did this operation use gravity irrigation	n systems to irrigate any acres on this operation (Section 8, item 1) in 2013?
	0403 1 Yes – Continue	$_{3}$ No – Go to Section 18

2.	On	how many acres did you use the following techniques?	None	Number of Acres
	a.	Capturing irrigation runoff in tailwater pits, restricting runoff by diking end of the field, limiting irrigation set times or number of irrigations, or irrigating only alternative rows		0404
				0405
	b.	Using a surge-flow or cablegation system, applying mulch or other types of row covers.		
				0406
	с.	Using precision-leveling or zero-grading		
	d.	Shortening of the furrow length; use of water-soluble polyacrylamide (PAM); or use of special		
		furrowing practices such as wide-spaced bed furrowing, compacted furrows, or furrow diking		0409

SECTION 18 IRRIGATION PRACTICES IN 2013

10

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, and 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. Was there any paid labor for the irrigation portion of your operation in 2013? ⁰⁷³¹ $_{1}$ **Yes** – Continue $_{3}$ **No** – Go to Section 20

		None	Total Hours of Paid Irrigation Labor	Average Labor Rate Paid per Hour
a.	What were the hours and wages for hired irrigation labor?		0732	0733 \$ •
			None	Total Expense for Contract Irrigation Labor
b.	What were the contract irrigation labor expenses on this operation in	2013?.		0788 \$.00

SECTION 20 SOURCES OF IRRIGATION INFORMATION

- 1. What sources of information does this operation rely on for guidance in reducing irrigation costs or to conserve water used for irrigation? Mark (X) all that apply
 - ¹⁰⁴⁰ Extension agents or university specialists
 - ¹⁰⁴¹ Private irrigation specialists or crop consultants hired by owner or operator
 - ¹⁰⁴² Irrigation equipment dealers
 - ¹⁰⁴³ Local irrigation district employees or others hired by the water supplier
 - ¹⁰⁴⁴ Government specialists from the Natural Resources Conservation Service, local conservation district, Bureau of Reclamation, or other Federal and State agencies
 - ¹⁰⁴⁵ Media reports or information in the press
 - 1046 Neighboring formous
 - ¹⁰⁴⁶ Neighboring farmers
 - ⁴⁴⁷ 🛄 Electronic information services (Internet, DTN, Internet links to private or public data sources, etc.)

SECTION 21 TECHNICAL AND FINANCIAL ASSISTANCE RECEIVED DURING THE PAST FIVE YEARS

- 1. Has this operation made irrigation and/or drainage improvements above regular maintenance in the **past five years**? $_{3}$ **No** – Go to Section 22
- 2. Did you receive any technical or financial assistance for these irrigation and/or drainage improvements? ⁰²¹¹ **1 Yes** – Continue **3 No** – Go to Section 22
 - a. From which of the following sources did you receive technical or financial assistance for these improvements? Mark (X) all that apply –

Source of Assistance	Technical Assistance	Financial Assistance	
USDA programs for water conservation and environmental improvements (CTA, EQIP, AWEP, WHIP, CIG)	0215	0216	
Other USDA programs for stewardship (CSP) or easements (CRP, WRP, GRP, FRPP)	0217	0218	
Non-USDA Federal programs (Bureau of Reclamation, EPA or other programs)	0219	0235	
State programs (including CREP), local water management or water supply districts	0236	0237	
Private businesses such as equipment dealers, bankers, or lenders	0238	0239	

SE	CTION 22 IRRIGATED LAND IN 2012	
	Complete this section ONLY if you DID NOT irrigate any l	and 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 Sufficient soil moisture – no irrigation needed ¹⁰⁵¹ Surplus soil moisture or flooding ¹⁰⁵² Shortage of surface water (water from reservoirs, lakes, streams, water supply organizations, etc.) ¹⁰⁵³ Shortage of ground water (lowering water level of wells or depletion of ground water) ¹⁰⁵⁴ Irrigation uneconomical due to high fuel and power costs and/or low commodity prices ¹⁰⁵⁵ Sold or leased water rights or annual water allocation ¹⁰⁵⁷ Sold or leased irrigated land or irrigated area under protection to others and did not irrigate during 2013 ¹⁰⁵⁸ Restrictions on water use ¹⁰⁵⁹ Converted to non-agricultural use ¹⁰⁶⁰ Converted to an agricultural enterprise not requiring irrigation ¹⁰⁶¹ Available surface water too salty 	
	1062 Other – Specify: 1063	
3. SF	Do you consider your discontinuance of irrigation to be permanent? ⁰⁵³⁰ 1 Yes 3 No)
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 at the second seco	and over
		Percent
2.	What percent of total sales were from irrigated crop sales, including irrigated horticultural crops?	0981
۷.	what percent or total sales were from in rigated crop sales, including inigated norticultural crops:	0982
3.	What percent of total sales were from non-irrigated crop sales and livestock sales?	
		100%

SECTION 24 PERSON COMPLETING THIS FORM – Please print

	9911	9910	MM	DD	YY
Name:	Phone: ()	Date:			

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

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													