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| **DUE FEBRUARY 15, 2019** | OMB No. 0535-0234: Approval Expires xx/xx/20xx |
| **2018 IRRIGATION AND WATER MANAGEMENT SURVEY** |
| .Form Number: 18-A621**(05/04/18)**SURVEY_LOGO_3:USDALOGO.PCX | *Make corrections to name, address, and ZIP Code if necessary*. |
|  |
| National Agricultural Statistics Service |
| Return yourcompleted report to:Census of Agriculture1201 East 10th StreetJeffersonville, IN 47132 |
| **OFFICE USE ONLY** | 0010 |
| * **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.
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| **SECTION 1** |  **ACREAGE IN 2018** |

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| * 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 |  | 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) used on a per-head or animal unit month (AUM) basis under a grazing permit. . . . . . . . . . . .  | [ ]  | **+** |  |
| 0026 |

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| 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 |

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| 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. |

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| **SECTION 2** |  **LAND IN 2018** |

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| * 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.
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| 1. **Cropland – 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 Reportedin Column 1that are Irrigated |
|  | [ ]  | 0029 | [ ]  | 0030 |
| b. Nursery, greenhouse, and other horticulture under protection – Include all area under protection. Round to the nearest whole acre. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  |  |  |  |  |
|  | [ ]  | xxxx | [ ]  | xxxx |
| c. 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. **Pasture** |  |  |  |  |
| 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. **All other land** – Include land not reported above. Include woodland not pastured, farmsteads, home, buildings, livestock facilities, ponds, roads, wasteland, etc.. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]   |  |  |  |
|  |  | 0039 |  |  |
|  |  | Total Acreson this Operation |  | Total Acresthat are Irrigated |
| 4. **TOTAL ACRES** – Add acres in each column and enter the totals. . . .  | [ ]   | **BOX B** | [ ]   | **BOX C** |
|  |  | 0041 |  | 0042 |
|  [**BOX B** above should be the same as **BOX A** on page 1.] |
| 5. Was any area irrigated on this operation in 2018?* Include all irrigated land in the open and all area under protection.
* 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.
 |
|  0003 1 [ ]  **Yes** – Continue 3 [ ]  **No** – Go to Section 16 on back page |
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|  | State |
| 6. What state had the majority of irrigated acres on this operation in 2018?. . . .  | 0951 |

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| **SECTION 3** |  **GROUND WATER FROM WELLS** |

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| 1. Did this operation irrigate with ground water from wells on this operation in 2018? |
|  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. |

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| 2. Report acres in the open irrigated with ground water and amount of water applied in 2018. Include all irrigated crops, including nursery, greenhouse, floriculture, sod, mushrooms, vegetable seeds, and propagative materials grown in the open and irrigated pastureland. . . . . . . .  | Acres in the OpenIrrigated byGround Water | Quantity ofGround WaterApplied | Enter Code forUnit of Measure1 = Total Acre-Feet2 = Total Gallons3 = Inches/Acre |
| 0444 | 0446 | 0447 |
|  |  |  |  |  |  |  |

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| 3. Report the area under protection irrigated with ground water in 2018. Under protection includes nursery, greenhouse, floriculture, sod, mushrooms, vegetable seeds, and propagative materials grown under glass, rigid plastic, plastic film, shade cloth, fiberglass, “tunnel” protection and hoop houses. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | None | Square Feet Under Protection Irrigated with Ground Water |
| [ ]  | 0455 |

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|  | Number of Wells |
| 4. How many wells on this operation were used for irrigation in 2018?. . . . . . . . . . . . . . . . . . . . . . .  | 0460 |
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| a. 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 2018?. . . . . . . . . . . . . . .  | None | Numberof Wells |  | Acres in the Open | Square FeetUnder Protection |
| [ ]  | 0770 |  | 0771 | 0679 |
| b. 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 2018?. . . . . . . . . . . . . . .  | [ ]  |  |  |  |  |
| 0683 |  | 0772 | 0680 |
| c. Of the (item 4) wells, how many were free flowing wells that did not require a pump?. . . . . . . . . . . . . . . . |  |  |  |  |  |
| 0486 |  |  |  |
| [ ]  |
|  |  |  |  |  |  |

