

## **2021 Arkansas Rice and Row Crop Irrigation Yield Contest Rules**

### **“Most Crop per Drop”**

**2/20/2021**

#### **Contest Deadlines**

The official University of Arkansas Irrigation Yield Contest Entry Form must postmarked within 10 days of meter sealing, and no later than June 30<sup>th</sup> for all contest crops. Rice, soybeans, and corn fields may be entered. A Harvest Report will be sent to entrants upon entry in the contest. The Harvest Report must be returned to UADA by November 1.

Meters must be sealed by UADA or supervisors before the first irrigation and contestants must allow at least 5 days notice, so that UADA or supervisors have adequate time to seal and certify the meter and pipe before the first irrigation. Meters can be sealed at any time before the first irrigation. Contact your local Extension agent, supervisor or request meter sealing directly by calling 870-673-2661 or emailing [contest@uark.edu](mailto:contest@uark.edu), at the Rice Research and Extension Center.

#### **Contestant Qualifications**

Entries are for Rice, Soybeans, and Corn irrigated fields located in the state of Arkansas. Contestant must be a certified FSA owner/operator of the entry plot and the field must have a history of being irrigated. A copy of the FSA Form 578, including farm summary, must be submitted with the contest entry form. Contestants may not enter more than one crop type per season. A contestant may enter up to three fields, one of each crop type, but can only win first place in one crop type per year. Prizes are determined by the sponsorship contributions to the contest and decisions about distribution are determined by UA and the sponsors. First place winning contestants and spouses may not enter again for the same crop in any subsequent year. Contestants must be 18 years old at the time of entry.

University of Arkansas employees and spouses are prohibited from entering the contest.

Board members, employees, spouses of the Arkansas Rice Research and Promotion Board, Arkansas Corn and Grain Sorghum Promotion Board, and the Arkansas Soybean Promotion board are prohibited from entering the contest.

#### **Entry Fee and Form**

A \$100 entry fee is required. Make entry fee checks out to the University of Arkansas. Contestants are officially entered only after their entry form has been received and processed by the UADA. Entry forms must be postmarked within 10 days of meter sealing, and no later than June 30<sup>th</sup>. Incomplete entry forms will be disqualified. Contest field locations must be entered on entry forms and boundaries of the field must be identified before any irrigation event, including the flushing of rice fields. UADA must certify the beginning meter reading on the entry form.

## Rules for Irrigation Reporting

1. A propeller flow meter must be installed at each water entry point for each universal hydrant, riser or bonnet in each field. It is the responsibility of the entrant to ensure the meter is placed in a manner that accurately records the volume of water applied to the field. Meters must be level and must have full pipe flow and meet adequate straight run requirements. UADA has the right to disqualify any meter installation that is deemed to not meet reasonable practices for accurate recording of water volume.
2. **Meter and irrigation sealing must be done by UADA.** Entrant must contact UADA at [contest@uark.edu](mailto:contest@uark.edu) or 870-673-2661 to request meter sealing at least 5 days before irrigation. UADA will seal the meter using security tape over poly pipe tape and metal cable tamperproof tie to the bonnet, universal hydrant, or riser. UADA will also mark irrigation fittings and connections with tamperproof tape. UADA will record the initial meter reading, model, serial number, and meter make.
3. Rigid pipe or any rigid surface pipe between meter and universal hydrant/bonnet/riser is allowed. Flow meter may not be attached to or supplied by lay flat poly pipe.
4. The flow meter will be installed in a manner to record one irrigation set only, a flow meter may record flow for two sets if a surge valve is used. Installing flow meter in a way that measures multiple irrigation sets is not allowed. The entrant/contestant is responsible for providing pipe and hardware necessary for making flow meter connection that can be sealed. UADA will do the sealing and has final say as to an acceptable form of connection.
5. Tail water from another irrigation set or field cannot back up into the irrigation set for the contest. Drains, temporary levees, and pipes can be used meet this requirement.
6. The flow meter will be sealed to the bonnet. If the flow meter is disabled, fails to record, or is removed for any reason the entry is disqualified from the contest. If the meter or universal hydrant needs to be removed for any reason, contact UADA. The meter will be sealed by UADA staff after removal.
7. The contestant may provide his or her own flow meter. Meters are available for loan from Extension, NRCS, irrigation vendors, and Conservation Districts.
8. All fields will be spot checked by UADA staff.
9. The supervisor must certify the final meter reading on the harvest report.
10. The winning flow meter will be tested against University of Arkansas reference meters. Winning meter must be within 5% of the reference meter. If not within 5%, the UADA has the right to disqualify the entry or adjust the volume of water applied to reference volume.
11. You may use any irrigation scheduling method you wish.
12. Any irrigation system type can enter so long as UADA can verify that water use and yield can be accurately measured. Contact UADA staff before entering contest.
13. You may enter a rice field using MIRI/AWD flood, Cascade flood, furrow irrigation, or sprinkler irrigation, in contour levee, or straight levee. Zero grade fields are not allowed.
14. A functional irrigation system is required. In the rare circumstance where rainfall may have been adequate and where irrigation additions may have created crop stress, the entry may be considered as being irrigated, if supporting data is provided in the harvest report. See section on Water Use Efficiency Determination and minimum irrigation volumes.

