Number of Agree

2018 IRRIGATION AND WATER MANAGEMENT SURVEY

Form Number: 1 (05/04/18					
USD	A				
COUNTS					
National Agric Statistics Se					
Return your completed report to:					
Census of Agriculture 1201 East 10 th Street Jeffersonville, IN 47132					
OFFICE USE 001	10	Make corrections to name, address, and ZIP Code if necessary.			
 February 15, 2019 – Everyone, including nursery, greenhouse, and other horticultural crop producers, must return this form by this date. www.agcounts.usda.gov – Use this website to report via the Internet. Use blue or black ballpoint pen to complete this form. Questions – Call us toll-free at 1-888-424-7828. Thank you for your cooperation. 					

SECTION 1 ACREAGE IN 2018

- Report land owned, rented, or used by you, your spouse, or the partnership, corporation, or organization printed 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	Nulliber 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) 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

The information you provide will be used for statistical purposes only. Your responses will be kept confidential and any person who willfully discloses ANY identifiable information about you or your operation is subject to a jail term, a fine, or both. This survey is conducted in accordance with the Confidential Information Protection provisions of Title V, Subtitle A, Public Law 107-347 and other applicable Federal laws. For more information on how we protect your information please visit: www.nass.usda.gov/confidentiality. Response to this survey is required by law under Title 7 USC 2204(g) Public Law 105-113.

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

- Of the acres reported in **BOX A** on the previous page, report how all the land was used in column 1 below.
- If the same land had more than one use in 2018, report that land only one time in items 1 through 3.
- **Include area under protection.** Under protection includes crops grown under glass, rigid plastic, plastic film, shade cloth, fiberglass, "tunnel" protection, and hoop houses. Crops covered only temporarily, such as for frost protection, to be further grown in the open should not be included for area under protection.
- In column 2, include as irrigated any land to which partial, supplemental, or preplant irrigation water was applied.
- Irrigation is the application of water by any artificial or controlled means such as sprinklers, furrows and ditches, spreader dikes, flooding, hand watering, or subirrigation pipes. Include the area where lagoon waste water from livestock operations was distributed by a sprinkler or flood system.

1.	Cr	opland – Exclude cropland used only for pasture.		Column 1		Column 2			
	a.	Cropland harvested in the open – Include harvested field crops and hay; and land in vegetables, orchards, citrus groves, vineyards, berries, nuts, Christmas trees, short-rotation woody crops, nursery and other horticultural crops	None	Number of Acres	None	Acres Reported in Column 1 that are Irrigated			
	b.	Nursery, greenhouse, and other horticulture under protection – Include all area under protection. Round to the nearest whole acre		xxxx		xxxx			
	с.	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.	Pas	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	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 that are Irrigated			
				BOX B		BOX C			
4.	то	OTAL ACRES – Add acres in each column and enter the totals		0041		0042			
	[BC	DX B above should be the same as BOX A on page 1.]							
5.									
	0003	$_1$ Yes – Continue $_3$ No – Go to Section 16 on back page							
					State				
6.	Wh	nat state had the majority of irrigated acres on this operation in 2018?		0951					