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|  | Well # | Depth of Well(Feet) | Depth to Water at Start of IrrigationSeason(Feet) | Depth toBowls orImpellers(Feet) | PumpCapacity – DischargeFrom Well(GPM) | OperatingPressure atWell Head(PSI) | Horsepowerof Enginesor Motors, IncludingElectric(HP) |
| 5. Report for the first three primary wells pumped in 2018. | 1. . . | 0461  | 0462  | 0463 | 0464  | 0676  | 0761 |
| 2. . . | 0465  | 0466  | 0467 | 0468  | 0677  | 0763 |
| 3. . . | 0469  | 0470  | 0471 | 0472  | 0678  | 0765 |
|  |  |  |  |  |  |  |
| a. Report averages for all **other** wells pumped in 2018. . . . . . . . .  | AverageDepth of Well(s)(Feet) | AverageDepth to Water at Start of IrrigationSeason(Feet) | AverageDepth toBowls orImpellers(Feet) | AveragePumpCapacity – Dischargefrom Well(GPM) | AverageOperatingPressure atWell Head(PSI) | AverageHorsepowerof Enginesor Motors,IncludingElectric(HP) |
| 0481 | 0482 | 0483 | 0484 | 0681 | 0767 |

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| 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 |

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| **SECTION 4** |  **ON-FARM SURFACE WATER** |

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| 1. Did this operation irrigate with on-farm surface water including recycled water and on-farm reclaimed water in 2018? |
| ***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. |

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| 2. Report acres in the open irrigated with on-farm surface water and amount of water applied in 2018. Include irrigated nursery, greenhouse, floriculture, sod, mushrooms, vegetable seeds, and propagative materials grown in the open and irrigated pastureland. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | Acres in the OpenIrrigated byOn-Farm Surface Water | Quantity ofOn-FarmSurface WaterApplied | Enter Code forUnit of Measure1 = Total Acre-Feet2 = Total Gallons3 = Inches/Acre |
| 0449 | 0451 | 0452 |
|  |  |  |  |  |  |  |

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| 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. . . . . . . . . . . . . . . . . . . . . . . . . . .  | None | Square Feet Under Protection Irrigated withOn-Farm Surface Water |
| [ ]  | 0458 |

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| 4. Did this operation use **on-farm recycled water** to irrigate any crops, including horticultural crops, grown during 2018? |
|  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 2018?. . . . . . . . . . . . . . . .  | Acres in the Open | Square FeetUnder Protection |
| 0601 | 0936 |

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| 5. Did this operation use **reclaimed water from on-farm livestock facilities** to irrigate any crops, including horticultural crops, grown during 2018? *(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 2018?. . . . . . . . . . . . . . . . . . . . . . .  | Acres in the Open | Square FeetUnder Protection |
| 0587 | 0588 |
|  |
| b. How much **reclaimed water from on-farm livestock facilities**was used for irrigation during 2018?. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | Acre-Feet | **OR** | Gallons |
| 0599 | 0561 |

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| **SECTION 5** |  **OFF-FARM WATER** |

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| 1. Did 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 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. |

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| 2. Report acres in the open irrigated with off-farm water and amount of water applied in 2018. Include irrigated horticultural crops grown in the open and irrigated pastureland. . . . . . . . . . . . . . . . . .  | Acres in the OpenIrrigated byOff-Farm Water | Quantity ofOff-Farm WaterApplied | Enter Code forUnit of Measure1 = Total Acre-Feet2 = Total Gallons3 = Inches/Acre |
| 0454 | 0968 | 0969 |
|  |  |  |  |  |  |  |

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| 3. Report the area under protection irrigated with off-farm water in 2018. Under protection includes nursery, greenhouse, floriculture, sod, mushrooms, vegetable seeds, and propagative materials grown under glass, rigid plastic, plastic film, shade cloth, fiberglass, “tunnel” protection and hoop houses. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | None | Square Feet Under Protection Irrigated withOff-Farm Water |
| [ ]  | 0428 |
|  |  |  |

|  |  |
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| 4. Did you pay for the off-farm water received on this operation? 0675 1 [ ]  **Yes** – Report total dollars paid for the off-farm water. . . . . . . . . . . . . . . . . . . . . . . . . . .  | Dollars |
| 0456$  **.**00 |
|  3 [ ]  **No** – Continue |  |

