W1342

Southern Cover Crop Variety Trial 2025

This publication is a joint effort of the University of Tennessee, Auburn University, University of Florida, University of Georgia, University of Kentucky, Louisiana State University, and Clemson University.

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Southern Cover Crop Variety Trial

2025

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Southern Cover Crop Variety Trial

2025

Experimental Procedures

Evaluations of 20 cover crop varieties (Table 1) were conducted at eight sites across seven states in the Southern US (Table 3). Variety trial applicants were allowed to select the locations at which they wanted to trial. All locations were planted with a drill to a length of 20 feet. 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 feet 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^2 areas within each plot. Biomass within each square was cut to a height of 1 inch 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 pound per acre basis.

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. Variance was allowed to differ by

location.

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, Cover Crop Proportion
    - 0% = red, 50% = yellow, 100% = green
- Weed Cover
    - 0% = green, 50% = yellow, 100% = red
- Biomass, Height
    - Lowest value = red, 50th percentile = yellow, highest value = green

Results

Environmental conditions at each site are presented in Table 1 and Figure 1. Variety trial results (Tables 4-18) have been prepared with entries sorted by group (brassica, cereal, legume), common name, and variety. A total of 4 brassica, 8 cereal, and 8 legume varieties were evaluated. Variety performance is given across and by location for each measured variable. Missing cells indicate a variety was not evaluated at that location. The average across locations only includes varieties that were evaluated at all locations. These are presented by variable for fall evaluations (Tables 4 to 6), winter evaluations (Tables 7 and 8), pre-corn evaluations (Tables 9 to 13) and pre-soybean evaluations (Tables 14 to 18).

Figure 1. Environmental data by month across the cover crop growing season (Sept. 2024 – July 2025) for sites participating in the Southern Cover Crop Variety Trial.
Precip., precipitation; Max., Avg., and Min. Temp., respectively, maximum, average, and minimum temperature; GDD, growth degree days with the base temp of 37.4 F. *Negative GDDs were considered zero.

