

# Southern Cover Crop Variety Trial

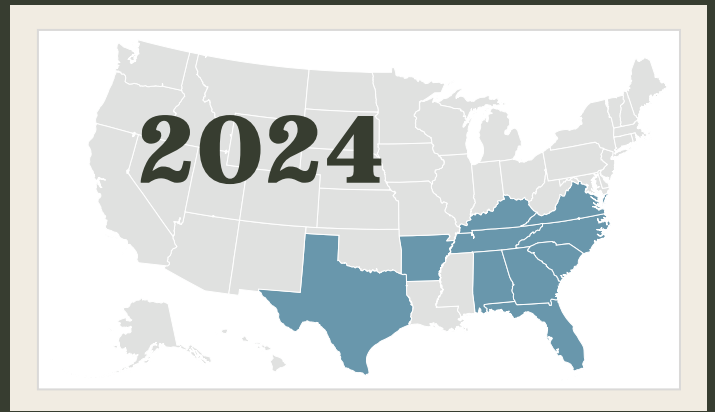


Image Credit: Audrey Gamble, Auburn University

# Southern Cover Crop Variety Trial

## 2024

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# Southern Cover Crop Variety Trial

2024

## Experimental Procedures

Evaluations of 20 cover crop varieties (Table 1) were conducted at 14 sites across 10 states in the Southern US (Table 3). All locations were planted with a drill to a length of 20 ft. Plot width was a single pass of a small plot drill, which varied slightly by location based on equipment but generally was around 4 to 5 ft wide. Plots were planted in a randomized complete block design and replicated three times at each location. Seed was planted at a depth of 0.5 in. The trial included varieties within the broader groups of brassicas, cereals, and legumes; however, all varieties were evaluated in a single trial to provide a better head-to-head comparison of the many cover crop varieties available. Contact information and websites for seed suppliers are summarized in Table 2.

## Evaluation Timing

Five time points were evaluated:

- **Establishment:** one month post planting
- **Fall:** late Nov. / early Dec.
- **Winter:** early Feb.
- **Pre-Corn:** approximately two weeks prior to typical corn planting dates for each state, respectively
- **Pre-Soybean:** approximately two weeks prior to typical soybean planting dates for each state, respectively

## Establishment

Establishment was rated visually as a percentage of plant emergence within planted rows.

## Canopy Cover and Height

Cover crop canopy cover and weed canopy cover were assessed visually using a percentage scale. Height was measured using a height stick and is reported in inches.

## Biomass

Cover crop biomass was measured for a randomly selected 5.4 ft<sup>2</sup> areas within each plot. Biomass within each square was cut to a height of 1 in. above the soil surface using handheld clippers. Samples were divided into cover crop and weed biomass. Biomass was dried to a constant weight and cover crop dry matter biomass was calculated on a lb per acre basis.

## Forage Quality

One sample of dried cover crop biomass from each plot was ground using a Wiley Mill (Thomas Scientific, Swedesboro, NJ) to pass a 2-mm screen; then, finished by passing through a Cylcotec (Foss North America, Eden Prairie, MN) with a 1-mm screen. Samples were dried to a consistent moisture level and scanned on a Foss DS2500F Near infrared Spectrometer (Foss North American, Eden Prairie, MN). Calibrations used were from the NIRS Consortium (Berea, KY).

All forage quality data are reported at 100% dry matter. Values are reported for in-vitro total dry matter digestibility at 48 hrs (IVTDMD48), crude protein (CP), acid detergent fiber (ADF), neutral detergent fiber (NDF), and lignin. Ash and fat were also estimated but are not reported.

### Assessment of Nitrogen Content and Nitrogen Release

Data from NIRS were used to calculate the following variables according to Woodruff et al. (2008): percent nitrogen (CP / 6.25), carbohydrates (NFC + CP + fat), cellulose (ADF – (Lignin + Ash)), and hemicellulose (NDF - ADF). Mean values for lignin, carbohydrates, and cellulose + hemicellulose were normalized to 100% and inputted into the Precision Sustainable Agriculture (PSA) Cover Crop Nitrogen Calculator (<https://covercrop-ncalc.org/>) along with mean percent nitrogen, biomass, latitude and longitude of each trial site, and estimated cash crop start date (two weeks after cover crop biomass collection). These values were used to estimate nitrogen release over the 90-day period following cover crop biomass collection.

### Statistical Analysis

All variables were analyzed using the MIXED procedure in SAS v. 9.4 (Cary, NC) with mean separation performed using the Fisher's Protected LSD (Least Significant Difference) test. All analyses used a mixed model with variety and location as fixed effects and block as a random effect with an alpha level of 0.05 to determine significance. Mean separation letters have been listed next to mean values for each trait. Across all entries, varieties that have any letter in common within a column are not significantly different at the 5% level of probability. Varieties with performance statistically equivalent to the highest value for each respective trait will have an "A" included in the list of mean separation letters next to that entry. Mean values are overlaid with a color gradient. Criteria for color gradients varied by trait depending on evaluation scale (percentage vs. relative scale) and whether high values were considered desirable (cover crop cover) or undesirable (weed cover). For all traits, green was used to indicate desirable values. The following scales were utilized by trait:

- Establishment, Cover Crop Cover
  - o 0% = red, 50% = yellow, 100% = green
- Weed Cover
  - o 0% = green, 50% = yellow, 100% = red
- Biomass, Height, N Release, N Percent, IVTDMD48, CP
  - o Lowest value = red, 50<sup>th</sup> percentile = yellow, highest value = green
- ADF, NDF, Lignin
  - o Lowest value = green, 50<sup>th</sup> percentile = yellow, highest value = red

### Results

Environmental conditions at each site are presented in Figure 1. Site specific challenges are noted below:

- AL: Poor legume establishment due to drought conditions. Clovers were replanted in late November at this location.
- FL\_NF: Volunteer corn problematic throughout the cover crop growing season.

Figure 1. Temperature and precipitation averages by month across the cover crop growing season (Sept. 2023 – July 2024) for sites participating in the Southern Cover Crop Variety Trial.





The tables on the following pages have been prepared with entries sorted by group (brassica, cereal, legume), common name, and variety. A total of 1 brassica, 9 cereal, and 10 legume varieties were evaluated. Variety performance is given across and by location for each measured variable. These are presented by variable for fall evaluations (Tables 4 to 6), winter evaluations (Tables 7 and 8), pre-corn evaluations (Tables 9 to 19) and pre-soybean evaluations (Tables 20 to 30).

### **References**

Woodruff, L.K., R. Hitchcock, L. Sonon, U. Saha, D.E. Kissel, J. Gaskin, N. Romano, M.L. Cabrera, M.Y. Habteselassie, M. Vigil, J. Rema. 2018. A web-based model of N mineralization from cover crop residue decomposition. *Soil Sci. Soc. Am. J.* 82:983-993. doi: 10.2136/sssaj2017.05.0144.

**Table 1. Characteristics of cover crop varieties evaluated during 2023-2024.**

Group	Common Name	Variety/Hybrid	Company	Seeding Rate (lb/ac)
Brassica	radish, daikon	Driller	GO Seed	10
Legume	clover, balansa	FIXatioN	GO Seed	5
Legume	clover, berseem	Frosty	GO Seed	15
Legume	clover, crimson	Kentucky Pride	GO Seed	25
Legume	clover, Persian	eNhance	GO Seed	5
Legume	clover, red	Dynamite	GO Seed	10
Legume	clover, red	Q	GO Seed	10
Cereal	oat	AGS NC EXP TRT	Mixon Seed	90
Cereal	oat	Horizon 214	Mixon Seed	90
Cereal	oat	Horizon 306	Mixon Seed	90
Cereal	oat	Horizon 578	Mixon Seed	90
Cereal	oat	Horizon 720	Mixon Seed	90
Legume	clover, crimson	AU Robin	Mixon Seed	25
Legume	clover, crimson	AU Sunrise	Mixon Seed	25
Legume	vetch, common	Cahaba	Mixon Seed	30
Legume	vetch, hairy	AU Early Cover	Mixon Seed	30
Cereal	cereal rye	FL405	UF	90
Cereal	cereal rye	FL406	UF	90
Cereal	oat	FL-5	UF	90
Cereal	triticale	FL08128	UF	90

**Table 2. Contact information for cover crop seed companies submitting varieties evaluated during 2023-2024.**

<b>Company</b>	<b>Contact</b>	<b>Phone</b>	<b>Email</b>	<b>Web site</b>
GO Seed	Trent Tate	503-566-9900	<a href="mailto:ttate@goseed.com">ttate@goseed.com</a>	<a href="http://www.goseed.com">www.goseed.com</a>
Mixon Seed Service	Blake Shepard	229-254-0115	<a href="mailto:blake@mixonseed.com">blake@mixonseed.com</a>	<a href="http://www.mixonseed.com">www.mixonseed.com</a>
University of Florida	Cleber de Souza	850-317-1310	<a href="mailto:c.lopesdesouza@ufl.edu">c.lopesdesouza@ufl.edu</a>	

**Table 3. Location information for cover crop variety trials evaluated during 2023 - 2024.**

State	City	Site Name	Planting Date	Fall Eval.	Winter Eval.	Spring Eval. 1	Spring Eval. 2	Soil Type	Soil pH	Site Manager	
AL	Headland	Wiregrass Research and Extension Center, Auburn University	24-Oct-2023	28-Nov-2023	7-Feb-2024	21-Mar-2024	24-Apr-2024	Dothan fine sandy loam	6	Audrey Gamble	avg0001@auburn.edu
AL_demo	Brewton	Brewton Agricultural Research Unit	10/25/2024, replant late Nov.	4-Jan-2024	7-Feb-2024	14-Mar-2024	17-Apr-2024	Benndale fine sandy loam	6	Audrey Gamble	avg0001@auburn.edu
AR	Alma	University of Arkansas Vegetable Research Station	19-Oct-2023	n/a	n/a	25-Mar-2024	n/a	Sandy clay loam	6	Amanda McWhirt	amcwhirt@uada.edu
FL_C	Citra	Plant Science Research and Education Unit, Citra, University of Florida	17-Oct-2023	9-Dec-2023	14-Feb-2024	2-Apr-2024	23-Apr-2024	Gainesville loamy sand		Carlene Chase, Gabriel Maltais-Landry, Lakesh Sharma	cachase@ufl.edu; maltaislandryg@ufl.edu; lakesh.sharma@ufl.edu
FL_NF	Live Oak	North Florida Research and Education Center	3-Nov-2024	12-Dec-2023	2-Feb-2024	8-Mar-2024	n/a	Sandy loam	6.0-6.2	Danielle Treadwell	ddtreadw@ufl.edu
GA_W	Watkinsville	J. Phil Campbell Research and Education Center, University of Georgia	18-Oct-2023	n/a	n/a	2-Apr-2024	22-Apr-2024	Sandy Clay	6.5	Nick Basinger	nicholas.basinger@uga.edu
GA_SEG	Midville	Southeast Georgia Research and Education Center	23-Oct-2023	n/a	n/a	27-Mar-2024	15-Apr-2024	Sandy Loam	6.5	Nick Basinger	nicholas.basinger@uga.edu
KY	Lexington	North Farm, University of Kentucky	11-Oct-2023	n/a	n/a	9-Apr-2024	2-May-2024	Maury silt loam		Erin Haramoto	erin.haramoto@uky.edu
NC	Rocky Mount	Upper Coastal Plain Research Farm	19-Oct-2023	12-Dec-2023	1-Feb-2024	9-Apr-2024	1-May-2024	Duplin sandy loam	6.3	Alyssa Woodard	ajwooda2@ncsu.edu
SC	Pendleton	Piedmont Research and Education Center, Clemson University	8-Nov-2023	N/A	16-Feb-2024	15-Mar-2024	3-May-2024	Cecil sandy loam		Sruthi Narayanan	skutty@clemson.edu
TN_East	Knoxville	East TN AgResearch and Education Center, University of Tennessee	10-Oct-2023	30-Nov-2023	8-Feb-2024	1-Apr-2024	6-May-2024	Shady Loam	6.47	Virginia Sykes	vsykes@utk.edu
TN_Middle	Spring Hill	Middle TN AgResearch and Education Center, University of Tennessee	19-Oct-2023	4-Dec-2023	6-Feb-2024	5-Apr-2024	10-May-2024	Maury Silt Loam	6.6	Virginia Sykes	vsykes@utk.edu
TN_West	Memphis	AgriCenter International	26-Oct-2023	4-Dec-2023	6-Feb-2024	12-Apr-2024	30-May-2024	Falaya Silt Loam	6.3	Virginia Sykes	vsykes@utk.edu
TX	Somerville	Texas A&M University Research Farm, Texas A&M	19-Oct-2023	n/a	n/a	15-Feb-2024	12-Mar-2024	Belk clay	7.9	Nithya Rajan	nrajan@tamu.edu
VA	Painter	Eastern Shore Agricultural Research and Education Center, Virginia Tech	26-Oct-2023	n/a	15-Feb-2024	8-May-2024	3-Jul-2024	Bojac sandy loam	5.6	Mark Reiter	mreiter@vt.edu

Table 4. Across and by location mean percent cover crop establishment one month post planting of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Planting date is listed below each location.

Variety	Common Name	Group	Avg	Establishment (%)													
				AL	AL_demo	FL_C	FL_NF	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West	VA		
				10/24/2023*	25-Oct-23	17-Oct-23	3-Nov-23	23-Oct-23	18-Oct-23	11-Oct-23	19-Oct-23	10-Oct-23	19-Oct-23	26-Oct-23	26-Oct-23		
Driller	radish, daikon	Brassica	71 C	83 E	78 ABCDE	11 HI	46 CDE	80 C	70 AB	83 AB	100 A	85 BCD	43 CDEFGH	83 BCDE	87 ABC		
FL405	cereal rye	Cereal	87 AB	98 A	95 A	45 BCDE	74 AB	98 AB	77 AB	100 A	100 A	100 A	72 ABC	100 A	92 AB		
FL406	cereal rye	Cereal	86 AB	97 AB	93 AB	59 AB	73 AB	88 BC	90 A	100 A	100 A	100 A	37 DEFGH	95 ABC	97 A		
AGS NC EXP TRT	oat	Cereal	83 B	90 BCDE	80 ABCDE	23 EFGHI	68 ABC	97 AB	75 AB	97 A	100 A	100 A	78 AB	97 AB	92 AB		
FL-5	oat	Cereal	91 A	97 AB	98 A	72 A	89 A	100 A	65 AB	100 A	100 A	100 A	78 AB	100 A	99 A		
Horizon 214	oat	Cereal	85 AB	87 CDE	92 AB	41 BCDE	83 AB	100 A	73 AB	90 AB	100 A	100 A	60 ABCDEF	97 AB	97 AB		
Horizon 306	oat	Cereal	84 B	95 AB	97 A	38 CDEF	81 AB	100 A	68 AB	100 A	100 A	100 A	35 EFGH	95 ABC	98 A		
Horizon 578	oat	Cereal	81 B	92 ABCD	88 ABC	21 FGHI	75 AB	100 A	53 BC	93 A	100 A	100 A	65 ABCDEF	90 ABCD	98 A		
Horizon 720	oat	Cereal	86 AB	93 ABC	85 ABC	41 BCDE	89 A	98 AB	65 AB	93 A	100 A	100 A	68 ABCDE	100 A	97 AB		
FL08128	triticale	Cereal	69 C	85 DE	75 ABCDE	24 EFGHI	33 DEF	93 AB	41 BCD	87 AB	93 AB	97 AB	23 GH	90 ABCD	89 ABC		
FIXatioN	clover, balansa	Legume	39 G	0 H	25 F	36 CDEF	13 F	78 C	24 CD	17 EF	80 C	48 F	52 BCDEFG	47 F	53 E		
Frosty	clover, berseem	Legume	60 DE	1 H	55 E	48 BC	22 EF	95 AB	72 AB	40 DE	97 AB	80 CD	72 ABC	83 BCDE	58 DE		
AU Robin	clover, crimson	Legume	59 DE	2 H	68 BCDE	43 BC	23 EF	98 AB	65 AB	40 DE	96 AB	73 DE	70 ABCD	80 CDE	47 E		
AU Sunrise	clover, crimson	Legume	67 C	1 H	85 ABC	44 BCD	9 F	100 A	73 AB	67 BC	100 A	80 CD	93 A	92 ABCD	62 DE		
Kentucky Pride	clover, crimson	Legume	71 C	2 H	83 ABCD	40 BCDE	54 BCD	100 A	73 AB	83 AB	100 A	83 BCD	92 A	83 BCDE	57 DE		
eNhanCe	clover, Persian	Legume	47 F	0 H	65 CDE	8 GHI	15 F	88 BC	50 BC	13 F	76 C	60 EF	50 BCDEFG	90 ABCD	50 E		
Dynamite	clover, red	Legume	58 E	0 H	78 ABCDE	39 CDE	22 EF	98 AB	68 AB	33 DEF	87 BC	58 F	70 ABCD	78 DE	62 DE		
Q	clover, red	Legume	55 E	0 H	65 CDE	29 DEFG	29 DEF	98 AB	55 AB	57 CD	75 C	58 F	53 BCDEFG	72 E	68 CDE		
Cahaba	vetch, common	Legume	35 G	30 G	18 F	9 I	18 F	65 D	17 D	37 DEF	52 D	60 EF	10 H	45 F	57 DE		
AU Early Cover	vetch, hairy	Legume	65 CD	50 F	58 DE	29 DEFGH	12 F	100 A	58 B	83 AB	100 A	90 ABC	32 FGH	90 ABCD	75 BCD		
<b>Summary Statistics</b>																	
Average			69	50	74	35	46	94	62	71	93	84	58	85	77		
Standard Error			3	3	9	7	9	4	15	8	4	5	13	6	8		
Min			35	0	18	8	9	65	17	13	52	48	10	45	47		
Max			91	98	98	72	89	100	90	100	100	100	93	100	99		
Range			57	98	80	63	80	35	73	87	48	52	83	55	52		
<b>ANOVA p-values</b>																	
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
- Location			<0.001														
- Variety x Location			<0.001														

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on value with 0%=red, 50% = yellow and 100%=green.