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| 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? Include town and city water. Specify:  | 1012  | . . . | 0666 | 1 [ ]  None 2 [ ]  Some 3 [ ]  All |

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| 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 2018? Off-farm reclaimed water is 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.)* |
|  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 2018?. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | Acres in the Open | Square FeetUnder Protection |
| 0597 | 0598 |
|  |
| b. How much **reclaimed water from off-farm sources** was used for irrigation during 2018?. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | Acre-Feet | **OR** | Gallons |
| 0644 | 0645 |
| c. What sources of reclaimed water were used on this operation in 2018? Mark (X) all that apply. |
|  1001 [ ]  Municipal 1002 [ ]  Industrial |
|  1003 [ ]  Off-farm livestock operation 1004 [ ]  Other – Specify: | 1005 |

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| **SECTION 6** |  **PUMPS, OTHER THAN WELL PUMPS, USED FOR IRRIGATION** |

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| 1. Were any surface water source pumps used on this operation for irrigation during 2018? |
|  XXXX 1 [ ]  **Yes** – Continue 3 [ ]  **No** – Go to Section 7 |
| 2. Tailwater pits (pits that hold water previously used for irrigation). . .  | None | Number ofPumps Used | Vertical Lift(Average Feet) | Discharge Capacity(Average GPM) | Discharge Operating Pressure(Average PSI) |
| [ ]   | 0490 | 0774 | 0491 | 0687 |
| 3. Ponds, lakes, reservoirs, rivers, canals, etc.. . . . . . . . . . . . . | [ ]   | 0492 | 0775 | 0493 | 0688 |
| 4. Relifting or boosting water within system (pumps providing additional lift, pressure, or lateral movement). . . . . . . . . . . . . . . . . . . . .  | [ ]   | 0494 | 0776 | 0777 | 0778 |
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| **SECTION 7** |  **ENERGY EXPENSE FOR ALL WELL AND OTHER IRRIGATION PUMPS** |

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| 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 | Numberof Wells and Other Pumps Used(*Reported in Sections 3 & 6*) | Cost of Energy Used to Power Pumps(Dollars) | Area Irrigated withWater Pumped from Wells | Area Irrigated withPumped Surface Water(Both on- and off-farm) |
|  |  |  |  | Acres inthe Open(Whole Acres) | Square Feet Under Protection | Acres inthe Open(Whole Acres) | Square Feet Under Protection |
| 1. Electricity. . . . . . . . . . . . . . . . . . . .  | [ ]  | 0495  | 0496  |  | 0497 | 0124 | 0781 | 0537 |
|  |  |  | $ | . 00 |  |  |  |  |
| 2. Natural gas. . . . . . . . . . . . . . . . . .  | [ ]   | 0498  | 0499  |  | 0500 | 0125 | 0782 | 0538 |
|  |  |  | $ | . 00 |  |  |  |  |
| 3. LP gas, propane, or butane. . . . .  | [ ]   | 0501  | 0502  |  | 0503 | 0126 | 0783 | 0539 |
|  |  |  | $ | . 00 |  |  |  |  |
| 4. Diesel and biodiesel fuel. . . . . . . .  | [ ]   | 0504  | 0505  |  | 0506 | 0127 | 0784 | 0540 |
|  |  |  | $ | . 00 |  |  |  |  |
| 5. Gasoline, ethanol, and blends. . .  | [ ]   | 0507  | 0508  |  | 0509 | 0128 | 0890 | 0541 |
|  |  |  | $ | . 00 |  |  |  |  |
| 6. Solar and other pumps without direct energy expense. . . . . . . . . .  | [ ]   | 0779 |  | 0780 | 0129 | 0786 | 0542 |
|  |  |