SI	ECT	CION 3	GROUND	WATER	FROM WELL	LS.								
1.	0760	Yes	– Continue	J	and water from $\frac{1}{3}$ No – Go to	Section 4	•							
	tha	an one acr		e acre in	provide your besitem 2. If the w									
2.	Re	port acres	in the open in	rigated w	ith ground		4	: 4 0		0	··· ·			Enter Code for Unit of Measure
	water and amount of water applied in 2018. Include all irrigated crops, including nursery, greenhouse, floriculture, sod, mushrooms, vegetable seeds, and propagative materials				house,	Acres in the Open Irrigated by Ground Water			Quantity of Ground Water Applied			2	= Total Acre-Feet = Total Gallons = Inches/Acre	
					aterials tureland		14		04	46			04	47
3.	Re	port the ar	ea under prote	ection irri	gated with grou	nd water in 2	2018.	. Under protecti	on inc	cludes				Under Protection
	nui	sery, gree	nhouse, floric	ulture, so	od, mushrooms, stic film, shade	vegetable se	eds, a	and propagative	mate	rials ^N	Ione	Irriga 0455	ted wi	th Ground Water
	L	k												
	Number of Wells													
4.	How many wells on this operation were used for irrigation in 2018?													
	a. Of the (item 4) wells, how many used backflow prevention devices (check valves) and how many acres None Number of Wells Acres in the Open Under Protection													
	and/or square feet under protection were irrigated with these wells in 2018?													
	b. Of the (item 4) wells, how many had flow meters or other flow measurement devices and how many acres													
		and/or sq			ion were irrigate			0683		0772		(0680	
	с.				were free flow			0486				·		
					Depth of Well	Depth to Wat Start of Irriga Season		Depth to Bowls or Impellers		Pump apacity – bischarge rom Well	F	Operating Pressure a Well Hea	at	Horsepower of Engines or Motors, Including Electric
				Well #	(Feet) 0461	(Feet) 0462		(Feet) 0463	0464	(GPM)	0676	(PSI)		(HP) 0761
5.			ne first three	1	0465	0466		0467	0468		0677			0763
	-	imary wel 2018.	ls pumped	2	0469	0470		0471	0472		0678			0765
				3		1			0 .7 _					0.00
					Average Depth of Well(s)	Average Depth to Wat Start of Irriga Season	er at	Average Depth to Bowls or Impellers	C	Average Pump apacity – bischarge om Well	F	Average Operating Pressure a Well Hea	g at	Average Horsepower of Engines or Motors, Including Electric
	a.	Report a for all o	averages ther wells		(Feet) 0481	(Feet)		(Feet) 0483	0484	(GPM)	0681	(PSI)		(HP) 0767
		pumped	in 2018		V 4 01	0402		U 4 03	U404		1800			0/0/
6.				-	, what is the bes	_		-						
	Ma	rk (X) one	e: 0487 ₁ I	Depth to	water did not ch	ange 2 D	epth 1	to water increas	ed 3	Depth t	o wa	ter deci	rease	ed

1.	Di	d this operation irrigate with on-farm surface water include	ling recycled water and on-	farm reclaimed wa	ater in 20)18?				
		cycled water is the reuse of surface or groundwater that was pre igation).	eviously used to irrigate a crop	e.g. water from a t	tailwater i	reuse pit used for				
	(Fo	n-farm reclaimed water is on-farm livestock wastewater that ha or the purposes of this irrigation survey, to be considered an irri st be applied on the area during the growing season.)			inches of	reclaimed water				
	043	⁸ $_1$ Yes – Continue $_3$ No – Go to Section	5							
		exact amounts are not available, provide your best estima an one acre, report as one acre in item 2.	te for quantity of water app	lied. If total area i	irrigated	in the open is less				
2.	wa irr	eport acres in the open irrigated with on-farm surface ater and amount of water applied in 2018. Include igated nursery, greenhouse, floriculture, sod,	Acres in the Open Irrigated by On-Farm Surface Water	Quantity of On-Farm Surface Wate Applied		Enter Code for Unit of Measure 1 = Total Acre-Feet 2 = Total Gallons				
		ushrooms, vegetable seeds, and propagative materials own in the open and irrigated pastureland	0449	0451	3 = 1 0451 0452					
			0443	0431		0432				
3.	Report the area under protection irrigated with on-farm surface water in 2018. Under protection includes nursery, greenhouse, floriculture, sod, mushrooms, vegetable seeds, and propagative materials grown under glass, rigid plastic, plastic film, shade clothe, fiberglass, "tunnel" protection and hoop houses									
4.	D 060	Did this operation use on-farm recycled water to irrigate ${}^{0}_{1}$ Yes – Continue 3 No – Go to item 5 b		ıltural crops, grow	n during	; 2018?				
				Acres in the O)pen	Square Feet Under Protection				
	a.	How many acres in the open and square feet under prote were irrigated with on-farm recycled water during 201		0601		936				
5.	gro	d this operation use reclaimed water from on-farm lives own during 2018? (For the purposes of this irrigation survey, to be these of reclaimed water must be applied on the area during the growing such that the second	stock facilities to irrigate an considered an irrigation applicat season. If this minimum amount is	ion of reclaimed water	, at least 0.					
	a.	How many acres in the open and/or square feet under pro	otection	Acres in the Op	pen	Square Feet Under Protection				
		were irrigated with one or more applications of reclaims from on-farm livestock facilities during 2018?	0587	05	888					
				Acre-Feet		Gallons				
	b.	How much reclaimed water from on-farm livestock fa was used for irrigation during 2018?	0599	OR	0561					