\*Clovers were replanted in Nov. due to poor establishment under drought conditions.

**Table 5. Across and by location mean percent cover crop cover ratings of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Cover (%)																	
			Avg		AL		AL_demo		FL_C		FL_NF		NC		TN_East		TN_Middle		TN_West	
					28-Nov-23		4-Jan-24		9-Dec-23		12-Dec-23		12-Dec-23		30-Nov-23		4-Dec-23		4-Dec-23	
Driller	radish, daikon	Brassica	59	C	90	BC	83	AB	95	A	10	D	75	ABCD	68	BC	5	F	43	CD
FL405	cereal rye	Cereal	69	A	100	A	88	A	88	AB	20	ABC	80	ABC	87	A	23	AB	67	A
FL406	cereal rye	Cereal	70	A	100	A	90	A	75	ABC	22	AB	87	A	90	A	25	A	68	A
AGS NC EXP TRT	oat	Cereal	57	CD	90	BC	60	CDEF	75	ABC	12	CD	80	ABC	77	AB	20	ABC	43	CD
FL-5	oat	Cereal	71	A	98	A	90	A	93	A	28	A	85	AB	90	A	25	A	57	B
Horizon 214	oat	Cereal	59	BC	96	AB	73	ABC	93	A	22	AB	70	CD	60	C	18	BCD	38	D
Horizon 306	oat	Cereal	58	C	97	AB	75	ABC	78	ABC	22	AB	75	ABCD	62	C	18	BCD	38	D
Horizon 578	oat	Cereal	59	BC	95	AB	70	ABCD	85	AB	23	A	75	ABCD	69	BC	18	BCD	37	D
Horizon 720	oat	Cereal	63	B	98	AB	73	ABC	94	A	27	A	73	BCD	70	BC	22	ABC	50	BC
FL08128	triticale	Cereal	53	D	93	AB	63	BCDE	60	CD	12	CD	71	CD	70	BC	17	CD	38	D
FIXatioN	clover, balansa	Legume	13	J	10	FG	48	EFG	8	E	4	D	18	I	5	F	5	F	5	G
Frosty	clover, berseem	Legume	25	GH	15	EFG	50	DEFG	67	BC	5	D	45	FG	5	F	8	EF	5	G
AU Robin	clover, crimson	Legume	34	F	17	EF	70	ABCD	93	A	5	D	50	F	17	EF	7	F	12	FG
AU Sunrise	clover, crimson	Legume	38	F	20	E	73	ABC	91	A	7	D	63	DE	18	EF	13	DE	15	F
Kentucky Pride	clover, crimson	Legume	36	F	18	E	75	ABC	87	AB	13	BCD	53	EF	17	EF	10	EF	12	FG
eNhance	clover, Persian	Legume	18	I	7	G	70	ABCD	5	E	5	D	37	GH	7	F	5	F	8	FG
Dynamite	clover, red	Legume	23	H	13	EFG	50	DEFG	65	BC	8	D	25	HI	7	F	7	F	8	FG
Q	clover, red	Legume	17	IJ	10	FG	40	FG	38	D	10	D	18	I	8	F	7	F	5	G
Cahaba	vetch, common	Legume	29	G	65	D	38	G	70	BC	3	D	17	I	30	DE	5	F	4	G
AU Early Cover	vetch, hairy	Legume	48	E	83	C	70	ABCD	85	AB	8	D	55	EF	43	D	13	DE	23	E
<b>Summary Statistics</b>																				
Average			45		61		67		72		13		58		45		14		29	
Standard Error			2		3		7		8		3		5		5		2		3	
Min			13		7		38		5		3		17		5		5		4	
Max			71		100		90		95		28		87		90		25		68	
Range			58		93		53		90		25		70		85		20		64	
<b>ANOVA p-values</b>																				
- Variety			<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001	
- Location			<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001	
- Variety x Location			<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001	

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD, P<0.05). Mean values are overlaid with a color gradient based on value with 0%=red, 50% = yellow and 100%=green.

**Table 6. Across and by location mean weed cover of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Weed Cover (%)											
			Avg	AL	AL_demo	FL_C	FL_NF	NC	TN_East	TN_Middle	TN_West			
				28-Nov-23	4-Jan-24	9-Dec-23	12-Dec-23	12-Dec-23	30-Nov-23	4-Dec-23	4-Dec-23			
Driller	radish, daikon	Brassica	12 FGHI	4 DE	8 BCD	5 E	40 BCDEF	7 FG	7 C	17 n.s.	8 DEF			
FL405	cereal rye	Cereal	10 I	0 E	4 CD	13 DE	30 EFG	8 EFG	5 C	15 n.s.	5 F			
FL406	cereal rye	Cereal	11 GHI	0 E	4 CD	17 DE	28 FG	5 G	5 C	23 n.s.	7 EF			
AGS NC EXP TRT	oat	Cereal	15 EFG	4 DE	6 BCD	25 BCDE	42 ABCDE	8 EFG	5 C	22 n.s.	7 EF			
FL-5	oat	Cereal	9 I	1 E	2 D	5 E	28 FG	7 FG	5 C	17 n.s.	7 EF			
Horizon 214	oat	Cereal	10 HI	2 DE	10 ABC	5 E	27 G	10 DEFG	5 C	18 n.s.	7 EF			
Horizon 306	oat	Cereal	12 FGHI	2 DE	5 CD	22 CDE	30 EFG	7 FG	5 C	15 n.s.	8 DEF			
Horizon 578	oat	Cereal	11 FGHI	3 DE	5 CD	13 DE	33 DEFG	8 EFG	5 C	17 n.s.	7 EF			
Horizon 720	oat	Cereal	11 GHI	1 E	8 BCD	6 E	37 CDEFG	7 FG	5 C	17 n.s.	7 EF			
FL08128	triticale	Cereal	16 EF	4 DE	5 CD	38 BC	35 CDEFG	10 DEFG	8 C	15 n.s.	10 CDEF			
FIXation	clover, balansa	Legume	27 A	13 BC	8 BCD	85 A	46 ABCD	30 AB	5 C	17 n.s.	13 BCDE			
Frosty	clover, berseem	Legume	20 CD	25 A	10 ABC	25 BCDE	47 ABC	18 CDE	12 BC	10 n.s.	17 ABC			
AU Robin	clover, crimson	Legume	18 DE	22 AB	13 AB	6 E	47 ABC	20 BCD	7 C	17 n.s.	17 ABC			
AU Sunrise	clover, crimson	Legume	15 EF	18 ABC	5 CD	7 E	45 ABCD	10 DEFG	10 BC	15 n.s.	13 BCDE			
Kentucky Pride	clover, crimson	Legume	15 EFGH	20 AB	10 ABC	10 DE	40 ABCDEFG	14 DEFG	5 C	12 n.s.	8 DEF			
eNhance	clover, Persian	Legume	24 ABC	20 AB	13 AB	48 B	53 A	17 CDEF	12 BC	18 n.s.	12 BCDEF			
Dynamite	clover, red	Legume	21 BCD	15 BC	10 ABC	33 BCD	50 AB	27 ABC	7 C	12 n.s.	18 AB			
Q	clover, red	Legume	25 ABC	18 ABC	8 BCD	40 BC	50 AB	33 A	8 C	17 n.s.	22 A			
Cahaba	vetch, common	Legume	25 AB	13 BC	15 A	20 CDE	50 AB	35 A	20 A	23 n.s.	25 A			
AU Early Cover	vetch, hairy	Legume	19 DE	11 CD	10 ABC	11 E	47 ABCD	17 CDEF	17 AB	23 n.s.	15 ABCD			
<b>Summary Statistics</b>														
Average			16	10	8	22	40	15	8	17	12			
Standard Error			2	3	2	8	5	4	3	3	4			
Min			9	0	2	5	27	5	5	10	5			
Max			27	25	15	85	53	35	20	23	25			
Range			18	25	13	80	27	30	15	13	20			
<b>ANOVA p-values</b>														
- Variety			<0.001	<0.001	0.047	<0.001	<0.001	<0.001	0.012	0.319	0.012			
- Location			<0.001											
- Variety x Location			<0.001											

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ). Mean values are overlaid with a color gradient based on value with 0%=green, 50% = yellow and 100%=red.

**Table 7. Across and by location mean cover crop cover of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Cover (%)										
			Avg	AL	AL_demo	FL_C	FL_NF	NC	SC	TN_East	TN_Middle	TN_West	VA
				7-Feb-24	7-Feb-24	14-Feb-24	2-Feb-24	1-Feb-24	16-Feb-24	8-Feb-24	6-Feb-24	6-Feb-24	15-Feb-24
Driller	radish, daikon	Brassica	59 E	89 AB	88 ABC	99 A	13 FGH	60 CDEF	35 FGH	93 A	23 GHIJ	57 EF	32 BCDEFG
FL405	cereal rye	Cereal	72 AB	98 AB	100 A	93 A	23 CDE	57 DEF	88 A	100 A	70 ABC	73 ABCD	17 DEFG
FL406	cereal rye	Cereal	71 ABC	100 A	100 A	63 BC	25 BCD	60 CDEF	72 BC	100 A	63 ABCD	82 AB	48 ABC
AGS NC EXP TRT	oat	Cereal	68 BC	88 B	83 BCDE	63 BC	17 EFG	73 BC	78 AB	100 A	78 A	78 ABC	23 CDEFG
FL-5	oat	Cereal	75 A	98 AB	95 AB	89 A	38 A	65 CDE	78 AB	100 A	72 AB	83 A	33 BCDEFG
Horizon 214	oat	Cereal	62 DE	94 AB	78 CDE	95 A	23 CDE	62 CDE	57 DE	98 A	47 DEF	53 F	8 G
Horizon 306	oat	Cereal	66 CD	95 AB	83 BCDE	78 ABC	23 CDE	68 CD	40 F	97 A	53 CDE	67 CDE	55 AB
Horizon 578	oat	Cereal	70 ABC	95 AB	85 BCD	94 A	32 AB	65 CDE	47 EF	100 A	53 CDE	63 DEF	68 A
Horizon 720	oat	Cereal	70 ABC	97 AB	80 CDE	96 A	28 BC	60 CDEF	62 CD	100 A	65 ABC	78 ABC	38 BCDEF
FL08128	triticale	Cereal	61 DE	96 AB	73 DEF	55 CD	25 BCD	52 EFG	67 BCD	95 A	58 BCD	70 BCD	18 DEFG
FIXatioN	clover, balansa	Legume	13 J	5 F	45 HI	3 F	7 HI	25 H	13 J	5 D	7 J	7 I	15 EFG
Frosty	clover, berseem	Legume	36 H	8 F	60 FG	87 AB	12 GHI	52 EFG	18 IJ	35 C	13 IJ	20 GH	60 AB
AU Robin	clover, crimson	Legume	38 GH	23 DE	53 GH	95 A	7 HI	52 EFG	22 IJ	35 C	38 EFG	22 GH	35 BCDEFG
AU Sunrise	clover, crimson	Legume	43 FG	32 D	73 DEF	92 A	7 HI	89 A	27 GHI	38 C	28 GHI	28 G	15 EFG
Kentucky Pride	clover, crimson	Legume	44 F	30 D	70 EF	93 A	20 DEF	72 BC	25 HIJ	35 C	35 FGH	17 GHI	42 ABCDE
eNhance	clover, Persian	Legume	21 I	7 F	63 FG	10 F	5 I	47 FG	17 IJ	13 D	13 IJ	28 G	12 FG
Dynamite	clover, red	Legume	18 IJ	13 EF	35 IJ	38 DE	5 I	23 H	15 IJ	10 D	10 J	15 HI	17 DEFG
Q	clover, red	Legume	21 I	7 F	28 J	28 EF	8 HI	17 H	15 IJ	12 D	28 GHI	15 HI	57 AB
Cahaba	vetch, common	Legume	38 FGH	73 C	43 HI	80 AB	12 GHI	40 G	13 J	45 C	18 HIJ	13 HI	45 ABCD
AU Early Cover	vetch, hairy	Legume	58 E	88 B	83 BCDE	99 A	8 HI	86 AB	38 FG	75 B	60 BCD	28 G	18 DEFG
Summary Statistics													
Average			50	62	71	72	17	56	41	64	42	45	33
Standard Error			2	4	5	9	3	5	5	4	8	5	10
Min			13	5	28	3	5	17	13	5	7	7	8
Max			75	100	100	99	38	89	88	100	78	83	68
Range			62	95	73	97	33	72	75	95	72	77	60
ANOVA p-values													
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002
- Location			<0.001										
- Variety x Location			<0.001										

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ). Mean values are overlaid with a color gradient based on value with 0%=red, 50% = yellow and 100%=green.



**Table 8. Across and by location mean weed cover of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Weed Cover (%)										
			Avg	AL	AL_demo	FL_C	FL_NF	NC	SC	TN_East	TN_Middle	TN_West	VA
				7-Feb-24	7-Feb-24	14-Feb-24	2-Feb-24	1-Feb-24	16-Feb-24	8-Feb-24	6-Feb-24	6-Feb-24	15-Feb-24
Driller	radish, daikon	Brassica	26 HI	4 F	7 GH	1 F	40 BCD	16 CD	65 CDE	2 E	42 A	15 DEF	68 ABCDEF
FL405	cereal rye	Cereal	14 L	1 F	0 H	8 DEF	17 F	6 D	12 K	0 E	8 E	7 F	83 ABCD
FL406	cereal rye	Cereal	17 KL	0 F	0 H	37 BCD	17 F	10 D	27 HIJ	0 E	18 BCDE	12 F	52 EFG
AGS NC EXP TRT	oat	Cereal	21 IJK	7 EF	10 FGH	35 BCDE	30 DE	10 D	20 JK	0 E	13 DE	12 F	77 ABCDE
FL-5	oat	Cereal	14 L	1 F	2 GH	4 F	10 F	8 D	22 IJK	0 E	15 CDE	12 F	67 ABCDEF
Horizon 214	oat	Cereal	21 IJK	3 F	15 EFG	5 F	13 F	15 CD	43 FG	0 E	15 CDE	8 F	92 A
Horizon 306	oat	Cereal	18 JKL	2 F	10 FGH	21 DEF	15 F	4 D	60 E	2 E	17 BCDE	8 F	45 FG
Horizon 578	oat	Cereal	15 L	2 F	7 GH	6 F	17 F	10 D	53 EF	0 E	10 E	12 F	32 G
Horizon 720	oat	Cereal	17 KL	1 F	15 EFG	4 F	15 F	14 CD	37 GH	0 E	12 DE	8 F	62 BCDEF
FL08128	triticale	Cereal	23 IJ	2 F	23 DEF	27 CDEF	20 EF	14 CD	33 GHI	0 E	18 BCDE	13 EF	82 ABCD
FIXatioN	clover, balansa	Legume	55 A	58 A	45 ABC	70 A	50 AB	50 A	87 A	13 CD	43 A	43 ABC	85 ABC
Frosty	clover, berseem	Legume	39 EF	55 A	33 CD	8 EF	52 A	39 AB	82 AB	27 B	25 BCD	35 ABC	40 FG
AU Robin	clover, crimson	Legume	41 DEF	48 ABC	43 ABC	4 F	48 ABC	38 AB	78 AB	20 BCD	27 BC	43 ABC	65 ABCDEF
AU Sunrise	clover, crimson	Legume	36 FG	40 BCD	25 DE	8 EF	50 AB	6 D	73 BCD	12 D	22 BCDE	37 ABC	85 ABC
Kentucky Pride	clover, crimson	Legume	31 GH	35 D	25 DE	5 EF	38 CD	18 CD	75 ABC	13 CD	15 CDE	27 CDEF	58 CDEFG
eNhance	clover, Persian	Legume	51 ABC	53 A	35 BCD	80 A	50 AB	30 BC	83 AB	22 BC	30 AB	33 BCD	88 AB
Dynamite	clover, red	Legume	51 AB	50 AB	48 AB	60 AB	52 A	54 A	85 AB	22 BC	20 BCDE	32 BCDE	83 ABCD
Q	clover, red	Legume	47 BCD	37 CD	53 A	50 ABC	47 ABC	50 A	85 AB	22 BC	30 AB	53 A	43 FG
Cahaba	vetch, common	Legume	44 CDE	18 E	45 ABC	20 DEF	43 ABC	48 AB	87 A	40 A	30 AB	57 AB	55 DEFG
AU Early Cover	vetch, hairy	Legume	30 H	6 EF	15 EFG	2 F	50 AB	9 D	62 DE	18 BCD	20 BCDE	33 BCD	82 ABCD
<b>Summary Statistics</b>													
Average			31	21	23	23	34	22	58	11	21	25	67
Standard Error			2	4	6	10	4	7	5	4	5	8	10
Min			14	0	0	1	10	4	12	0	8	7	32
Max			55	58	53	80	52	54	87	40	43	57	92
Range			41	58	53	79	42	50	75	40	35	50	60
<b>ANOVA p-values</b>													
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002
- Location			<0.001										
- Variety x Location			<0.001										

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ). Mean values are overlaid with a color gradient based on value with 0%=green, 50% = yellow and 100%=red.

