2020 Crop, Livestock, & Youth Demonstrations & Programs

Greene County Cooperative Extension Service

Lance Blythe
CEA- Staff Chair

Dave Freeze
CEA- Agriculture

Harlee Haney
CEA- 4-H

Katie West
Admin. Sp. III

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

MASTER GARDENER

18 U.S.C. 707

2020 Crop, Livestock, & Youth Demonstrations & Programs

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MASTER GARDENER

2020 Corn Hybrid Demonstration

Partnering:	Derek & Royce Boling	***Consultant:***	Shane Frost / Justin Threlkeld
Investigator:	Jason Kelley	***Extension Agent:***	Lance Blythe
Location:	Paragould	***Soil Series:***	Dundee Sandy Loam

Objective: Accumulate yield, agronomic, and disease tolerance support data of corn hybrids entered in the U of A System, Division of Agriculture, county performance trials. Determine local yield potential and adaptability of commercially available hybrids.

Previous Crop: Cotton

Tillage, Planting, & Demo Setup:
Conventional seedbed prepared and planted on 30-inch beds April 7th. Included 22 hybrids - 8 rows of each planted.

Crop Development, Irrigation, & Weather:
Center pivot irrigation was used. The field received good early season rains, but needed regular irrigations from late June through July as temperatures rose and grain development was in progress.

Fertility & Pest Control:
At planting 60-60-100-12-1 was applied. Sidedress fertilizer (158-0-0-12) followed at the 5 leaf growth stage. At pretassel, 46-0-20 was then applied, followed by a late season foliar application of CORON (10-0-10). Total units of fertilizer for the season were 274-60-130-24-1.

Roundup was used as a burndown early in the season. At planting, Warrant (48 oz) was applied for pre-emergence weed control. Halex GT (48 oz) plus Atrazine (48 oz) was later applied postemergence as an overlapping residual for grass and broadleaf weed control. The field was clean on weeds, except for a few escape pigweeds on field borders.

No insect or disease problems were observed. The producer did apply Trivapro (13.7 oz) for plant protection.

Discussion & Results:
The plots were harvested September 11th. Yield data was collected using a weigh wagon and a moisture/test weight meter provided by Drake Mitchell with AgriGold. Yields were adjusted to 15.5% moisture (Table 1). Yields ranged from 241 to 264 bushels per acre. The average yield was 254 bushels.

Table 1: 2020 Corn Hybrid Demonstration
Greene County Extension Service

Grower:	Derek Boling, Royce Boling	**Investigator:**	Dr. Jason Kelley
Location:	Paragould	**County Agent:**	Lance Blythe
Production System:	Conventional	**Consultant:**	Shane Frost
Planting Date:	April 7, 2020	**Soil Type:**	Dundee Sandy Loam
Planting Population:	36,000 seed / Acre	**Previous Crop:**	Cotton
Harvest Date:	Sept. 11, 2020	**Row Width:**	30 inches

Fertility: (lb/ac)	N	P	K	S	Zn
--- Preplant	60	60	100	12	0
--- Sidedress	160	0	0	12	0
--- Pretassel	46	0	20	0	0
Total Fertility:	266	60	120	24	0

Boron 1 lb preplant

Coron 10-0-10 was also used at 1 gallon/acre in season

Herbicides:
Warrant 48 oz preplant
Atratine 48 oz post
Halex GT 64 oz post

Fungicide:
TrivaPro - 13.7 oz

Irrigation Type: Pivot **Number of Times:** Multiple

Hybrid	Adj. Yield[1] Bu/Acre	Acres	Weight	Yield	% Moisture	Test Weight	Plant Stand[2]	Lodging Score[3]
Croplan 5370VT2P	264	0.560	8,218	262	14.9	59.8	34,000	1
Dynagro D58VC65	262	0.560	8,178	261	15.0	61.9	32,000	1
Dynogro D57VC51	261	0.560	8,162	260	15.1	60.6	36,000	1
Pioneer P1847VYHR	261	0.560	8,322	265	16.8	60.9	35,000	1
Dekalb DK6205	260	0.560	8,060	257	14.5	59.6	33,000	1
Agrigold A6659VT2PRO	259	0.560	8,130	259	15.6	61.7	35,000	1
Dekalb DKC64-35	258	0.560	7,964	254	14.2	62.8	32,000	1
Dekalb DKC 67-44	258	0.560	8,020	256	14.8	61.8	34,000	1
Dekalb DKC65-99	257	0.560	8,060	257	15.4	61.4	35,000	1
Pioneer P2042VYHR	256	0.560	8,240	263	17.6	60.6	35,000	1
Dekalb DKC70-27	256	0.640	9,260	258	16.4	61.0	34,000	1
Local Seed LC1898TC	255	0.560	8,042	256	15.9	61.3	35,000	1
Dekalb 6869	255	0.560	8,116	259	16.9	61.6	34,000	1
Agrigold A6544VT2RIB	254	0.560	7,978	254	15.5	59.1	38,000	1
Local Seed LC1577VT2P	252	0.560	7,862	251	15.1	62.2	32,000	1
Agrigold A6659VT2RIB	252	0.560	7,982	255	16.5	59.9	36,000	1
Progeny 2015VT2P	249	0.560	7,712	246	14.4	62.9	33,000	1
Terral 26BHR30	248	0.560	7,818	249	16.0	61.3	35,000	1
Dynagro D55VC80	245	0.560	7,714	246	15.8	60.8	36,000	2
Progeny 9114VT2P	243	0.560	7,542	240	14.5	61.1	36,000	1
Croplan 1575VT2P	243	0.560	7,618	243	15.4	61.9	36,000	3
Terral 24BHR42	241	0.560	7,662	244	16.8	59.7	36,000	1
Averages	**254**						**34636**	

[1] Yield is adjusted to 15.5% moisture.

[2] Plant Stand is given as thousands of plants per acre.

[3] Lodging score - 1 is no lodging, 10 is completely lodged.

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2020 Enlist (E3) Soybean Variety Demonstration

Cooperator: Rice (Danny, Stacey, Nick & crew) Farm ***Investigator:*** Hank Chaney /Jeremy Ross

Participating Companies: Delta Grow, DynaGro, Go-Soy, Mission (Simplot), Pioneer, Progeny

Location: Greene County – Light ***Soil Series:*** Foley-Bonn complex (silt loam)

Objective: Accumulate yield, agronomic, and disease tolerance support data of Enlist Soybean varieties entered in the U of A System, Division of Ag, performance trials. Determine local yield potential and adaptability of commercially available varieties.

Tillage and Planting:

The field was planted to rice in 2019. It was prepared with conventional tillage using 60-inch beds (30-inch rows) and planted June 1st.

Demo Setup, Irrigation, & Weather:

The demo included 10 varieties (12 rows of each planted to good moisture). Averaged across all varieties, the final plant population was excellent. The field was furrow irrigated 4-5 times using Pipe Planner and a surge valve.

Fertility & Pest Control:

Soil test results came back with pH good (6.3), while P tested low and K, medium. Pre plant fertilizer included 36 units of P (phosphorus) and 72 units of K (potassium) per acre. Plant growth was good all season.

Weed control (mostly pigweed and weedy rice) turned out excellent using the E3 (Enlist-Liberty-Roundup tech traits) system. At planting Boundary was applied for Pre-emergence weed control. It was followed with a postemergence application of Enlist One (32 oz) plus Liberty (32 oz) on June 18th to clean up pigweeds that revived from our preplant tillage. The second POST application applied on July 7th included Liberty (40 oz) plus Roundup Power Max II (40 ounces) to finish off the larger pigweeds and take out weedy rice.

Considering plant disease, aerial web blight was found in scattered spots in the lower canopy on August 12th. A Quadris Top application was made (soybeans were at the R4 growth stage-full pod development). The fungicide did great, resulting a healthy plant canopy until maturity. Insects (earworms & stinkbugs) never developed to threshold levels, however the farmer did piggyback an insecticide treatment (2 oz Ravage) with his fungicide application.

Harvest

The demo field was harvested on October 16th. Yields were determined using the farmer's combine yield monitor which was calibrated by Legacy Equipment the day of harvest using their weigh wagon. A commercial grain moisture and test weight was determined by the local Simplot retailer using seed samples collected from each variety strip harvested. Final yields were adjusted to 13% grain moisture.

U of A System, Division of AG, Greene County Extension
2020 Enlist Soybean Variety Demonstration
Rice Farm, Stanford **Planted: June 1st** **Harvest Date: October 16th**

Variety (Planted South to North - 12 rows each -alternate with 12 rows of the farmer check variety - DeltaGrow 48E49)

	Yld Monitor Pounds	Percent Moisture	Test Weight	Harvest Length	Harvest Width	Acres	Adjusted* Yield	Lodging** Rating
Progeny P4682E3	3291	12.2	57.5	1205	30	0.83	66.7	2
DeltaGrow 48E10	3153	12.8	56.9	1205	30	0.83	63.5	2
Pioneer 49T62	2506	12.0	56.3	1205	30	0.83	50.9	3
GoSoy 481E19	2967	12.7	56.4	1205	30	0.83	59.8	2
Bravo B4839E	2922	12.4	57.2	1205	30	0.83	59.1	2
Progeny 4775E3S	3013	12.4	56.8	1205	30	0.83	60.9	1
DynaGro S45ES10	3192	12.3	56.9	1205	30	0.83	64.6	1
DeltaGrow 48E49	3155	12.3	57.3	1205	30	0.83	63.9	1
GoSoy 463E20S	2865	12.3	56.4	1205	30	0.83	58.0	1
Bravo B4609E	3012	12.1	57.3	1205	30	0.83	61.1	1
Averages	3008	12.4	56.9	1205	30	0.83	60.8	2

* Yields adjsuted to 13.0 % moisture
** Lodging Ratings 0=none, 1=light, 2=moderate, 3=heavy (almost flat)

2020 Soil Health Project – Greene County – Year 2

Producer: Dustin Henson, Kory Randleman ***Investigator:*** Matt Fryer, Dr. Mike Daniels

Project Team:
Greene County NRCS – Adam Eades (Local Team Leader) & colleagues
Greene County Conservation District – Katie Womack & board
Greene County Extension Office – Dave Freeze & associates
Local Cover Crop Consultant – Brandon Davis
Several others – Legacy crew, ASU & UA Scientists, P & P Consulting

Location: Paragould ***Soil Series:*** Calhoun silt loam

Objective: Evaluate the impact of using cover crops (along with notill – minimum till) to improve yields, economic returns, resource conservation, and soil health.

Demo Setup: The project will be conducted for 3 years (2019-2021). Side by side fields with similar soil types, crop rotation, and management the last few years, will be compared. One field will continue with conventional management (no cover crop) similar to recent years. The other field will be managed to produce both a yearly cover crop and cash crop using a notill-minimum till approach.

Cover Crop –Planting & Development:

A John Deere air seeder was used to plant the cover crop field notill on October 16th. The mix included 19# cereal rye (CR), 19# black oats (BO), and 3# crimson clover (CC), the same mix used last year. This blend cost $20 per acre.

Cover crop stand and development was evaluated monthly. Persistent rains following planting, in addition to a near record cold spell in early November, resulted in poor cover crop establishment. Cover crop stand counts taken in Nov., Dec., and Feb., show an average of 1 plant per square foot for clover, and 4 plants per square foot for grains (rye & oats). In addition, 30-40 percent of the field ended up with no cover crop, to a very sparse cover crop, due to the harsh weather.

We also observed an early volunteer stand of cereal rye in some of the high places in the field. Overall, the cover crop stand was thin and variable, being better in the areas of the field with good drainage, and worse in the areas with poor drainage. The producer did run a ditcher in both the cover crop and check fields which did help some to drain standing water off the fields.

As observed in year one, after our cover crop stand was established in the fall, it did not grow much through the winter. However, once we got to mid-March-Early April, it grew (where we had a stand of cover crop) well.

With a poor cover crop stand, we did see scattered ryegrass starting to form large clumps by early April. To avoid planting into them, we went with an early termination (Roundup PowerMax – 28 oz.) of the cover crop on April 6th. No significant cover crop insect problems were observed.

Cash Crop – Planting & Development:

For the second year in a row, a rainy May (+ inches rain) caused a delay in planting the cash crop.

Cover Field:

Liberty Link Soybeans were drilled notill on the cover crop field with a John Deere air seeder on June 6th. Good rains after planting and through early July, resulted in establishment of a nice, uniform crop. The final plant population was 115,000 plants per acre.

Following a good start for our cash crop, we did see some dry weather in July and August that lowered our crop's yield potential. We were happy to see rains move in September 1st to help finish off seed fill. Rainy weather really picked up with the arrival of October, pushing us to a late harvest on November 3rd.

No Cover Field:

The check field (no cover) was planted notill to on June 6th.

The soybeans came up to an excellent stand (116,000 plants per acre) on June 10th. Crop development on the check field was similar to what we seen on the cover field this season.

Cash Crop - Pest Management:

By early June the cover and check fields both had a lot of small palmer pigweed, pitted morningglory, eclipta, and annual grasses (Texas panicum, broadleaf signalgrass). We also had some scattered marestail. A burndown plus residual herbicide application (Gramoxone + Boundry) at planting resulted in excellent control.