SECTION 5	OFF-FARM	
SEC. 110 10 5	UPP-PARIVI	WAIRR

1.	Dio	this operation irrigate with off-farm water in 2018?							
	 INCLUDE acres in the open and area under protection irrigated with off-farm water from all suppliers all off-farm surface water, municipal (such as town or city) water, and rural water suppliers area irrigated with reclaimed water from off-farm sources such as treated municipal sewer water (blue water), industrial, off-farm livestock operations, or other off-farm sources 								
	0457	$_1$ Yes – Continue $_3$ No – Go to Section	on 6						
		exact amounts are not available, provide your best estiment one acre, report as one acre in item 2.	ate for quantity of w	ater applie	d. If total area i	rrigated	in the open is less		
2.	water and amount of water applied in 2018.		Acres in the Op Irrigated by Off-Farm Wate		Quantity of Off-Farm Wat Applied		Enter Code for Unit of Measure 1 = Total Acre-Feet 2 = Total Gallons 3 = Inches/Acre		
		lude irrigated horticultural crops grown in the en and irrigated pastureland	0454	09	968		0969		
3.	Rep nurs	port the area under protection irrigated with off-farm was sery, greenhouse, floriculture, sod, mushrooms, vegetal wn under glass, rigid plastic, plastic film, shade cloth, f p houses	ole seeds, and propag	ative mate	rials _{None}	•	Feet Under Protection Irrigated with Off-Farm Water		
4.	Did	l you pay for the off-farm water received on this operati	ion?				Dollars		
	1 Yes – Report total dollars paid for the off-farm water						nn		
		₃ No − Continue							
5.		ow much of this operation's off-farm water was supplied transferred through a project financed, constructed, or							
	a.	U.S. Bureau of Reclamation? Include reclamation water delivered through a local of	district	0664	None	₂ So	me 3 All		
	b.	Other Federal agencies such as the U.S. Army Corp of Indian Affairs, and USDA small watershed project		0665	None	₂ So	me 3 All		
	c.	All other suppliers? Include town and city water. Specify:		0666	None	₂ So	me 3 All		
6.									
		How many acres in the open and/or square feet under p			Acres in the O	pen	Square Feet Under Protection		
		were irrigated with one or more applications of reclain from off-farm sources during 2018?			0597	0	598		
	L	II			Acre-Feet		Gallons		
		How much reclaimed water from off-farm sources was used for irrigation during 2018?			0644	OR	0645		
	c.	What sources of reclaimed water were used on this open on the local Municipal Municipal Industrial		k (X) all t	hat apply.				
			her – Specify:	5					

1.	were any surface water source pumps used on this operation for irrigation during 2018?							
	$_{1}$ Yes – Continue	Yes – Continue $_3$ No – Go to Section 7						
		None	Number of Pumps Used	Vertical Lift (Average Feet)	Discharge Capacity (Average GPM)	Discharge Operating Pressure (Average PSI)		
2.	Tailwater pits (pits that hold water previously used for irrigation)		0490	0774	0491	0687		
3.	Ponds, lakes, reservoirs, rivers, canals.		0492	0775	0493	0688		
4.	Relifting or boosting water within system (pumps providing additional lift, pressure, or lateral movement)		0494	0776	0777	0778		

ENERGY EXPENSE FOR ALL WELL AND OTHER IRRIGATION PUMPS

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.

	9 0 01	_			-				
			Number of Wells and	Cost of Ener Used to Pow	00		gated with ed from Wells	Pumped Su	gated with urface Water nd off-farm)
PO	WER SOURCE	None	Other Pumps Used (Reported in 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
			0.405	- \ \ \ \ /		0.407	0124	0701	0527
1.	Electricity		0495	\$. 00	0497	0124	0781	0537
			0498	N499		0500	0125	0782	0538
2.	Natural gas			\$. 00		0123	0702	0000
			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	กรกล		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