Table 9. Across and by location mean cover crop biomass of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Avg	Cover Crop Biomass (DM lbs/ac) <sup>3</sup>															
				AL	AL_demo	AR	FL_C	FL_NF	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West	TX	VA	
				21-Mar-24	14-Mar-24	25-Mar-24	2-Apr-24	8-Mar-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	15-Mar-24	1-Apr-24	5-Apr-24	9-Apr-24	15-Feb-24	8-May-24	
Driller	radish, daikon	Brassica	2034 GHI	5625 C	4095 CD	219 J	4100 A	292 BC	1749 EFGH	1979 GHI	5 I	3129 GHI	789 CDEFG	4207 E	153 FG	1971 ABCDEFG	349 CDEF	1855 CDEFG	
FL405	cereal rye	Cereal	4051 AB	5572 C	6373 AB	2064 I	2623 ABCDE	627 A	1968 DEFGH	9105 A	772 AB	6558 BC	6073 A	5094 DE	3922 A	3003 ABCDE	1040 AB	5970 A	
FL406	cereal rye	Cereal	4250 AB	7918 A	7139 A	4943 CDE	1431 EFG	584 A	2570 BCDEF	9625 A	449 CDEFG	5737 BCDE	4012 B	6092 BCD	3112 B	3428 A	886 AB	5826 A	
AGS NC EXP TRT	oat	Cereal	3220 CD	5365 C	3279 DEF	7977 A	602 G	118 C	2299 BCDEF	5560 BCDE	286 EFGHI	5203 CDEF	1128 CDE	7442 B	1625 CD	3454 A	331 DEF	3636 B	
FL-5	oat	Cereal	2621 EF	2851 D	3403 DEF	0 J	3200 ABCD	471 AB	3185 ABCD	6907 ABCD	258 FGHI	4511 DEFG	989 CDEF	5022 DE	1426 CDE	2527 ABCDEF	810 ABC	3748 B	
Horizon 214	oat	Cereal	3208 CD	7191 AB	3466 DEF	5333 CD	3402 ABCD	283 BC	2328 BCDEF	5832 BCDE	246 GHI	4523 DEFG	1095 CDE	6454 BCD	1467 CDE	2323 ABCDEF	1075 AB	3107 BCD	
Horizon 306	oat	Cereal	3052 CD	6260 BC	4157 CD	4986 CDE	2005 DEFG	319 BC	2021 DEFG	4993 CDEF	490 BCDEFG	4549 CDEFG	993 CDEF	7147 B	1498 CDE	3049 ABCD	1022 AB	2296 BCDEF	
Horizon 578	oat	Cereal	3125 CD	6284 BC	3997 CDE	6025 BC	2386 BCDE	448 AB	2984 ABCDE	4113 EFG	345 DEFGH	4377 DEFG	717 DEFGH	5644 CDE	2099 C	3078 ABC	1058 AB	3320 BC	
Horizon 720	oat	Cereal	3386 CD	7206 AB	5017 BC	3590 EFGH	2120 CDEF	458 AB	3463 AB	7475 ABC	549 BCDEF	4657 CDEFG	1455 C	6917 BC	1523 CDE	3270 AB	703 BCD	2387 BCDE	
FL08128	triticale	Cereal	3955 AB	8464 A	4347 CD	7162 AB	1179 EFG	299 BC	2139 CDEF	8376 AB	336 DEFGH	6325 BCD	1339 CD	9576 A	2022 C	3270 AB	1087 AB	3405 BC	
FIXatioN	clover, balansa	Legume		739 FG	1750 GHIJ	2005 I	2888 ABCDE		396 I	136 I	13 I	3665 FGH	4 I	61 H	372 FG	1643 BCDEFG	47 F	453 GH	
Frosty	clover, berseem	Legume	1735 HI	249 G	3204 DEFG	2724 FGHI	2381 BCDE	41 C	2677 BCDE	3303 EFGH	326 EFGH	6213 BCD	122 GHI	627 GH	397 FG	3051 ABCD	230 DEF	482 GH	
AU Robin	clover, crimson	Legume	1920 GHI	1240 EFG	2499 FGH	2876 FGHI	3748 AB	39 C	2889 BCDE	4762 CDEF	485 BCDEFG	7675 AB	222 GHI	1161 FGH	469 FG	191 G	278 DEF	269 H	
AU Sunrise	clover, crimson	Legume	2323 EFG	1366 EFG	4272 CD	3848 DEFG	3475 ABCD	63 C	3344 ABC	4024 EFG	574 BCDEFG	8754 A	329 FGHI	1941 FG	840 EF	940 FG	307 DEF	765 FGH	
Kentucky Pride	clover, crimson	Legume		852 EFG	2624 EFGH	3189 FGHI	3656 ABC		2753 BCDE	3699 EFG	631 BCD	5607 CDEF	469 EFGHI	1406 FGH	891 DEF	825 EFG	254 DEF	1397 EFGH	
eNhance	clover, Persian	Legume		396 FG	1436 HIJ	2138 HI	1910 CDEFG		839 GHI	889 HI	72 HI	3772 EFGH	20 HI	311 H	438 FG	2032 ABCDEFG	71 F	323 GH	
Dynamite	clover, red	Legume		293 G	696 IJ	1747 I	993 EFG		1329 FGHI	2440 FGHI	131 HI	1174 IJ	0 I	270 H	260 FG	1459 CDEFG	95 F	469 GH	
Q	clover, red	Legume	750 LM	113 G	612 J	2271 HI	694 FG	24 C	2753 BCDE	1932 FGHI	68 HI	801 J	2 I	448 GH	46 G	1024 FG	219 EF	251 H	
Cahaba	vetch, common	Legume	1232 JK	1783 DEF	1693 HIJ	2352 GHI	1507 EFG	31 C	721 HI	2612 FGHI	657 BC	1888 HIJ	207 GHI	1070 FGH	367 FG	1291 DEFG	685 BCDE	1610 DEFGH	
AU Early Cover	vetch, hairy	Legume	2538 EF	2242 DE	2078 FGHI	3913 DEF	1614 EFG	30 C	4195 A	4260 DEFG	968 A	4386 DEFG	793 CDEFG	2440 F	1732 C	2822 ABCDE	1270 A	5330 A	
Summary Statistics																			
Average			2713	3600	3307	3468	2296	258	2330	4600	383	4675	1038	3667	1233	2233	591	2345	
Standard Error			141	510	493	527	583	110	521	998	105	712	248	524	275	656	167	644	
Min			750	113	612	0	602	24	396	136	5	801	0	61	46	191	47	251	
Max			4250	8464	7139	7977	4100	627	4195	9625	968	8754	6073	9576	3922	3454	1270	5970	
Range			3500	8351	6528	7977	3498	602	3799	9490	963	7954	6073	9515	3876	3263	1223	5719	
ANOVA p-values																			
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.014	<0.001	<0.001	
- Location			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
- Variety x Location			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD, P<0.05).

Mean values are overlaid with a color gradient based on percentile within location with red = 0 percentile, yellow = 50th percentile, green = 100th percentile.

Table 10. Across and by location mean cover crop cover of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Cover (%)															
			Avg	AL	AL_demo	AR	FL_C	FL_NF	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West	TX	VA
			21-Mar-24	14-Mar-24	25-Mar-24	2-Apr-24	8-Mar-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	15-Mar-24	1-Apr-24	5-Apr-24	12-Apr-24	15-Feb-24	8-May-24	
Driller	radish, daikon	Brassica	61 G	100 A	100 A	3 D	95 AB	22 FG	82 ABC	62 GH	5 H	53 D	70 BCDE	100 A	20 G	60 A	48 C	88 A
FL405	cereal rye	Cereal	79 B	100 A	100 A	58 C	68 BCDE	37 D	70 ABCDE	91 ABCD	57 EFG	61 CD	93 A	100 A	92 AB	88 A	83 AB	92 A
FL406	cereal rye	Cereal	79 BC	99 A	100 A	87 AB	55 E	42 CD	97 A	98 A	40 G	60 CD	83 ABC	100 A	90 AB	68 A	82 B	80 ABCD
Horizon 306	oat	Cereal	77 BCD	99 A	99 A	96 AB	87 ABCD	38 CD	73 ABCDE	75 CDEFG	50 EFG	60 CD	62 CDE	100 A	75 BCD	80 A	87 AB	67 BCDE
Horizon 578	oat	Cereal	79 BC	100 A	99 A	99 A	82 ABCDE	53 AB	68 ABCDEF	70 EFG	47 FG	60 CD	68 BCDE	100 A	75 BCD	82 A	83 AB	93 A
Horizon 214	oat	Cereal	78 BC	100 A	94 A	96 AB	100 AB	42 CD	83 ABC	72 EFG	50 EFG	61 CD	72 ABCDE	100 A	73 BCDE	62 A	82 B	85 ABC
AGS NC EXP TRT	oat	Cereal	77 BC	99 A	93 AB	100 A	60 DE	25 EF	72 ABCDE	82 ABCDEF	47 FG	60 CD	90 AB	100 A	83 AB	82 A	75 B	87 AB
Horizon 720	oat	Cereal	77 BC	99 A	98 A	89 AB	92 ABC	47 BC	50 DEF	78 BCDEFG	57 EFG	61 CD	80 ABCD	100 A	85 AB	70 A	75 B	80 ABCD
FL-5	oat	Cereal	76 BCD	98 A	100 A	0 D	97 AB	62 A	82 ABC	91 ABCD	50 EFG	60 CD	90 AB	100 A	73 BCDE	72 A	90 AB	78 ABCD
FL08128	triticale	Cereal	73 CDE	100 A	85 B	99 A	67 CDE	33 DE	78 ABCD	72 CDEFG	40 G	60 CD	80 ABCD	100 A	75 BCD	75 A	75 B	62 DE
FIXatioN	clover, balansa	Legume	42 J	12 DE	97 A	82 B	72 ABCDE	5 I	45 EF	1 I	10 H	90 B	28 F	35 D	53 EF	77 A	5 F	23 G
Frosty	clover, berseem	Legume	65 FG	9 DE	100 A	89 AB	98 AB	7 I	60 BCDEF	86 ABCDE	83 ABC	100 A	60 DE	77 BC	78 ABC	80 A	27 DE	17 G
Kentucky Pride	clover, crimson	Legume	69 EF	43 C	100 A	93 AB	100 AB	18 FGH	55 CDEF	93 ABC	90 AB	100 A	57 E	88 AB	92 AB	22 B	38 CD	50 EF
AU Robin	clover, crimson	Legume	66 FG	40 C	100 A	85 AB	96 AB	10 HI	62 BCDEF	95 AB	87 AB	100 A	70 BCDE	75 C	85 AB	18 B	40 CD	22 G
AU Sunrise	clover, crimson	Legume	71 DE	40 C	98 A	95 AB	100 A	5 I	70 ABCDE	98 A	88 AB	100 A	62 CDE	88 AB	85 AB	70 A	47 C	27 G
eNhanse	clover, Persian	Legume	52 H	22 D	97 A	93 AB	62 CDE	7 I	38 F	48 H	67 CDE	92 AB	28 F	42 D	62 CDEF	78 A	27 DE	17 G
Dynamite	clover, red	Legume	48 HI	6 E	53 C	90 AB	77 ABCDE	5 I	50 DEF	73 DEFG	63 DEF	68 C	17 F	43 D	50 F	75 A	27 DE	30 FG
Q	clover, red	Legume	44 IJ	5 E	58 C	86 AB	67 CDE	10 HI	50 DEF	63 FGH	43 G	54 D	22 F	38 D	55 DEF	77 A	20 EF	10 G
Cahaba	vetch, common	Legume	68 EF	58 B	95 A	88 AB	100 A	13 GHI	43 EF	83 ABCDEF	77 BCD	97 AB	18 F	93 A	60 CDEF	58 AB	76 B	65 CDE
AU Early Cover	vetch, hairy	Legume	86 A	87 A	95 A	89 AB	100 A	7 I	90 AB	98 A	95 A	100 A	68 BCDE	100 A	98 A	73 A	100 A	94 A
Summary Statistics																		
Average			68	66	93	81	84	24	66	76	57	75	61	84	73	68	59	58
Standard Error			2	5	3	6	10	4	11	7	7	4	8	5	7	14	6	8
Min			42	5	53	0	55	5	38	1	5	53	17	35	20	18	5	10
Max			86	100	100	100	100	62	97	98	95	100	93	100	98	88	100	94
Range			44	95	48	100	45	57	59	97	90	47	77	65	78	69	95	84
ANOVA p-values																		
- Variety			<0.001	<0.001	<0.001	<0.001	0.012	<0.001	0.009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.007	<0.001	<0.001
- Location			<0.001															
- Variety x Location			<0.001															

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ). Mean values are overlaid with a color gradient based on value with 0%=red, 50% = yellow and 100%=green.

Table 11. Across and by location mean weed cover of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Weed Cover (%)															
			Avg	AL	AL_demo	AR	FL_C	FL_NF	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West	TX	VA
			21-Mar-24	14-Mar-24	25-Mar-24	2-Apr-24	8-Mar-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	15-Mar-24	1-Apr-24	5-Apr-24	12-Apr-24	15-Feb-24	8-May-24	
Driller	radish, daikon	Brassica	31 D	0 E	0 B	97 A	5 DE	40 B	12 EF	38 BC	95 A	0 B	30 CDEFG	0 C	75 A	33 BC	32 DE	12 G
FL405	cereal rye	Cereal	14 GH	0 E	0 B	42 B	32 ABCD	20 CD	30 BCDEF	9 FGHI	43 BCD	0 B	7 G	0 C	5 D	10 CDEF	3 FG	8 G
FL406	cereal rye	Cereal	14 GH	1 E	0 B	13 CD	45 A	22 CD	3 F	2 I	60 B	0 B	17 DEFG	0 C	5 D	22 BCDEF	2 FG	20 DEFG
AGS NC EXP TRT	oat	Cereal	14 GH	1 E	2 B	0 D	40 AB	27 C	28 BCDEF	18 DEFGHI	53 BC	0 B	10 FG	0 C	8 D	8 DEF	0 G	13 FG
FL-5	oat	Cereal	17 G	2 E	0 B	100 A	3 DE	13 D	18 DEF	9 FGHI	50 BCD	0 B	10 FG	0 C	18 CD	8 DEF	0 G	22 DEFG
Horizon 214	oat	Cereal	13 GH	0 E	3 B	4 CD	0 DE	18 CD	17 DEF	28 CDE	50 BCD	0 B	28 CDEFG	0 C	15 D	12 DEF	2 FG	15 EFG
Horizon 306	oat	Cereal	16 G	1 E	1 B	4 CD	13 BCDE	17 CD	27 BCDEF	25 CDEFG	50 BCD	0 B	38 CDE	0 C	12 D	15 CDEF	0 G	33 CDEF
Horizon 578	oat	Cereal	14 GH	0 E	0 B	1 D	18 ABCDE	15 CD	32 ABCDEF	30 CDE	53 BC	0 B	32 CDEF	0 C	15 D	13 CDEF	0 G	7 G
Horizon 720	oat	Cereal	14 GH	1 E	1 B	11 CD	8 CDE	13 D	50 ABC	22 CDEFGH	43 BCD	0 B	20 CDEFG	0 C	8 D	5 EF	0 G	20 DEFG
FL08128	triticale	Cereal	17 G	0 E	5 B	1 D	33 ABC	22 CD	22 CDEF	28 CDEFG	60 B	0 B	20 CDEFG	0 C	12 D	10 DEF	2 FG	38 CD
FIXatioN	clover, balansa	Legume	51 A	88 AB	1 B	18 C	28 ABCDE	50 AB	55 AB	99 A	90 A	3 B	72 A	47 A	45 B	23 BCDEF	75 A	77 A
Frosty	clover, berseem	Legume	30 DE	91 AB	0 B	11 CD	2 DE	45 AB	40 ABCDE	14 EFGHI	17 FGH	0 B	40 CD	23 B	18 CD	3 F	65 AB	83 A
AU Robin	clover, crimson	Legume	31 D	60 C	0 B	15 CD	4 DE	53 A	38 ABCDE	5 HI	13 GH	0 B	30 CDEFG	25 B	12 D	80 A	52 BC	78 A
AU Sunrise	clover, crimson	Legume	24 F	60 C	1 B	5 CD	0 E	52 AB	30 BCDEF	2 I	12 GH	0 B	38 CDE	10 BC	10 D	30 BCD	38 CD	73 A
Kentucky Pride	clover, crimson	Legume	25 EF	57 C	0 B	7 CD	0 DE	43 AB	45 ABCD	7 GHI	10 GH	0 B	43 BC	8 BC	7 D	77 A	23 DE	50 BC
eNhance	clover, Persian	Legume	42 C	78 B	2 B	7 CD	37 ABC	53 A	62 A	52 B	33 DEF	2 B	72 A	52 A	33 BC	5 EF	65 AB	83 A
Dynamite	clover, red	Legume	44 BC	94 A	33 A	10 CD	23 ABCDE	48 AB	50 ABC	27 CDEF	37 CDE	20 A	67 AB	53 A	38 B	25 BCDEF	68 AB	70 AB
Q	clover, red	Legume	49 AB	95 A	33 A	14 CD	33 ABC	43 AB	50 ABC	38 BCD	57 B	19 A	78 A	50 A	40 B	23 BCDEF	70 A	90 A
Cahaba	vetch, common	Legume	27 DEF	42 D	2 B	12 CD	0 E	42 AB	57 AB	17 DEFGHI	23 EFG	0 B	82 A	5 C	33 BC	42 B	19 EF	35 CDE
AU Early Cover	vetch, hairy	Legume	9 H	13 E	2 B	11 CD	0 E	50 AB	10 EF	2 I	5 H	0 B	15 EFG	0 C	2 D	25 BCDE	0 G	6 G
Summary Statistics																		
Average			25	34	4	19	16	34	34	24	43	2	37	14	21	24	26	42
Standard Error			2	5	2	6	10	5	11	7	7	4	8	6	6	8	6	8
Min			9	0	0	0	0	13	3	2	5	0	7	0	2	3	0	6
Max			51	95	33	100	45	53	62	99	95	20	82	53	75	80	75	90
Range			42	95	33	100	45	40	59	97	90	20	75	53	73	77	75	84
ANOVA p-values																		
- Variety			<0.001	<0.001	<0.001	<0.001	0.012	<0.001	0.006	<0.001	<0.001	0.007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001															
- Variety x Location			<0.001															

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ). Mean values are overlaid with a color gradient based on value with 0%=green, 50% = yellow and 100%=red.