## **Field Qualifications**

A complete field of 30 or more continuous acres, must be planted and irrigated. The variety must be named on the entry form. The contest field must be designated on an aerial map and GPS coordinates reported on the entry form. The aerial map must be included with the Harvest Report. The field may have only one irrigation water source or riser to the field (multiple pumps may supply the field through a single hydrant).

## **Supervisors Qualifications and Responsibilities**

UADA staff must certify and seal the flow meter before irrigation begins. A supervisor must witness the harvest of the contest plot, oversee all harvest calculations and field measurement.

- 1. Measure header width, measure length of harvested pass using a distance measuring wheel or rangefinder.**
- 2. Use combine to harvest headlands or end rows no more than 2 header width passes at the top and bottom of contest field.**
- 3. Check combine, grain cart, and truck to be sure they are clean before contest harvest**
- 4. Weigh truck on public certified scale, farm scales are not acceptable.**
- 5. Have a sample graded for moisture and foreign material for yield adjustment.**

**In case of long truck dump lines the supervisor must collect truck scale ticket the following day.**

The supervisor or UADA must be present during the harvesting, weighing, moisture testing and Harvest Form reporting. The entrant is responsible for mailing the information.

***Contestants must solicit their own supervisor.***

**A supervisor cannot be related to the contestant, an employee, an employer, a manager or consultant of the contestant or their farm. He/she cannot have financial or direct business ties to a company that sells agribusiness supplies, i.e. totally independent.**

Call your local Cooperative Extension Service office if you are unsure if an individual qualifies to be a supervisor. Qualifying supervisors include:

- FFA Advisor
- Vocational Ag Instructor
- County Extension Agent or Assistant
- Natural Resource Conservation Service staff
- Farm Service Agency CED / Loan Officer
- Staff Research Associates (SRA) from universities
- Private Crop Consultant
- College of Ag instructor
- Crop Insurance Agent/Adjustor

- Insurance Agent/Adjustor
- Retired Individual with listed job title
- Ag lender
- Conservation District Full Time Employee

Supervisors may request for reimbursement for travel from UA for personal vehicle mileage.

## **Harvesting Rules and Reporting Results**

1. Harvest operations are to be witnessed by supervisors or UADA staff designated on the entry form. Combine grain hopper, grain cart, and truck hoppers are to be inspected and empty before harvest begins. A minimum of 3 acres are to be harvested using certified scale weights from a public grain buyer. Farm scales are not allowed. Supervisor must be present to witness the full and tare weighing of the harvest truck. However, for long wait times at scales, the supervisor should contact UADA for instructions.
2. A minimum yield of 200 bushel per acre for corn, 180 bushels per acre for rice and 60 bushels per acre for soybeans must be achieved. Evidence of extreme deficit irrigation will be cause for disqualification.
3. There will be a place on the harvest form to report field location, truck weight, moisture, and foreign material.
4. Moisture percentage and foreign matter must be recorded on the scale ticket. Yield must be adjusted to 12% moisture for rice, 13.5% for soybeans and 15% for corn. Foreign matter in excess of 1% will be deducted from the yield, as stated on the scale ticket.
5. The winning entrant must provide a yield map of the entire field entered to confirm that the entire field was irrigated the same as the harvest yield check. UADA will contact winning entrant for this, it is not necessary to send with the Harvest Form.
6. Area must be measured and certified by the supervisor. For corn and soybeans this can be done by measuring row lengths and width of cut. A portion of the 30 acres must be cut, the area must be rectangular and the full length of the field after removing turn rows. Passes must be from the top to bottom of the field according to field slope.
7. All harvest passes must be straight, and there must be two passes between each harvested pass for checking at a later date. Thus, the combine must harvest one pass, then skip two passes before harvesting the next pass. Continue harvest passes until 3 acres is harvested.

## **Harvest Report Form**

The first part of the Harvest Report must be filled out by the entrant at harvest. It is the responsibility of the entrant to see that their Harvest Report is properly completed. The completed Harvest Report must be returned by November 1, 2020 to the same address as the entry form.