1. Did this operation irrigate any fields in the open?

	• I	nclude acres of horticultural crops Exclude crops grown under protecti crops grown under protection wi	ion: gl	ass, rigid plasti	ic, plasti	c film, including	"tunnel" protec	tion. (Me	ethods fo	or
	XXX	\mathbf{Y}_{1} Yes – Continue \mathbf{Y}_{3}	No ·	– Go to Section	n 12					
one	met	acres irrigated by each type of FIEI hod of distribution, report acres irr very system used to convey water f	igated	by each metho	d used.	Report informat				
							n Irrigated by Grav er Conveyance Sys		n	
2.	Gra	vity irrigation	None	Total	OI	ined Lined ben Open tch Ditch	Or other sin	gle- Pij	ove Groun pe (except oly pipe)¹	Underground
	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						
	¹ Include gated pipe and riser or hydrant systems connected to above ground pipe. ² Include riser or hydrant systems connected to underground pipe.									
					,		in the Open Irriga	ated by Sp	rinkler S	ystem
						Very Low	Low	Med		High
3.	Spr	inkler irrigation – Inlet pressure			None	Pressure (Under 15 PSI)	Pressure (15 to 29 PSI)	(30 to 5		Pressure (60 PSI or more)
	a.	Center pivot systems (circle)				0569	0576	0575		0570
	b.	Linear move tower systems (and o linear continuous move drive syst				0571	0577	0578		0579
	c.	Solid set or permanent systems (except low-flow micro systems).				0568	0565	0566		0567
	d.	Mechanical move systems						None		cres Irrigated all pressures)
		(i) Side roll, wheel move, or oth and other discrete move system							0240	
		(ii) Big gun or traveler systems							0241	
	e.	Hand-move systems, including hat the open.		-			ops grown in		0242	
	f.	Other sprinkler systems							0243	
4.	Dri	p, trickle, or low-flow micro irrigat	tion					None		cres Irrigated all 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 m	icro sy	stems					0249	

SECTION 9 ACRES HARVESTED IN THE OPEN

1.	Did this	operation	irrigate	any crops	s in the open?

Yes – Continue	$_{3}$ No – Go to Section 12

For each crop listed, report the irrigated harvested acres in the first column. For selected crops, report the average yield from the irrigated harvested acres in the second column. Then report the average irrigation water applied per acre in either acre-feet or inches for the acres reported in column one. 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. **Report nursery and other horticultural crops grown in the open in item 17.**

			Irrigated Land Include preplant and supplemental or semi-irrigation								
	Crops		Irrigated Acres Harvested	per	age Yield Irrigated		Average Estimated Quantity of Water Applied per Acre				
			Trui vesteu	Acre Harvested		Acre-Feet	Tenths	OR	Inches		
2.	Corn for grain or seed – Exclude popcorn and sweet corn	None	0050	0051		Bu.	0052		OR	0053	
3.	Corn for silage or greenchop – Exclude popcorn and sweet corn		0060	0061	Tenths	Tons	0062		OR	0063	
4.	Sorghum for grain or seed		0070	0071		Bu.	0072		OR	0073	
5.	Wheat for grain or seed		0080	0081		Bu.	0082	 	OR	0083	
6.	Soybeans for beans		0106	0101		Bu.	0102		OR	0103	
7.	Beans, dry edible		0110	0111		Cwt.	0112		OR	0113	
8.	Rice – Include post harvest water applied to improve residue decomposition		0120	0121		Cwt.	0122	 	OR	0123	
9.	Other small grains (barley, oats, rye, etc.)		0130				0132		OR	0133	
10.	Alfalfa and alfalfa mixtures (dry hay, greenchop, and silage)		0140	0141	Tenths	Tons, dry	0142	 	OR	0143	
11.	All other hay and haylage, including small grain, other tame, and wild hay (dry hay, greenchop, and silage)		0150	0151	Tenths	Tons, dry	0152		OR	0153	

CONTINUED -

	Irrigated Land Include preplant and supplemental or semi-irrigation									
Crops	Irrigated	l Acres	Average Yield p	ıer	Average Estimated Quantity of Water Applied per Acre					
				Irrigated Acre Harvested		Acre-Feet	Tenths	OR	Inches	
7	None	0550		0551		0552		OR	0553	
12. Peanuts					Lbs.			UK		
13. Cotton		0160		0161	Lbs.	0162	 	OR	0163	
14. All land from which vegetables, potatoes, and melons were harvested		0186	Tenths			0187	 	OR	0188	
a. Sweet corn		0850	Tenths	0851	Cwt.	0852	 	OR	0853	
b. Tomatoes in the open		0860	Tenths	0861	Cwt.	0862	 	OR	0863	
c. Lettuce and romaine		0870	Tenths	0871	Cwt.	0872		OR	0873	
d. Potatoes – Exclude sweet potatoes.		0190	Tenths	0191		0192		OR	0193	
	Ш	0560	Tenths		Cwt.	0562			0563	
15. All berries		0300	Tenuis			0302		OR	0303	
16. Land in bearing and non-bearing fruit orchards, citrus or other groves, vineyards, and nut trees		0210	Tenths 			0212	 	OR	0213	
17. Nursery and other horticultural crops grown in the open (<i>Note: Nursery</i> , <i>greenhouse</i> , <i>and other horticultural crops grown under protection will be reported in a later section</i> .)		xxxx	Tenths			xxxx	 	OR	XXXX	
All other crops grown in the open and not listed		0220	<u>:</u>			0222	<u> </u>	OR	0223	
Specify: 0221							<u> </u>			
19. Pastureland, all types		0230				0232	 	OR	0233	