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| **SECTION 8** |  **METHOD OF WATER DISTRIBUTION IN FIELDS IN THE OPEN** |
| 1. Did this operation irrigate any fields in the open?* Include acres of horticultural crops grown in the open or under natural shade.
* Exclude crops grown under protection: glass, rigid plastic, plastic film, including “tunnel” protection. (Methods for

crops grown under protection will be reported in Section 12.) |
|  XXXX 1 [ ]  **Yes** – Continue 3 [ ]  **No** – Go to Section 12 |
| 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. |
|  |  | Acres in the Open Irrigated by Gravity System(Field Water Conveyance System) |
| 2. Gravity irrigation | None | Total | UnlinedOpenDitch | LinedOpenDitch | Poly Pipe(or other single-year use, lay-flat tubing) | Above GroundPipe (exceptpoly pipe)1 | UndergroundPipe2 |
| 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. |
|  |  | Acres in the Open Irrigated by Sprinkler System |
| 3. Sprinkler irrigation – Inlet pressure | None | Very LowPressure(Under 15 PSI) | LowPressure(15 to 29 PSI) | MediumPressure(30 to 59 PSI) | HighPressure(60 PSI or more) |
| a. Center pivot systems (circle). . . . . . . . . . . . . . . .  | [ ]  | 0569 | 0576 | 0575  | 0570 |
| b. Linear move tower systems (and other linear continuous move drive systems). . . . . . . .  | [ ]  | 0571 | 0577 | 0578  | 0579 |
| c. Solid set or permanent systems (except low-flow micro systems). . . . . . . . . . . . .  | [ ]   | 0568 | 0565 | 0566 | 0567 |
|  |  |  |
| d. Mechanical move systems | None | Acres Irrigated(all pressures) |
| (i) Side roll, wheel move, or other mechanical move systems and other discrete move systems. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]   | 0240 |
| (ii) Big gun or traveler systems. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]   | 0241 |
| e. Hand-move systems, including hand watered nursery and other horticultural crops grown in the open. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]   | 0242 |
| f. Other sprinkler systems. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]   | 0243 |
|  |  |  |
| 4. Drip, trickle, or low-flow micro irrigation | None | Acres Irrigated(all pressures) |
| a. Surface drip (on or above ground). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]   | 0248 |
| b. Sub-surface drip (root zone). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | [ ]   | 0246 |
| c. Low-flow micro sprinklers or sprays (these systems apply water at low pressure and are not self-propelled or easily moved). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]   | 0247 |
| d. Other drip, trickle, or low-flow micro systems. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | [ ]   | 0249 |

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| **SECTION 9** |  **ACRES HARVESTED IN THE OPEN** |

|  |
| --- |
| 1. Did this operation irrigate any crops in the open? |
|  XXXX 1 [ ]  **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.** |
|  |
| Crops |  | Irrigated LandInclude preplant and supplemental or semi-irrigation |
|  | Irrigated Acres Harvested | Average Yieldper IrrigatedAcre Harvested | Average Estimated Quantityof Water Applied per Acre |
|  |
|  | 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 |

|  |  |
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| **SECTION 9** |  **CONTINUED –**  |
|  |
|  |
| Crops |  | Irrigated LandInclude preplant and supplemental or semi-irrigation |
|  | Irrigated Acres Harvested | Average Yield per Irrigated Acre Harvested | Average Estimated Quantityof Water Applied per Acre |
|  |
|  | Acre-Feet | Tenths | **OR** | Inches |
| 12. Peanuts . . . . . . . . . . . . . . . . . . . .  | None | 0550  | 0551  | Lbs. | 0552  |  | **OR** | 0553  |
| [ ]  |
| 13. Cotton . . . . . . . . . . . . . . . . . . . . .  | [ ]  | 0160  | 0161  | Lbs. lint | 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  | Cwt. | 0192  |  | **OR** | 0193  |
| 15. All berries. . . . . . . . . . . . . . . . . . .  | [ ]  | 0560  | Tenths |  |  | 0562  |  | **OR** | 0563  |
| 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 (*Note: Nursery, greenhouse, and other horticultural crops grown under protection will be reported in a later section.*) . . . . . . . . . . .  | [ ]  | xxxx  | Tenths |  |  | xxxx |  | **OR** | xxxx  |
| 18. All other crops grown in the open and not listed Specify: 0221 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | [ ]  | 0220  |  |  | 0222  |  | **OR** | 0223  |
| 19. Pastureland, all types . . . . . . . . . .  | [ ]  | 0230  |  |  | 0232  |  | **OR** | 0233  |