Table 12. Across and by location mean cover crop height of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-corn (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Height (in)																
			Avg	AL	AL_demo	AR	FL_C	FL_NF	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West	TX	VA	
				21-Mar-24	14-Mar-24	25-Mar-24	2-Apr-24	8-Mar-24	27-Mar-24	2-Apr-24	9-Apr-24	2-Apr-24	9-Apr-24	15-Mar-24	1-Apr-24	5-Apr-24	12-Apr-24	15-Feb-24	8-May-24
Driller	radish, daikon	Brassica	28 C	54 AB	49 B	18 DEFGHI	48 AB	2 EFG	35 B	30 CD	6 GH	39 C	12 D	46 C	15 C	28 BC	6 CDEFG	29 E	
FL405	cereal rye	Cereal	47 A	52 B	61 A	29 B	51 AB	9 A	54 A	64 A	18 A	71 A	50 A	54 B	53 A	50 A	22 A	60 A	
FL406	cereal rye	Cereal	47 A	58 A	60 A	36 A	48 AB	8 AB	56 A	68 A	17 A	72 A	36 B	63 A	49 A	50 A	26 A	64 A	
AGS NC EXP TRT	oat	Cereal	26 C	43 CD	25 FG	34 A	34 C	4 D	24 CD	35 C	8 DEF	39 C	13 D	39 D	23 B	31 B	11 BC	31 DE	
FL-5	oat	Cereal		35 F	30 DE		52 A	6 C	18 DEFG	30 CD	6 GH	33 D	13 D	27 F	14 CD	23 CD	10 BC	45 B	
Horizon 214	oat	Cereal	19 F	40 DE	27 EFG	23 CDE	39 BC	4 DE	11 GHI	24 DEFG	7 FGH	23 GHU	8 EF	28 F	13 CDEF	15 EFG	9 BCD	21 FG	
Horizon 306	oat	Cereal	22 E	42 CDE	28 DEF	24 CD	32 CD	4 DE	15 FGH	23 EFG	8 DEF	29 DEF	13 D	30 EF	17 C	23 CDE	11 BC	27 EF	
Horizon 578	oat	Cereal	20 F	38 EF	27 EFG	26 BC	31 CDE	4 DE	15 FGH	18 FGH	7 EFG	26 EFGH	10 DE	29 F	13 CDE	20 DE	7 CDE	27 EF	
Horizon 720	oat	Cereal	24 D	44 C	32 CD	19 EF	33 C	5 D	22 DE	30 CD	12 B	28 DEFG	13 D	34 E	14 CD	20 DE	11 BC	39 BC	
FL08128	triticale	Cereal	34 B	52 B	35 C	39 A	33 C	7 BC	30 BC	49 B	12 B	53 B	20 C	50 BC	24 B	43 A	23 A	39 BC	
FIXatioN	clover, balansa	Legume	9 JK	7 K	14 I	14 HI	10 G	0 H	3 J	5 I	4 I	24 FGH	3 H	6 K	10 DEFG	20 DEF	1 G	19 GH	
Frosty	clover, berseem	Legume	15 G	15 IJ	23 G	18 FG	29 CDE	0 H	16 EFG	21 EFG	9 CDE	29 DEF	7 FG	14 GH	8 FG	23 CD	4 DEFG	16 GHI	
AU Robin	clover, crimson	Legume	13 I	14 IJ	18 HI	15 FGH	20 EFG	1 FGH	14 FGH	22 EFG	9 CD	23 GHI	4 GH	10 HIJK	8 FG	10 GH	2 EFG	16 GHI	
AU Sunrise	clover, crimson	Legume	13 HI	17 HI	18 HI	16 FGH	21 EFG	1 H	14 FGH	24 DEF	9 CDE	22 HIJ	4 GH	13 GHI	8 FG	13 FGH	1 FG	16 GHI	
Kentucky Pride	clover, crimson	Legume	12 I	12 J	17 HI	14 HI	21 DEFG	1 FGH	12 GHI	17 GH	10 C	23 GHI	5 FGH	11 GHU	7 G	8 H	2 EFG	20 FGH	
eNhanse	clover, Persian	Legume	9 J	6 KL	15 HI	14 GHI	11 FG	0 H	9 HIJ	12 H	7 FGH	18 J	3 GH	9 IJK	9 EFG	16 DEFG	3 EFG	9 IJ	
Dynamite	clover, red	Legume	8 JK	2 L	6 J	12 I	16 FG	0 H	9 HIJ	18 FGH	6 GH	9 K	2 H	7 JK	6 G	12 GH	2 EFG	13 HIJ	
Q	clover, red	Legume	8 K	3 KL	7 J	12 I	14 FG	1 H	12 GHI	18 FGH	5 HI	9 K	2 H	6 K	7 G	12 FGH	2 EFG	8 J	
Cahaba	vetch, common	Legume	14 GH	19 GH	16 HI	12 I	30 CDE	3 EF	7 IJ	19 FG	9 CDE	18 IJ	5 FGH	15 G	7 G	17 DEFG	7 CDEF	30 DE	
AU Early Cover	vetch, hairy	Legume	20 F	23 G	19 H	12 I	22 DEF	1 GH	21 DEF	28 DE	14 B	30 DE	11 DE	30 EF	15 C	22 CD	14 B	36 CD	
Summary Statistics																			
Average			20	29	26	20	30	3	20	28	9	31	12	26	16	23	9	28	
Standard Error			1	2	1	2	4	0	3	2	1	2	1	2	2	3	2	2	
Min			8	2	6	12	10	0	3	5	4	9	2	6	6	8	1	8	
Max			47	58	61	39	52	9	56	68	18	72	50	63	53	50	26	64	
Range			40	55	55	27	42	8	53	64	14	63	48	57	46	43	25	56	
ANOVA p-values																			
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
- Location			<0.001																
- Variety x Location			<0.001																

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD, P<0.05).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

**Table 13. Across and by location mean estimated nitrogen release over 90 days of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-corn (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Estimated Nitrogen Release (lbs ac <sup>-1</sup> ) <sup>††</sup>								
			Avg	FL_C	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West
				2-Apr-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	1-Apr-24	5-Apr-24	12-Apr-24
Driller	radish, daikon	Brassica		29 AB	13 C	7 DEFG		14 E	26 AB	1 EF	7 CDE
FL405	cereal rye	Cereal	4 H	4 DE	4 C	-4 G	0 E	-2 E	18 BCD	7 BCDE	3 CDE
FL406	cereal rye	Cereal	4 H	2 E	4 C	2 EFG	1 E	-1 E	19 BCD	5 BCDEF	-2 DE
AGS NC EXP TRT	oat	Cereal	7 FGH	3 E	11 C	4 DEFG	1 E	6 E	20 BCD	5 BCDEF	5 CDE
FL-5	oat	Cereal	8 EFGH	-1 E	8 C	13 DE	1 E	7 E	27 AB	7 BCDE	4 CDE
Horizon 214	oat	Cereal	7 FGH	5 DE	5 C	12 DEF	1 E	5 E	26 AB	5 CDEF	0 CDE
Horizon 306	oat	Cereal	5 GH	-1 E	3 C	6 DEFG	1 E	3 E	25 ABC	5 CDEF	0 CDE
Horizon 578	oat	Cereal	7 FGH	-2 E	12 C	4 DEFG	1 E	6 E	21 BCD	6 BCDE	3 CDE
Horizon 720	oat	Cereal	5 GH	-3 E	8 C	17 CD	0 E	3 E	19 BCD	3 DEF	-5 E
FL08128	triticale	Cereal	3 H	2 E	5 C	-5 FG	0 E	-5 E	18 BCD	8 BCD	1 CDE
FIXatioN	clover, balansa	Legume			3 C	1 DEFG	0 E	51 CD	0 D	4 CDEF	16 BC
Frosty	clover, berseem	Legume	25 C	21 BC	30 AB	32 BC	3 CDE	72 BC	8 BCD	4 CDEF	33 A
AU Robin	clover, crimson	Legume	27 BC	31 AB	29 AB	47 A	4 CD	80 AB	15 BCD	5 BCDEF	3 CDE
AU Sunrise	clover, crimson	Legume	32 AB	34 A	37 AB	39 AB	5 C	97 A	27 AB	9 BC	8 CDE
Kentucky Pride	clover, crimson	Legume	26 BC	37 A	29 B	38 AB	5 BC	66 BCD	21 BCD	10 B	6 BCDE
eNhanse	clover, Persian	Legume	13 DE	4 CDE	7 C	9 DEFG	1 E	49 D	7 BCD	5 CDEF	25 AB
Dynamite	clover, red	Legume	11 DEF	9 CDE	13 C	30 BC	2 DE	12 E	4 D	4 CDEF	16 BC
Q	clover, red	Legume	10 DEFG	6 DE	33 AB	19 CDE	1 E	7 E	6 CD	1 F	10 BCDE
Cahaba	vetch, common	Legume	14 D	17 CD	10 C	31 BC	8 B	18 E	15 BCD	5 CDEF	14 BCD
AU Early Cover	vetch, hairy	Legume	33 A	15 CD	42 A	42 AB	12 A	51 CD	42 A	22 A	40 A
<b>Summary Statistics</b>											
Average			14	11	15	17	2	27	18	6	9
Standard Error			2	5	5	6	1	8	7	2	6
Min			3	-3	3	-5	0	-5	0	1	-5
Max			33	37	42	47	12	97	42	22	40
Range			30	40	39	52	11	102	41	22	45
<b>ANOVA p-values</b>											
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001								
- Variety x Location			<0.001								

<sup>†</sup> Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

<sup>††</sup> Estimated using quality constituents from near infrared spectroscopy (NIRS) with the appropriate calibrations for each species, inputted into the PSA cover crop nitrogen calculator.

**Table 14. Across and by location mean Nitrogen (%) of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-corn (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Nitrogen (%) <sup>¶</sup>								
			Avg	FL_C	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West
				2-Apr-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	1-Apr-24	5-Apr-24	12-Apr-24
Driller	radish, daikon	Brassica		1.9 G	2.2 D	1.7 E		1.7 E	2.0 D	3.1 D	1.7 EF
FL405	cereal rye	Cereal	1.3 E	1.3 HI	1.5 EF	1.1 F	1.1 F	1.0 F	1.8 D	1.3 G	1.1 FG
FL406	cereal rye	Cereal	1.2 E	1.2 HI	1.3 F	1.3 F	1.2 EF	1.0 F	1.7 D	1.3 G	1.0 FG
AGS NC EXP TRT	oat	Cereal	1.5 D	2.1 FG	1.8 E	1.3 EF	1.5 DEF	1.2 EF	1.6 D	1.7 EF	1.3 FG
FL-5	oat	Cereal	1.5 D	0.9 HI	1.4 EF	1.4 EF	1.8 D	1.3 EF	2.0 D	2.0 E	1.2 FG
Horizon 214	oat	Cereal	1.4 DE	1.2 HI	1.5 EF	1.5 EF	1.4 DEF	1.2 EF	1.7 D	1.7 EF	1.1 FG
Horizon 306	oat	Cereal	1.3 E	1.0 HI	1.4 EF	1.3 EF	1.3 EF	1.1 F	1.7 D	1.7 F	1.0 FG
Horizon 578	oat	Cereal	1.4 DE	0.9 HI	1.7 EF	1.3 EF	1.5 DE	1.2 EF	1.7 D	1.7 F	1.1 FG
Horizon 720	oat	Cereal	1.2 E	0.8 I	1.3 F	1.5 EF	1.2 EF	1.1 F	1.6 D	1.5 FG	0.8 G
FL08128	triticale	Cereal	1.3 E	1.3 H	1.5 EF	1.1 F	1.2 EF	1.0 F	1.5 D	1.7 F	1.1 FG
FIXatioN	clover, balansa	Legume		3.3 AB	2.9 CD	3.1 B	3.6 B	3.6 BC	4.6 AB	3.3 ABC	
Frosty	clover, berseem	Legume	3.0 C	2.4 DEF	3.0 BC	2.8 CD	2.4 C	2.9 CD	3.6 BC	4.3 C	2.9 BCD
AU Robin	clover, crimson	Legume	3.0 C	2.2 EFG	2.8 C	2.6 D	2.7 C	2.5 D	3.6 BC	4.3 BC	3.1 ABCD
AU Sunrise	clover, crimson	Legume	3.0 C	2.6 BCDE	2.9 C	2.6 D	2.5 C	2.7 D	3.5 C	4.3 C	2.6 CD
Kentucky Pride	clover, crimson	Legume	3.0 C	2.5 CDEF	3.0 BC	2.8 CD	2.5 C	2.9 CD	3.9 ABC	4.1 C	2.3 DE
eNhance	clover, Persian	Legume	3.5 AB	2.9 BCDE	3.4 A	3.1 BC	3.3 B	3.3 BC	4.6 A	4.3 C	3.4 AB
Dynamite	clover, red	Legume	3.7 A	3.0 B	3.6 A	3.5 AB	3.4 AB	4.3 A	4.3 ABC	4.3 BC	3.3 ABC
Q	clover, red	Legume	3.5 B	3.0 BC	3.4 A	3.0 CD	3.2 B	3.7 B	4.3 AB	4.3 C	3.2 ABC
Cahaba	vetch, common	Legume	3.6 AB	3.8 A	3.3 AB	3.5 A	3.4 B	3.4 BC	3.7 BC	4.8 A	3.1 ABCD
AU Early Cover	vetch, hairy	Legume	3.5 B	2.9 BCD	2.8 C	3.0 CD	3.7 A	3.0 CD	4.2 ABC	4.8 A	3.6 A
<b>Summary Statistics</b>											
Average			2.3	2.0	2.3	2.2	2.2	2.2	2.8	3.1	2.1
Standard Error			0.1	0.2	0.1	0.2	0.1	0.2	0.3	0.1	0.2
Min			1.2	0.8	1.3	1.1	1.1	1.0	1.5	1.3	0.8
Max			3.7	3.8	3.6	3.5	3.7	4.3	4.6	4.8	3.6
Range			2.5	3.0	2.2	2.4	2.6	3.4	3.1	3.5	2.8
<b>ANOVA p-values</b>											
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001								
- Variety x Location			<0.001								

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

¶ Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

**Table 15. Across and by location mean in-vitro total dry matter digestibility at 48 hours (IVTDM48) of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-corn (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop In-Vitro Total Dry Matter Digestibility at 48 hrs (IVTDM48) <sup>†</sup>								
			Avg	FL_C	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West
				2-Apr-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	1-Apr-24	5-Apr-24	12-Apr-24
Driller	radish, daikon	Brassica		69 EFG	73 G	69 F		73 HI	77 G	87 G	75 EF
FL405	cereal rye	Cereal	61 J	56 H	68 H	57 H	59 I	59 J	68 HI	63 I	60 G
FL406	cereal rye	Cereal	62 J	58 H	65 H	60 GH	63 I	60 J	66 I	64 I	61 G
AGS NC EXP TRT	oat	Cereal	76 H	73 CDE	83 CDEF	73 EF	78 CDEF	72 I	75 G	82 H	74 EF
FL-5	oat	Cereal	80 F	64 G	84 CDEF	78 CDE	81 BC	79 FG	85 DEF	89 EFG	83 C
Horizon 214	oat	Cereal	80 F	66 FG	88 BC	82 BCD	76 DEF	77 GH	88 BCDEF	88 FG	80 CD
Horizon 306	oat	Cereal	80 F	67 FG	87 CD	84 BC	74 FG	79 FG	86 DEF	88 EFG	80 CD
Horizon 578	oat	Cereal	82 EF	67 FG	86 CD	85 B	77 CDEF	82 BCDEFG	87 CDEF	89 DEFG	81 CD
Horizon 720	oat	Cereal	78 G	66 FG	84 CDEF	80 BCD	69 H	80 EFG	83 F	88 EFG	78 DE
FL08128	triticale	Cereal	72 I	64 G	76 G	67 FG	70 GH	70 I	73 GH	82 H	72 F
FIXatioN	clover, balansa	Legume			91 AB	86 ABCD	90 A	95 A	94 AB	96 A	95 A
Frosty	clover, berseem	Legume	82 DE	74 CDE	82 EF	82 BCD	78 CDE	81 DEFG	89 BCD	91 BCD	82 CD
AU Robin	clover, crimson	Legume	82 DE	71 DEF	85 CDEF	77 DE	77 CDEF	82 CDEF	90 BCD	93 B	84 BC
AU Sunrise	clover, crimson	Legume	83 CDE	73 CDE	86 CDE	79 BCD	75 EF	84 BCDE	92 ABC	91 BC	83 C
Kentucky Pride	clover, crimson	Legume	85 C	79 BC	86 CDE	82 BCD	77 CDEF	88 B	93 ABC	91 CDE	83 BCD
eNhance	clover, Persian	Legume	95 A	91 A	94 A	94 A	92 A	95 A	98 A	97 A	96 A
Dynamite	clover, red	Legume	84 CD	80 B	83 DEF	82 BCD	81 BC	86 BCD	88 BCDEF	87 FG	83 C
Q	clover, red	Legume	81 EF	76 BCD	81 F	78 BCDE	77 CDEF	83 BCDEF	89 BCDE	88 FG	80 CD
Cahaba	vetch, common	Legume	87 B	80 B	87 BCD	84 B	84 B	86 BC	90 BCD	98 A	88 B
AU Early Cover	vetch, hairy	Legume	76 H	67 FG	66 H	68 F	80 BCD	73 HI	83 EF	90 CDEF	82 C
<b>Summary Statistics</b>											
Average			79	71	82	77	77	79	85	87	80
Standard Error			1	2	1	2	2	2	2	1	2
Min			61	56	65	57	59	59	66	63	60
Max			95	91	94	94	92	95	98	98	96
Range			34	35	29	37	33	36	32	35	36
<b>ANOVA p-values</b>											
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001								
- Variety x Location			<0.001								

<sup>†</sup> Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

<sup>‡</sup> Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.