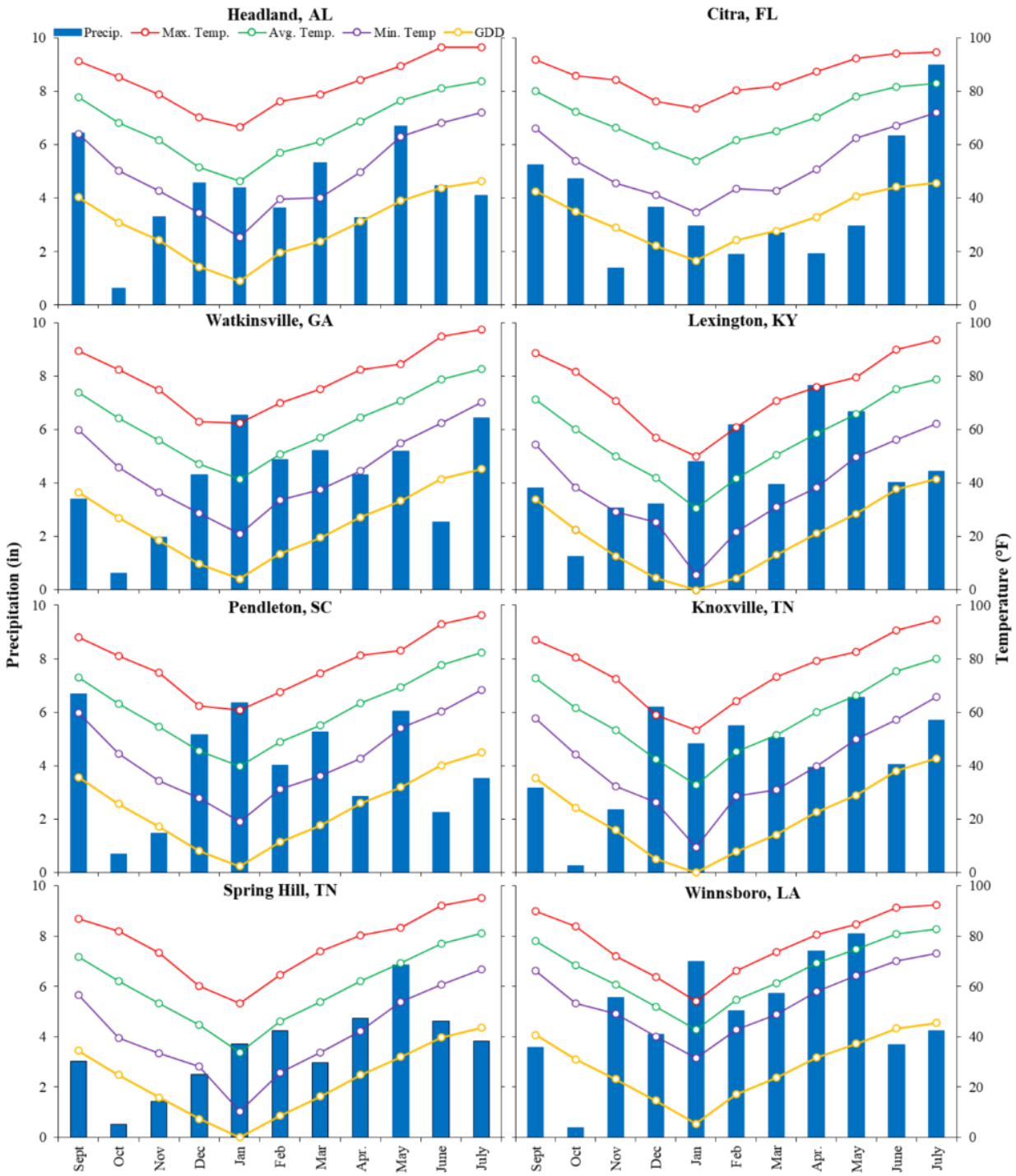

Table 1: Heat map tables illustrating the environmental differences between the 30-year average and the 2023-2025 growth seasons within cover crop study site locations.

Precipitation

	Headland AL	Citra FL	Watkinsville GA	Lexington KY	Pendleton SC	Knoxville, TN	Spring Hill TN	Winnsboro LA
Sept.	2.07	-1.24	-0.38	0.02	3.00	-0.74	-1.21	-0.07
Oct.	-2.11	1.94	-2.47	-2.32	-2.56	-3.05	-3.21	-3.59
Nov.	-0.14	-0.73	-1.61	-0.16	-1.97	-1.70	-2.32	0.79
Dec.	-0.76	0.85	-0.41	-0.87	0.61	0.72	-2.72	-1.27
Jan.	-0.39	0.17	1.69	0.95	1.90	-0.11	-1.24	1.14
Feb.	-0.94	-0.92	0.40	2.24	0.00	0.36	-0.78	0.10
Mar.	0.71	-0.57	0.56	-0.46	0.88	0.24	-2.34	0.26
Apr.	-1.40	-0.75	0.47	2.81	-0.89	-0.73	-0.18	1.81
May	3.05	-0.56	1.47	1.22	2.11	2.44	1.90	3.36
June	-0.45	-1.20	-1.79	-0.72	-1.76	-0.27	0.18	-0.12
July	-1.28	1.32	2.08	-0.67	-0.55	0.90	-0.69	-0.18

-4 -3 -2 -1 1 2 3 4 in

Average Temperature

	Headland AL	Citra FL	Watkinsville GA	Lexington KY	Pendleton SC	Knoxville, TN	Spring Hill TN	Winnsboro LA
Sept.	1.13	0.17	0.92	2.68	0.35	1.50	0.85	0.99
Oct.	0.92	-0.76	1.38	2.84	0.63	1.77	2.31	1.84
Nov.	4.19	1.30	3.06	4.55	2.44	4.37	4.71	3.95
Dec.	0.26	-0.42	0.92	4.36	-0.08	0.90	2.98	2.07
Jan.	-2.57	-2.88	-2.13	-2.57	-3.29	-5.17	-4.68	-4.65
Feb.	3.60	0.99	3.28	4.68	2.15	2.66	3.41	3.24
Mar.	1.47	0.00	2.36	4.82	1.36	1.30	3.02	2.28
Apr.	3.06	0.01	3.05	3.38	2.22	1.41	3.36	3.53
May	2.93	1.49	1.15	1.53	0.29	-0.71	2.09	0.96
June	1.86	0.83	2.21	2.93	1.05	1.08	2.20	0.73
July	2.09	0.73	2.69	3.09	2.33	2.20	2.71	0.34