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| **SECTION 10** |  **FIELD WATER DISTRIBUTION AND WATER SOURCE FOR CROPS IN THE OPEN** |
| 1. Did this operation irrigate any crops in the open? |
|  XXXX 1 [ ]  **Yes** – Continue 3 [ ]  **No** – Go to Section 12 |
| **WATER DISTRIBUTION CODES – USE IN THE TABLE BELOW** |
| **CODE PRESSURE SYSTEM** | **CODE GRAVITY SYSTEM** |
| 01 = Hand-move system02 = Solid set or permanent system03 = Side roll or wheel line system04 = Big gun or traveling gun system05 = 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:1006 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 15 = Down rows or furrows from unlined open ditches16 = Down rows or furrows from lined open ditches17 = Down rows or furrows from poly pipe, lay-flat tubing, or aboveground or underground pipe18 = Controlled flooding within field borders from unlined openditches19 = Controlled flooding within field borders from lined open ditches20 = Controlled flooding within field borders from poly pipe, lay-flattubing, or above ground pipe21 = Controlled flooding within field borders from underground pipe22 = Uncontrolled flooding (rangeland, pastureland, etc.) includingopen discharge from a well or pump23 = Other gravity system – Specify: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 codes. |
|  |
| Irrigated Crops | Enter Code from Abovefor Primary Method ofField Water Distribution | Water source(Column totals may exceed irrigatedcrop acres reported in Section 9 whenmore than one water source was used.) | Acres on which chemigationwas applied through theirrigation system |
| Ground Waterfrom Wells(Acres) | On-FarmSurface Water1(Acres) | Off-Farm Water (All Suppliers)2(Acres) | CommercialFertilizer(Acres) | PesticideApplication(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 |

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| --- |
| 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. |

|  |  |
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| **SECTION 10** |  **CONTINUED –** |
|  |
|  |
| Irrigated Crops | Enter Code from Previous Page for Primary Method of Field Water Distribution | Water source(Column totals may exceed irrigatedcrop acres reported in Section 9 whenmore than one water source was used.) | Acres on which chemigationwas applied through theirrigation system |
| Ground Waterfrom Wells(Acres) | On-FarmSurface Water1(Acres) | Off-Farm Water (All Suppliers)2(Acres) | CommercialFertilizer(Acres) | PesticideApplication(Acres) |
| 12. Peanuts. . . . . . . . . . . . . . . . . . . . .  | None | 0580  | 0585 | 0584 | 0586 | 0582 | 0583 |
| [ ]  |
| 13. Cotton. . . . . . . . . . . . . . . . . . . . . .  | [ ]  | 0360  | 0365 | 0364 | 0366 | 0362 | 0363 |
| 14. All acres in the open from which vegetables, potatoes, and melons were harvested. . . . . . . . . . . . . . .  | [ ]  | 0474 | 0479 | Tenths | 0478 | Tenths | 0480 | Tenths | 0476 | Tenths | 0477 | Tenths |
| 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 (*Note: Nursery, 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 Specify: 0419 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | [ ]  | 0420  | 0425 | 0424 | 0426 | 0422 | 0423 |
| 19. Pastureland, all types. . . . . . . . . . . | [ ]  | 0430  | 0435 | 0434 | 0436 | 0432 | 0433 |
| 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. |

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| **SECTION 11** |  **IRRIGATION FOR NURSERY AND OTHER HORTICULTURAL CROPS GROWN IN THE OPEN** |
|  |  |

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| --- |
| 1. Were any irrigated nursery, floriculture, sod, mushrooms, vegetable seeds, propagative materials, Christmas trees, or other horticultural crops grown in the open (including natural shade) on this operation in 2018? |
|  0751 1 [ ]  **Yes** – Continue 3 [ ]  **No** – Go to Section 12 |
|  |
|  |  | Acres in the Open |
|  | None | Total Acres | Irrigated Acres |
|  | Tenths |  | Tenths |
| 2. Report total acres and irrigated acres for nursery and other horticultural crops grown in the open (including natural shade). . .  | [ ]  | 0737 |  | 0738 |  |