By late June the residual herbicide broke and we had another flush of pigweed and annual grass emerging. A ground application of Liberty (38 oz.) plus Section Three (8 oz.) provided fairly good control. A few of the largest pigweeds were able to escape before canopy closure. A second application of Liberty (32 oz) was applied August 3rd, but we still had some pigweed escapes. With only a small amount of cover crop residue this year (compared to last year), the soil was not shaded which allowed more pigweeds to emerge later into the season until the soybeans could close canopy.

Considering foliar diseases, none of significance were seen in either field. We did however document (spring collected soil samples sent to lab) that threshold levels of root knot nematodes (RKN) were present in both fields. Fall collected nematode soil samples will also be sent to the lab. A RKN resistant variety should be planted next year.

Regarding insects, a threshold level of earworms in both fields was found in early August. A Besiege application (6.4 oz.) provided good control. Other insects seen were light levels of grasshoppers and stinkbugs on both fields. Neither of these pests ever developed to treatment level.

Cash Crop – Yield

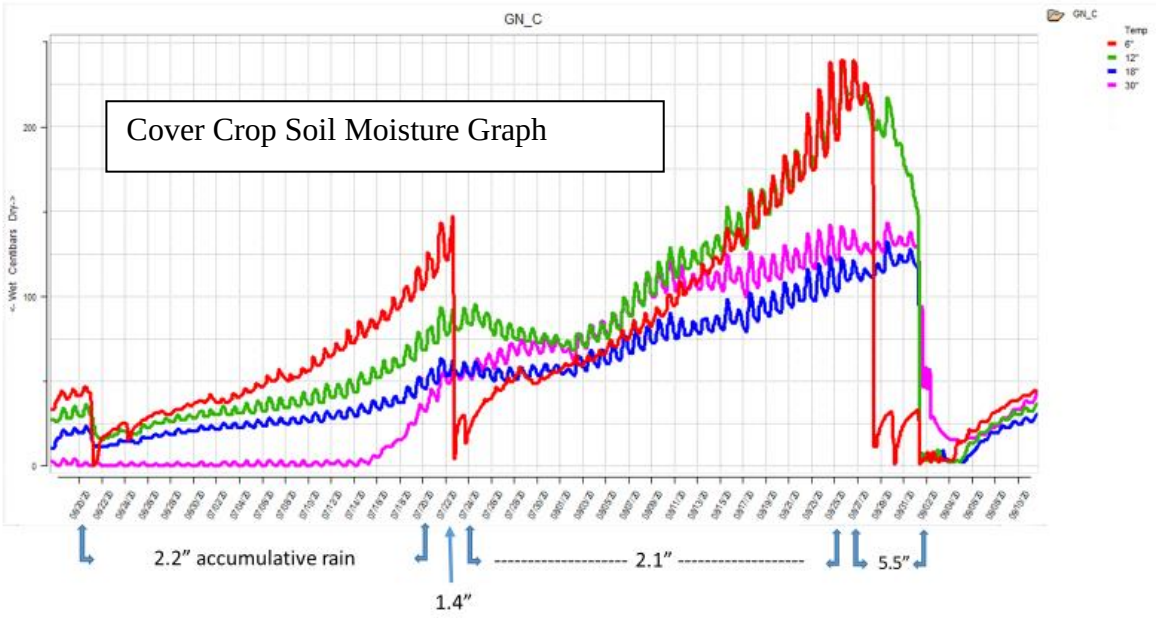
The project fields were harvested on November 3rd. Elevator scale tickets were used to determine grain weights and moistures. Yield was adjusted to 13% moisture for both fields.

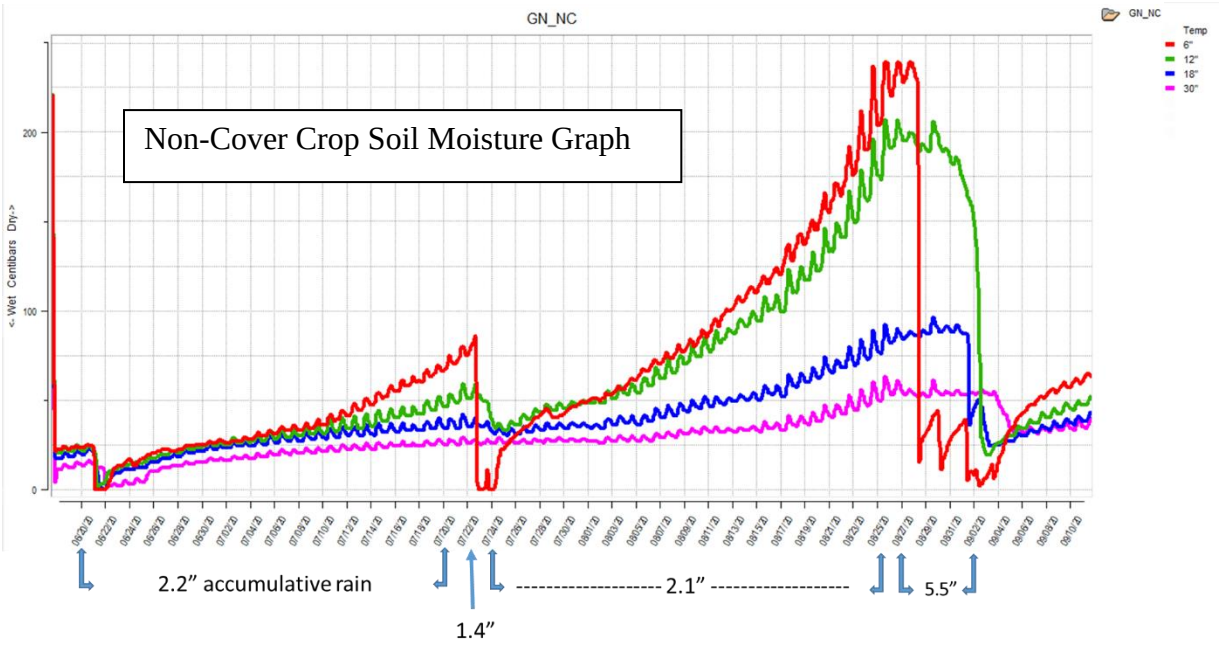
To everyone's surprise, the cover crop field fell 10 bushels short on yield (36 bu./acre) compared to the check field with no cover crop (46 bu./acre). Test weights were similar for both fields (54.4 and 54.1, respectively, for cover versus no cover).

A couple of possible explanations for the big yield advantage in year 2 of this soil health project could be that the field with no cover crop has inherently more fertile soil along with better field drainage during extended wet periods. The cover crop stand was also very weak this year on the cover field, and was terminated over a month sooner (poor level of biomass) compared to year one (good level of biomass).

Water Use & Dynamics

The monitoring of soil moisture sensor data during the cash crop season showed what was going on under the surface with respect to available soil moisture. With dryland production a producer is solely dependent on rainfall and soil moisture retention. Factors influencing available soil moisture that we hoped to affect with a cover crop/no-till treatment are better infiltration, better soil structure/additional pore space, and a deeper cash crop root due to less compaction. The data appears to show some differences between the cover and non-cover side. Observations noted were 1) the movement of the deeper sensors on the cover crop side, which would represent a deeper root on the soybeans 2) deeper sensors on the cover cropped field seemed to respond more to rainfall events than did the non-cover which likely means we had deeper infiltration and better internal drainage.





We also tracked total rainfall during the cover crop growing period and the cash crop growing period.

We utilized local precipitation data for the cover crop growing period and an in-field rain gauge with weekly readings during the cash crop growing season.

Total Cover Crop Period Rainfall: October 15th – June 5th = 37.8 in.

Total Cash Crop Period Rainfall: June 6th – Sept. 15th= 16.14 in.

Soil Health Dynamics

Soil health encompasses soil physical, chemical, and biological properties. The measurements that will be used and the samples taken to track physical properties over the life of the demonstration include bulk density (the weight of soil in a known volume), aggregate stability (how well the soil holds together), particle size analysis (% sand, silt, and clay), and infiltration rates (how fast water soaks into the ground). Composite soil samples will also be taken and submitted to labs for analysis for: routine soil testing at the University of Arkansas Soil Lab (chemical properties), Haney soil health test (biological), and N-star (biological and chemical) which can possibly be used as an Arkansas soil health test.

Summary

Managing cover crops and no-till can be a challenge, especially when the weather doesn't cooperate. Cash Crop planting adjustments may need made to ensure planting success into the cover crop.

In this second year of the project, a wet fall kept us from establishing an acceptable cover crop. We also were at a disadvantage in the spring with burn down herbicide needing to go out earlier to manage large ryegrass scattered throughout the cover crop field. A wet May once again prevented the farmer from getting the cash crop planted early.

The reason for the yield advantage this year on the check (no cover) field is uncertain. The USDA Soil Web Survey website shows the soil series to be similar for both the cover crop field and the check field.

Hopefully in year 3 we can more closely watch cash crop development and soil dynamics to determine why the check field provided a yield advantage in year 2. Monitoring one final growing season should shed more light on soil health dynamics, water infiltration, and cash crop yield response using cover crops.

Economic ***Results***

Using U of A Extension Interactive budgets, economic reports will soon be generated for both the Cover project field and No Cover field.

2020 Commercial Rice Trial (CRT)

Partnering: Pigue Farm (Ron, Clint & crew) ***Investigators:*** Dr. Jarrod Hardke, Dr. Nick Bateman

Crop Advisor: Lance Ramthun ***Rice Program Tech:*** Trent Frizzell

Location: Paragould ***Soil Series:*** Jackport silty clay loam

Objective: Evaluate rice hybrids/varieties entered in the University of Arkansas Performance Trials, under farm level management. Determine local yield potential and pest (disease & insect) reaction of commercially available hybrids/varieties.

Tillage and Planting:

The 0-grade test field was prevented planting in 2019. Glyphosate plus Firstshot was applied as a burndown application in mid-March. A Kelley tool was then used before planting RT 7301 on April 10th . The CRT small plots were also planted that day.

Demo Setup & Weather:

The test included 27 cultivars (7 drill rows of each), replicated 4 times. Rainy conditions after planting delayed DD50 emergence until April 29th . Plots in the front 2-reps ended up very thin due to poor drainage in this area, ultimately contributing to the lower yields recorded at this test site. Stand counts taken on May 22nd show the farmer's field averaging 5 plants/sq. foot. He ended up making a 213-bushel crop, well above the county average.

Fertility & Pest Control:

Preplant fertilizer (P & K) was applied according to soil test recommendations. Preflood urea included 125 units of N, followed at early boot with another 32 units N, and 18 units K. The season total was 157 units of nitrogen.

Command was applied at planting for weed control. It was followed with an overlapping residual application of Prowl plus Bolero on April 27th. Regiment then went out pre-flood on June 2nd to help manage escaped barnyardgrass. The field ended up fairly clean, except for widely scattered barnyardgrass escapes.

Regarding plant disease, the RT 7301 was clean throughout the season. Stinkbug numbers also remained low at this location. We did, however, find stem borer damage in early July. Damage ratings were taken by Dr. Nick Bateman, UA Extension Entomologist. They show borer damage was much worse on some cultivars than others. No fungicide or insecticide applications were made at this test site.

Results:

The test was harvested with a small plot combine on September 15th . Grain samples were collected to determine milling yields. Disease ratings, plant heights, and heading dates were also recorded for the test plots. All these data were used to support the U of A System, Division of AG, Rice Performance Trial results.

Table 10. Preliminary Data Summary for 2020 Commercial Rice Trials (CRT) by Location

Location	Cultivar	Grain Type	Variety / Hybrid	Herbicide Technology	Harvest Moisture (%)	Lodging (%)	Grain Yield (bu/acre)
Greene	Diamond	L	Variety	C	11.9	0	145
Greene	Jewel	L	Variety	C	11.6	0	149
Greene	ProGold1	L	Variety	C	13.6	0	129
Greene	ProGold2	L	Variety	C	12.3	0	144
Greene	DG263L	L	Variety	C	10.6	0	184
Greene	DGL044	L	Variety	C	13.5	0	179
Greene	DGL2065	L	Variety	C	11.8	0	82
Greene	CLL15	L	Variety	CL	11.6	0	152
Greene	CLL16	L	Variety	CL	12.4	0	174
Greene	CLL17	L	Variety	CL	11.3	0	137
Greene	CLX8-1101	L	Variety	CL	11.7	0	139
Greene	CLX8-1169	L	Variety	CL	12.2	0	133
Greene	PVL02	L	Variety	PV	10.9	50	120
Greene	RTv7231 MA	L	Variety	MA	10.9	0	145
Greene	RT 7321 FP	L	Hybrid	FP	10.6	0	137
Greene	RT 7521 FP	L	Hybrid	FP	10.9	0	136
Greene	RT 7301	L	Hybrid	C	11.0	0	152
Greene	RT 7401	L	Hybrid	C	10.8	0	157
Greene	RT 7501	L	Hybrid	C	10.7	0	164
Greene	RT 7801	L	Hybrid	C	11.2	0	153
Greene	RT XP753	L	Hybrid	C	11.3	0	128
Greene	CLM04	M	Variety	CL	12.1	0	156
Greene	Lynx	M	Variety	C	11.4	0	157
Greene	Jupiter	M	Variety	C	12.6	0	160
Greene	Titan	M	Variety	C	11.4	0	159
Greene	ARX7-1127	MX	Variety	C	12.5	0	163

† Greene County CRT located in a grower field near Paragould, AR.