## **The Supervisors are responsible for:**

Being present during the complete time of harvest, weighing (gross and tare) and moisture testing. Bringing measurement tools (wheel and tape) and GPS as needed equipment to the harvest location. Taking all field measurements, completing all calculations, Checking combine,

wagons, trailers, grain carts or trucks to make certain they are empty. They must record the final flow meter reading and certify by their signature on the Harvest Report. They must sign and date the Harvest Report.

### **The Entrant is responsible for:**

Filling out the Entry form and Harvest Report on time. Entrants are responsible for providing or borrowing a flow meter for the contest. Entrants should notify UADA to seal meter a minimum of 5 days before the first irrigation and after poly irrigation pipe is installed. Confirming the day before that the entry plot will be harvested and provide an approximate time as to when harvesting can begin. Harvesting, grain weighing and moisture sampling all must be completed on the same day. Before arrival of supervisor, have the area around the entry plot harvested and make sure the entrant plot will allow at least 3 acres to be harvested. Have combines, grain carts, trailers and trucks empty before beginning the test. The grain trailer must be visible from the contest plot and not be close to other trailers. Provide a copy of USDA FGIS or AR State Plant Board certified grade certificate, (i.e. scale ticket) from the commercial delivery point grader for both Contest plot and full field.

### **Recheck**

For yields of rice and corn over 290 bushels and soybeans over 100 bushels per acre, a recheck must be completed using the remaining un-cut field using the same procedure. If a recheck is required inform UADA before the recheck. A recheck requires the initial supervisor to be present and UADA staff. Both yield checks will be presented to the judge panel for consideration.

### **What to Send in After Harvest**

Send to:

**UADA Irrigation Yield Contest  
University of Arkansas Rice Research and Extension Center  
2900 HWY 130 East  
Stuttgart, AR 72160**

**contest@uark.edu**

- **Harvest Report**
- **Official Elevator Scale Ticket**
- **Aerial Map of Field showing the harvested area and total field area**

### **Water Use Efficiency Determination**

A judge panel comprised of irrigation specialists and scientists will judge all entries and confirm the winners. Judges may use scientific means and statistics to validate or disqualify an entry if result is unrealistic. Decisions of the judge panel are final. Judging will take place at the UA Rice Research Extension Center in Stuttgart, Arkansas during the week of November 1. All entrants will be checked for accuracy. UADA has the right to disqualify an entry that is suspected of not irrigating the entire field as judged by scale tickets or the yield monitor map.

Total water is determined as the rain plus irrigation experienced by the field. Total rain during the growing season will be used. The growing season is defined as the maturity of the crop grown. Rain amounts will be accumulated starting at the planting date until maturity. Farmlogs or equivalent computer-based rain estimating will be used to determine the rain experienced at the field for each entrant by UADA. This is done to provide a consistent and non-biased measure of rain for all entries. Rain will be calculated as inches (ac-in/ac) of rain experienced in the field.

Excessive rain events will be adjusted by the judging panel using scientific means to account for events that experienced high volumes of runoff to determine the best estimate of effective rainfall for each event. An entry may also be disqualified by UADA or the judge panel if the field is believed to be subsurface irrigated by natural means.

Irrigation applied will be determined from the flow meter initial and final readings reported on the Entry Form and Harvest Report. Irrigation water volume will be reported as ac-in/ac.

Total water is the sum of rain plus irrigation for each entrant's field. The judge panel may adjust the estimated rainfall for effective rainfall.

Water Use Efficiency (WUE) for the purpose of this contest is the yield in BPA divided by total water in acre-inches/acre.

The field must be an irrigated field, where water source is obvious, if the field receives a reasonable amount of irrigation addition, it is considered irrigated. However, if irrigation was not added and was not required. If the judges can verify that the plant water needs were met through soil moisture monitoring data or other means, the judges may consider the entry. For example, if a soil moisture sensor was used and the site had adequate rainfall to meet crop water demand, the judges may consider this information in the calculation of WUE. However, if the data shows the field was deficit irrigated, it will be disqualified. Modeling may be used to assess the crop water balance by the judges. A fully functional irrigation system must have been in place, even if not used. If there is evidence that the field may have been irrigated through natural subsurface means, the entrant will be disqualified.

### **Contest Winners and Awards**

The goal of this contest is to demonstrate how to achieve high water use efficiency and improve profitability and sustainability through irrigation water management.

Only the top entry in each commodity (one winner each for rice, corn, and soybeans) will be awarded. It is anticipated that the winners will receive at a **minimum a \$6,000 cash prize for the Corn and Soybean category and the Rice winner will be awarded a Ricetec hybrid seed tote (retail) valued at \$12,000.** Second place for corn and soybeans is a cash award of \$3,000 and third place for corn and soybeans is \$1,000. First place winners may receive additional cash and equipment from contest sponsors. Awards will be presented at the Arkansas Soil and Water Conference in January 2022.