FIELD WATER DISTRIBUTION AND WATER SOURCE FOR CROPS IN THE OPEN **SECTION 10**

1.	Did this	operation	irrigate	any crops	in the open?

Go to Section 12

WATER DISTRIBUTION COL	DES – USE IN THE TABLE BELOW
CODE PRESSURE SYSTEM	CODE GRAVITY SYSTEM
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:	 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:
1006	

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 codes.

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

Irrigated Crops			Enter Code from Previous Page for Primary	crop	Water sound totals may ex reported in Sound one water so		Acres on which chemigation was applied through the irrigation system			n			
inigated Glops		Method of Field Water Distribution	Ground Water from Wells		On-Farm Surface Water ¹ (Acres)		Off-Farm Water (All Suppliers) ² (Acres)		Commercial Fertilizer (Acres)		Pesticide Application (Acres)		
		None	0580	(Acres)		0584		0586		0582		0583	
12.	Peanuts												
13.	Cotton		0360	0365		0364		0366		0362		0363	
14.	All acres in the open from which vegetables, potatoes, and melons were		0474	0479	Tenths	0478	Tenths	0480	Tenths	0476	Tenths	0477	Tenths
	harvested						 						
	a. Sweet corn		0900	0905	Tenths	0904	Tenths	0906	Tenths	0902	Tenths	0903	Tenths
	b. Tomatoes in the open		0910	0915	Tenths	0914	Tenths	0916	Tenths	0912	Tenths	0913	Tenths
	c. Lettuce and romaine		0920	0925	Tenths	0924	Tenths	0926	Tenths	0922	Tenths	0923	Tenths
	d. Potatoes – Exclude sweet potatoes		0390	0395	Tenths	0394	Tenths	0396	Tenths	0392	Tenths	0393	Tenths
15.	All berries		0590	0595	Tenths	0594	Tenths	0596	Tenths	0592	Tenths	0593	Tenths
16.	Land in bearing and non-bearing fruit orchards, citrus or other groves, vineyards, and nut trees		0410	0415	Tenths	0414	Tenths	0416	Tenths	0412	Tenths	0413	Tenths
17.	Nursery and all other horticultural crops grown in the open (<i>Note: Nursery</i> , greenhouse, and all other horticultural crops grown under protection will be reported in a later section.)		xxxx	xxxx	Tenths	xxxx	Tenths	xxxx	Tenths	xxxx	Tenths	xxxx	Tenths
18.	All other crops grown in the open and not listed		0420	0425		0424		0426		0422		0423	
	Specify: 0419												
19.	Pastureland, all types		0430	0435		0434		0436		0432		0433	

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.

S	E(ľ	С	n	N	1	1

IRRIGATION FOR NURSERY AND OTHER HORTICULTURAL CROPS GROWN IN THE OPEN

1.		ere any irrigated nursery, floriculture, sod, mushrooms, vegetable seed rticultural crops grown in the open (including natural shade) on this op			Christn	nas trees, or other	
	0751	$_{1}$ Yes – Continue $_{3}$ No – Go to Section 12					
					Acres i	n the Open	
				Total Acres		Irrigated Acr	es
			None		Tenths		Tenths
2.		port total acres and irrigated acres for nursery and other ticultural crops grown in the open (including natural shade)		0737	 	0738	
3.	оре	nursery and other horticultural crops in the open, enter the total eration in 2018. RSERY AND OTHER HORTICULTURAL CROPS	ıl acre	s and irrigated ac	res by	crop category on	
	_	THE OPEN	None		Tenths	inigated Acre	Tenths
	a.	Floriculture and bedding crops		0739		0740	
		Bedding/garden plants - annuals, herbaceous perennials, vegetable plants; cut flowers and cut florist greens; indoor foliage plants; potted flowering plants; hanging baskets					
	b.	Nursery crops		0741		0742	İ
		Nursery stock - ornamentals, shrubs, flowering trees, evergreens, live Christmas trees, fruit and nut trees and plants, vines, palms, ornamental grasses, bareroot herbaceous perennials; aquatic plants					
	c.	Sod		0743		0744	
	d.	Propagative materials		0745		0746	
		Bulbs, corms, rhizomes, tubers, cuttings, seedlings, liners, plugs, flower seeds, tobacco plants, vegetable seeds, vegetable transplants to farm fields. $\boldsymbol{.}$					
	e.	Christmas trees and short rotation woody crops		0747		0748	
	f.	Other horticultural crops – Specify: 1010		0749		0750	

