

# WATER SAVINGS USING SPRINKLER SYSTEMS

Field Result—Mississippi State University

## 2018

- Initiated sprinklers at 34 days of age.
- Initiated cool cell at 21 days of age.
- Delayed cool cell introduction until 86° F.
- Wind speed—650/minute.

## 2019

- Initiated sprinklers at 23 days of age.
- Initiated cool cell at 45 days of age.
- Delayed cool cell introduction until 90° F.
- Wind speed—650/minute.

	HOUSE #1		HOUSE #2	
YEAR	2018	2019	2018	2019
Age (Days)	63	63	63	63
Processing Date	Aug/18	Aug/19	Aug/18	Aug/19
Weight (lbs)	9.95	9.92*	9.98	9.48*
Feed Conversion Ratio	1.91	1.97	1.96	1.94
Mortality (%)	3.01	3.57	4.76	3.61
Average August Temperature Jackson, Mississippi (°F)	80.6	82.4	80.6	82.4
Average August Humidity Jackson, Mississippi (%)	79	75	79	75
Weeden Sprinkler System Water (Gal)	11682	12166**	10247	10062
Cool Cell Water (Gal)	23789	9622	28174	8476
TOTAL Water Usage (Gal)	35,471	21,788	38,421	18,538
	HOUSE #1		HOUSE #2	
2019 vs 2018 Water Savings (Gal)	13,683		19,883	
2019 vs 2018 Water Savings (%)	38.6%		51.7%	

\* Comment from service tech— These flocks were .75lbs heavier than the closest flock marketed that week.

\*\*Improper sensor calibration created excess water usage during first 2 weeks of sprinkling.





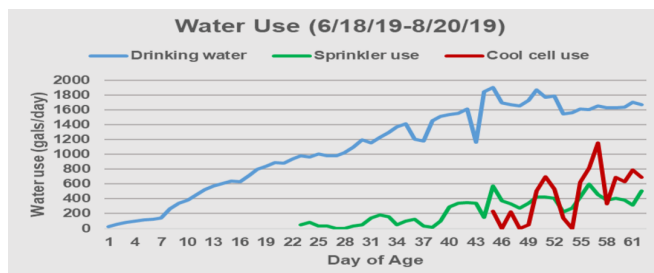
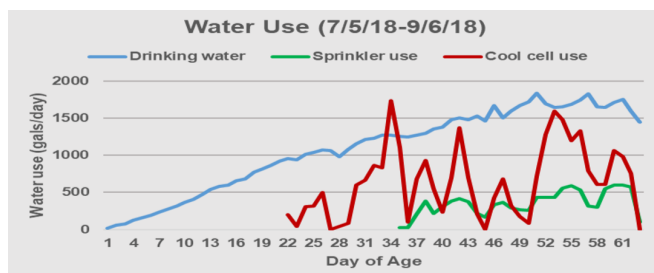
Weeden Sprinkler Drop

# Sprinkling Broilers: Water Conservation & Production Improvements

J.W. Moon, J. DuBien, A.T. Brown, Y. Liang, and T. Tabler Mississippi State University Poultry Science Department, Mississippi State University Department of Mathematics and Statistics, University of Arkansas Biological and Agricultural Engineering Department, and Mississippi State University Extension Service, Mississippi State, MS



Weeden Sprinkler Controller



## ABOUT THE STUDY

The objective of the study was to determine effectiveness of sprinkler technology to improve broiler performance and water conservation efforts during hot weather.

## ISSUES

- Water scarcity is a looming national issue
- Water conservation related to cooling poultry during summer is a worthwhile goal with potential to reduce peak water demand and groundwater depletion
- Heat stress adversely affects growth performance and increases broiler mortality losses

## RESULTS

- Broiler production can benefit by combining sprinkler systems and cool cells to improve flock performance and conserve cooling water
- **Sprinkler Technology can save over 50% of cooling water usage and reduce relative humidity in the broiler house by 20%**
- Critical that interval between sprinkler system activations allows birds time to dry off between activations and take advantage of wind chill effect.
- **Allowing house temperatures of near 90 degree F results in lower humidity, less | mortality, enhanced cooling-water conservation, and better flock performance**

For a full copy of the study, please call Jake Smith at Weeden Environments 870-680-7382.

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