|  |
| --- |
|  |
| 3. For nursery and other horticultural crops in the open, enter the total acres and irrigated acres by crop category on this operation in 2018. |
|  |

|  |  |  |  |
| --- | --- | --- | --- |
|  NURSERY AND OTHER HORTICULTURAL CROPS IN THE OPEN | None | Total Acres | Irrigated Acres |
|  | Tenths |  | Tenths |
| a. Floriculture and bedding crops Bedding/garden plants - annuals, herbaceous perennials, vegetable plants; cut flowers and cut florist greens; indoor foliage plants; potted flowering plants; hanging baskets. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]  | 0739 |  | 0740 |  |
| b. Nursery crops 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. . . . . . . . . . . . . . . . .  | [ ]  | 0741 |  | 0742 |  |
| c. Sod. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]  | 0743 |  | 0744 |  |
| d. Propagative materials Bulbs, corms, rhizomes, tubers, cuttings, seedlings, liners, plugs, flower seeds, tobacco plants, vegetable seeds, vegetable transplants to farm fields. .  | [ ]  | 0745 |  | 0746 |  |
| 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 |
|  IRRIGATION METHODS |  |  | a. | b. | **OR** | a. | b. | c. |
|  | Total Acres Irrigated or Watered | Quantity of Water Applied | Enter Code forUnit of Measure1 = Acre-Feet2 = Gallons3 = Inches/Acre | AverageFlow Rate | Number of Hours per Week Used in 2018  | Number of Weeks Used in 2018  |
| None |  | Tenths | (Gallons per Minute) |
|  | Tenthss |
| 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 Source |
|  IRRIGATION METHODS |  | 1Ground Waterfrom Wells | 2On-FarmSurface Water | 3Off-Farm Water(All Suppliers) | Total |
|  |  |  |  |  |  |
|  | 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. |

|  |  |
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| **SECTION 12** |  **IRRIGATION FOR NURSERY, GREENHOUSE, AND OTHER HORTICULTURAL CROPS GROWN** **UNDER PROTECTION** |
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| --- |
| 1. Were any irrigated nursery or greenhouse crops, floriculture, sod, mushrooms, vegetable seeds, propagative materials, or other horticultural crops grown under protection on this operation in 2018? Includecrops grown under glass, rigid plastic, plastic film, shade cloth, fiberglass, “tunnel” protection and hoop houses. Exclude crops temporarily covered for early germination, frost protection, etc. Exclude crops grown under natural shade. |
|  0627 1 [ ]  **Yes** – Continue 3 [ ]  **No** – Go to Section 13 |
|  |
|  |  | Square Feet Under Protection |
|  | None | Total Area | Irrigated Area |
| 2. Report total area and irrigated area for nursery, greenhouse, and other horticultural crops grown under protection. . . . . . . . . .  | [ ]  | 0628 | 0629 |

|  |
| --- |
|  |
| 3. For nursery or greenhouse crops, floriculture, sod, mushrooms, vegetable seeds, propagative materials, or other horticultural crops grown under protection, enter the total area and irrigated area by horticultural crop category on this operation in 2018. |
|  |