SECTION 11 CONTINUED –

4. For nursery and other horticultural crops in the open, report area irrigated or watered in 2018 by method used. If more than one method was used on the same area, report for all methods that apply. Report quantity of water used for growing and finishing in the unit or units of measure most often used on this operation.

		1			2				3	
		Total Acres Irrigated or Watered		a. Quantity of Water Applied	b. Enter Code for Unit of Measure 1 = Acre-Feet 2 = Gallons 3 = Inches/Acre	OR	a. Averag Flow Ra (Gallons) Minute	te per	b. Number of Hours per Week Used in 2018	c. Number of Weeks Used in 2018
IRRIGATION METHODS	None	Te	enths					Tenths	s	
a. Hand watered		0796		0797	0798	OR	0799		0800	0801
b. Gravity irrigation		0802		0803	0804	OR	0805		0806	0807
c. Sprinkler		0808		0809	0810	OR	0811	 	0812	0813
d. Drip, trickle, or low-flow micro irrigation		0814		0815	0816	OR	0817		0818	0819
e. Subirrigation (including hydroponic)		0820		0821	0822	OR	0823		0824	0825

5. For each method used to irrigate or water nursery and other 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 Sour	ce	
		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		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 metho	od used, columns 1 + 2 +	3 must equal 100 percent.	

IRRIGATION FOR NURSERY, GREENHOUSE, AND OTHER HORTICULTURAL CROPS GROWN UNDER PROTECTION

1.	ho: sha	ere any irrigated nursery or greenhouse crops, floriculture, sod, mush rticultural crops grown under protection on this operation in 2018? It ade cloth, fiberglass, "tunnel" protection and hoop houses. Exclude cotection, etc. Exclude crops grown under natural shade. 7 1 Yes – Continue 3 No – Go to Section 13	nclude o	crops grown under glass,	rigid plastic, plastic film,
				Square Feet	Under Protection
			None	Total Area	Irrigated Area
2.		eport total area and irrigated area for nursery, greenhouse, and other rticultural crops grown under protection		0628	0629
3.	hoi ope NU	r nursery or greenhouse crops, floriculture, sod, mushrooms, vorticultural crops grown under protection, enter the total area are eration in 2018. RSERY, GREENHOUSE, AND OTHER HORTICULTURAL OPS UNDER PROTECTION			
	a.	Floriculture and bedding crops		0630	0631
		Bedding/garden plants - annuals, herbaceous perennials, vegetable plants; cut flowers and cut florist greens; indoor foliage plants; potted flowering plants; hanging baskets.			
	b.	Nursery crops		0632	0633
		Nursery stock - ornamentals, shrubs, flowering trees, evergreens, live Christmas trees, fruit and nut trees and plants, vines, palms, ornamental grasses, bareroot herbaceous perennials; aquatic plants			
	c.	Propagative materials		0636	0637
		Bulbs, corms, rhizomes, tubers, cuttings, seedlings, liners, plugs, flower seeds, tobacco plants, vegetable seeds, vegetable transplants to farm fields.			
	d.	Food crops grown under protection		0638	0639
		Tomatoes, other vegetables and fresh cut herbs, fruits and berries			
	e.	Mushroom crops		0640	0641
	f.	Other horticultural crops – Specify: 1011		0642	0643

SECTION 12 CONTINUED -

4. For nursery, greenhouse, and other horticultural crops under protection, report area irrigated or watered in 2018 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.

		1		2				3	
		Total Area Irrigated or Watered	a. Quantity of Water Applied	b. Enter Code for Unit of Measure 1 = Acre-Feet 2 = Gallons 3 = Gallons/Sq Ft. 4 = Inches/Sq Ft.	OR	a. Average Flow Rat (Gallons p Minute)	e er	b. Number of Hours per Week Used in 2018	c. Number of Weeks Used in 2018
IRRIGATION METHODS	None	(Square Feet)				7	Γenths	S	
a. Hand watered		0701	0702	0703	OR	0704		0705	0706
b. Gravity irrigation		0707	0708	0709	OR	0710		0711	0712
c. Sprinkler		0713	0714	0715	OR	0716		0717	0718
d. Drip, trickle, or low-flow micro irrigation		0719	0720	0721	OR	0722		0723	0724
e. Subirrigation (including hydroponic)		0725	0726	0727	OR	0728		0729	0730

5. For each method used to irrigate or water nursery, greenhouse, or other 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 Sour	ce	
		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 metho	od used, columns 1 + 2 +	3 must equal 100 percent.	