**Table 16. Across and by location mean crude protein (CP) of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-corn (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Crude Protein (CP) <sup>¶</sup>								
			Avg	FL_C	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West
				2-Apr-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	1-Apr-24	5-Apr-24	12-Apr-24
Driller	radish, daikon	Brassica		12 G	14 D	11 E		11 E	12 D	19 D	10 EF
FL405	cereal rye	Cereal	8 E	8 HI	9 EF	7 F	7 F	7 F	11 D	8 G	7 FG
FL406	cereal rye	Cereal	8 E	7 HI	8 F	8 F	8 EF	6 F	10 D	8 G	6 FG
AGS NC EXP TRT	oat	Cereal	10 D	13 FG	11 E	8 EF	9 DEF	7 EF	10 D	11 EF	8 FG
FL-5	oat	Cereal	9 D	6 HI	9 EF	9 EF	11 D	8 EF	13 D	13 E	7 FG
Horizon 214	oat	Cereal	9 DE	7 HI	9 EF	9 EF	9 DEF	7 EF	11 D	11 EF	7 FG
Horizon 306	oat	Cereal	8 E	6 HI	9 EF	8 EF	8 EF	7 F	10 D	10 F	7 FG
Horizon 578	oat	Cereal	9 DE	6 HI	10 EF	8 EF	10 DE	8 EF	10 D	10 F	7 FG
Horizon 720	oat	Cereal	8 E	5 I	8 F	9 EF	8 EF	7 F	10 D	10 FG	5 G
FL08128	triticale	Cereal	8 E	8 H	9 EF	7 F	8 EF	6 F	9 D	11 F	7 FG
FIXatioN	clover, balansa	Legume		21 AB	18 CD	19 B	23 B	23 BC	29 AB	21 ABC	
Frosty	clover, berseem	Legume	19 C	15 DEF	19 BC	17 CD	15 C	18 CD	23 BC	27 C	18 BCD
AU Robin	clover, crimson	Legume	19 C	14 EFG	17 C	16 D	17 C	16 D	23 BC	27 BC	20 ABCD
AU Sunrise	clover, crimson	Legume	19 C	16 BCDE	18 C	16 D	16 C	17 D	22 C	27 C	16 CD
Kentucky Pride	clover, crimson	Legume	19 C	15 CDEF	19 BC	18 CD	15 C	18 CD	24 ABC	26 C	14 DE
eNhanse	clover, Persian	Legume	22 AB	18 BCDE	21 A	19 BC	21 B	21 BC	29 A	27 C	21 AB
Dynamite	clover, red	Legume	23 A	19 B	22 A	22 AB	21 AB	27 A	27 ABC	27 BC	20 ABC
Q	clover, red	Legume	22 B	18 BC	21 A	19 CD	20 B	23 B	27 AB	27 C	20 ABC
Cahaba	vetch, common	Legume	23 AB	24 A	21 AB	22 A	21 B	21 BC	23 BC	30 A	20 ABCD
AU Early Cover	vetch, hairy	Legume	22 B	18 BCD	17 C	18 CD	23 A	19 CD	26 ABC	30 A	23 A
<b>Summary Statistics</b>											
Average			15	12	15	14	14	14	18	19	13
Standard Error			0	1	1	1	1	1	2	1	2
Min			8	5	8	7	7	6	9	8	5
Max			23	24	22	22	23	27	29	30	23
Range			15	19	14	15	16	21	20	22	17
<b>ANOVA p-values</b>											
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001								
- Variety x Location			<0.001								

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

¶ Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

**Table 17. Across and by location mean acid detergent fiber (ADF) of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-corn (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Acid Detergent Fiber (ADF) <sup>†</sup>								
			Avg	FL_C	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West
				2-Apr-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	1-Apr-24	5-Apr-24	12-Apr-24
Driller	radish, daikon	Brassica		44 A	39 B	41 BCD		38 B	36 B	29 B	40 B
FL405	cereal rye	Cereal	44 A	43 ABC	41 B	47 A	46 A	43 A	41 AB	43 A	47 A
FL406	cereal rye	Cereal	44 A	44 A	43 AB	45 AB	43 AB	43 A	42 A	43 A	46 A
AGS NC EXP TRT	oat	Cereal	34 C	35 FGH	28 DEFG	37 DEFG	32 GHI	35 BC	38 AB	29 B	37 BC
FL-5	oat	Cereal	32 DE	43 AB	28 DE	35 EFGH	33 FGHI	31 DEF	29 CD	27 BC	31 FGH
Horizon 214	oat	Cereal	30 GH	42 ABCD	22 I	30 HIJ	34 EFGHI	30 EF	27 CDE	23 EF	30 GHI
Horizon 306	oat	Cereal	30 GH	40 ABCDE	24 FGHI	26 IJK	35 DEFGHI	29 EFG	29 CDE	24 DEF	31 FGH
Horizon 578	oat	Cereal	29 GH	40 ABCDE	26 EFGH	26 JK	32 HI	27 FGHI	27 CDEF	24 DEF	32 FG
Horizon 720	oat	Cereal	32 DEF	41 ABCD	27 EFGH	30 HIJ	40 BC	28 EFGH	30 C	25 DE	33 DEF
FL08128	triticale	Cereal	36 B	36 EFG	34 C	40 ABCDE	38 CDE	37 B	36 B	30 B	40 B
FIXatioN	clover, balansa	Legume		23 GHI	28 HIJK	26 J	22 IJ	20 GH	18 I	29 HI	
Frosty	clover, berseem	Legume	32 EF	39 BCDEF	31 CD	33 GH	37 CDEF	32 CDE	24 EFG	22 FG	35 CD
AU Robin	clover, crimson	Legume	33 CDE	43 AB	34 C	40 BCDE	36 CDEFG	34 BCD	24 DEFG	22 FG	31 FGHI
AU Sunrise	clover, crimson	Legume	33 CD	40 ABCDE	34 C	39 CDEF	39 CD	32 CDE	25 DEFG	23 EFG	35 CDE
Kentucky Pride	clover, crimson	Legume	30 FG	36 DEFG	30 CDE	33 GH	39 C	29 EFG	22 FG	23 EFG	31 EFGHI
eNhanse	clover, Persian	Legume	22 J	29 H	23 HI	24 K	25 J	20 J	16 H	18 I	24 J
Dynamite	clover, red	Legume	27 I	33 GH	28 DEF	30 HIJ	31 I	24 HIJ	21 GH	21 GH	29 GHI
Q	clover, red	Legume	28 HI	35 FGH	32 CD	33 GHI	33 FGHI	26 GHI	22 GH	18 HI	28 I
Cahaba	vetch, common	Legume	32 DEF	38 CDEF	34 C	34 FGH	34 EFGHI	31 CDEF	31 C	22 FG	31 FGHI
AU Early Cover	vetch, hairy	Legume	36 B	37 DEFG	45 A	44 ABC	36 CDEFGH	38 B	31 C	26 CD	34 DE
<b>Summary Statistics</b>											
Average			32	39	31	35	35	31	28	25	34
Standard Error			1	2	2	2	1	2	2	1	1
Min			22	29	22	24	25	20	16	18	24
Max			44	44	45	47	46	43	42	43	47
Range			21	15	23	23	21	23	26	25	23
<b>ANOVA p-values</b>											
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001								
- Variety x Location			<0.001								

<sup>†</sup> Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with green = lowest value, yellow = 50th percentile, red = highest value.

<sup>‡</sup> Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

**Table 18. Across and by location mean neutral detergent fiber (NDF) of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-corn (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Neutral Detergent Fiber (NDF) <sup>¶</sup>								
			Avg	FL_C	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West
				2-Apr-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	1-Apr-24	5-Apr-24	12-Apr-24
Driller	radish, daikon	Brassica		57 CDE	50 C	52 DEF		50 CD	45 B	34 E	3 E
FL405	cereal rye	Cereal	71 A	71 A	67 A	75 A	75 A	70 A	67 A	70 A	2 A
FL406	cereal rye	Cereal	72 A	73 A	70 A	74 A	71 AB	70 A	69 A	71 A	2 A
AGS NC EXP TRT	oat	Cereal	59 C	61 CD	49 CD	64 BC	53 EFG	62 B	65 A	52 B	3 B
FL-5	oat	Cereal	54 D	73 A	47 CD	58 CD	55 EF	51 CD	49 B	46 C	2 DE
Horizon 214	oat	Cereal	51 E	69 AB	37 GH	52 DEF	59 DE	51 C	47 B	39 D	2 DE
Horizon 306	oat	Cereal	50 E	68 AB	39 FG	46 FGHI	59 DE	47 CDE	48 B	39 D	2 CD
Horizon 578	oat	Cereal	51 E	69 AB	45 CDE	45 FGHIJ	56 E	47 CDE	46 B	39 D	2 C
Horizon 720	oat	Cereal	54 D	71 A	44 DEF	49 EFG	67 BC	47 CDE	52 B	40 D	2 C
FL08128	triticale	Cereal	62 B	63 BC	58 B	69 AB	64 CD	62 B	63 A	52 B	2 B
FIXatioN	clover, balansa	Legume		25 I	34 IJK	31 K	25 K	24 EF	19 J	2 HI	
Frosty	clover, berseem	Legume	39 G	49 FG	38 GH	41 HIJ	47 GHI	41 FG	29 DE	26 FG	2 F
AU Robin	clover, crimson	Legume	40 G	54 DEF	40 EFG	48 EFGH	45 HI	42 EFG	28 DE	24 GH	2 FGH
AU Sunrise	clover, crimson	Legume	39 G	49 EFG	40 FG	46 FGHI	48 FGH	39 GH	28 DE	25 GH	2 F
Kentucky Pride	clover, crimson	Legume	36 HI	45 GH	35 GH	41 GHIJ	49 FGH	34 HI	25 EF	26 FG	2 FGH
eNhanace	clover, Persian	Legume	26 K	35 H	26 I	28 K	32 K	25 JK	18 F	20 IJ	2 I
Dynamite	clover, red	Legume	33 J	40 H	33 H	37 J	38 JK	28 IJK	25 EF	26 FG	3 GH
Q	clover, red	Legume	34 IJ	43 GH	37 GH	41 GHIJ	41 IJ	30 IJ	25 EF	22 HI	2 GH
Cahaba	vetch, common	Legume	38 GH	48 FG	39 FGH	41 HIJ	42 HIJ	37 GH	35 CD	23 GHI	2 FG
AU Early Cover	vetch, hairy	Legume	45 F	48 FG	58 B	55 DE	45 HI	45 DEF	37 C	28 F	2 F
<b>Summary Statistics</b>											
Average			47	57	44	50	51	45	41	36	2
Standard Error			1	3	2	3	2	2	3	1	2
Min			26	35	25	28	31	25	18	19	2
Max			72	73	70	75	75	70	69	71	3
Range			45	39	45	47	44	46	51	52	1
<b>ANOVA p-values</b>											
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001								
- Variety x Location			<0.001								

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with green = lowest value, yellow = 50th percentile, red = highest value.

¶ Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

**Table 19. Across and by location mean lignin of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-corn (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Lignin <sup>¶</sup>								
			Avg	FL_C	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West
				2-Apr-24	27-Mar-24	2-Apr-24	9-Apr-24	9-Apr-24	1-Apr-24	5-Apr-24	12-Apr-24
Driller	radish, daikon	Brassica		10.5 A	9.7 A	10.2 A		9.3 A	9.1 A	7.7 A	10.0 A
FL405	cereal rye	Cereal	7.2 EF	7.7 FGH	6.4 CDE	8.4 BCD	7.5 CD	7.7 BC	5.7 DEF	6.7 AB	7.5 CD
FL406	cereal rye	Cereal	7.1 EF	8.1 EFG	7.2 BCD	7.6 DE	7.2 DE	7.8 BC	6.1 BCDE	6.4 BC	6.9 D
AGS NC EXP TRT	oat	Cereal	5.2 IJ	6.0 IJ	4.5 G	6.1 F	5.6 HI	5.4 G	4.7 FG	4.2 FGH	5.5 FGH
FL-5	oat	Cereal	5.0 JK	7.2 GH	4.9 FG	5.5 FGH	5.2 I	6.0 FG	3.6 H	3.7 H	4.1 I
Horizon 214	oat	Cereal	4.9 K	6.0 IJ	4.8 FG	4.7 GH	5.0 I	5.5 G	3.4 H	4.6 EFGH	5.1 GH
Horizon 306	oat	Cereal	5.0 JK	5.7 IJ	4.6 G	4.7 GH	5.3 I	6.1 FG	3.8 GH	4.7 EFGH	4.9 GHI
Horizon 578	oat	Cereal	4.8 K	5.7 J	4.3 G	4.5 H	5.2 I	5.3 G	4.1 GH	4.7 EFGH	4.7 HI
Horizon 720	oat	Cereal	5.3 IJ	6.7 HI	5.0 FG	5.6 FGH	6.4 FG	5.5 G	3.7 GH	4.4 FGH	5.0 GH
FL08128	triticale	Cereal	5.7 H	6.0 IJ	5.3 EFG	6.5 EF	6.1 GH	5.8 FG	5.5 EF	4.4 FGH	5.9 F
FIXatioN	clover, balansa	Legume		5.9 EF	6.3 EFG	6.7 EFG	5.5 G	5.4 DEF	4.0 H	5.4 FGH	
Frosty	clover, berseem	Legume	8.1 AB	10.0 AB	9.2 A	8.8 BC	9.3 A	7.1 CDE	6.8 BC	5.8 BCD	8.0 BC
AU Robin	clover, crimson	Legume	8.0 ABC	9.6 ABC	8.0 B	9.5 AB	9.4 A	7.4 CD	6.5 BCD	5.5 CDE	7.7 BCD
AU Sunrise	clover, crimson	Legume	7.8 BC	9.0 CDE	7.7 B	8.8 BC	9.6 A	7.5 CD	6.1 BCDE	5.8 BCD	8.0 BC
Kentucky Pride	clover, crimson	Legume	7.6 CD	8.6 CDEF	7.9 B	8.6 BCD	9.0 A	6.4 EFG	5.7 DEF	5.8 BCD	8.7 AB
eNhance	clover, Persian	Legume	5.6 HI	6.8 GHIJ	6.2 DE	6.0 F	6.9 DEF	5.5 G	4.1 GH	3.8 H	5.3 FGH
Dynamite	clover, red	Legume	6.9 FG	8.4 DEF	7.4 BC	7.7 CDE	8.3 B	5.5 G	5.8 DE	5.2 DEFG	6.9 DE
Q	clover, red	Legume	7.3 DE	9.2 BCD	9.2 A	7.9 CDE	8.9 A	6.6 DEF	5.6 DEF	4.3 FGH	6.9 D
Cahaba	vetch, common	Legume	6.6 G	7.3 GH	7.7 B	8.4 BCD	7.1 DE	6.1 FG	6.0 CDE	4.1 GH	5.9 EFG
AU Early Cover	vetch, hairy	Legume	8.2 A	8.7 CDEF	10.3 A	10.6 A	8.1 BC	8.6 AB	7.0 B	5.3 DEF	7.0 D
<b>Summary Statistics</b>											
Average			6.5	7.7	6.8	7.3	7.2	6.5	5.4	5.0	6.5
Standard Error			0.1	0.4	0.4	0.4	0.2	0.4	0.4	0.4	0.3
Min			4.8	5.7	4.3	4.5	5.0	5.3	3.4	3.7	4.1
Max			8.2	10.5	10.3	10.6	9.6	9.3	9.1	7.7	10.0
Range			3.4	4.8	6.0	6.1	4.5	4.1	5.8	4.0	5.9
<b>ANOVA p-values</b>											
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001								
- Variety x Location			<0.001								