|  |  |  |  |
| --- | --- | --- | --- |
|  NURSERY, GREENHOUSE, AND OTHER HORTICULTURALCROPS UNDER PROTECTION | None | Total Area(Square Feet) | Irrigated Area(Square Feet) |
| a. Floriculture and bedding crops Bedding/garden plants - annuals, herbaceous perennials, vegetable plants; cut flowers and cut florist greens; indoor foliage plants; potted flowering plants; hanging baskets. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]  | 0630 |  | 0631 |  |
| b. Nursery crops 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. . . . . . . . . . . . . . .  | [ ]  | 0632 |  | 0633 |  |
| c. Propagative materials Bulbs, corms, rhizomes, tubers, cuttings, seedlings, liners, plugs, flower seeds, tobacco plants, vegetable seeds, vegetable transplants to farm fields. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]  | 0636 |  | 0637 |  |
| d. Food crops grown under protection Tomatoes, other vegetables and fresh cut herbs, fruits and berries. . . . . . .  | [ ]  | 0638 |  | 0639 |  |
| 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. |
| nurssss |
|  |  | 1 |  | 2 |  | 3 |
|  IRRIGATION METHODS |  |  | a. | b. | **OR** | a. | b. | c. |
|  | Total Area Irrigated or Watered | Quantity of Water Applied | Enter Code for Unit of Measure1 = Acre-Feet2 = Gallons3 = Gallons/Sq Ft.4 = Inches/Sq Ft. | AverageFlow Rate | Number of Hours per Week Usedin 2018  | Number of Weeks Used in 2018  |
| None | (Square Feet) | (Gallons per Minute) |
|  | Tenthss |
| 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 Source |
|  IRRIGATION METHODS |  | 1Ground Waterfrom Wells | 2On-FarmSurface Water | 3Off-Farm Water(All Suppliers) | Total |
|  |
| 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 13** |  **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 expansion2 = Water conservation3 = Energy conservation4 = Scheduled replacement or maintenance | 1 = No funding assistance or loans2 = FSA Environmental Quality Incentives Program (EQIP)3 = Other USDA financial assistance or loans4 = 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). |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| EXPENDITURE TYPE | None | Total Cost of Expenditure(Include amount financed) | Irrigated AcresAffected byExpenditure(Acres) | Enter Code from Abovefor Primary Purpose of Expenditure | Enter Code from Abovefor 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 | 0514 | 0512 | 0513 |
| $ |  | .00 |  |  |  |
| 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 |  | 0518 | 0516 | 0517 |
| $ |  | .00 |  |  |  |
| 3. Construction or improvement of permanent storage and distribution systems – Include dams, ponds, reservoirs, permanent ditches, canals, flumes, etc. . . . . . . . . . . . . . . . .  | [ ]   | 0519 |  | 0522 | 0520 | 0521 |
| $ |  | .00 |  |  |  |
| 4. Computers, control panels, computer controlled valves, software, and software-controlled hardware for irrigation water management. . . . . . . . . . . . . . . .  | [ ]   | 0544 |  | 0547 | 0545 | 0546 |
| $ |  | .00 |  |  |  |
| 5. Clearing or leveling non-irrigated land for new irrigation acres (the primary purpose is expansion of irrigation acres). . . . . . . . . . . . . .  | [ ]   | 0548 |  | 0526 |  | 0549 |
| $ |  | .00 |  |  |
| 6. Land leveling of previously irrigated land (the primary purpose cannot be new expansion). . . . . . . . . . . . . . . . .  | [ ]  | 0556 |  | 0559 | 0557 | 0558 |
| $ |  | .00 |  |  |  |

|  |  |
| --- | --- |
| **SECTION 14** |  **IRRIGATION AND WATER MANAGEMENT PRACTICES** |
| 1. How 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 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 2018 long enough to affect crop yields? |
|  0669 1 [ ]  **Yes** – Continue 3 [ ]  **No** – Go to item 3 |
|  | None | Number of Acres |
| 1. On how many acres did you discontinue irrigation long enough to affect crop yields

for any reason during 2018? . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]  | xxxx |
| b. 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   |
|  |
| 3. Did this operation use gravity irrigation systems to irrigate any acres in the open on this operation (Section 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, limit irrigation set times or number of irrigations, or irrigate only alternative rows. . . . . . . | [ ]  | 0404 |
| 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 practices such as wide-spaced bed furrowing, compacted furrows, or furrow diking. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | [ ]  |  |
| 0409 |
| **SECTION 14** |  **CONTINUED –** |
|  |
| 5. 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 specialists1041[ ]  Private irrigation specialists or crop consultants hired by owner or operator1042[ ]  Irrigation equipment dealers1043[ ]  Local irrigation district employees or others hired by the water supplier1044[ ]  Government specialists from the Natural Resources Conservation Service, local conservation district,Bureau of Reclamation, or other Federal or state agencies1045[ ]  Media reports or information in the press1046[ ]  Neighboring farmers1047[ ]  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 reduced energy and/or conserved water in your irrigation system during the past five years? Mark (X) all that apply –  1070[ ]  Investigating improvements is not a priority at this time1071[ ]  Risk of reduced yield or poorer quality crop from not meeting water needs1072[ ]  Physical field or crop conditions limit system improvements1073[ ]  Improvements will reduce costs, but not enough to recover implementation costs1074[ ]  Cannot finance improvements1075[ ]  Landlord(s) will not share cost of improvements1076[ ]  Uncertainty about future availability of water1077[ ]  Will not be farming this operation long enough to justify new improvements1078[ ]  Improvements will increase management time or cost |
|  |

