

Non-substantive Change Request

0535-0234 – Irrigation and Water Management Survey

SSB Section 1: Updated Sampling methodology

The 2023 Irrigation and Water Management target population consists of all US operations that irrigate agricultural crops. The 2023 Irrigation and Water Management sampling frame comprises all 2022 Census of Agriculture operations – excluding institutional, experimental and research type operations and including Indian Reservation operations - that reported irrigated acreage or acreage equipped for irrigation. Based on previous Irrigation and Water Management sampling frames, the 2023 Irrigation and Water sampling frame is expected to have approximately 200,000 sampling elements.

The national level total irrigated acres target coefficient of variation is 1.5%; the state level total irrigated acres target coefficient of variation for states with at least 2.0 million irrigated acres is 4.0%, states with at least 100,000 irrigated acres and less than 2.0 million irrigated acres is 6.0%, and states with less than 100,000 irrigated acres is 10.0%.

The 2023 Irrigation and Water Management sampling frame will be grouped by State and type of crops (horticulture crops grown and not grown under protection and field crops) and stratified using irrigation acreage as a measure of size. A Neyman technique will be used to allocate the total sample size to strata; and a sequential interval Poisson technique will be used to select the sample (~35,500) will be selected after explicitly sorting the sampling frame on state and irrigation type and implicitly sorting on county. The sample size was increased by 500 to hit target CVs.

Updated SSA Section 12

The time required to complete the Irrigation and Water Management Survey questionnaire is expected to be similar to that of previous years, which averaged about 60 minutes. Time will vary since farms vary in acreage irrigated, number of crops irrigated, and inventory of irrigation facilities and equipment.

Total response is estimated to be approximately 28,425, which is based on using a sample size of 35,500 with an estimated response rate of 80 percent. Total response burden hours are 29,707 hours.

The initial mailings will contain the questionnaire, a cover letter, a questionnaire instruction booklet, and a return envelope. For non-respondents, the follow up mailing will contain another copy of the questionnaire, a cover letter, and a return envelope. There will be a phone follow up for those who do not respond to the mail requests.

Cost to the public for completing the questionnaire is assumed to be comparable to the hourly rate of those requesting the data. Reporting time of 29,707 hours are multiplied by \$40.51 per hour for a total cost to the public of \$ 1,203,430.57

NASS uses the Bureau of Labor Statistics' [Occupational Employment Statistics](#) (most recently published on April 25, 2023 for the previous May) to estimate an hourly wage for the burden cost. The May 2022 mean wage for bookkeepers was \$22.81. The mean wage for farm managers was \$40.29. The mean wage for farm supervisors was \$28.28. The mean wage of the three is \$30.46. To calculate the fully loaded wage rate (includes allowances for Social Security, insurance, etc.) NASS will add 33% for a total of \$40.51 per hour.

From:

2023 Irrigation and Water Management Survey (Formerly FRIS) Estimated Total Burden												
Survey	Sample Size	Waves of Data Collection	Responses				Non-response				Total Burden Hours	
			Resp. Count	Waves x Count	Min./ Resp.	Burden Hours	Nonresp Count	Waves x Count	Min./ Nonr.	Burden Hours		
IWMS Questionnaires - Data Collection												
Non-Tagged Records												
Presurvey Pressure Sealer	30,000	1	10,500	10,500	2	350	19,500	19,500	1	325	675	
First Mailing Questionnaire and Cover Letter	30,000	1	10,500	10,500	60	10,500	19,500	19,500	2	650	11,150	
Pressure Sealer Reminder/Thank you	19,500	1	1,950	1,950	2	65	17,550	17,550	1	293	358	
Second Mailing Questionnaire and Cover Letter	17,550	1	3,510	3,510	60	3,510	14,040	14,040	2	468	3,978	
E-Mail Reminder	14,040	1	2,808	2,808	60	2,808	11,232	11,232	2	374	3,182	
Phone Follow Up	11,232	1	3,370	3,370	60	3,370	7,862	7,862	2	262	3,632	
Field Enumeration	7,862	1	1,887	1,887	60	1,887	5,975	5,975	2	199	2,086	
Sub -Total	30,000		24,025	34,525		22,490	5,975	95,660		2,571	25,061	
Tagged Records												
Presurvey Pressure Sealer	5,000	1	1,750	1,750	2	58	3,250	3,250	1	54	112	
Phone and Field Enumeration	5,000	1	4,000	4,000	60	4,000	1,000	1,000	2	33	4,033	
Sub -Total	5,000		4,000	5,750		62	4,058	1,000		4,250	4,145	
Testing of Questionnaire												
Cognitive or Mail Test - Questionnaire and Cover Letter	-	0	0	0	0	0	0	0	0	0	0	
Post Survey Debriefing	-	0	0	0	0	0	0	0	0	0	0	
Sub -Total	-		-	-		-	-	-		-	-	
Quality Control Survey (Telephone Only) - Recontact operators to verify quality of NASDA enumerators.												
Quality Control Worksheet IWMS (phone only)	1,000	1	1,000	1,000	5	83	0	0		0	83	
Sub -Total	1,000		1,000	1,000		83	0	0		0	83	
Totals	35,000		28,025	28,025		26,631	6,975	99,910		2,658	29,289	

To:

2023 Irrigation and Water Management Survey (Formerly FRIS) Estimated Total Burden												
Survey	Sample Size	Waves of Data Collection	Responses				Non-response				Total Burden Hours	
			Resp. Count	Waves x Count	Min./ Resp.	Burden Hours	Nonresp Count	Waves x Count	Min./ Nonr.	Burden Hours		
IWMS Questionnaires - Data Collection												
Non-Tagged Records												
Presurvey Pressure Sealer	30,500	1	10,675	10,675	2	356		19,825	19,825	1	330	686
First Mailing Questionnaire and Cover Letter	30,500	1	10,675	10,675	60	10,675		19,825	19,825	2	661	11,336
Pressure Sealer Reminder/Thank you	19,825	1	1,983	1,983	2	66		17,843	17,843	1	297	363
Second Mailing Questionnaire and Cover Letter	17,843	1	3,569	3,569	60	3,569		14,274	14,274	2	476	4,045
E-Mail Reminder	14,274	1	2,855	2,855	60	2,855		11,419	11,419	2	381	3,236
Phone Follow Up	11,419	1	3,426	3,426	60	3,426		7,993	7,993	2	266	3,692
Field Enumeration	7,993	1	1,918	1,918	60	1,918		6,075	6,075	2	203	2,121
Sub -Total	30,500		24,425	35,100		22,865		6,075	97,254		2,614	25,479
Tagged Records												
Presurvey Pressure Sealer	5,000	1	1,750	1,750	2	58		3,250	3,250	1	54	112
Phone and Field Enumeration	5,000	1	4,000	4,000	60	4,000		1,000	1,000	2	33	4,033
Sub -Total	5,000		4,000	5,750	62	4,058		1,000	4,250		87	4,145
Testing of Questionnaire												
Cognitive or Mail Test - Questionnaire and Cover Letter	-	0	0	0	0	0		0	0	0	0	0
Post Survey Debriefing	-	0	0	0	0	0		0	0	0	0	0
Sub -Total	-		-	-	-	-		-	-		-	-
Quality Control Survey (Telephone Only) - Recontact operators to verify quality of NASDA enumerators.												
Quality Control Worksheet IWMS (phone only)	1,000	1	1,000	1,000	5	83		0	0		0	83
Sub -Total	1,000		1,000	1,000		83		0	0		0	83
Totals ²	35,500		28,425	28,425		27,006		7,075	101,504		2,701	29,707