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).  
Mean values are overlaid with a color gradient based on percentile within location with green = lowest value, yellow = 50th percentile, red = highest value.  
¶ Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

Table 20. Across and by location mean cover crop biomass of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Avg	Cover Crop Biomass (DM lbs/ac) <sup>§</sup>												
				AL	AL_demo	FL_C	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West	TX	VA
Driller	radish, daikon	Brassica	3959 DE	24-Apr-24 7919 ABC	17-Apr-24 9971 CDE	23-Apr-24 5058 A	15-Apr-24 3155 CDEF	22-Apr-24 1968 FG	2-May-24 0 I	1-May-24 4355 EFG	3-May-24 3392 GHI	6-May-24 8160 CD	10-May-24 2384 FG	30-May-24 1505 DEFG	12-Mar-24 851 DE	3-Jul-24 2458 BCD
FL405	cereal rye	Cereal	6794 A	7741 ABC	17146 A	1948 BCDEFGH	2671 DEFG	12255 A	1218 CDEFG	7057 AB	13271 AB	9897 BC	5236 ABC	2518 BCDEF	2068 AB	5093 A
FL406	cereal rye	Cereal	6725 A	7315 BC	15951 AB	1666 BCDEFGH	3031 CDEF	12479 A	975 DEFG	7204 AB	15539 A	10218 ABC	5807 AB	2104 CDEFG	1170 CD	3932 AB
AGS NC EXP TRT	oat	Cereal	5453 BC	7334 BC	6754 DEFG	230 H	3935 ABCDEF	7865 BC	776 EFGH	5871 BCDE	10832 BC	12602 A	5736 AB	5043 A	1028 CD	2844 ABC
FL-5	oat	Cereal	5347 C	8849 ABC	9417 CDE	2789 BCDE	3870 ABCDEF	9371 AB	943 DEFG	6797 ABC	7073 EF	10208 ABC	4666 ABCD	2815 BCDE	1335 BCD	1779 BCD
Horizon 214	oat	Cereal	5125 C	10379 A	8921 CDEF	1363 DEFGH	4024 ABCDE	7758 BC	1075 DEFG	4782 DEFG	7104 EF	10580 ABC	4126 BCDEF	2532 BCDEF	2056 AB	1913 BCD
Horizon 306	oat	Cereal	5366 BC	7191 C	10463 CD	2511 BCDEF	3657 BCDEF	7504 BCD	1016 DEFG	6409 BCD	7284 EF	10977 AB	5613 AB	3420 ABCD	1997 AB	1594 BCD
Horizon 578	oat	Cereal	5792 BC	10540 A	12258 BC	1513 CDEFGH	3433 CDEF	6281 BCDE	1356 CDEF	6012 BCDE	9952 CD	11981 AB	4737 ABCD	3100 BCD	1418 BCD	2682 ABC
Horizon 720	oat	Cereal	6024 B	10241 AB	11624 BC	2157 BCDEFG	4189 ABCD	8704 B	1382 CDEF	5811 BCDEF	10254 CD	12602 A	6286 A	2369 BCDEF	1052 CD	1607 BCD
FL08128	triticale	Cereal	5426 BC	9235 ABC	8385 CDEF	733 GH	2127 FG	8145 BC	799 EFGH	8500 A	8224 DE	11940 AB	4737 ABCD	3199 BCD	1749 ABC	2735 ABC
FIXatioN	clover, balansa	Legume	2058 FG	978 D	7844 CDEFG	1159 EFGH	1016 G	366 G	212 HI	5793 BCDEF	1235 IJK	2313 F	2786 EFG	2832 BCDE	24 F	0 D
Frosty	clover, berseem	Legume	3553 DE	359 D	6670 DEFG	2960 BCD	5737 A	5076 CDEF	1570 CD	6930 ABC	2330 HIJK	3988 EF	3601 CDEFG	3963 AB	154 EF	2820 ABC
AU Robin	clover, crimson	Legume	3665 DE	1424 D	10334 CD	3327 AB	3988 ABCDEF	6754 BCDE	1836 BC	7449 AB	3401 GHI	4075 EF	4381 BCDE	150 G	177 EF	137 D
AU Sunrise	clover, crimson	Legume	4201 D	1776 D	11207 BCD	2706 BCDEF	4573 ABC	6334 BCDE	2327 AB	8584 A	4503 GH	6413 DE	4197 BCDEF	623 FG	248 EF	911 CD
Kentucky Pride	clover, crimson	Legume	3891 DE	2720 D	6479 DEFG	3273 ABC	4378 ABCD	4833 CDEF	3019 A	6786 ABC	5267 FG	6403 DE	5252 ABC	868 EFG	118 EF	948 CD
eNhance	clover, Persian	Legume	1848 FG	708 D	5282 EFGH	747 EFGH	1052 G	2109 FG	531 GHI	5027 CDEF	496 JK	2048 F	2369 FG	3489 ABC	106 EF	0 D
Dynamite	clover, red	Legume	1632 G	204 D	1675 H	1105 EFGH	2523 DEFG	3988 EF	716 EFGH	3052 G	318 K	2394 F	1961 G	2287 BCDEF	154 EF	811 CD
Q	clover, red	Legume	1862 FG	190 D	3239 GH	987 FGH	3870 ABCDEF	2059 FG	683 Fghi	3899 FG	429 K	2170 F	1951 G	3657 ABCD	213 EF	624 CD
Cahaba	vetch, common	Legume	2525 F	1183 D	3434 GH	2647 BCDEF	2169 EFG	2818 FG	1410 CDE	5511 BCDEF	3037 GHIJ	3107 F	3158 DEFG	2771 BCDE	1359 BCD	0 D
AU Early Cover	vetch, hairy	Legume	3318 E	3074 D	4392 FGH	2080 BCDEFG	5430 AB	4148 DEF	2310 B	6533 BCD	3541 GHI	2847 F	3051 DEFG	1966 CDEFG	2316 A	1407 BCD
Summary Statistics																
Average			4228	4968	8572	2048	3437	6041	1208	6118	5874	7246	4102	2561	980	1715
Standard Error			249	1094	1673	671	743	1348	246	682	917	930	671	838	268	885
Min			1632	190	1675	230	1016	366	0	3052	318	2048	1951	150	24	0
Max			6794	10540	17146	5058	5737	12479	3019	8584	15539	12602	6286	5043	2316	5093
Range			5161	10349	15471	4827	4721	12113	3019	5531	15221	10554	4335	4893	2293	5093
ANOVA p-values																
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.764	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	0.010
- Location			<0.001													
- Variety x Location			<0.001													

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD, P<0.05).  
Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

Table 21. Across and by location mean cover crop cover of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Cover (%)												
			Avg	AL	AL_demo	FL_C	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West	TX	VA
				24-Apr-24	17-Apr-24	23-Apr-24	15-Apr-24	22-Apr-24	2-May-24	1-May-24	6-May-24	10-May-24	30-May-24	12-Mar-24	3-Jul-24
Driller	radish, daikon	Brassica	68 HI	100 A	100 A	98 A	62 BC	47 G	3 E	58 D	100 A	42 D	28 D	88 AB	88 A
FL405	cereal rye	Cereal	79 CDEF	100 A	100 A	35 CDE	43 CDE	91 ABC	57 BC	63 D	100 A	100 A	77 ABC	87 AB	92 A
FL406	cereal rye	Cereal	79 CDEF	100 A	100 A	60 BC	63 BC	98 A	40 BCD	60 D	100 A	97 AB	67 ABC	83 AB	80 ABCD
AGS NC EXP TRT	oat	Cereal	73 FGH	101 A	97 A	7 E	67 BC	77 BCDEF	43 BC	60 D	100 A	85 C	77 AB	80 B	87 AB
FL-5	oat	Cereal	87 AB	100 A	100 A	96 A	85 AB	95 ABC	53 BC	63 D	100 A	100 A	73 ABC	95 AB	78 ABCD
Horizon 214	oat	Cereal	80 BCDE	100 A	99 A	97 A	82 AB	77 BCDEF	37 CD	60 D	100 A	88 BC	57 BCD	85 AB	85 ABC
Horizon 306	oat	Cereal	82 BCDE	101 A	97 A	97 A	70 AB	80 ABCDE	47 BC	61 D	100 A	92 ABC	82 ABC	88 AB	67 BCDE
Horizon 578	oat	Cereal	85 BCD	100 A	100 A	99 A	80 AB	75 CDEF	60 BC	61 D	100 A	88 BC	70 ABC	88 AB	93 A
Horizon 720	oat	Cereal	84 BCD	100 A	99 A	99 A	73 AB	86 ABCD	63 B	60 D	100 A	97 AB	67 ABC	80 B	80 ABCD
FL08128	triticale	Cereal	71 GH	100 A	93 A	20 DE	72 AB	63 EFG	37 CD	60 D	100 A	88 BC	70 ABC	87 AB	62 DE
FIXatioN	clover, balanssa	Legume	59 J	42 CD	100 A	95 A	35 DE	23 H	17 DE	98 AB	82 ABCD	97 AB	97 AB	3 E	23 G
Frosty	clover, berseem	Legume	77 EFG	15 E	98 A	87 A	80 AB	89 ABC	88 A	100 A	98 AB	100 A	100 A	47 CD	17 G
AU Robin	clover, crimson	Legume	76 EFG	38 CD	100 A	100 A	72 AB	95 ABC	95 A	100 A	93 ABC	93 ABC	45 CD	55 C	22 G
AU Sunrise	clover, crimson	Legume	78 DEF	50 C	100 A	100 A	83 AB	96 AB	95 A	100 A	93 ABC	97 AB	45 CD	52 CD	27 G
Kentucky Pride	clover, crimson	Legume	80 CDEF	48 C	100 A	100 A	72 AB	99 A	95 A	100 A	97 AB	98 AB	57 BCD	42 CD	50 EF
eNhance	clover, Persian	Legume	61 J	33 D	100 A	40 CD	30 E	58 FG	57 BC	100 A	70 D	97 AB	87 AB	38 CD	17 G
Dynamite	clover, red	Legume	62 IJ	17 E	63 B	83 AB	60 BCD	82 ABCDE	40 BCD	87 C	77 CD	88 BC	80 AB	42 CD	30 FG
Q	clover, red	Legume	60 J	10 E	65 B	57 BC	67 BC	67 DEFG	47 BC	90 BC	80 BCD	100 A	97 AB	33 D	10 G
Cahaba	vetch, common	Legume	85 BC	42 CD	100 A	100 A	77 AB	96 AB	93 A	100 A	93 ABC	98 AB	62 BCD	95 AB	65 CDE
AU Early Cover	vetch, hairy	Legume	93 A	73 B	100 A	100 A	94 A	91 ABC	95 A	100 A	100 A	100 A	65 BC	100 A	94 A
Summary Statistics															
Average			76	69	95	78	68	79	58	79	94	92	70	68	58
Standard Error			3	5	4	10	9	7	11	3	7	4	16	7	8
Min			59	10	63	7	30	23	3	58	70	42	28	3	10
Max			93	101	100	100	94	99	95	100	100	100	100	100	94
Range			33	91	38	93	64	75	92	42	30	58	72	97	84
ANOVA p-values															
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.037	<0.001	0.037	<0.001	<0.001
- Location			<0.001												
- Variety x Location			<0.001												

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ). Mean values are overlaid with a color gradient based on value with 0%=red, 50% = yellow and 100%=green.

Table 22. Across and by location mean weed cover of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Weed Cover (%)												
			Avg	AL	AL_demo	FL_C	GA_SEG	GA_W	KY	NC	TN_East	TN_Middle	TN_West	TX	VA
				24-Apr-24	17-Apr-24	23-Apr-24	15-Apr-24	22-Apr-24	2-May-24	1-May-24	6-May-24	10-May-24	30-May-24	12-Mar-24	3-Jul-24
Driller	radish, daikon	Brassica	25 B	0 F	0 B	2 E	38 CD	53 B	97 A	0 n.s.	0 D	27 A	70 A	5 C	12 G
FL405	cereal rye	Cereal	17 CDE	0 F	0 B	66 ABC	57 ABC	9 FGH	43 CDE	0 n.s.	0 D	0 B	22 BCDEF	2 C	8 G
FL406	cereal rye	Cereal	16 DE	0 F	1 B	40 CD	37 CD	2 H	60 BCD	0 n.s.	0 D	0 B	27 BCDEF	2 C	20 DEFG
AGS NC EXP TRT	oat	Cereal	20 BCD	0 F	4 B	93 A	33 CD	23 CDEFG	57 CD	0 n.s.	0 D	0 B	20 CDEF	0 C	13 FG
FL-5	oat	Cereal	9 FG	0 F	0 B	4 E	15 DE	5 FGH	47 CDE	0 n.s.	0 D	0 B	13 CDEF	0 C	22 DEFG
Horizon 214	oat	Cereal	12 EFG	0 F	2 B	4 E	18 DE	23 CDEFG	63 BC	0 n.s.	0 D	0 B	22 CDEF	0 C	15 EFG
Horizon 306	oat	Cereal	14 EF	0 F	4 B	3 E	30 DE	20 DEFGH	53 CDE	0 n.s.	0 D	0 B	17 CDEF	1 C	33 CDEF
Horizon 578	oat	Cereal	9 FG	0 F	0 B	1 E	20 DE	25 CDEF	30 EF	0 n.s.	0 D	0 B	30 BCDE	0 C	7 G
Horizon 720	oat	Cereal	9 FG	0 F	2 B	1 E	27 DE	14 EFGH	37 DE	0 n.s.	0 D	0 B	13 CDEF	0 C	20 DEFG
FL08128	triticale	Cereal	24 B	0 F	8 B	80 AB	28 DE	37 BCD	63 BC	0 n.s.	0 D	2 B	30 BCDE	2 C	38 CD
FIXatioN	clover, balansa	Legume	36 A	58 CD	0 B	6 E	65 AB	77 A	83 AB	0 n.s.	18 ABCD	3 B	2 DEF	43 A	77 A
Frosty	clover, berseem	Legume	22 BC	85 A	3 B	13 E	20 DE	11 FGH	12 FG	0 n.s.	2 CD	0 B	0 F	35 AB	83 A
AU Robin	clover, crimson	Legume	24 B	75 AB	0 B	0 E	28 DE	5 FGH	5 G	0 n.s.	7 BCD	2 B	55 AB	35 AB	78 A
AU Sunrise	clover, crimson	Legume	20 BCD	50 D	0 B	0 E	17 DE	4 GH	5 G	0 n.s.	7 BCD	2 B	55 AB	25 AB	73 A
Kentucky Pride	clover, crimson	Legume	17 CDE	52 CD	0 B	0 E	28 DE	1 H	5 G	0 n.s.	3 CD	2 B	42 ABC	18 BC	50 BC
eNhance	clover, Persian	Legume	36 A	67 BC	0 B	59 BC	70 A	42 BC	43 CDE	0 n.s.	30 A	3 B	0 F	35 AB	83 A
Dynamite	clover, red	Legume	34 A	83 A	38 A	17 DE	40 BCD	18 DEFGH	60 BCD	13 n.s.	23 AB	3 B	3 EF	38 A	70 AB
Q	clover, red	Legume	37 A	90 A	35 A	43 CD	33 CD	32 BCDE	53 CDE	8 n.s.	20 ABC	0 B	2 DEF	35 AB	90 A
Cahaba	vetch, common	Legume	14 DEF	52 CD	0 B	0 E	23 DE	4 GH	7 FG	0 n.s.	7 BCD	2 B	37 ABCD	5 C	35 CDE
AU Early Cover	vetch, hairy	Legume	7 G	27 E	0 B	0 E	6 E	9 FGH	5 G	0 n.s.	0 D	0 B	35 BCD	0 C	6 G
Summary Statistics															
Average			20	32	5	22	32	21	41	1	6	2	25	14	42
Standard Error			2	6	4	10	9	7	11	3	7	2	11	7	8
Min			7	0	0	0	6	1	5	0	0	0	0	0	6
Max			37	90	38	93	70	77	97	13	30	27	70	43	90
Range			30	90	38	93	64	75	92	13	30	27	70	43	84
ANOVA p-values															
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.290	0.037	0.917	0.002	<0.001	<0.001
- Location			<0.001												
- Variety x Location			<0.001												

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on value with 0%=green, 50% = yellow and 100%=red.