EXPENDITURES FOR IRRIGATION

EXPENDITURE AND FUNDING ASSISTANCE CODES – USE IN THE TABLE BELOW								
CODE PRIMARY PURPOSE OF EXPENDITURE	CODE PRIMARY SOURCE OF FUNDING ASSISTANCE							
 1 = New expansion 2 = Water conservation 3 = Energy conservation 4 = Scheduled replacement or maintenance 	1 = No funding assistance or loans 2 = FSA Environmental Quality Incentives Program (EQIP) 3 = Other USDA financial assistance or loans 4 = Non-USDA and all other financial assistance or loans							

Report the 2018 expenditure cost, acres affected (rounded to the nearest acre), primary purpose of expenditure, and primary source of funding assistance by expenditure category using the Expenditure and Funding Assistance Codes from the above. 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).

EX	PENDITURE TYPE	None	Total Cost of Expenditure (Include amount financed)	Irrigated Acres Affected by Expenditure (Acres)	Enter Code from Above for Primary Purpose of Expenditure	Enter Code from Above for Primary Source of Funding Assistance
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		0511 \$.00	0514	0512	0513
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		0515 \$.00	0518	0516	0517
3.	Construction or improvement of permanent storage and distribution systems – Include dams, ponds, reservoirs, permanent ditches, canals, flumes, etc		0519 \$.00	0522	0520	0521
4.	Computers, control panels, computer controlled valves, software, and software-controlled hardware for irrigation water management		0544 \$.00	0547	0545	0546
5.	Clearing or leveling non-irrigated land for new irrigation acres (the primary purpose is expansion of irrigation acres)		\$.00	0526		0549
6.	Land leveling of previously irrigated land (the primary purpose cannot be new expansion)		\$.00	0559	0557	0558

SE	CTI	ON 14 IRRIGATION AND WATER MANAGEMENT PRACTICES		
1.	Hov	w did you decide when to irrigate in 2018? 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 electron	nic sens	ors)
	1023	Use of plant moisture-sensing devices such as pressure (chamber) bombs or infrared (IR) therm	nometer	
	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 ema	nil)
	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 2018 long enough to affect crop yields?		
	0669	$_{1}$ Yes – Continue $_{3}$ No – Go to item 3		
			None	Number of Acres
	a.	On how many acres did you discontinue irrigation long enough to affect crop yields		xxxx
		for any reason during 2018?		
	b.	What were the reasons for discontinuing irrigation? Mark (X) all that apply –		
		1030 \square Shortage of surface water (water from reservoirs, lakes, streams, water supply organization	ns, etc.)	
		¹⁰³¹ Shortage of ground water (lowering water level of wells or depletion of ground water)		
		1032 Irrigation equipment failure		
		Energy price increases or energy shortage		
		1034 Water salinity too high		
		Loss of water rights not due to voluntary transfers		
		Cost of purchased water		
		¹⁰³⁷ Other – Specify: ¹⁰³⁸		
3.		this operation use gravity irrigation systems to irrigate any acres in the open on this operation ction 8, item 1) in 2018?		
	0403	$_{1}$ Yes – Continue $_{3}$ No – Go to item 5		
4.	On	how many acres in the open did you use the following practices?	None	Number of Acres
	a.	Capture irrigation runoff in tailwater pits, restrict runoff by diking end of the field,		0404
		limit irrigation set times or number of irrigations, or irrigate only alternative rows		
	b.	Use a surge-flow or cablegation system, apply mulch or other types of row covers		0405
	c.	Use precision-leveling or zero-grading		0406
	d.	Shorten the furrow length; use water-soluble polyacrylamide (PAM); or use special furrowing		
	٠.	practices such as wide-spaced bed furrowing, compacted furrows, or		0409
		furrow diking		
SE	CTI	ON 14 CONTINUED –		