-5 -3 -1 1 3 5

Maximum Temperature								
	Headland AL	Citra FL	Watkinsville GA	Lexington KY	Pendleton SC	Knoxville, TN	Spring Hill TN	Winnsboro LA
Sept.	4.11	2.74	5.81	8.32	4.96	4.85	3.56	0.97
Oct.	6.17	2.07	7.78	12.89	7.29	8.94	9.02	3.98
Nov.	9.52	7.91	10.14	14.79	11.34	12.20	12.33	3.41
Dec.	8.24	4.66	6.35	10.81	6.78	8.19	8.18	3.18
Jan.	6.42	4.62	8.12	8.35	7.47	5.99	4.63	-4.06
Feb.	11.45	7.40	11.36	13.99	10.06	11.46	11.09	4.06
Mar.	6.82	4.33	8.55	14.31	9.06	11.33	11.03	2.99
Apr.	6.21	4.35	8.02	8.98	7.64	8.17	8.43	3.20
May	4.14	3.56	3.18	4.11	2.54	4.14	4.22	0.13
June	6.59	3.23	7.09	6.72	5.63	5.44	5.72	0.84
July	4.75	2.75	6.92	7.25	6.06	6.61	5.78	-0.39

-5 -1 1 5 8 11 15

Minimum Temperature								
	Headland AL	Citra FL	Watkinsville GA	Lexington KY	Pendleton SC	Knoxville, TN	Spring Hill TN	Winnsboro LA
Sept.	2.24	4.44	-2.65	2.41	2.62	2.38	1.99	0.95
Oct.	5.36	-8.63	-5.42	7.30	6.54	3.95	7.14	0.25
Nov.	2.95	-8.02	-4.41	5.68	6.20	5.09	2.92	4.48
Dec.	6.20	7.05	-7.01	3.48	7.69	6.03	3.14	1.00
Jan.	-12.40	-9.95	-12.19	-18.90	-13.71	-19.31	-18.03	5.25
Feb.	2.13	4.88	-2.79	5.52	4.43	3.71	6.01	2.39
Mar.	7.30	-9.66	-4.8	3.72	5.82	7.71	4.97	1.61
Apr.	3.10	7		4.98	6.03	6.36	3.33	3.86
May	1.22	6.66	-4.13	3.39	3.55	5.78	1.48	1.73
June	0.82	1.96	-2.90	4.94	5.43	6.11	2.71	0.58
July	0.73	0.66	0.76	2.96	1.27	1.83	0.51	1.07

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Table 2. Characteristics of cover crop varieties evaluated during 2024-2025.

Group	Common Name	Variety/Hybrid	Company	Seeding Rate (lb/ac PLS)
Brassica	Brassica Carinata	Nujet 350	NuSeed	6
Brassica	Brassica, Hybrid	Twister	Mountain View Seed	10
Brassica	Brassica, Radish	Aerifi	Mountain View Seed	10
Brassica	Brassica, Turnip	Jackpot	Mountain View Seed	10
Cereal	Cereal Rye	FL 405	Mixon Seed	90
Cereal	Cereal Rye	FL 406	FL	90
Cereal	Oat	GO-T	GO 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
Cereal	Oat, Black	UF-BTO	FL	90
Legume	Clover, Berseem	Frosty	GO seed	15
Legume	Clover, Crimson	AU Sunrise	Mixon Seed	25
Legume	Clover, Persian	eNhance	GO seed	5
Legume	Clover, Red	Blaze	Mountain View Seed	10
Legume	Clover, Red	Dynamite	GO seed	10
Legume	Clover, Red	Q	GO seed	10
Legume	Ervil	B-24.1047	Blue Moon Farms	28
Legume	Vetch	Cahaba White	Mixon Seed	30

Table 3. Contact information for cover crop seed companies submitting varieties evaluated during 2024-2025.

Company	Contact	Phone	Email	Web site
GO Seed	Trent Tate	503-710-1467	ttate@goseed.com	www.goseed.com
Blue Moon Farms LLC	Virginia Lehman	541-936-1210	lehmanv33754@gmail.com	
Mixon Seed Service	Blake Shepard	229-254-0115	blake@mixonseed.com	www.mixonseed.com
Mountain View Seeds	Mark Thomas	913-949-7099	markt@mtviewseeds.com	
NuSeed	Logan Dyer	513-432-3892	logan.dyer@nuseed.com	nuseed.com
University of Florida	Cleber de Souza	850-317-1310	c.lopesdesouza@ufl.edu	

Table 4. Location information for cover crop variety trials evaluated during 2024 - 2025.