* Plant stands significantly reduced due to standing water after planting resulting in variable yields.

Field Information			
County:	Greene	Cultivar:	RT 7301
City:	Paragould	Grower Field Yield:	213 bu/ac
Soil Texture:	Silty Clay Loam	Preflood N:	125
Soil Classification:	Jackport silty clay loam	Midseason N:	0
Land Type:	Zero	Boot N:	32
Planting Date:	April 10, 2020	Fungicide:	none
Emergence Date:	April 29, 2020		
Harvest Date:	September 15, 2020		

This information is made possible by support from the rice farmers of Arkansas administered by the Arkansas Rice Research & Promotion Board.

ARKANSAS RICE CHECK-OFF

Preliminary Data Summary

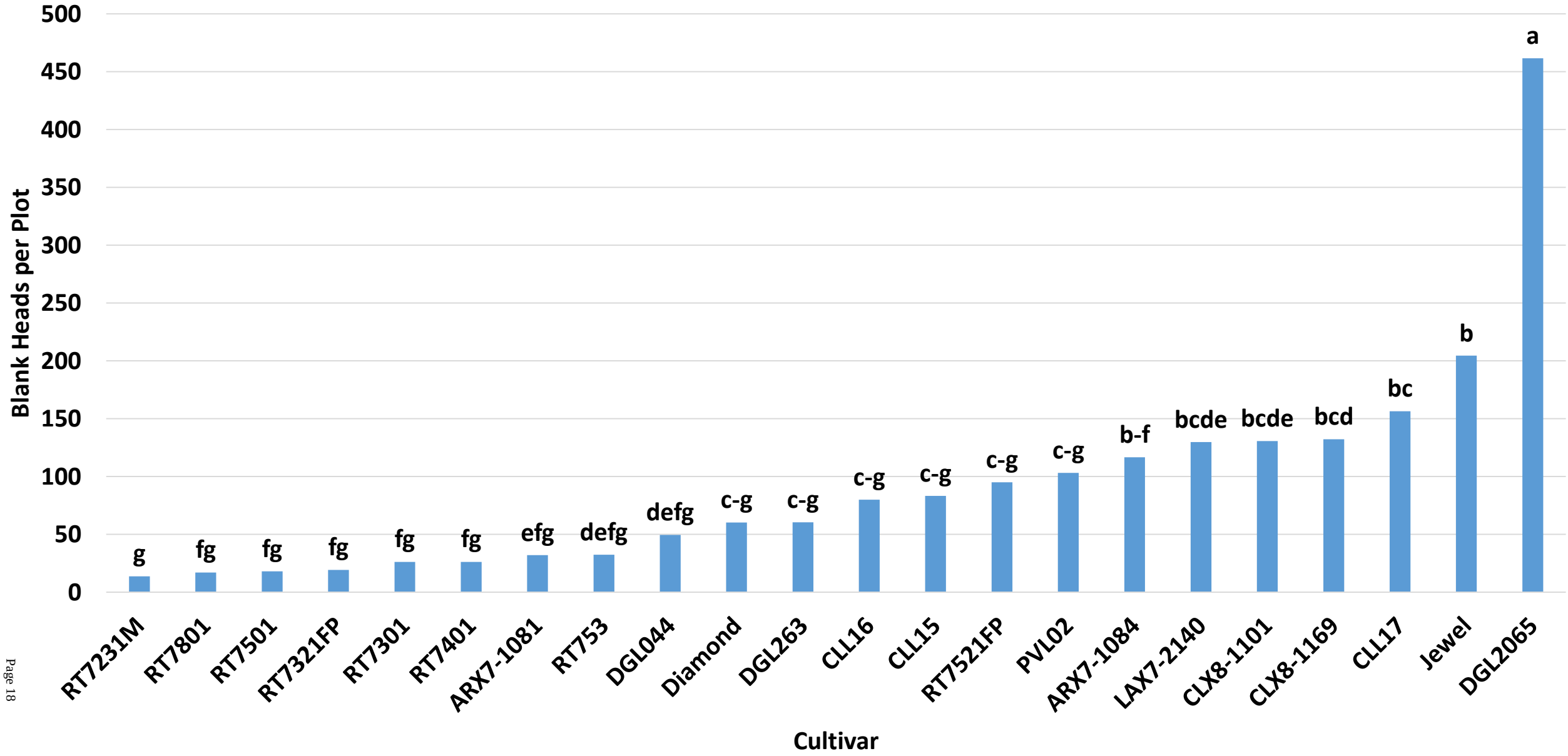
Table 13. Preliminary Data Summary of All Locations for 2020 Commercial Rice Trials (CRT)

Cultivar	Grain Type	Variety / Hybrid	Herbicide Technology	ARK	STF	MIS	CLA	DES	POI	LAW	JAC	JEF	GRE	PHI	LON	MEAN
				bu/acre												
Diamond	L	Variety	C	182	171	221	226	227	188	216	219	235	145	208	199	**203**
Jewel	L	Variety	C	153	159	206	216	194	197	199	217	200	149	208	176	**190**
ProGold1	L	Variety	C	162	179	222	224	213	188	214	238	213	129	201	202	**199**
ProGold2	L	Variety	C	172	164	205	228	220	201	206	219	207	144	210	196	**198**
DG263L	L	Variety	C	215	215	251	261	223	255	257	234	241	184	168	239	**229**
DGL044	L	Variety	C	172	183	224	244	200	214	232	234	219	179	190	219	**209**
DGL2065	L	Variety	C	180	184	198	214	201	159	210	216	215	82	201	196	**188**
CLL15	L	Variety	CL	210	187	196	218	189	198	225	206	207	152	173	200	**197**
CLL16	L	Variety	CL	182	187	214	223	193	215	223	238	223	174	200	202	**206**
CLL17	L	Variety	CL	193	184	210	220	168	192	186	198	182	137	160	166	**183**
CLX8-1101	L	Variety	CL	217	198	201	226	193	203	195	212	201	139	202	201	**199**
CLX8-1169	L	Variety	CL	183	188	201	221	203	209	193	210	196	133	177	207	**193**
PVL02	L	Variety	PV	179	154	184	188	97	149	147	186	162	120	142	120	**152**
RTv7231MA	L	Variety	MA	225	213	217	211	218	206	225	201	228	145	201	185	**206**
RT 7321 FP	L	Hybrid	FP	216	219	240	228	237	256	260	249	247	137	212	186	**224**
RT 7521 FP	L	Hybrid	FP	202	225	222	175	238	248	236	262	258	136	202	213	**218**
RT 7301	L	Hybrid	C	205	216	240	246	247	237	269	243	234	152	226	228	**229**
RT 7401	L	Hybrid	C	221	232	242	245	251	260	255	288	240	157	213	226	**236**
RT 7501	L	Hybrid	C	210	222	246	227	248	264	276	295	258	164	233	230	**239**
RT 7801	L	Hybrid	C	193	197	243	227	248	244	239	287	240	153	217	219	**226**
RT XP753	L	Hybrid	C	217	224	261	252	251	251	267	261	252	128	237	239	**237**
CLM04	M	Variety	CL	179	188	217	207	154	216	212	243	193	156	147	211	**194**
Lynx	M	Variety	C	192	200	227	232	165	225	220	246	219	157	132	219	**203**
Jupiter	M	Variety	C	165	177	212	215	196	218	216	230	198	160	171	194	**196**
Titan	M	Variety	C	182	195	205	233	190	217	225	212	198	159	209	189	**201**
ARX7-1127	MX	Variety	C	161	172	219	207	188	213	224	240	197	163	179	168	**194**
MEAN	--	--	--	**191**	**194**	**220**	**224**	**206**	**216**	**224**	**234**	**218**	**147**	**193**	**201**	**206**

This information is made possible by support from the rice farmers of Arkansas administered by the Arkansas Rice Research & Promotion Board.

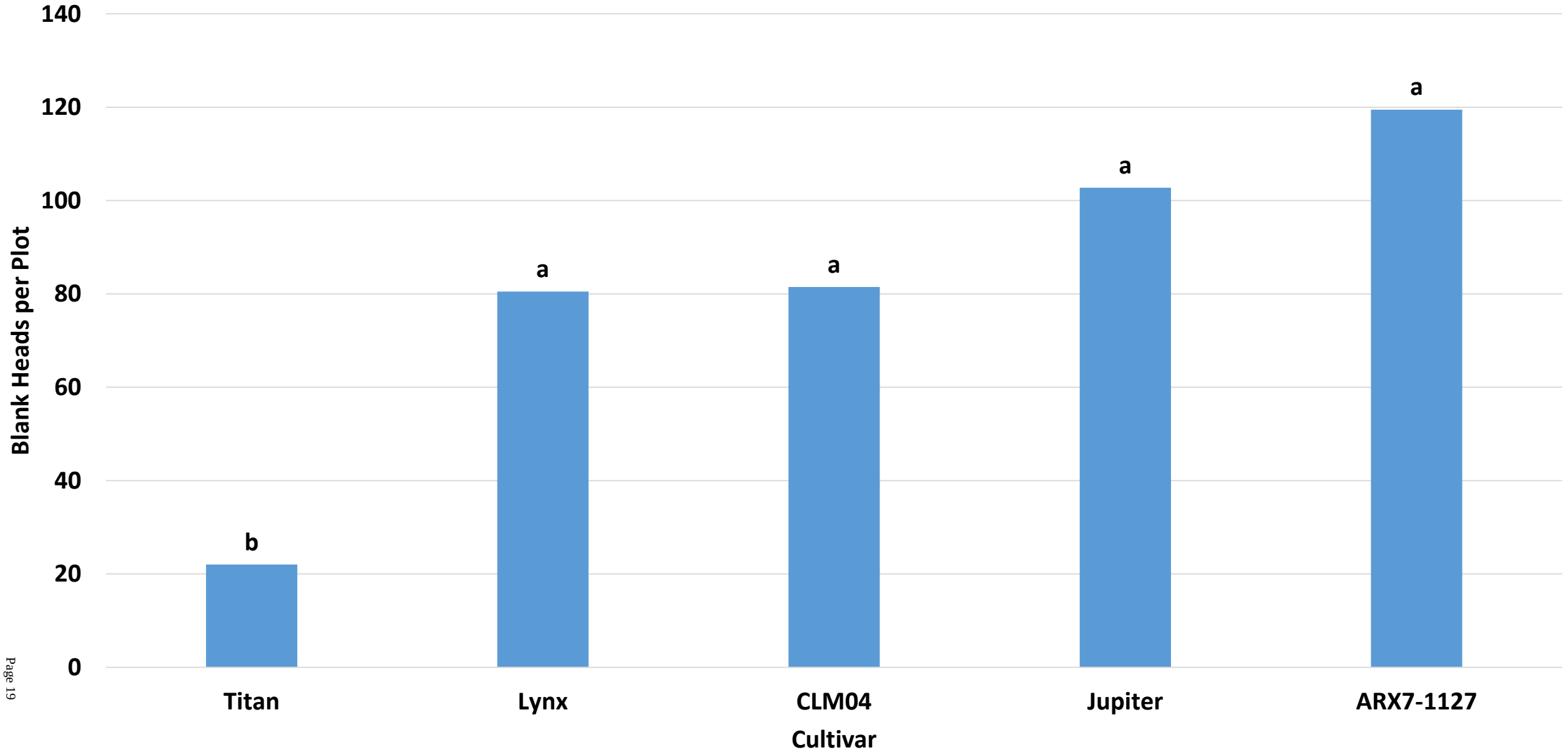
2020 Greene Co CRT-Stem Borer Damage
Blank Heads by Long Grain Cultivar

p<0.0001



2020 Greene Co CRT-Stem Borer Damage
Blank Heads by Medium Grain Cultivar

p=0.019



2020 Row Rice Soil Health Project – Greene County – Year 1

Producer: Smith Farm (Clay, Terry, & friends) ***Investigators:*** Matt Fryer, Dr. Steve Green

Project Team:
Greene County NRCS – Adam Eades (Local Team Leader) & staff
Arkansas State University – Dr. Steve Green & colleagues
USDA-Agricultural Research Service - Dr. Joe Massey & colleagues
Greene County Conservation District – Katie Womack & board
Greene County Extension Office – Dave Freeze & staff
Crop Consultant – Austin Miller
Several others – ASU, USDA-ARS & UA Scientists, P & P Consulting

Location: Walcott ***Soil Series:*** Calhoun silt loam

Objective: Evaluate the impact of cover crops in row rice production (along with notill – minimum till) to improve yields, economic returns, irrigation efficiency, water quality, and soil health.

Demo Setup: The project will be conducted for 3 years (2020-2022). It will compare side by side row rice fields with similar soil types, crop rotation, and recent management (a field can also be split in half). One field (or half field) will continue with conventional management (no cover crop) similar to recent years. The other field (half field) will be managed to produce both a yearly cover crop and cash crop using a no-till or minimum till approach.

Cover Crop –Planting & Development:

The 2019 soybean crop was harvested on October 9th from our row rice project field. The 2020 cover crop was planted on the western half of the field on October 10th. Cover crop planting method was an Orthman Lister and Unverferth Air Seeder. A nice rain was received on October 11th resulting in an excellent cover crop stand emerging on October 18th. The eastern half of the project field was not planted to a cover crop and served as our conventional check.