Table 23. Across and by location mean cover crop height of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Height (in)													
			Avg	AL	AL_demo	FL_C	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West	TX	VA
Driller	radish, daikon	Brassica	35 E	63 A	73 A	36 ABCD	36 CDE	28 EFG	13 FG	32 DEF	31 EFG	40 C	19 GH	25 CDE	29 C	29 EF
FL405	cereal rye	Cereal	56 A	60 A	56 B	29 BCDEF	57 A	64 AB	47 A	66 A	64 A	66 A	60 A	48 A	51 A	59 A
FL406	cereal rye	Cereal	57 A	55 B	67 A	44 ABC	56 A	70 A	43 A	70 A	64 A	64 A	59 AB	42 A	51 A	63 A
AGS NC EXP TRT	oat	Cereal	39 D	50 CD	43 CD	34 ABCDE	44 BC	45 D	22 CD	41 C	43 BC	49 B	41 CD	33 BC	24 D	31 DE
FL-5	oat	Cereal	47 B	53 BC	50 BC	48 AB	46 B	58 BC	25 C	60 B	50 B	62 A	55 B	48 A	14 F	44 B
Horizon 214	oat	Cereal	30 F	47 D	37 DE	36 ABCDE	25 FG	33 EF	17 DEF	28 EFG	29 FG	46 B	31 E	24 DE	17 EF	22 FG
Horizon 306	oat	Cereal	34 E	49 CD	44 CD	35 ABCD	27 EF	34 E	20 CDE	33 D	36 DE	51 B	38 D	30 BCDE	19 E	27 EF
Horizon 578	oat	Cereal	34 E	52 BC	44 CD	33 BCDEF	38 BCD	33 EF	26 C	32 DE	33 EF	47 B	32 E	26 DE	15 F	27 EF
Horizon 720	oat	Cereal	40 CD	49 CD	47 C	51 A	46 B	42 D	35 B	35 D	41 CD	51 B	42 CD	30 BCD	15 F	38 BC
FL08128	triticale	Cereal	42 C	53 BC	48 C	29 CDEF	39 BC	54 C	33 B	46 C	46 BC	50 B	42 C	34 B	41 B	37 CD
FIXatioN	clover, balansa	Legume	16 J	18 GH	28 FG	13 F	17 G	12 J	16 EF	20 HI	15 IJ	18 E	17 HI	16 HIJ	1 G	18 GHI
Frosty	clover, berseem	Legume	22 GH	14 H	34 E	24 DEF	27 EF	24 GH	24 C	27 FG	21 H	18 E	26 F	22 EF	5 G	16 GHIJ
AU Robin	clover, crimson	Legume	20 HI	24 E	22 G	24 DEF	29 DEF	21 GHI	26 C	17 I	24 GH	15 E	21 GH	15 IJ	3 G	17 GHI
AU Sunrise	clover, crimson	Legume	18 I	23 EF	22 G	21 DEF	25 FG	18 HIJ	24 C	17 I	21 HI	13 E	21 GH	16 HIJ	3 G	15 HIJ
Kentucky Pride	clover, crimson	Legume	20 HI	23 EF	22 G	36 ABCDE	27 EF	21 GHI	26 C	17 I	21 HI	14 E	20 GH	16 GHIJ	2 G	20 GH
eNhance	clover, Persian	Legume	18 I	19 FG	32 EF	17 DEF	22 FG	23 GHI	14 FG	23 GH	11 JK	28 D	22 FG	12 J	4 G	9 JK
Dynamite	clover, red	Legume	14 J	7 I	12 H	21 DEF	21 FG	24 GH	10 G	17 I	5 K	17 E	15 I	20 EFGH	2 G	12 IJK
Q	clover, red	Legume	15 J	5 I	23 G	17 EF	26 F	22 GHI	13 FG	17 I	12 J	18 E	14 I	24 EFG	3 G	8 K
Cahaba	vetch, common	Legume	23 G	24 EF	23 G	29 CDEF	29 DEF	26 FG	24 C	23 GH	21 H	16 E	24 FG	16 GHIJ	15 F	30 DE
AU Early Cover	vetch, hairy	Legume	24 G	27 E	26 FG	34 ABCDE	27 EF	17 IJ	26 C	20 HI	22 H	17 E	21 GH	17 FGHI	18 EF	36 CD
Summary Statistics																
Average			30	36	38	30	33	33	24	32	30	35	31	26	17	28
Standard Error			1	2	3	7	4	2	2	2	2	2	2	4	1	2
Min			14	5	12	13	17	12	10	17	5	13	14	12	1	8
Max			57	63	73	51	57	70	47	70	64	66	60	48	51	63
Range			43	58	61	38	41	58	37	53	59	52	47	37	50	55
ANOVA p-values																
- Variety			<0.001	<0.001	<0.001	0.012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Variety x Location			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD, P<0.05).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.



Table 24. **Across and by location** mean **estimated nitrogen release over 90 days** of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Estimated Nitrogen Release (lbs ac <sup>-1</sup> ) <sup>††</sup>										
			Avg	FL_C	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West	
				23-Apr-24	15-Apr-24	22-Apr-24	2-May-24	1-May-24	3-May-24	6-May-24	10-May-24	30-May-24	
Driller	radish, daikon	Brassica		26 A	16 DEF	6 CDE			15 EFG	7 DEFG	24 BCD	19 FG	4 CD
FL405	cereal rye	Cereal	1 G	1 CDE	7 EF	0 DE	5 E	-7 G	2 FG	-1 EFG	-3 H	1 CD	
FL406	cereal rye	Cereal	0 G	3 CDE	7 EF	-9 E	3 E	-8 G	-8 G	10 CDEFG	-2 H	2 CD	
AGS NC EXP TRT	oat	Cereal	2 G	1 CDE	21 CDE	0 DE	5 E	-7 G	4 EFG	2 DEFG	0 H	-5 D	
FL-5	oat	Cereal	4 G	-4 E	2 F	0 DE	7 E	-3 G	13 DEF	19 BCDEF	7 GH	-2 D	
Horizon 214	oat	Cereal	3 G	-4 DE	7 EF	0 DE	6 E	2 FG	5 EFG	9 CDEFG	1 H	-2 D	
Horizon 306	oat	Cereal	1 G	-2 DE	5 EF	2 DE	6 E	-2 G	10 DEF	4 CDEFG	-3 H	-7 D	
Horizon 578	oat	Cereal	1 G	0 DE	6 EF	1 DE	8 E	-2 G	12 DEF	-9 G	-3 H	-4 D	
Horizon 720	oat	Cereal	1 G	-4 E	0 F	-7 E	8 E	-6 G	4 FG	17 BCDEF	2 H	-3 D	
FL08128	triticale	Cereal	1 G	2 CDE	4 EF	-4 DE	5 E	1 FG	4 FG	-3 FG	0 H	-1 D	
FIXatioN	clover, balansa	Legume	16 F	10 BCD	12 DEF	4 DE	3 E	43 BCD	15 DEF	21 BCDE	18 FG	22 B	
Frosty	clover, berseem	Legume	35 BC	24 A	48 A	52 A	23 CD	52 BC	15 DEF	39 AB	37 BCD	24 B	
AU Robin	clover, crimson	Legume	32 C	28 A	36 ABC	51 A	28 BC	58 B	21 BCD	19 BCDEF	46 AB	1 CD	
AU Sunrise	clover, crimson	Legume	34 C	23 A	43 AB	42 AB	36 B	48 BC	19 CDE	53 A	34 BCDE	4 CD	
Kentucky Pride	clover, crimson	Legume	41 AB	33 A	46 AB	38 AB	48 A	54 BC	36 AB	56 A	51 A	4 CD	
eNhance	clover, Persian	Legume	20 EF	7 CDE	12 DEF	28 BC	8 E	49 BC	8 DEFG	22 BCDE	23 CDEF	20 B	
Dynamite	clover, red	Legume	23 EF	11 BC	29 BCD	43 AB	11 E	35 CDE	3 EFG	28 BC	22 DEF	19 B	
Q	clover, red	Legume	24 DE	9 CD	41 AB	20 BCD	11 DE	42 BCD	4 EFG	27 BC	22 EF	41 A	
Cahaba	vetch, common	Legume	30 CD	31 A	21 CDE	36 AB	24 CD	23 DEF	34 BC	39 AB	37 ABC	28 AB	
AU Early Cover	vetch, hairy	Legume	42 A	22 AB	50 A	31 AB	48 A	81 A	50 A	38 AB	47 AB	14 BC	
<b>Summary Statistics</b>													
Average			16	11	21	17	16	23	13	21	18	8	
Standard Error			2	5	7	8	4	8	6	8	5	5	
Min			0	-4	0	-9	3	-8	-8	-9	-3	-7	
Max			42	33	50	52	48	81	50	56	51	41	
Range			43	37	51	60	46	88	58	65	55	47	
<b>ANOVA p-values</b>													
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
- Location			<0.001										
- Variety x Location			<0.001										

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

†† Estimated using quality constituents from near infrared spectroscopy (NIRS) with the appropriate calibrations for each species, inputted into the PSA cover crop nitrogen calculator.

Table 25. **Across and by location** mean **Nitrogen (%)** of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Nitrogen (%) †									
			Avg	FL_C	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West
				23-Apr-24	15-Apr-24	22-Apr-24	2-May-24	1-May-24	3-May-24	6-May-24	10-May-24	30-May-24
Driller	radish, daikon	Brassica		1.8 EF	1.8 E	1.5 GH		1.6 DE	1.4 FGH	1.6 DE	2.3 DE	1.3 FG
FL405	cereal rye	Cereal	1.3 GH	1.2 GHI	1.3 EF	1.2 HI	1.7 I	1.0 EF	1.4 GH	1.3 EF	1.1 F	1.3 G
FL406	cereal rye	Cereal	1.3 GH	1.3 GH	1.4 EF	1.0 I	1.7 I	1.0 F	1.1 H	1.5 DEF	1.2 F	1.3 G
AGS NC EXP TRT	oat	Cereal	1.4 G	1.7 F	1.8 E	1.2 HI	2.0 HI	1.0 F	1.4 GH	1.3 EF	1.2 F	1.0 GH
FL-5	oat	Cereal	1.4 GH	0.7 J	1.1 F	1.2 HI	2.5 G	1.1 EF	1.7 EFG	1.6 DE	1.4 F	1.0 GH
Horizon 214	oat	Cereal	1.3 GH	0.8 J	1.3 EF	1.2 HI	2.0 HI	1.2 EF	1.4 FGH	1.4 DEF	1.3 F	1.1 GH
Horizon 306	oat	Cereal	1.3 GH	0.9 IJ	1.2 F	1.2 HI	2.0 HI	1.2 EF	1.5 EFGH	1.3 EF	1.1 F	0.8 H
Horizon 578	oat	Cereal	1.3 GH	1.0 HIJ	1.3 EF	1.1 HI	2.1 H	1.2 EF	1.5 EFGH	1.1 F	1.1 F	1.0 GH
Horizon 720	oat	Cereal	1.2 H	0.7 J	1.0 F	1.0 I	2.1 H	1.0 F	1.4 FGH	1.5 DEF	1.2 F	1.0 GH
FL08128	triticale	Cereal	1.4 GH	1.5 FG	1.4 EF	1.1 HI	2.0 HI	1.2 EF	1.4 FGH	1.2 EF	1.2 F	1.1 GH
FIXatioN	clover, balansa	Legume	2.7 D	2.9 A	3.3 AB	3.4 A	3.8 F	2.1 CD	2.4 C	2.5 C	2.2 E	2.2 CD
Frosty	clover, berseem	Legume	2.5 EF	2.2 CD	2.3 D	2.6 CDE	3.9 DEF	2.1 CD	2.1 CDE	2.4 C	2.7 CDE	2.2 CD
AU Robin	clover, crimson	Legume	2.4 EF	2.2 CD	2.4 CD	2.1 EF	4.0 CDEF	2.3 C	2.2 CD	1.9 D	2.8 CD	1.7 EF
AU Sunrise	clover, crimson	Legume	2.4 F	2.2 CD	2.5 CD	2.0 FG	3.9 EF	2.0 CD	1.9 DEF	2.6 BC	2.4 DE	1.9 DE
Kentucky Pride	clover, crimson	Legume	2.6 E	2.4 BCD	2.8 CD	2.2 DEF	3.9 DEF	2.3 C	2.3 CD	2.7 BC	2.6 DE	1.8 EF
eNhance	clover, Persian	Legume	2.9 C	2.1 DE	3.6 A	3.7 A	4.1 BCDE	2.4 BC	3.1 B	2.7 BC	2.7 CD	2.0 DE
Dynamite	clover, red	Legume	3.1 AB	2.6 AB	3.3 AB	2.8 C	4.3 BC	3.1 A	2.6 BC	3.0 AB	3.5 B	2.7 A
Q	clover, red	Legume	3.0 BC	2.5 BC	2.8 BC	2.8 BCD	4.2 BCD	2.9 AB	2.6 BC	3.2 A	3.4 B	2.7 AB
Cahaba	vetch, common	Legume	3.0 BC	2.9 A	2.7 CD	3.3 AB	4.4 B	1.9 CD	3.0 B	3.2 A	3.2 BC	2.5 ABC
AU Early Cover	vetch, hairy	Legume	3.3 A	2.8 AB	2.5 CD	2.2 EF	5.3 A	3.1 A	3.9 A	2.9 ABC	4.2 A	2.3 BC
<b>Summary Statistics</b>												
Average			2.1	1.8	2.1	1.9	3.2	1.8	2.0	2.0	2.1	1.6
Standard Error			0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1
Min			1.2	0.7	1.0	1.0	1.7	1.0	1.1	1.1	1.1	0.8
Max			3.3	2.9	3.6	3.7	5.3	3.1	3.9	3.2	4.2	2.7
Range			2.0	2.2	2.6	2.7	3.6	2.1	2.8	2.1	3.1	1.9
<b>ANOVA p-values</b>												
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001									
- Variety x Location			<0.001									

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

‡ Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

Table 26. **Across and by location** mean **in-vitro total dry matter digestibility at 48 hours (IVTDM48)** of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop In-Vitro Total Dry Matter Digestibility at 48 hrs (IVTDM48) <sup>†</sup>									
			Avg	FL_C	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West
				23-Apr-24	15-Apr-24	22-Apr-24	2-May-24	1-May-24	3-May-24	6-May-24	10-May-24	30-May-24
Driller	radish, daikon	Brassica		63 GHI	66 FG	65 GH		62 GH	53 I	69 EFGH	72 DEF	55 H
FL405	cereal rye	Cereal	59 J	54 K	62 G	54 J	74 G	50 I	57 HI	61 H	56 I	59 FGH
FL406	cereal rye	Cereal	61 J	57 JK	64 G	55 J	76 G	58 H	61 GH	62 GH	56 I	56 H
AGS NC EXP TRT	oat	Cereal	71 EFG	64 FGHI	70 DEF	70 DEFG	87 CD	71 DEF	69 DEF	73 CDE	71 DEFG	62 DEFGH
FL-5	oat	Cereal	67 I	60 IJK	73 BCDE	65 FGH	88 C	63 GH	64 FG	64 FGH	68 FGH	58 GH
Horizon 214	oat	Cereal	70 FGH	62 HIJ	73 CDE	63 HI	88 C	74 D	65 FG	67 EFGH	69 EFGH	68 BCD
Horizon 306	oat	Cereal	69 GHI	63 HIJ	71 DEF	71 CDE	87 CD	68 EFG	67 EFG	64 EFGH	66 GH	64 DEFG
Horizon 578	oat	Cereal	70 FGH	67 EFGH	75 BCD	68 EFGH	87 CD	76 CD	64 FG	65 FGH	65 H	63 DEFG
Horizon 720	oat	Cereal	68 HI	60 IJK	63 G	66 EFGH	83 EF	74 D	64 FG	66 EFGH	70 EFGH	66 CDEF
FL08128	triticale	Cereal	69 HI	70 CDEF	67 EFG	66 EFGH	82 F	63 GH	69 DEF	70 DEF	70 DEFGH	60 EFGH
FIXatioN	clover, balansa	Legume	84 B	82 A	88 A	91 A	93 AB	82 BC	77 BC	82 AB	79 BC	79 A
Frosty	clover, berseem	Legume	73 DE	69 DEFG	73 CDE	74 CD	84 EF	75 D	70 CDEF	68 EFGH	75 CD	67 CDE
AU Robin	clover, crimson	Legume	71 EF	69 DEF	76 BCD	70 CDEFG	91 B	73 DEF	69 DEF	65 FGH	72 DEF	56 GH
AU Sunrise	clover, crimson	Legume	71 EF	70 DEF	74 BCDE	68 EFGH	91 B	72 DEF	65 FG	67 EFGH	74 DE	61 DEFGH
Kentucky Pride	clover, crimson	Legume	74 D	74 BCD	78 BC	71 CDEF	92 B	74 DE	72 CDE	69 EFG	72 DEF	60 DEFGH
eNhance	clover, Persian	Legume	87 A	79 AB	92 A	91 A	95 A	91 A	86 A	89 A	89 A	75 A
Dynamite	clover, red	Legume	78 C	76 ABC	78 BC	75 BCD	85 DE	82 B	74 BCD	78 BC	83 B	74 AB
Q	clover, red	Legume	77 C	72 CDE	75 BCD	77 BC	85 DEF	77 BCD	73 CDE	78 BC	80 BC	73 ABC
Cahaba	vetch, common	Legume	79 C	76 ABC	80 B	80 B	94 A	67 FG	77 BC	79 BC	82 B	72 ABC
AU Early Cover	vetch, hairy	Legume	72 DE	68 DEFGH	61 G	58 IJ	91 B	74 DE	79 AB	78 BCD	80 BC	60 FGH
<b>Summary Statistics</b>												
Average			72	68	73	70	87	71	69	71	72	64
Standard Error			1	2	2	2	2	2	2	3	2	3
Min			59	54	61	54	74	50	53	61	56	55
Max			87	82	92	91	95	91	86	89	89	79
Range			29	29	31	36	21	41	33	28	33	24
<b>ANOVA p-values</b>												
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001									
- Variety x Location			<0.001									