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| --- |
| 7. Has this operation made irrigation and/or drainage improvements above regular maintenance in the **past five years**? 0209 1 [ ]  **Yes** – Continue 3 [ ]  **No** – Go to Section 15 |
|  |
| 8. Did you receive any technical or financial assistance for these irrigation and/or drainage 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 for these improvements? Mark (X) all that apply –  |
|  |
| SOURCE OF ASSISTANCE | Technical Assistance | Financial Assistance |  |
| 1. USDA programs for water conservation and environmental

improvements (CTA, EQIP, RCPP, WHIP, CIG) . . . . . . . . . . . . . . . . . . . . . . . .  | 0215 | [ ]  | 0216 | [ ]  |  |
| (ii) Other USDA programs for stewardship (CSP) or easements(CRP, WRP, GRP, FRPP) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | 0217 | [ ]  | 0218 | [ ]  |  |
| (iii) Non-USDA Federal programs (Bureau of Reclamation, EPA,or other programs) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | 0219 | [ ]  | 0235 | [ ]  |  |
| (iv) State programs (including CREP), local water management,or water supply districts. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | 0236 | [ ]  | 0237 | [ ]  |  |
| (v) Private businesses such as equipment dealers, bankers, or lenders. . . . . . . . .  | 0238 | [ ]  | 0239 | [ ]  |  |

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| **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 in 2018? |
|  0731 1 [ ]  **Yes** – Continue 3 [ ]  **No** – Go to Section 16 |
| a. Report the number of hours that the hired workers performed irrigation work in 2018 and the average hourly wage. (Exclude contract labor.) . . . . . . . . . . . . . . . . . .  | None | Total Hours of Paid Irrigation Labor Per Year | Average Hourly Wage |
|  | Cents |
| [ ]  | 0732 | 0733**$** |  |
|  |  |  |  |
|  | None | Total Expense forContract Irrigation Labor |
| b. Report contract irrigation labor expenses on this operation in 2018. . . . . . . . . . . . . .  | [ ]  | 0788**$** | **.00** |

|  |  |
| --- | --- |
| **SECTION 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? 0528 1 [ ]  **Yes** – Continue 3 [ ]  **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 needed1052[ ]  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 prices1055[ ]  Loss of water rights (not due to voluntary transfers)1056[ ]  Sold or leased water rights or annual water allocation1057[ ]  Sold or leased irrigated land or irrigated area under protection to others and did not irrigate during 20171058[ ]  Restrictions on water use1059[ ]  Converted to non-agricultural use1060[ ]  Converted to an agricultural enterprise not requiring irrigation1061[ ]  Available surface water too salty1062[ ]  Other – Specify: 1063\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. Do you consider your discontinuance of irrigation to be permanent?. . . . . . . . . . . . . . . . . . 0530 1 [ ]  **Yes** 3 [ ]  **No** |
|  |
| **SECTION 17** |  **VALUE OF SALES IN 2018**  |
|  |

|  |
| --- |
| 1. Which range includes the gross value of all agricultural products sold from this operation in 2018 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 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 |  |
|  | **100%** |
|  |  |
| **SECTION 18** |  **PERSON COMPLETING THIS FORM – Please print** |
|  |  |

|  |  |  |
| --- | --- | --- |
| 1092Name:  | 9911Phone: ( )  | 9910 MM DD YYDate: \_\_ \_\_ \_\_ \_\_ \_\_ \_\_ |

|  |
| --- |
| **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.** |

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| --- |
| **OFFICE USE** |
| **Response** | **Respondent** | **Mode** | **Enum.** | **Eval.** | **R. Unit** | **Change** | **Optional Use** |
| 1-Comp2-R3-Inac | 9901 | 1-Op/Mgr2-Sp3-Acct/Bkpr4-Partner9-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 |  |  |  |  |