The cover crop mix included 3 grains (black oats-10 lbs., cereal rye-10 lbs., and wheat-40 lbs.), crimson clover-5 lbs., and purple top turnips. Stand counts were taken in November, December, and February for each cover crop type. Stands remained consistent for each stand evaluation date for each of the cover crop types. We averaged 12 plants per square foot for the grains, 5 for clover, and 1 for turnips.

The cover crop was terminated on March 7th with a burndown application of Roundup Powermax II (32 oz) plus AMS. Cover crop biomass was small at this time resulting in good control of everything except some scattered larger turnips.

Cash Crop – Planting & Development:

Cover Field:

RiceTec FP 7521 was planted notill on April 20th using a Great Plains drill. It was up to a DD50 stand on May 4th. Final stand counts came out to 6 plants per square foot, however there were some scattered thin areas on this side of the field.

Fertilizer applications were the same on the check side and the cover crop side of the field. The producer used variable rate P (phosphorus) and K (potassium) fertilizer application at planting time to meet the crop's P and K needs.

Split applications were used to manage nitrogen (N) fertilizer for the crop. The first shot was 150 lbs. of urea in front of the first furrow irrigation on June 6th. The second application (100 lbs. urea) went out 10 days later, followed by a final application (100 lbs. urea) in early July. A total of 161 units of N was used for the season.

No Cover Field:

The check side (no cover) of our project field ended up with a good stand of annual bluegrass that was cleaned up with the glyphosate plus AMS application (32 oz) made on March 7th.

Beds (30 inches) were reformed before planting the cash crop to ensure good furrow irrigation. With little cover through a rainy winter, the beds flattened out a lot on this side of the project field.

RiceTec FP 7521 was planted on April 20th with a Great Plains drill. May 4th was the DD50 emergence date.

This side of the field ended up with 5.5 plants per square foot and had a more uniform stand than the cover side of the field.

Cash Crop - Pest Management:

The cover crop side and check side of the field both got the same pesticide applications throughout the season.

For weed management, Sharpen (3 oz) plus Command (16 oz) was applied at planting, for pigweed and grass pre-emergence weed control. They received a good rain for activation and worked well. The cover crop side of the field seemed to show more crop response (seedling bleaching & loss) to the Command than the check side of the field.

A ground application of Preface plus Prowl was applied in mid-May followed by another Preface application on June 4th. The farmer used an overlapping residual herbicide approach to keep weeds from coming up until we reached canopy closure to shade the soil. Overall, both sides of the field were pretty clean, however, we did see a few eclipta, morningglories, and hemp sesbania break through in the thin rice areas on the cover crop side of the field.

We also kept a close eye on seedling rice for insects, especially on the cover crop side of the field. We did see true armyworms move in from field borders, but they were quickly taken out once they began feeding on the seedling rice which was protected with Crusier and Fortenza seed treatments (systemic diamide insecticides).

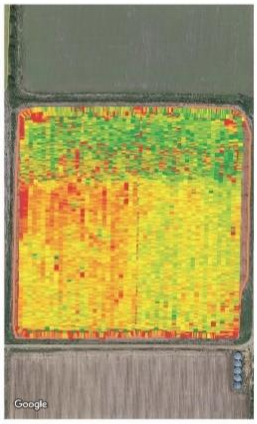
Stinkbug numbers remained low on the project field and did not require treatment. However, we did see quite a few panicles turn white from billbug feeding in early August. This led us to question- did our diamide insecticides play out too early? We need to learn more about this as row rice production becomes more popular.

No disease problems ever developed.

MyOperations

2020 Rice (Long): Harvest **Lindy S. 40-4768**

Layer: Yield Natclay Farms Inc | Terry Smith



- > 247
- 215 - 247
- 191 - 215
- 171 - 191
- 148 - 171
- 117 - 148
- < 116

Work Start Time
Sep 17, 2020 at 1:54:25 PM
Work End Time
Oct 8, 2020 at 6:28:43 PM
Total Yield
6,592.0 bu
Dry Yield
177.9 bu/ac
Average Moisture
15.6 %
Area
37.1 ac
Wet Weight
307,777.8 lb
Average Wet Weight
8,304.85 lb/ac

Average Speed
1.8 mi/hr
7521 Total
6,591.98 bu
7521 Yield
177.87 bu/ac
Machines
9660STS
Crop Type
Rice (Long)

Cash Crop – Yield

The yield for the cover crop side was 179 bu/ac and the non-cover side was 186 bu/ac (adjusted to 12% moisture). You can see a slight difference in the approximately 20-acre sides in the included yield map to the left. It appears that the best yields for both sides occurred at the bottom 1/3 of the field. Higher yields here are likely due to the soil remaining flooded most of the season which also helped stabilize nitrogen fertilizer, reducing losses.

Water Use & Dynamics

Soil moisture requirements in rice are being tested across the delta. Practices such as Alternate Wetting and Drying to reduce water needs have driven this research. The monitoring of soil moisture sensor data during the cash crop season showed actual soil moisture within the soil profile. We hoped to use the cover crop/no-till treatment to influence factors such as better infiltration, better soil structure/additional pore space, and especially for the upcoming soybean years, potential for deeper roots due to less compaction. The data shows some differences between the cover and non-cover side. Observations noted were 1) the greater movement of the deeper soil moisture sensors in response to irrigation and rainfall events on the cover crop side meaning deeper infiltration. In rice, this may have reduced irrigation efficiency. ASU and USDA-ARS are doing more work with this project to document the effects of the treatments on irrigation efficiency. 2) the 6-inch sensor, which for rice is the most important, on the non-cover side responded less to irrigation and rainfall leading us to believe that infiltration and retention was greater on the cover crop/reduced tillage side. This shallow sensor showed that the non-cover side was extremely dry at times during the last half of the growing season. This could also be attributed to some 6" sensor malfunction. Continued monitoring during years two and three will hopefully show us which occurred.

Furrow irrigation was applied with polypipe. Each irrigation set used a mechanical flowmeter to measure the quantity of water applied. Computerized Hole Selection (pipe planner) was run to design the two sets (one set per treatment). Irrigation application for the two treatments were:

Cover Crop – 23.75 acre-inches applied over 18 irrigations
Non-Cover Crop – 33.18 acre-inches applied over 17 irrigations

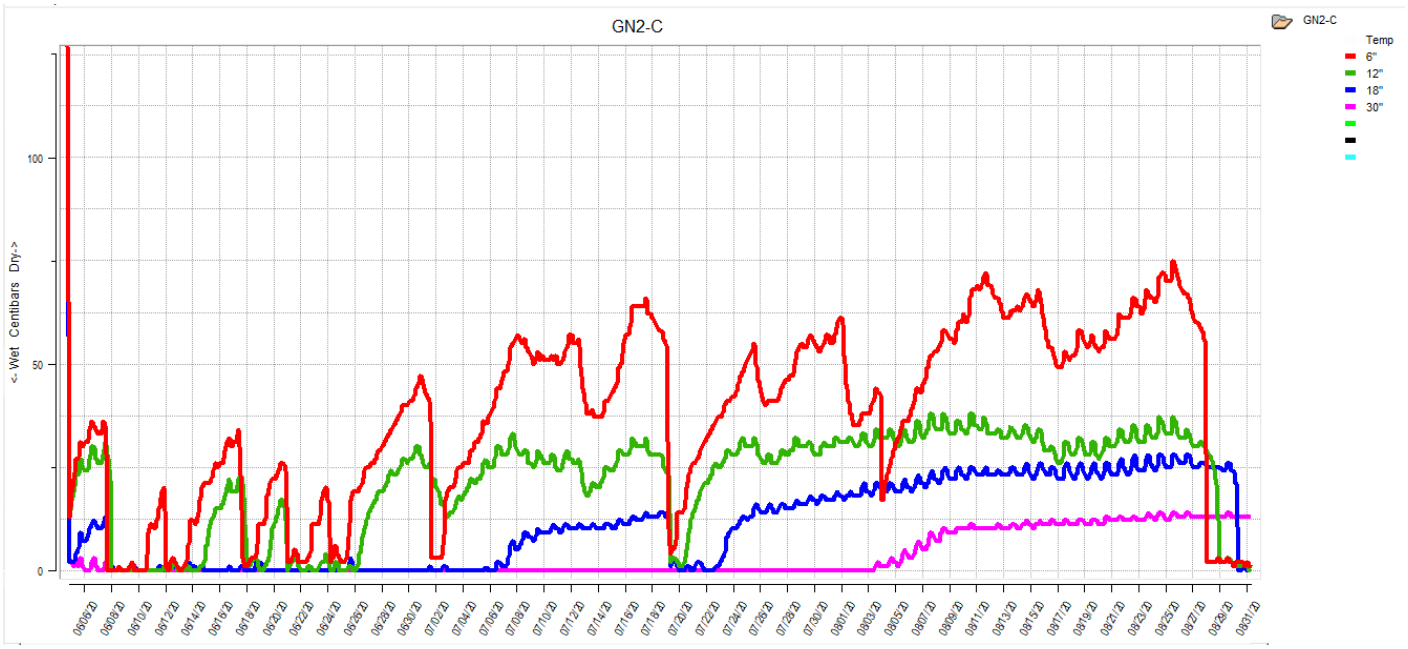
We also tracked total rainfall during the cover crop growing period and the cash crop growing period.

We utilized local precipitation data for the cover crop growing period and an infield rain gauge with weekly readings during the cash crop growing season.

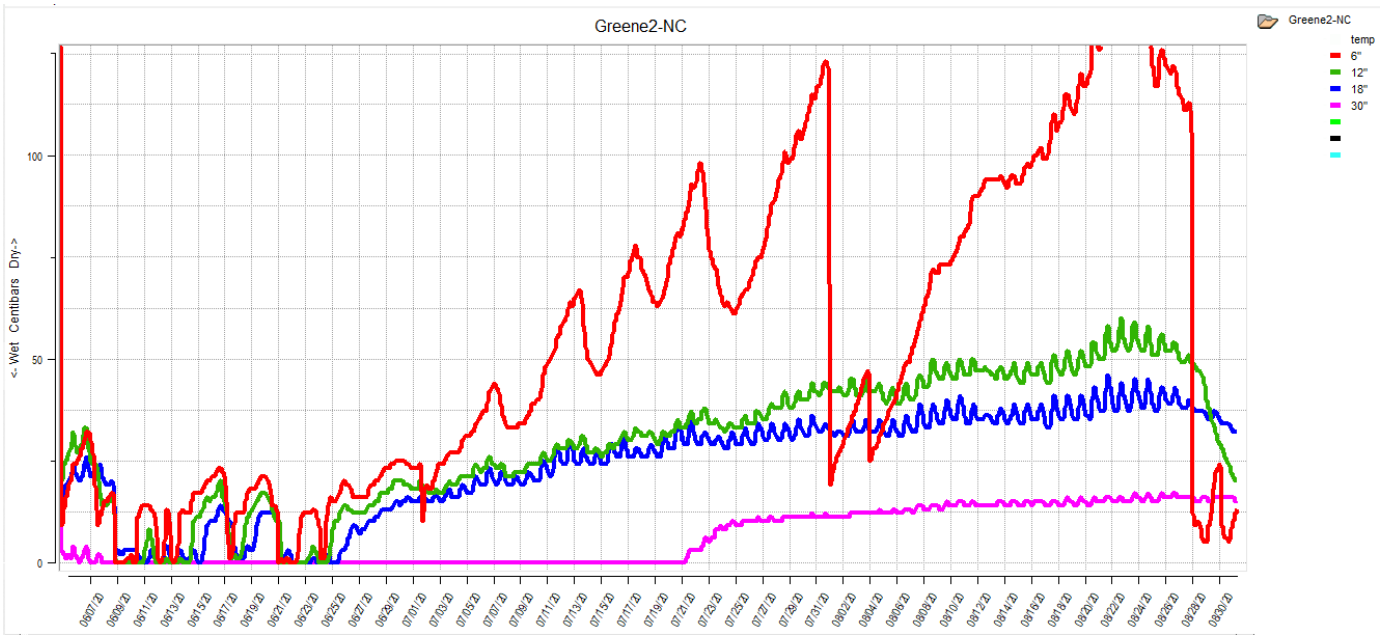
Total Cover Crop Period Rainfall: October 10th – April 19th = 31.42 in.

Total Cash Crop Period Rainfall: April 20th – August 31st = 17.23 in.

Cover Crop Soil Moisture Graph



Non-Cover Crop Soil Moisture Graph



Soil Health Dynamics

Soil health, as defined by NRCS, is the continued capacity of a soil to function as a vital living ecosystem to sustain plants, animals, and humans. This definition is broad and encompasses the physical, biological, and chemical properties of soil. These properties of soil affect many aspects of crop production such as water dynamics, soil fertility, soil structure, biological aspects, and many more.

To measure some of these soil aspects, the following soil samples, measurements, or soil tests were implemented: bulk density (to measure soil compaction), aggregate stability (to measure how well the soil holds together and resists breaking apart), infiltration rates (how fast water soaks into the ground), Haney soil health test (biological soil test), N-STaR soil test (6-in sample to evaluate as an Arkansas soil health test), nematode samples (taken at cover crop termination in the spring and at cash crop harvest), and routine soil test (for pH and fertilizer recommendations).