5.	What sources of information does this operation rely on for guidance in reducing irrigati irrigation? Mark (X) all that apply –	ion costs or to con	serve water used	for									
	Extension agents or university specialists												
	Private irrigation specialists or crop consultants hired by owner or operator												
	Irrigation equipment dealers												
	Local irrigation district employees or others hired by the water supplier Government specialists from the Natural Resources Conservation Service, local conservation district,												
		conservation distri	ct,										
	Bureau of Reclamation, or other Federal or state agencies Media reports or information in the press												
	Neighboring farmers												
	Electronic information services (Internet, DTN, Internet links to private or public	data sources, etc.)										
	xxxx None		,										
6.	Did any of the following prevent you from implementing improvements that would have your irrigation system during the past five years? Mark (X) all that apply –	e reduced energy a	nd/or conserved	water in									
	Investigating improvements is not a priority at this time												
	Risk of reduced yield or poorer quality crop from not meeting water needs												
	Physical field or crop conditions limit system improvements												
	Improvements will reduce costs, but not enough to recover implementation costs												
	Cannot finance improvements												
	Landlord(s) will not share cost of improvements												
	Uncertainty about future availability of water												
	Will not be farming this operation long enough to justify new improvements												
	1078 Improvements will increase management time or cost												
7.	Has this operation made irrigation and/or drainage improvements above regular mainter 0209 $_1$ \square Yes – Continue 3 \square No – Go to Section 15	nance in the past f	ive years?										
8.	Did you receive any technical or financial assistance for these irrigation and/or drainage	e improvements?											
	⁰²¹¹ $_1$ Yes – Continue $_3$ No – Go to Section 15												
	a. From which of the following sources did you receive technical or financial assistance Mark (X) all that apply –	ce for these improv	vements?	_									
	SOURCE OF ASSISTANCE	Technical Assistance	Financial Assistance										
	(i) USDA programs for water conservation and environmental	0215	0216										
	improvements (CTA, EQIP, RCPP, WHIP, CIG)												
	(ii) Other USDA programs for stewardship (CSP) or easements	0217	0218										
	(CRP, WRP, GRP, FRPP)												
	(iii) Non-USDA Federal programs (Bureau of Reclamation, EPA,	0219	0235										
	or other programs)												
	(iv) State programs (including CREP), local water management,	0236	0237										
	or water supply districts.												
	(v) Private businesses such as equipment dealers, bankers, or lenders	0238	0239										

SECTION 15 LABOR USED FOR IRRIGATION ON THIS OPERATION IN 2018

1.	Did	you have any paid labor for the irrigation portion of your operation is	n 2018?			
	0731	$_{1}$ Yes – Continue $_{3}$ No – Go to Section 16				
				Total Hours of Paid Irrigation	Average Hourly W	Vage
	a.	Report the number of hours that the hired workers	None	Labor Per Year		Cents
		performed irrigation work in 2018 and the average		0732	0733	
		hourly wage. (Exclude contract labor.)			 \$	
					Total Expense f	
				None	Contract Irrigation	Labor
	L	Department invigation labor conserve on this provides in 2010			0788	00
	b.	Report contract irrigation labor expenses on this operation in 2018			D	.00

	20	
SE	CTION 16 NO IRRIGATED LAND IN 2018	
1.	Complete this section if you did not irrigate any land in 2018. If you did irrigate land in 2018, skip to Section 17.	
2.	Was any land irrigated on this operation in 2017? Was any land irrigated on this operation in 2017? No – Go to Section 17	
3.	What were the reasons for not irrigating in 2018? Mark (X) all that apply — 1050 Sufficient soil moisture — no irrigation needed 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 Loss of water rights (not due to voluntary transfers) 1056 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 2017 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 107	
4. SE	Do you consider your discontinuance of irrigation to be permanent?	•
1.	Which range includes the gross value of all agricultural products sold from this operation in 2018 including landlors (X) only one – 980 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 6	
2.	What percent of total sales were from irrigated crop sales, including irrigated nursery or greenhouse crops, floriculture, sod, mushrooms, vegetable seeds, and propagative materials?	Percent 0981
3.	What percent of total sales were from non-irrigated crop sales and livestock sales?	0982

PERSON COMPLETING THIS FORM – Please print

1092	9911	9910	ММ	DD	YY
Name:	Phone: ()	Date:			

100%

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 $_1$ \square **Yes** $_3$ \square **No**

Thank you for your response.

	OFFICE USE												
Response		Respond	lent	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-PASI (Mail) 2-PATI (Tel) 3-PAPI (Face-to- Face)	9903	9998	9900	9921	9985	9907	9908	9906	9916
S/E Name													