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

‡ Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

Table 27. **Across and by location** mean crude protein (CP) of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Crude Protein (CP) <sup>†</sup>									
			Avg	FL_C	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West
				23-Apr-24	15-Apr-24	22-Apr-24	2-May-24	1-May-24	3-May-24	6-May-24	10-May-24	30-May-24
Driller	radish, daikon	Brassica		11 EF	11 E	10 GH		10 DE	9 FGH	10 DE	14 DE	8 FG
FL405	cereal rye	Cereal	8 GH	8 GHI	8 EF	7 HI	11 I	6 EF	8 GH	8 EF	7 F	8 G
FL406	cereal rye	Cereal	8 GH	8 GH	9 EF	6 I	11 I	6 F	7 H	9 DEF	7 F	8 G
Horizon 306	oat	Cereal	9 G	6 IJ	8 F	7 HI	13 HI	6 F	10 EFGH	8 EF	7 F	5 H
Horizon 578	oat	Cereal	9 GH	6 HIJ	8 EF	7 HI	13 H	7 EF	10 EFGH	10 DE	7 F	6 GH
Horizon 214	oat	Cereal	8 GH	5 J	8 EF	7 HI	12 HI	8 EF	9 FGH	9 DEF	8 F	7 GH
AGS NC EXP TRT	oat	Cereal	8 GH	10 F	11 E	7 HI	12 HI	7 EF	9 GH	8 EF	8 F	6 GH
Horizon 720	oat	Cereal	8 GH	5 J	6 F	6 I	13 H	7 EF	9 FGH	7 F	8 F	6 GH
FL-5	oat	Cereal	8 H	5 J	7 F	7 HI	16 G	6 F	10 EFG	9 DEF	9 F	6 GH
FL08128	triticale	Cereal	8 GH	9 FG	9 EF	7 HI	12 HI	8 EF	9 FGH	8 EF	8 F	7 GH
FIXatioN	clover, balansa	Legume	17 D	18 A	21 AB	21 A	24 F	13 CD	15 C	16 C	13 E	14 CD
Frosty	clover, berseem	Legume	16 EF	14 CD	14 D	16 CDE	25 DEF	13 CD	13 CDE	15 C	17 CDE	14 CD
Kentucky Pride	clover, crimson	Legume	15 EF	15 BCD	17 CD	14 DEF	25 DEF	14 C	14 CD	12 D	16 DE	11 EF
AU Robin	clover, crimson	Legume	15 F	14 CD	15 CD	13 EF	25 CDEF	12 CD	14 CD	16 BC	17 CD	11 EF
AU Sunrise	clover, crimson	Legume	16 E	14 CD	15 CD	12 FG	24 EF	14 C	12 DEF	17 BC	15 DE	12 DE
eNhance	clover, Persian	Legume	18 C	13 DE	23 A	23 A	26 BCDE	15 BC	19 B	17 BC	17 CD	12 DE
Dynamite	clover, red	Legume	19 AB	17 AB	21 AB	17 BC	27 BC	19 A	16 BC	19 AB	22 B	17 A
Q	clover, red	Legume	19 BC	16 BC	18 BC	17 BCD	27 BCD	18 AB	16 BC	20 A	21 B	17 AB
Cahaba	vetch, common	Legume	19 BC	18 A	17 CD	21 AB	27 B	12 CD	19 B	20 A	20 BC	16 ABC
AU Early Cover	vetch, hairy	Legume	20 A	17 AB	16 CD	14 EF	33 A	19 A	25 A	18 ABC	26 A	15 BC
<b>Summary Statistics</b>												
Average			13	11	13	12	20	11	13	13	13	10
Standard Error			0	1	1	1	1	1	1	1	1	1
Min			8	5	6	6	11	6	7	7	7	5
Max			20	18	23	23	33	19	25	20	26	17
Range			13	14	16	17	22	13	18	13	20	12
<b>ANOVA p-values</b>												
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001									
- Variety x Location			<0.001									

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with red = lowest value, yellow = 50th percentile, green = highest value.

‡ Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

**Table 28. Across and by location mean acid detergent fiber (ADF) of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Acid Detergent Fiber (ADF) <sup>†</sup>									
			Avg	FL_C	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West
				23-Apr-24	15-Apr-24	22-Apr-24	2-May-24	1-May-24	3-May-24	6-May-24	10-May-24	30-May-24
Driller	radish, daikon	Brassica		47 A	44 B	45 B		47 AB	54 A	44 AB	40 ABC	54 A
FL405	cereal rye	Cereal	43 A	46 ABCD	41 BC	46 AB	35 A	49 A	44 B	40 ABC	45 AB	42 CDEFGH
FL406	cereal rye	Cereal	42 AB	46 ABCD	40 BCD	46 B	34 A	44 BC	41 BCD	39 BCD	45 A	46 BCDE
AGS NC EXP TRT	oat	Cereal	35 FG	39 FGH	37 DE	36 DE	24 DEFGH	34 FG	37 DE	34 CDE	34 DEFG	39 GHI
FL-5	oat	Cereal	41 B	47 AB	38 CDE	45 B	26 CDE	42 BCD	43 BC	44 AB	41 ABC	47 BCD
Horizon 214	oat	Cereal	37 EF	45 ABCDE	35 E	42 BC	22 HIJ	31 FGHI	41 BCD	39 BCD	39 CDE	37 HI
Horizon 306	oat	Cereal	37 E	42 BCDEF	36 DE	36 DE	23 GHI	36 EF	39 BCD	40 ABCD	40 ABC	41 DEFGHI
Horizon 578	oat	Cereal	36 EF	39 FGH	35 E	38 CDE	23 GH	30 GHI	41 BCD	40 ABC	39 BCD	41 EFGH
Horizon 720	oat	Cereal	39 D	46 ABC	44 B	40 CD	28 BC	33 FGH	42 BCD	38 BCD	38 CDEF	41 EFGH
FL08128	triticale	Cereal	36 EF	31 J	38 CDE	38 CDE	28 B	39 DE	36 DE	35 CDE	36 CDEFG	44 CDEFG
FIXatioN	clover, balansa	Legume	32 H	34 IJ	26 F	24 F	20 JK	33 FGH	38 BCD	34 CDE	37 CDEFG	40 FGH
Frosty	clover, berseem	Legume	39 D	41 DEFG	41 BC	38 CDE	26 BCD	35 EF	44 BC	41 ABC	38 CDE	46 BCDE
AU Robin	clover, crimson	Legume	41 BC	43 ABCDEF	40 BCD	42 BC	23 FGH	39 DE	44 B	46 A	40 ABC	52 AB
AU Sunrise	clover, crimson	Legume	41 BC	42 CDEF	40 BCD	46 B	23 EFGH	44 BC	45 B	44 AB	39 CD	48 ABC
Kentucky Pride	clover, crimson	Legume	40 CD	39 EFGHI	38 CDE	42 BC	23 GHI	40 CDE	40 BCD	43 AB	41 ABC	50 AB
eNhance	clover, Persian	Legume	29 I	35 HIJ	25 F	23 F	19 K	27 I	29 F	29 E	31 G	46 BCDE
Dynamite	clover, red	Legume	32 H	35 HIJ	37 CDE	37 DE	23 GHI	29 HI	30 EF	34 DE	32 G	35 I
Q	clover, red	Legume	33 GH	37 GHI	39 CDE	34 E	20 IJK	31 FGHI	36 DE	33 DE	33 FG	38 HI
Cahaba	vetch, common	Legume	36 EF	37 GHI	37 CDE	36 DE	26 CDEF	42 BCD	38 CD	35 CDE	33 EFG	37 HI
AU Early Cover	vetch, hairy	Legume	39 D	36 HI	50 A	51 A	25 DEFG	35 EF	39 BCD	35 CDE	33 FG	45 BCDEF
<b>Summary Statistics</b>												
Average			37	40	38	39	25	37	40	38	38	44
Standard Error			1	2	2	2	1	2	2	2	2	2
Min			29	31	25	23	19	27	29	29	31	35
Max			43	47	50	51	35	49	54	46	45	54
Range			14	15	26	27	16	23	25	17	14	19
<b>ANOVA p-values</b>												
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001									
- Variety x Location			<0.001									

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with green = lowest value, yellow = 50th percentile, red = highest value.

‡ Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

**Table 29. Across and by location mean neutral detergent fiber (ADF) of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.**

Variety	Common Name	Group	Cover Crop Neutral Detergent Fiber (NDF) <sup>†</sup>									
			Avg	FL_C	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West
				23-Apr-24	15-Apr-24	22-Apr-24	2-May-24	1-May-24	3-May-24	6-May-24	10-May-24	30-May-24
Driller	radish, daikon	Brassica		59 D	53 EF	53 FGH		55 CDEF	66 ABC	51 EF	49 DE	62 BCDEF
FL405	cereal rye	Cereal	71 A	75 AB	67 AB	75 A	58 A	79 A	72 AB	66 AB	74 A	69 ABCD
FL406	cereal rye	Cereal	69 A	74 AB	66 ABC	75 A	58 A	73 A	67 ABC	63 B	74 A	75 A
AGS NC EXP TRT	oat	Cereal	59 C	67 C	62 BCD	63 CDE	37 D	59 BCD	63 BCDE	60 BCD	59 C	65 BCDE
FL-5	oat	Cereal	69 A	79 A	63 BCD	73 AB	41 C	74 A	74 A	72 A	67 AB	76 A
Horizon 214	oat	Cereal	60 C	75 AB	59 DE	69 ABC	34 DE	53 DEF	66 ABCD	63 B	62 BC	62 CDEF
Horizon 306	oat	Cereal	60 C	70 BC	61 BCD	60 DEF	34 DE	57 BCDE	65 ABCD	64 AB	65 BC	68 ABCD
Horizon 578	oat	Cereal	61 C	66 C	60 CD	65 CD	37 D	51 EFG	70 ABC	66 AB	66 BC	70 ABC
Horizon 720	oat	Cereal	63 B	77 A	71 A	66 CD	46 B	53 CDEF	69 ABC	62 B	61 BC	66 BCD
FL08128	triticale	Cereal	61 BC	54 DE	65 BCD	66 BCD	48 B	63 B	61 CDE	61 BC	62 BC	70 AB
FIXatioN	clover, balansa	Legume	38 H	41 G	31 I	27 J	24 HI	42 HIJ	45 GHI	41 GH	45 DEF	46 H
Frosty	clover, berseem	Legume	48 DE	52 EF	52 FG	48 HI	32 EF	44 GHI	54 EFGH	52 EF	47 DE	56 FG
AU Robin	clover, crimson	Legume	50 D	54 DE	48 FGH	53 FGH	27 GH	49 FGH	54 EFG	60 BCD	49 D	60 DEF
AU Sunrise	clover, crimson	Legume	50 D	53 EF	50 FGH	56 EFG	27 GH	53 CDEF	57 DEF	54 CDE	47 DE	56 FG
Kentucky Pride	clover, crimson	Legume	48 EF	48 EFG	46 GH	52 GH	27 GH	49 FGH	49 FGHI	52 DEF	48 DE	60 DEF
eNhance	clover, Persian	Legume	35 I	44 G	28 I	28 J	22 I	33 K	33 J	36 H	37 G	55 FG
Dynamite	clover, red	Legume	40 GH	44 G	44 H	46 HI	28 G	35 JK	40 IJ	42 GH	38 FG	44 H
Q	clover, red	Legume	41 G	45 G	47 FGH	42 I	26 GHI	38 IJK	45 GHI	40 GH	39 FG	46 H
Cahaba	vetch, common	Legume	46 F	48 EFG	44 H	45 I	29 FG	61 BC	47 GHI	46 EFG	41 EFG	48 GH
AU Early Cover	vetch, hairy	Legume	47 EF	46 FG	62 BCD	64 CDE	27 GH	44 GHI	44 HI	44 FGH	39 FG	58 EF
<b>Summary Statistics</b>												
Average			54	59	54	56	35	53	57	55	53	61
Standard Error			1	2	3	3	1	3	3	3	3	3
Min			35	41	28	27	22	33	33	36	37	44
Max			71	79	71	75	58	79	74	72	74	76
Range			35	38	43	48	36	45	40	36	38	31
<b>ANOVA p-values</b>												
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001									
- Variety x Location			<0.001									

<sup>†</sup> Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with green = lowest value, yellow = 50th percentile, red = highest value.

<sup>‡</sup> Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.

Table 30. **Across and by location** mean lignin of 20 cover crop varieties planted in mid-Oct. 2023 and terminated pre-soybean (date varied by state) in spring 2024. Small plot replicated trials were conducted at 15 sites across 10 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Lignin <sup>†</sup>									
			Avg	FL_C	GA_SEG	GA_W	KY	NC	SC	TN_East	TN_Middle	TN_West
				23-Apr-24	15-Apr-24	22-Apr-24	2-May-24	1-May-24	3-May-24	6-May-24	10-May-24	30-May-24
Driller	radish, daikon	Brassica		11.5 A	12.4 A	11.5 A		12.9 A	13.1 A	13.9 A	10.3 A	14.7 A
FL405	cereal rye	Cereal	7.8 DE	8.2 EFGH	8.0 E	8.3 D	5.6 FGH	9.0 BC	8.5 E	7.4 GHI	8.0 CD	7.2 IJK
FL406	cereal rye	Cereal	7.6 EF	7.8 FGH	7.5 EF	8.0 DE	5.6 FG	8.2 CDE	7.7 EF	7.3 GHI	8.1 CD	8.1 HIJ
AGS NC EXP TRT	oat	Cereal	6.1 J	6.2 LM	6.0 GHI	6.4 FGH	5.0 HI	6.0 H	6.9 FG	5.9 J	6.0 GH	6.1 K
FL-5	oat	Cereal	6.1 J	7.2 HIJK	5.9 GHI	6.1 GHI	4.1 J	5.9 H	6.2 G	5.9 J	6.6 EFGH	7.4 IJK
Horizon 214	oat	Cereal	6.2 IJ	7.2 GHIJKL	5.6 HI	5.9 HI	4.9 I	6.1 GH	7.0 FG	6.3 IJ	6.2 FGH	6.8 JK
Horizon 306	oat	Cereal	6.2 J	6.7 JKLM	5.5 HI	5.4 I	5.7 FG	6.7 FGH	6.3 G	5.8 J	6.2 FGH	7.1 IJK
Horizon 578	oat	Cereal	6.0 J	6.6 KLM	5.2 I	5.6 HI	5.6 FG	6.2 GH	6.2 G	5.9 J	6.3 EFGH	6.5 K
Horizon 720	oat	Cereal	6.7 H	8.1 FGH	6.4 FGH	6.5 FGH	5.2 GHI	6.4 FGH	7.0 FG	6.7 HIJ	7.0 EF	7.3 IJK
FL08128	triticale	Cereal	6.5 HI	5.9 M	7.2 EFG	7.0 EFG	4.8 I	8.2 CDE	6.8 FG	5.6 J	5.8 H	7.3 IJK
FIXatioN	clover, balansa	Legume	7.7 DE	7.8 FGH	6.4 FGH	5.4 I	6.0 DEF	7.2 EFG	9.8 CD	7.8 FGH	8.5 BC	10.4 DEFG
Frosty	clover, berseem	Legume	9.7 B	10.3 B	10.3 BC	8.5 D	8.9 A	8.8 BCD	10.3 BC	10.3 CD	8.6 BC	11.2 CDE
AU Robin	clover, crimson	Legume	10.2 A	10.5 B	9.6 BCD	9.6 C	6.8 BC	9.8 B	10.8 BC	11.7 B	9.4 AB	13.3 AB
AU Sunrise	clover, crimson	Legume	10.2 A	10.4 B	9.7 BCD	10.1 BC	7.0 B	10.0 B	11.3 B	11.2 BC	9.8 A	12.4 BC
Kentucky Pride	clover, crimson	Legume	9.4 B	9.5 BC	8.5 DE	9.5 C	6.3 DE	9.7 B	10.1 C	9.8 DE	9.6 A	12.0 BCD
eNhance	clover, Persian	Legume	7.1 G	8.3 DEFG	6.3 FGH	6.0 HI	5.9 EF	6.6 FGH	7.7 EF	6.6 IJ	6.4 EFGH	10.3 EF
Dynamite	clover, red	Legume	8.0 D	8.5 CDEF	9.6 BCD	8.6 D	6.5 CD	6.9 FGH	8.6 DE	7.8 FG	6.6 EFGH	8.9 GH
Q	clover, red	Legume	8.5 C	9.3 CD	9.5 CD	8.3 D	6.5 BCD	8.4 CDE	9.8 CD	8.2 FG	7.3 DE	9.2 FGH
Cahaba	vetch, common	Legume	7.3 FG	7.0 IJKL	8.1 E	7.1 F	6.0 DEF	7.6 DEF	8.4 E	6.6 IJ	6.5 EFGH	8.5 HI
AU Early Cover	vetch, hairy	Legume	8.8 C	9.1 CDE	10.7 B	10.8 AB	6.4 CD	8.4 CD	8.4 E	8.8 EF	6.8 EFG	10.2 EFG
<b>Summary Statistics</b>												
Average			7.7	8.3	7.9	7.7	5.9	7.9	8.5	8.0	7.5	9.2
Standard Error			0.1	0.4	0.4	0.3	0.2	0.4	0.4	0.4	0.3	0.5
Min			6.0	5.9	5.2	5.4	4.1	5.9	6.2	5.6	5.8	6.1
Max			10.2	11.5	12.4	11.5	8.9	12.9	13.1	13.9	10.3	14.7
Range			4.2	5.6	7.2	6.1	4.8	7.0	7.0	8.2	4.5	8.6
<b>ANOVA p-values</b>												
- Variety			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
- Location			<0.001									
- Variety x Location			<0.001									

† Varieties that have any MS letter in common are not significantly different (Fisher's Protected LSD,  $P < 0.05$ ).

Mean values are overlaid with a color gradient based on percentile within location with green = lowest value, yellow = 50th percentile, red = highest value.

‡ Analyzed using near infrared spectroscopy (NIRS) with the appropriate calibration for each species. Reported on a 100% DM basis.



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