The results for all samples are not completed, but below is a table of the results for what we currently have.

Measurement/ Sample	Sample Date	Treatment								
Routine	11/6/2019							Estimated CEC	Organic Matter	Soil Texture
			pH	P	K	Zn	S			
				---------- lbs/acre ----------				(cmol/kg)	(%)	
		Cover	5.9	30	166	4.2	16	7	2.1	Silt Loam
		No-cover	6.1	22	126	3.6	14	7	2.0	Silt Loam
N-STaR (0-6 inch sample)	11/6/2019		N content							
			(ppm)							
		Cover	147							
		No-cover	144							
Nematode			Lesion	Ring	Reniform	Spiral	Stunt	Stubby-root	Root-knot	Free Living
			---------- No. of Nematodes/100 cm3 of soil ----------							
	11/6/2019*	Cover	115	0	0	38	0	0	0	846
		No-cover	77	0	0	38	0	0	0	923
	3/27/2020**	Cover	0	0	0	0	0	0	0	269
		No-cover	0	0	0	0	0	0	0	346
Infiltration Rate	6/5/2020		Location1	Location 2	Location 3	Location 4	Location 5	Location 6	**Average**	
			---------- in/hr ----------							
		Cover	0.35	0.59	0.29	0.26	0.02	0.57	**0.35**	
		No-cover	1.08	1.15	1.08	1.72	2.31	1.18	**1.42**	

* following soybean
** cover termination

Routine Soil Test

Routine soil test results showed that soil-test levels were Very Low (P) and Low (K). Fertilizer was applied according to U of A recommendations.

N-STaR Soil Test

N-STaR samples taken at the 0-6 in depth were taken, not for nitrogen recommendation, but as a possible soil health test. The N-STaR soil test measures nitrogen in the organic form (amino acids and amino sugars) and the inorganic form ammonium (NH_4). These organic forms of nitrogen are found within the body of microorganisms and are closely related to the amount of biological activity taking place in the soil.

This matters because biological activity plays a huge role in building soil structure to allow water to infiltrate and be held. We didn't expect to see a difference in this measurement since the cover crop treatment hadn't been established very long before the sample was taken. We hope to see a difference when we take this sample again at year three of this demonstration.

Nematode Soil Samples

Nearly all cover crops have the potential to increase nematode population (some have more potential than others), as living root tissue can be a host and especially as soil temperatures warm. Nematode samples were taken at the 0-10 inch depth on November 6, 2019 following soybean which was about a month after cover crop establishment (10-10-19) and again on March 27, 2020 at cover crop termination to see any potential population increases.

As the soil cools during the winter, nematodes move down the soil profile and beyond the soil sampling depth. Soil temperatures need to exceed 60 degrees F before root knot nematodes (and others) can become very active and reproduce. Soil temperatures likely didn't exceed 60 degrees for very long periods of time by the time samples were pulled again in March 27,2020. This would explain why all nematode numbers where lower at this sampling date.

"Free living" nematodes are non-parasitic nematodes and can potentially be beneficial nematodes by feeding on other parasitic nematodes like the root-knot nematode, so we want as many free living nematodes as possible.

Infiltration Rates

When no-till and cover crops are implemented, we expect to see water infiltration rates to increase. This is not what we found. There can be many explanations for this, but most likely the best explanation for this is the fact that infiltration measurements are extremely variable across the field.

Research shows that hundreds of measurements would need to be taken across a field to capture the variability. Because of this, it is likely that the area that these six measurements were taken in does not have infiltration rates that are representative for that entire half of the field. The amount of variability is also evident when looking at each individual measurement location.

All of these aspects and measurements matter because it helps the producer to work toward efficiency in all areas of production which is the main goal of managing for soil health.

Additional Analysis

ASU and ARS are partnering on this project to do additional analysis on irrigation efficiency and water quality. They are documenting irrigation water applied and monitoring quantity and quality of water leaving the fields. Their data can be viewed in a separate report when available.

Summary

Row Rice is gaining popularity as a production practice in Arkansas. Some reasons for this are reduced tillage/levee needs, potential water savings, and drier fields at harvest. Rice rotations, due to heavy residue and anaerobic conditions, have had hurdles when trying to apply soil health practices. Some believe that row rice could be integrated with cover crops and different residue management practices to see soil health improvements. There is much to be learned about this practice, especially when it comes to soil health practice adoption. It is particularly interesting that the cover crop side needed 9.43 acre-inches less than the check side. During this three-year project, we hope to see some patterns and be able to draw more conclusions on how the treatments are impacting yield, irrigation efficiency and other aspects of production and conservation.

Rice panicles bending over and browning in the field as it nears time to harvest in Greene County

Economic Results

Using U of A Extension interactive budgets, economic reports will soon be generated for both the Cover project field and No Cover field. These reports will be available soon.

2020 Tomato Variety Demonstration

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

MASTER GARDENER

Investigators: Dr. Aaron Cato, Dr. Amanda McWhirt, Hank Chaney

Partnering: Greene County Fair Association– Evan Hyde & bunch
Greene County Master Gardeners
Youth Garden Teaching Committee

Objectives:

Evaluate tomato variety differences for yield, quality, pest tolerance, and taste. Encourage local Master Gardener horticulture education & research projects. Teach youth (it was part of our Youth Teaching Garden) about tomato production and pest management.

Site:

-The Greene County Fairgrounds served as a great site to conduct the test. It had a slightly mounded area at the back for the property and an outdoor water hydrant for irrigation was graciously put in by our Fair Association partners (thanks to Evan Hyde for installing).
-The site gave good publicity to the Master Gardeners, 4H volunteers, and the Fair Association.
-The site was also used this season to begin a Youth Teaching Garden

Plant Pickup:

-Hank Chaney & Dr. Amanda McWhirt secured demonstration transplants.
-Thanks to Harlee Haney, CEA-4H, for picking up our transplants at Searcy in early April.

Production System – Plasticulture Raised Bed:

-Glyphosate was applied in late March to control vegetation at the test site
-Conventional tillage (front tine tiller - 4 passes) was then used to work up the garden site in April.
-A 30-inch bed was raked up and the soil firmed with the rake.
-Drip tape was then laid and plastic (36”) mulch was put over the bed and covered along the edges with soil.

Planting Day & Experimental Design:

-The test tomatoes were planted with a tulip planter on April 18th.
-The transplants were spaced 2 feet apart.
-The test included 5 cultivars, (3 with determinant growth plant type –
Red Defender, Mountain Spring, and Phoenix, one with indeterminate
type growth – Mountain Magic, and one semi- determinate – Celebrity.
-Six plants of each cultivar were planted.

Plant Food:

-A soil sample was collected and sent to the U of A testing lab.
-Soil test P & K were optimum while soil pH was a bit low (6.0). Pelletized lime (23#/1000 ft2) was applied.
-Complete fertilizer (10-10-10) was also incorporated at planting – 10 #/1000 square feet).
-Fertigation (6 times) was then used the rest of the season to spoon feed the plants. Tomato Miracle Grow (18-18-21) was applied every 7-14 days. For each fertigation, 5-10 units of N was applied. The season total N-P-K applied was 80-80-90.

Irrigation:

-Raised beds provided good internal drainage.
-11 Irrigations (using drip tape) for the season: Used a total of 10-acre inches (AI).
-From .75-1.5 AIs were applied with each irrigation depending on soil moisture, forecast, & crop stage
-From planting until test termination, 10 rain events were received totaling 10+ inches.

Staking:

-A caging system with concrete wire mesh was used for each plant.

-A t-post was used between each 2 cages to help stabilize them.

Weed Control:

-Glyphosate was used to burndown existing vegetation prior to tilling up the seedbed.
-Plastic mulch was very effective in suppressing weed germination on the plant bed.
-Glyphosate was applied (3 times) using a 2-gallon pump sprayer and a shield, to control weeds that emerged along the mulch edges. The garden was also regularly mowed to manage the grass and weeds.

Insect Control:

-Insect pressure was very light.
-In late May, bifenthrin + cypermethrin was applied for potato aphids and did excellent.

Disease Control:

-Disease pressure was very light.
-The plastic mulch was helpful in delaying foliar disease development.
-A preventative fungicide spray program (5 applications for the season) also slowed disease development on the plants.
-Chlorothalonil was rotated with mancozeb.
-Southern blight developed on some of the tomato plants later in the summer, partly due to injury stress. Infected planted were removed immediately once the disease was seen.

Harvest Procedures:

-Once all cultivars began to produce, beginning in July, on Tuesdays & Fridays, for 4 consecutive weeks, number of fruit, and total ounces of fruit, from all plants for each hybrid/variety, were recorded.
-Fruit for each variety was further categorized as cull or marketable.
-A kitchen scale was used to determine ounces of fruit harvested.
-Youth from only one 4H family at a time could volunteer with adults using masks and social distancing as required for COVID19 stage II guidelines.

Herbicide Injury:

In late-June, right at the onset of harvest, the tomatoes started showing signs of auxin (WSSA-Group 4) herbicide injury (stunting, yellowing, and twisting of the newest plant growth, adventitious roots on the lower stems). The injury was worse on the south end of the test (the direction we tracked the drift from).

We did go ahead and collect harvest data during July so our volunteers and youth could be part of the research process. However, we do not believe the data for this site provides a fair comparison for yield potential for our 5 varieties since some received more herbicide injury than others.

Production Observations:

We did notice by mid – August many of the tomato plants were starting to recover and grow, with some setting fruit. The volunteers were very complimentary about the Mountain Magics (production and taste) late into the season. They also thought the Celebrity's had a nice late push in production, but did not taste as good as the Magics. The other 3 varieties (all determinates) did not set many late tomatoes, with several being lost to southern blight (we think it was aggravated by herbicide injury which likely caused poor root functionality).

Summary:

- All 5 varieties started out well at this location with plasticulture production.
-Auxin herbicide injury from drift in late June forced us to terminate variety yield comparison.
-The Mountain Magic's were a late season favorite (taste & size) that came on with good production.

Data Collection Results (Herbicide Injury Worse on Some Varieties than Others)

All Plants Season Totals	Variety	Plants	Marketable Fruit Number	Marketable Fruit Pounds	Cull Fruit Number	Cull Fruit Pounds
	Mountain Magic	6	735	60.3	155	8
	Red Defender	6	45	13.6	54	18.2
	Celebrity	5	151	47.7	60	15.3
	Mountain Spring	5.25	76	33	40	10.3
	Phoenix	6	85	35.4	95	22.7

Season Average Per Plant	Variety	Plants	Marketable Fruit Number	Marketable Fruit Pounds	Cull Fruit Number	Cull Fruit Pounds
	Mountain Magic	6	122.5	10.1	25.8	1.3
	Red Defender	6	7.5	2.3	9.0	3.0
	Celebrity	5	30.2	9.5	12.0	3.1
	Mountain Spring	5.25	14.5	6.3	7.6	2.0
	Phoenix	6	14.2	5.9	15.8	3.8

2020 Broomsedge Control Demonstration

Cooperator: Jeff Moss

Investigators: Chris Grimes & Lance Blythe

Operation: Commercial Beef Herd

Objective: Demonstrate the effects that application of lime and fertilizer have on Broomsedge reduction in a pasture environment.

Method:

Fertilizer and lime were applied with a small hand-held seeder to eight 10'x43' plots. Observations were made throughout the summer with any changes in Broomsedge density and grazing patterns being documented. Pictures, soil tests, and a beginning and ending forage inventory were taken. Treatments included nitrogen (Urea), phosphorus (Triple Superphosphate), potassium (Muriate of Potash), and combinations of each using commercial fertilizer. Pelletized lime was the lime source used.

Results:

It seemed evident, upon visual inspection of plots #4 and #6 in July, that cattle seemed to prefer grazing plots that were treated with nitrogen. So, the previously untreated plot #2 was treated with nitrogen in July. Visual observations in August and September of plots #2, #4, and #6 seemed to verify that treatments of nitrogen made forage in those plots more palatable to the cattle. The nitrogen treatments also happen to be the plots where the highest reduction in the percentage of Broomsedge occurred ranging from 23-34%. This is likely due to the Broomsedge being grazed closer to the ground, thus allowing more sunlight to reach other grass species. This helped to increase other species prevalence and competition for the Broomsedge.

After completing the October forage inventory, we were surprised to see how well cattle grazed the phosphorus treated plot #7. We were also surprised at the 22% reduction in Broomsedge in the potash treated plot #8. Upon visual inspection, we noted little to no change in Broomsedge density and/or increased grazing of Broomsedge correlated with the application of lime. We have plans to continue this demonstration in 2021.

Plot Treatments:

Date	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8
6-18-20	Lime 1000 lbs./ac	No Treatment	Lime 2000 lbs/ac	Urea-Triple Superphosphate - Muriate of Potash 130-215-180 lbs/ac	Control	Urea 130 lbs/ac	Triple Super-phosphate-215 lbs/ac	Muriate of Potash-180 lbs/ac
7-24-20	-	Urea 130 lbs/ac	-	Urea 130 lbs/ac	Control	Urea 130 lbs/ac	-	-
8-27-20	-	Urea 130 lbs/ac	-	Urea 130 lbs/ac	Control	Urea 130 lbs/ac	-	-

Forage Inventories:

6-18-20	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8
Broomsedge	67%	68%	67%	80%	66%	66%	55%	60%
Other Warm Season Species	10%	16%	21%	-	15%	19%	31%	17%
Cool Season Grasses	10%	4%	7%	7%	-	-	4%	4%
Legume	4%	-	-	-	-	-	-	3%
Sedge/Rush	4%	8%		11%	13%	3%	7%	10%
Woody/Thorny		4%	3%		5%	10%	3%	6%
Bare Ground	4%	-	-	-	-	-	-	-
Other	1%	-	2%	2%	1%	2%	-	-

10-19-20	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8
Broomsedge	60%	34%	79%	51%	61%	43%	43%	38%
Other Warm Season Grasses	20%	40%	13%	34%	34%	43%	47%	52%
Cool Season Grasses	9%	11%	3%	5%	-	-	-	3%
Legume	7%	8%	5%	10%	5%	8%	7%	3%
Sedge/Rush	-	-	-	-	-	-	-	-
Woody/Thorny	-	-	-	-	-	3%	1%	-
Bare Ground	-	-	-	-	-	-	-	-
Other	4%	7%	-	-	-	3%	2%	4%

Change in Broomsedge percentage in each plot:

	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8
Broomsedge	-7%	-34%	+12%	-29%	-5%	-23%	-12%	-22%

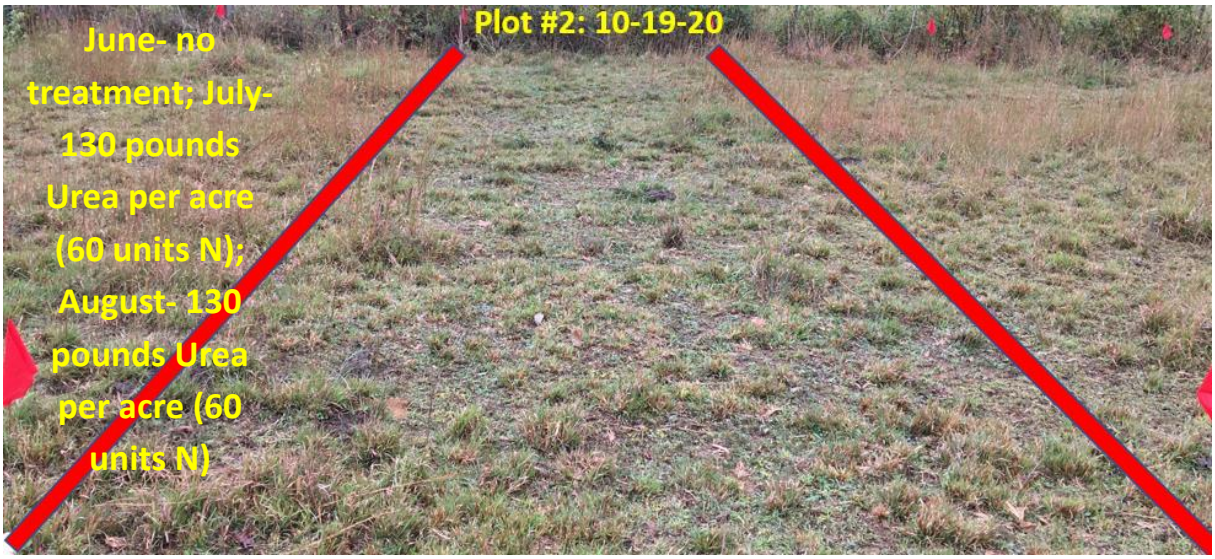

June - 1 Ton
Lime per acre
Plot #1: 7-24-20


June - 1 Ton
Lime per acre
Plot #1: 9-29-20


June - 1 Ton
Lime per acre
Plot #1: 10-19-20

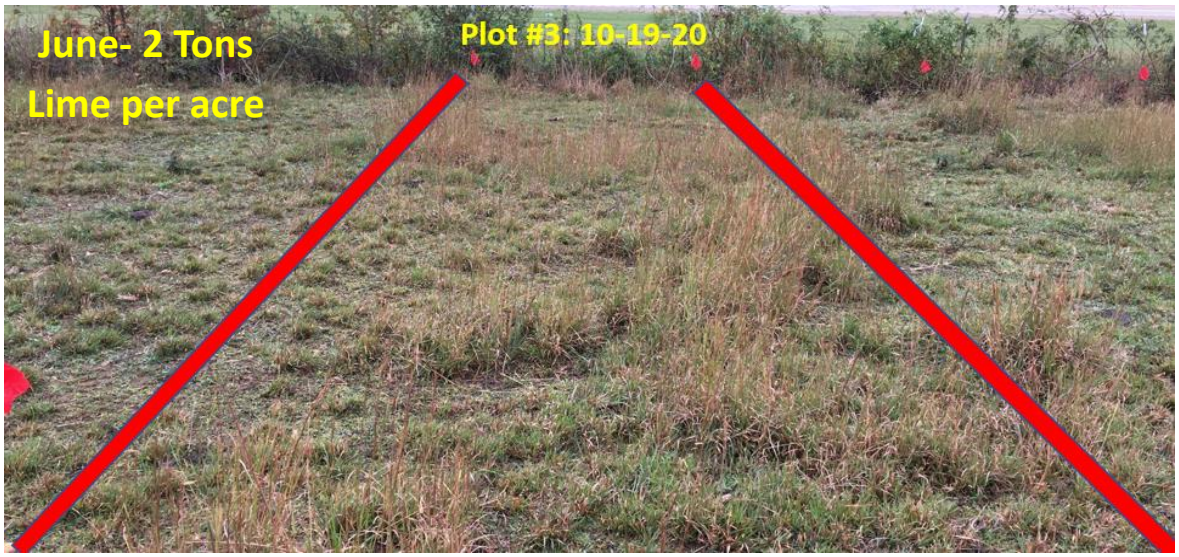

Plot #2: 7-24-20
June- no treatment


Plot #2: 9-29-20
June- no treatment; July- 130 pounds Urea per acre (60 units N); August- 130 pounds Urea per acre (60 units N)


Plot #2: 10-19-20
June- no treatment; July- 130 pounds Urea per acre (60 units N); August- 130 pounds Urea per acre (60 units N)


June- 2 Tons
Lime per acre
Plot #3: 7-24-20


June- 2 Tons
Lime per acre
Plot #3: 9-29-20


June- 2 Tons
Lime per acre
Plot #3: 10-19-20


Plot #4: 7-24-20
June- 130 pounds Urea; 215 pounds Triple Super Phosphate; 180 pounds Muriate of Potash


Plot #4: 9-29-20
June- 130 pounds Urea; 215 pounds Triple Super Phosphate; 180 pounds Muriate of Potash; July- 130 pounds Urea per acre; August- 130 pounds of Urea per acre


Plot #4: 10-19-20
June- 130 pounds Urea; 215 pounds Triple Super Phosphate; 180 pounds Muriate of Potash; July- 130 pounds Urea per acre; August- 130 pounds of Urea per acre


CONTROL- No
Treatments
Plot #5: 7-24-20


CONTROL- No
Treatments
Plot #5: 9-29-20


CONTROL- No
Treatments
Plot #5: 10-19-20


Plot #6: 7-24-20
June- 130 pounds of Urea per acre


Plot #6: 9-29-20
June- 130 pounds of Urea per acre; July- 130 pounds of Urea per acre; August- 130 pounds of Urea per acre


Plot #6: 10-19-20
June- 130 pounds of Urea per acre; July- 130 pounds of Urea per acre; August- 130 pounds of Urea per acre


June- 215
pounds
Triple Super
Phosphate
per acre
Plot #7: 7-24-20


June- 215
pounds
Triple Super
Phosphate
per acre
Plot #7: 9-29-20


June- 215
pounds
Triple Super
Phosphate
per acre
Plot #7: 10-19-20


June- 180 pounds Muriate of Potash per acre
Plot #8: 7-24-20


June- 180 pounds Muriate of Potash per acre
Plot #8: 9-29-20


June- 180 pounds Muriate of Potash per acre
Plot #8: 10-19-20

2020 Forage Scouting School

Cooperator(s): Jerry Gilliam, et al.

Training Partners: Lance Blythe, Dave Freeze, Dr. Kelly Loftin, Dr. Gus Lorenz

Operation: Commercial Hay Operation

Situation: Due to the damage seen in 2019 from the Bermudagrass Stem Maggot (BSM) and an overwhelming number of calls received in 2020 related to Fall Armyworms (FAW), a scouting school was offered to help producers learn how to better manage these pests.

Objective: Conduct a forage-pest training opportunity to share UA Extension information regarding proper scouting techniques, pest identification, as well as treatment thresholds, options, and timing.

Training Method:

An in-the-field training session was conducted where proper integrated pest management was discussed. Several Extension publications were given out and referenced throughout the training. Attendees were shown photos of the life cycles of the BSM and FAW. They also were able to view live specimens using a digital field microscope. Participants were shown proper scouting tips and techniques such as: types of plant damage, proper use of sweep net and one-foot squares. During the training, each person used a sweep net and a magnified viewing lens to collect and identify pests present. With over 50 years of combined scouting experience, County Agent- Dave Freeze and local crop consultant- Mike Simmons were very helpful in sharing with everyone, a few scouting and pest I.D. tricks that they had learned over the years.

Results:

Participants came away from the session with tools and techniques as well as increased knowledge and understanding of how to manage BSM and FAW. We hope that the training helps producers make better financial management decisions about if and/or when to treat for these forage pests.

2019-2020 Anaplasmosis Prevalence Survey

Cooperator: Greene & Clay County Beef Producers

Investigators: Dr. Lauren Thomas, Gabriel Apple, Dr. Heidi Ward, Allison Howell, Lance Blythe

Objective:

To assist with a state-wide study of the prevalence of Anaplasmosis in Arkansas beef cattle herds. In 2019, the Greene County Cooperative Extension Service was contacted to locate producers willing to be part of a study to evaluate the prevalence of Anaplasmosis in Arkansas. Based on geographic location, two (2) cattle operations in Greene County and one (1) operation in southern Clay County were selected for testing.

The Disease:

Anaplasmosis is a tick-borne disease caused by the intracellular microorganism, Anaplasma marginale (a type of bacteria). This pathogen infects red blood cells of cattle and is transmitted in blood from animal to animal by ticks, biting flies, and contaminated needles or surgical instruments. Transmission can also occur across the placenta from the dam to fetus. Anaplasmosis causes important economic loss, primarily due to the high morbidity and mortality in susceptible cattle herds. The losses are measured through several factors including low weight gain, reduction in milk production, abortion, the cost of treatment and death. Additional information about this disease may be found here: https://www.uaex.edu/publications/PDF/FSA-3081.pdf

Testing Method:

In each herd, ten (10) cattle were randomly selected to be tested for exposure to Anaplasma marginale. Two blood samples were drawn via tail bleeding or from each animal tested. Polymerase Chain Reaction (PCR) and Enzyme-linked Immunosorbent Assay (ELISA) tests were used. The PCR test detects DNA from the infectious agent and the ELISA test detects presence of antibodies produced from cattle that have been exposed to A. marginale.

Results:

Of the three farms sampled, the herd infection rate was 95%. The results gave producers, Extension Agents and local veterinarians the opportunity to discuss the disease, treatment/management options, and their overall herd health program. We will likely see more research conducted in northeast Arkansas as a result of this study.

2020 Annual Greene County Bull Evaluation Clinic

Cooperator: Greene County Beef Producers ***Investigator:*** Dr. Steve Copeland/Lance Blythe

Location: Hoepfl Farms ***Operations:*** Purebred and Commercial Beef Herds

Objective:

Breeding soundness exams are conducted to assist beef producers in evaluating herd sires prior to breeding season. This allows producers time to replace non-fertile bulls with a fertile, productive bull which will settle cows in a short time frame.

Bi-Annual Bull Clinic:

Each year producers are provided the opportunity to bring herd bulls to one location for a breeding soundness exam. An evaluation of body condition score, structural soundness, hip height, and weight are given. Often, recommendations are made on nutritional management to allow producers to increase body condition prior to breeding season. Dr. Steve Copeland collects semen to conduct a fertility test and, if requested, a sample for a Trichomoniasis test is taken as well. Also included in the exam, bulls are administered a dewormer and Lepto-Vibro vaccination.

Results:

This was the 33rd year for the Greene County Bull Evaluation Clinic. In 2020, twelve (12) producers brought twenty-one (21) bulls in for testing.

Three (3) producers had a bull that did not pass the fertility exam. This one test costs less than $50. Had these producers used an infertile bull, there would not have been a calf crop to sell. Each producer potentially saved $15,000-$20,000 in markable calves!

30 calves at 500 lbs. x $1.25/pound= $18,750

2020 White-tailed Deer Exclusion Fence Demonstration

Cooperator: Cliff Hattenhauer

Investigators: Dr. Becky McPeake, Kenny Simon, Lance Blythe

Operation: Commercial Hay Producer

Objective: Demonstrate the effectiveness of a two-layer electric fence design to exclude white-tailed deer from an area of interest.

Design & Materials: A 50' x 50' two-layer electric fence was installed on March 25th. The inner fence had two wires spaced at 10-inches & 24-inches off the ground. An outer fence was 3 feet from the inner fence and was 18-inches off the ground. A solar Gallagher fence charger, poly wire, plastic step-in post and fiberglass corner posts were used. Trail cameras were installed and checked weekly through June 23rd to see how well the fence design worked at keeping deer out of the area. More information on this and other fence designs can be found here: https://www.uaex.edu/publications/FSA9111.pdf

Results: The highest deer pressure took place in the early morning of June 1st after the unfenced part of the alfalfa field was baled for hay. Trail camera pictures show deer trying to enter the exclusion. We also noted feeding damage to plants outside of the electric fence. However, we saw no evidence of any white-tailed deer getting in to or causing any damage within the area that was inside the two-layer electric fence.

2020 4-H Giant Pumpkin & Watermelon Contest

Partnering: Club leaders and parents, County, District, and State Fair officials, State Extension Specialists – Dr. Vic Ford, Dr. Jackie Lee, Dr. Amanda McWhirt, Priscella Thomas-Scott, Clay Wingfield, Jeremy Lindley

Objective: Work with 4-H members and their families to plant, grow, harvest, and show Atlantic Giant pumpkins and Carolina Cross Watermelons.

Contest Set Up:

Pumpkins – The Giant Pumpkin Contest official dates were from May 13th – October 10th. Each 4-H member participating in the contest was given a packet containing 15 seeds (Atlantic Giant Variety). Members were encouraged to plant 4 to 5 hills (2-3 seed each) so they would have pumpkins maturing on the different dates for the county, district, and state fairs. Members could officially plant their seed beginning May 13th. The information sheet provided with the seed indicated it would take about 145 days (about 21 weeks) from planting time to harvest for an Atlantic Giant pumpkin. Members were required to grow their own pumpkins working with their families, volunteer leader, and County Extension Agent.

Watermelons – The Giant Watermelon Contest official dates were from May 13th – October 10th. Each 4-H member participating in the contest was given a packet containing 15 seeds (Carolina Cross Variety). Members were encouraged to plant 4 to 5 hills (2-3 seed each) so they would have watermelons maturing on the different dates for the county, district, and state fairs. Members could officially plant their seed beginning May 13th. The information sheet provided with the seed indicated it would take about 130 days (about 19 weeks) from planting time to harvest for a Carolina Cross Watermelon. Members were required to grow their own watermelons working with their families, volunteer leader, and County Extension Agent.

Training Members:

Soil sampling – Members signing up for the contest were required to collect soil samples from the site they would plant their contest plants. When soil test results were in, the County Extension agent advised the 4-H member on the need for lime and fertilizer.

County Agent visits – As time permitted, trips were made to the garden sites by the County Extension agent to visit with 4-H members about the current situation with their contest plants. Timely production topics were reviewed with the members. Members were also provided a growth report form to help them track plant development, fertilizer & chemical inputs, and pest levels.

Management guide – A management guide was prepared for 4-H families participating in the contests. It covered key topics on how to grow and protect contest plants. Some of the topics highlighted include basic needs, planting, plant food, insects, diseases, weeds, water, flowers, sun & soil protection, harvesting, and storage.

Contest Results – Greene County Fair

We applaud our 4-H members who spent many hours this summer to plant, weed, irrigate, spray, and manage their contest pumpkins and watermelons. We had 17 Greene County 4-H members participating in the 2020 Giant program. Congratulations to the 2020 Greene County Fair Winners!

Giant Pumpkins

1st Place	Reesie T.	90.5 Pounds
2nd Place	Hudson T.	81.5 Pounds
3rd Place	Buster P.	35 Pounds

Giant Watermelons

1st Place	Buster P.	64 Pounds
2nd Place	Hudson T.	10.5 Pounds

State 4-H Giant Pumpkin and Watermelon Contest Results

Several Greene County 4-H members enjoyed participating in the State 4-H Giant Pumpkin and Watermelon Contest that was held at the University of Arkansas System Division of Agriculture Research and Extension State Office in Little Rock on October 10th. After a long summer of growing and taking care of their contest plants, three local 4-H members turned in their pumpkins and watermelons for weigh-in at the Arkansas 4-H Giant Pumpkin & Watermelon contest.

Some $2000 in premium money was awarded to the 4-H members with the 10 largest watermelons and 10 largest pumpkins.

A big congratulations goes to Greene County 4-H member, Buster P.! He won 1st place in the State 4-H Giant Pumpkin Contest. His Atlantic Giant pumpkin entry weighed 334 pounds! Additionally, Greene County 4-H members, Joseph H. and Michael H. placed ninth and tenth with their giant pumpkin entries at the state contest.

Turning to the Giant 4-H watermelon contest, Buster P. won 1st place with his 111.5-pound entry.

Congratulations to these Greene County 4-H members for all their hard work spent planning and caring for their pumpkins and watermelons this summer!

"Greene County 4-H Livestock Project Group had another Record Year in 2020"

Cooperating: Greene County Fair Board, Greene County Community Fund, Greene County Farm Bureau, Local, State and National Businesses, Financial Supporters, Livestock Producers, and all 4-H Livestock Families

Lead Agent: Harlee Haney

Group Leaders: Paula Norman and numerous 4-H Livestock Parents and volunteers

Objective: Train youth in broiler and animal husbandry principals such as selection, nutrition, and preparation for show, parasite control, and herd/flock management. Assist youth in developing youth livestock projects tailored for competitive events in Arkansas and Nationally. Promote development of youth communication, record keeping, budgeting, and teamwork skills. Showmanship and sportsmanship are a major thrust of this educational program.

Livestock Show Events:

Greene County Fair, NEA Livestock Show, Arkansas Youth Expo, Area Jr. Jackpot Shows in Arkansas, Arkansas State Fair, Buffalo Island Livestock Show, and Crowley's Ridge Classic, North American International Livestock Expo, National Western Stock Show, and numerous National Breed Shows and events.

Educational Trainings:

On farm visits with extensive one-on-one training, Statewide Livestock Show Clinics conducted in Greene County every other year (Sponsored by major feed companies).

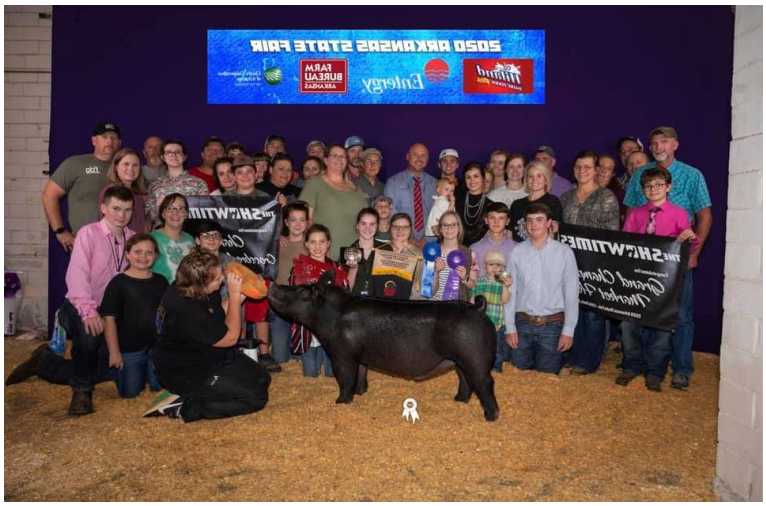
Jackson Rogers exhibited the Grand and Reserve Champion Meat Pen of Rabbits, and the Grand and Reserve Champion Single Fryer Rabbit at the Arkansas State Fair.

Youth Statistics:

A total of 65 4-H youth in Greene County had livestock projects in 2020. Of those youth, 40% (13 members) participated in livestock shows exhibiting one or more species. Numerous youths participated in all available shows and livestock training events, but a few of the younger Cloverbud members exhibited only at local shows.

Project Statistics:

4-H members exhibited numerous livestock entries in 2020. Projects included swine, goats, sheep, cattle, broilers, and rabbits. Greene County 4-Her's received numerous scholarships throughout the 2020 show season. Many youths use these funds to finance other projects and their college education. Scholarship programs have become a new innovative way to reward the 4-H youth for their hard work. This was another outstanding year for Greene County 4-Her's!



Left: Ellisa Vaughn exhibited the Grand Champion Market Hog at the Arkansas State Fair, and Reserve Champion Market Hog at the Arkansas Youth Expo held in Fayetteville, AR.

Right: Jasa Reed exhibited the Reserve Champion Broiler Pen at the Arkansas State Fair.

Greene County 4-H had a total of four youth members make the Arkansas State Fair Sale of Champions. They brought home over $15,000 in premium money and scholarships. Jasa was also awarded an additional $10,000 in scholarships from the University of Arkansas Poultry Science program.

Above: Matthew Exum exhibited the Grand Champion Market Hog at the North American International Livestock Expo in Louisville, Kentucky.

Matthew was awarded over $12,000 in premium money at the North American International Livestock Expo in Louisville, Kentucky.

Virtual 4-H Programming & Activities for 2020

Lead Agent: Harlee Haney

In March of 2020, all face-to-face programing and activities came to a halt. 4-H took a hard hit with youth and families not being able to meet and enjoy all that 4-H has to offer. The Greene County Extension Office staff had to get creative to keep the 4-H programing moving in the right direction and to keep the youth engaged. The thought of virtual programming and activities was intimidating at the start, but we dove in headfirst and have been very successful. Finding new ways to engage the youth on a virtual platform is not the same as face-to-face contact, but our 4-H members have been open minded, ready to participate, and engaged.

Ross Photography Contest entry submitted by Joseph H.

Ross Photography Contest:

The Ross Photography Contest provides an opportunity for Arkansas 4-H members to demonstrate, compete and exhibit their photography skills. All 4-H members age 9-19 are eligible. Ross Photography submissions are usually are displayed at the Greene County Library to be viewed by people in the public. This year this was not an option due to COVID-19. As an alternative, we went virtual and shared the submissions on our UAEX-Greene Facebook Page. Additionally, we created a "Facebook People's Choice Award" and encouraged all to like and share their favorite photos. This allowed the photos to not only be shared virtually with those in our community, but they were able to reach a larger audience that would not have been reached traditionally- including distant family members and friends. The Ross Photography submissions reached over 2,400 people on Facebook.

Dairy Recipe Contest:

The Greene County Dairy Recipe Contest is something many youth look forward to each year. Typically, the youth are required to decorate a table, prepare a dish containing at least one "real" dairy product, and clean up within a time limit of three hours. Judges would then judge the dishes by appearance, taste, originality, and the enhancement of recipe by use of dairy products. This year, the contest was held virtually. The participants submitted a recipe and picture of them with the prepared dish. Entries were judged off the recipe and not by the taste concept this year. We had seven different entries and reached over 2,000 people by sharing the entries and pictures on our UAEX-Greene Facebook page.

Dairy Recipe contest entry, "Enchilada Nachos," submitted by Reesie T.

Entomology Collection county O'Rama video entry submitted by Jessie R.

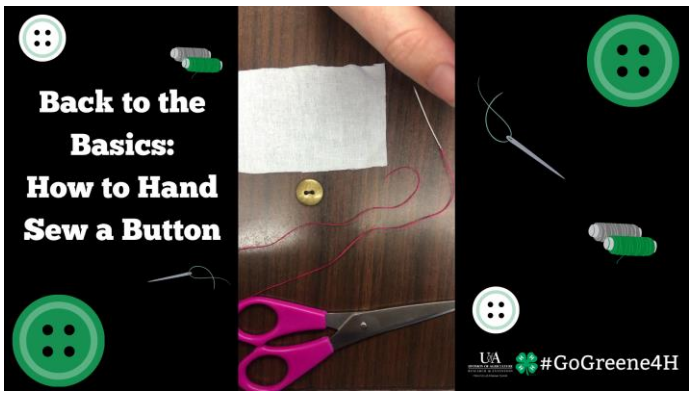
Safety county O'Rama video entry submitted by Cooper G.

County 4-H O'Rama:

For many, County 4-H O'Rama is one of the most important 4-H competitions of the year. This competition is a learning experience and steppingstone to other advanced 4-H O'Rama competitions. In Greene County, the 4-H County O'Rama competition is broken up into a Indoor and Outdoor O'Rama event. Unfortunately, due to the pandemic the Greene County 4-H Outdoor O'Rama activities were cancelled. Alternatively, the Greene County 4-H Indoor O'Rama event had a different look to it but was very successful. In April, a talks and demonstration workshop was conducted via Zoom, to provide help to any youth writing a talk. In May, 4-H members recorded a video of their talks and talent entries and submitted them for county judging. A wide variety of topics were submitted, ranging from animal science to fashion review, gardening, safety, fishing and more. These videos were judged and shared on our UAEX-Greene Facebook page throughout the summer. These videos reached over 17,200 people on Facebook. People in the community really enjoyed watching the youth's talks and demonstrations.

Back to the Basics Virtual School Video Series:

The Greene County Extension staffed worked together to create a virtual "Back to the Basics" program. Each week throughout the month of June we released a new "Back to the Basics" video. The series included videos covering topics such as, how to hand sew a button, how to tie a tie, how to write a check, and how to write a thank you note. This was a series we had hopes to do in person but was just not feasible due to COVID-19. The video series reached over 1,400 people on Facebook.

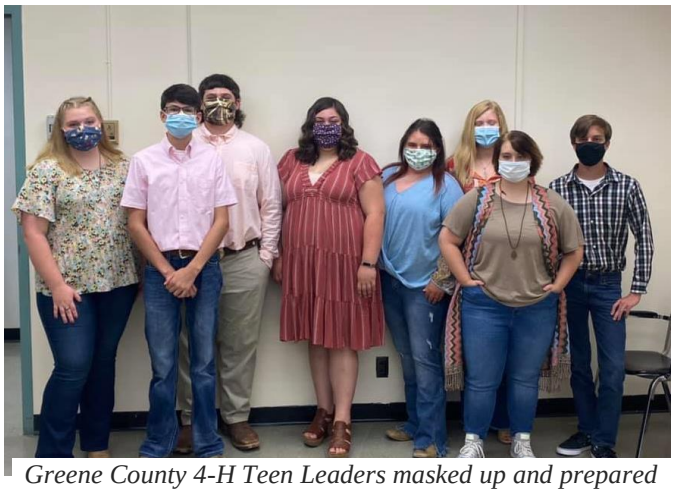


View from "How to Hand Sew a Button" video tutorial in the Back to the Basics series

Arts & Craft Show:

Even though, the youth were able to exhibit livestock at the Greene County Fair this year, they were not able to enter any commercial exhibits to be judged. Many 4-H families work on entries throughout the year to showcase at the fair. With help from a 4-H volunteer, we came up with the idea to have a virtual arts and craft show. Each 4-H member was able to submit pictures of their artwork to be showcased. This was an opportunity for youth to share their creativity. All entries were shared on our UAEX-Greene Facebook page.

Art and Craft Show entry submitted by Fisher T.



Greene County 4-H Teen Leaders masked up and prepared for the live Awards & Recognition banquet

Teen Leader, Maddie P., speaks live during the Awards and Recognition Banquet

Awards & Recognition Banquet:

The Greene County 4-H Awards and Recognition Banquet is one of the largest events of the year, normally bringing together about 150 different 4-H members and family. This event highlights all the hard work the 4-Her's do over the course of the year. After pushing the date back three separate times, the decision was made that this banquet would not happen as a face-to-face event in 2020. After several discussions with 4-H volunteers and the Extension Staff, a decision was made to try to conduct a live virtual banquet. The entire Greene County Extension Staff came together to pull this event off. Without teamwork this event would not have been possible. Following the COVID-19 guidelines, a few of the Greene County 4-H Teen Leaders were able to help conduct this event. They were able to experience what it is like to speak live in front of a camera. Greene County Judge Rusty McMillion was able to speak live through Zoom, as well as a few other local supporters. Our Greene County 4-Her's were able to be recognized for all their hard work. Those who could not watch live were able to watch the recording of the event and it allowed for the 4-H families to share this recording with other family or friends that may not have otherwise attended. This event was able to bring together 4-H families and supporters together safely for 2020.

Other Virtual Programs:

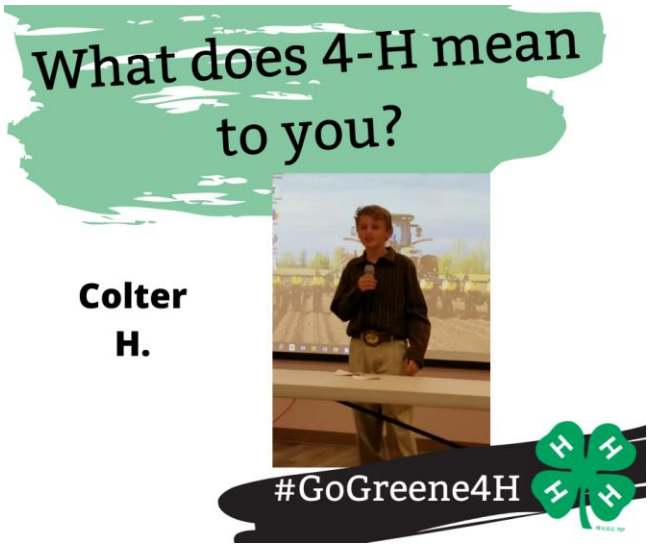
Throughout the pandemic, Greene County 4-H has conducted virtually Volunteer Leader and Teen Leader meetings.

Additionally, we have had members participate in a wide range of virtual contests and camps such as, various livestock judging contests, horse judging contests, National 4-H Shooting Sports Quiz Bowl, WHEP State Contest, State Craft Camp, Vet Science Camp, virtual State O'Rama, and District O'Rama Project Showcase.

Another virtual series included a "What does 4-H Mean to You" series which reached over 2,400 people on Facebook. Our 4-H members submitted videos, quotes, and pictures about what 4-H means to them. Additionally, a volunteer leader spotlight post series allowed us to recognize the 4-H leaders for their hard work and dedication to our 4-H program. This spotlight series reached over 6,500 people through our Facebook page.

Activity and educational videos to keep the members engaged were made and shared on Facebook. A variety of different topics including how to properly wash your hands, how to create a mason jar herb garden, how to make homemade bath fizzies, and much more were shared through the pandemic. These videos reached over 8,200 people through Facebook.

Screenshot of a Teen Leaders meeting hosted through Zoom



"I have learned that you can do things you aren't necessarily comfortable doing, like talking in front of people. Participating in 4-H O'Rama has made me a better public speaker and helped me when I had to do presentations in school, too!" #GoGreene4H

"What does 4-H mean to you" submitted by Colter H.

Youth Teaching Garden Program

Cooperating: 4-H Club leaders and parents, Greene County Master Gardeners, Greene County Fair Association, County 76 Master Gardeners, The Children's Home, Hedger Brothers Ready Mix Inc, Greene County Community Fund, AR Soy Checkoff

Lead Agent: Harlee Haney

Objective: Educate youth on gardening & horticulture. Teach responsibility, where food comes from, and promote healthy garden-fresh choices.

Program Set up & Overview:

The Youth Teaching Garden program started with a committee made up of Greene County Master Gardeners and Greene County 4-H Volunteers. This committee was formed to plan and conduct Youth Teaching Garden educational programs and activities.

The Janet B. Carson scholarship from County 76 was used to help fund the startup of the garden and program. The Youth Teaching Garden was established at the Greene County Fairgrounds with support from the Greene County Fair Association.

Programs & Activities:

The first meeting was held in January and had a large turnout of participating youth. The youth learned about composting from a fellow 4-H member. Another face-to face session was conducted in February. The youth were allowed to pick seeds to be planted in the garden. Various fruits and vegetables were provided to allow the youth to taste test to help make their decision. Additionally, an educational program was conducted about using the Almanac to determine planting dates. Moving into March, all face-to face meetings were cancelled due to COVID-19. This meant that the committee had to get creative to find ways to continue with the Youth Teaching Garden educational programs & activities.

The Youth Teaching Garden consisted of three raised garden beds, a large trellis, and a compost bin. Additionally, the Greene County Tomato Variety Demonstration can be seen nearby.

Non-Traditional & Virtual Programs:

Committee member, Richard Yeazel, created a how-to video about how to start seeds by using a grow light and how to build an easy grow light. Grow light kits, containing all supplies needed to build a grow light and start seeds, were distributed to youth. The youth were able to start their own seeds at home. Some families even opted to share plants that they started, by using these kits, when the Youth Teaching Garden was planted.

Ryleigh L. and her father work together to put a grow light together.

Moving into April and May, virtual scavenger hunts were created for the youth to complete on their own time. These scavenger hunts included a horticulture scavenger hunt and a crop & weed identification scavenger hunt. Youth were able to upload pictures of different flowers, trees, weeds, and more to have them identified by Greene County Master Gardeners or Greene County Extension Agents. Additionally, the youth were able show off plants that were growing around their home and that they may have planted.

Youth participants work to build raised garden bed frames.

Youth participants water the seeds after planting.

In May, families were able to meet at the garden to start the building process. Workdays were scheduled, keeping COVID-19 meeting requirements in mind, to build and plant raised garden beds. The beds were planted with a wide variety of crops including cucumbers, peppers, melons, squash, carrots, onions, and okra. Flowers such as sunflowers, marigolds, and zinnias were planted as well. Edamame soybean seeds were planted as part of the Soybean Science Challenge. This gave the youth an opportunity to learn about a commodity widely grown in Arkansas. Additionally, the youth were able to participate and observe the tomato variety horticulture demonstration research.

Beginning in June, youth were able to visit the garden twice a week to pick vegetables, pull weeds, and water the garden. In July, the Greene County Master Gardeners had a workday to build a compost bin. Later that month, the 4-H youth were able to paint the compost bin.

Greene County Master Gardeners build a compost bin from donated concrete blocks.

Greene County 4-H members paint the Youth Teaching Garden compost bin.

During the months of July and August, extra produce collected was distributed all over the county. Donations were made to the: Mission Outreach of Paragould, Little Free Food Pantry at the Paragould Police Department, Greene County Senior Center, Witt House Food Pantry, and many more around Greene County.

September had a little more of a traditional approach. Youth were taught how to collect seeds and save them for planting for the next year, how to identify common garden pests and diseases that were present in the garden, and to learn how to plant a wildlife food plot by visiting a local 4-H member's food plot project.

Youth collect and save seeds from harvested fruits & vegetables to plant them next year.

Results:

As a result of the Youth Teaching Garden, a partnership with Greene County 4-H and Greene County Master Gardeners was formed. The Greene County 4-H members were able to learn how to build, plant, and care for a garden.

Youth Teaching Garden participants, Greene County Master Gardener- Richard Yeazel, & County 4-H Agent- Harlee Haney by the newly installed "Greene County Youth Teaching Garden" sign.

Youth were able to harvest the produce that they helped to plant and grow.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Your Resource for
COVID-19 INFORMATION
for Agriculture, Families & Communities
www.uaex.edu/COVID19

COVID-19 Educational Outreach by Greene County Extension

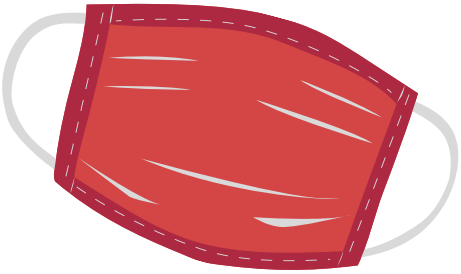
COVID-19 Educational Resources

Social Media Contacts: 57,395

Social Media Posts: 166

Email List Contacts: 596

Text List Contacts: 110



Virtual Programs: 52

Virtual Programming Contacts: 38,678

Virtual Programming

Zooms: 25

Live Participants: 286

Educational Videos: 26

Programming via Social Distancing

Programs: 48

Horticulture/ Farm Visits: 695

Agricultural Testing Samples Dropped in Drop Box: 1,452

Updated as of 10/01/2020

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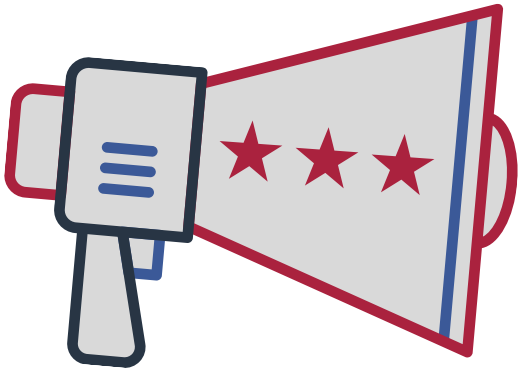
Voter & Ballot Issue Educational Outreach by Greene County Extension



Voter & Ballot Educational Resources

Voter Guides Distributed: 1,776

Distribution Locations: 48+ reaching every region of the county

Public Ballot Issue Displays: 5

Greene County Courthouse, Paragould City Hall, Oak Grove City Hall, Paragould Community Center, & Greene County Extension Service

Social Media Educational Outreach

Social Media Method: Facebook (UAEX-Greene)

September 1st- November 13th

Ballot Issue Educational Posts

Issue #1: 376 Reached
Issue #2: 332 Reached
Issue #3: 237 Reached

Updated as of 12/16/2020

Program Partners

We want to thank the many businesses & individuals who contributed to our 2020 Greene County Extension Crop, Livestock, & Youth Demonstrations, Programs, & other Projects. Many are listed below.

Farmers:

Derek & Royce Boling, Russ Brewer, Keith Fielder, Nick Fox, Jerry Gilliam, Cliff Hattenhauer, Dustin Henson, Jerry Hoepfl, Jim McMillon, Jeff Moss, Tyler & Raney Nutt, Ron & Clint Pigue, Joe Pratt, Kory Randleman, Danny & Stacey & Nick Rice, Chris & Allen & Randy Russom, Justin & Roy Russom, David Shug, Clay & Terry Smith, Jeff & Lin & Linwood Wells

Consultants:

Jack Cox, Brandon Davis, Dustin Engler, Shane Frost, Austin Miller, Chris Murray, Mike Simmons, Justin Threlkeld, Luke Zitzelberger

AG Retailers:

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Contact us:

Greene County Extension Service

201 West Court St. - Suite 205
Paragould, AR 72450

Phone: 870-236-6921

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