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	18-Nov-2024	13-Jan-2025	10-Feb-2025	10-Mar-2025	23-Apr-2025	Benndale fine sandy loam	6.1	Audrey Gamble	avg0001@auburn.edu
FL	Citra	Plant Science Research and Education Unit	30-Oct-2024	2-Dec-2024	7-Feb-2025	12-Mar-2025	N/A	Sand (Tavares + Candler Series)	6.5	Danielle Treadwell	ddtreadw@ufl.edu
GA	Watkinsville	J. Phil Campbell Research and Education Center	8-Nov-2024	N/A	N/A	28-Mar-2025	9-May-2025	Cecil	6.3	Nick Basinger	nicholas.basinger@uga.edu
KY	Lexington	University of Kentucky North Farm	16-Oct-2024	4-Dec-2024	30-Jan-2025	10-Apr-2025	29-Apr-2025	Maury silt loam	6.9	Erin Haramoto	erin.haramoto@uky.edu
LA	Winnsboro	LSU AgCenter	22-Nov-2024			28-Mar-2025		Gigger-Gilbert Silt Loam	5.6	Trey Price	pprice@agcenter.lsu.edu
SC	Pendleton	Piedmont Research and Education Center, Clemson University	11/13/22024	19-Dec-2024	13-Feb-2025	19-Mar-2025	9-May-2025	Cecil sandy loam (clayey, kaolinitic, thermic typic Kanhapludults)	5.8	Sruthi Narayanan	skutty@clemson.edu
TN_ET	Knoxville	East TN AgResearch and Education Center	16-Oct-2024	6-Dec-2024	25-Feb-2025	2-Apr-2025	30-Apr-2025	Heiskell silt loam	6.3	Virginia Sykes	vsykes@utk.edu
TN_HR	Springfield	Highland Rim AgResearch and Education Center	11-Oct-2024	5-Dec-2024	26-Feb-2025	1-Apr-2025	5-May-2025	Baxter Cherty Silt Loam	6.7	Virginia Sykes	vsykes@utk.edu

Table 5. Across and by location mean percent cover crop establishment one month post planting of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Planting date is listed below each location.

Variety	Common Name	Group	One Month Post Planting Establishment (%)											
			Avg		AL		FL		KY		SC		TN ET		TN HR	
					18 Nov 24		*30 Oct 24*		*16 Oct 24*		*13 Nov 24*		*16 Oct 24*		*11 Oct 24*	
Nujet 350	Brassica Carinata	Brassica	-	-	67	DE	76	EF			88	B				
Twister	Brassica, Hybrid	Brassica	93	AB	87	B	98	A	83	A-C	91	B	98	AB	101	A
Aerifi	Brassica, Radish	Brassica	86	CD	76	CD	84	DE	95	A-C	85	B	86	BC	91	A-D
Jackpot	Brassica, Turnip	Brassica	89	BC	82	BC	96	AB	67	B-E	91	B	98	AB	96	A-C
FL 405	Cereal Rye	Cereal	-	-					98	AB			101	A	101	A
FL 406	Cereal Rye	Cereal	98	A	98	A	94	A-C	92	A-C	101	A	99	A	101	A
GO-T	Oat	Cereal	-	-			96	AB								
Horizon 214	Oat	Cereal	-	-					90	A-C			101	A	101	A
Horizon 306	Oat	Cereal	-	-					75	A-D			101	A	101	A
Horizon 578	Oat	Cereal	-	-					101	A			99	A	98	AB
Horizon 720	Oat	Cereal	-	-					101	A			101	A	101	A
UF-BTO	Oat, Black	Cereal	98	A	99	A	88	B-D	98	AB	101	A	99	A	101	A
Frosty	Clover, Berseem	Legume	79	EF	87	B	86	CD	6	E	84	B	95	AB	80	C-E
AU Sunrise	Clover, Crimson	Legume	80	DE	84	BC	88	B-D	20	DE	75	C	91	AB	98	AB
eNhance	Clover, Persian	Legume	62	H	79	BC	80	D-F	83	A-C	45	D	18	E	34	G
Blaze	Clover, Red	Legume	73	EF	85	BC	88	B-D	8	E	88	B	73	CD	63	E-G
Dynamite	Clover, Red	Legume	72	FG	85	BC	88	B-D	17	E	73	C	69	D	77	D-F
Q	Clover, Red	Legume	74	EF	81	BC	86	CD	79	A-C	69	C	70	D	57	FG
B-24.1047	Ervil	Legume	64	GH	62	E	69	F	62	C-E	57	D	46	E	81	B-E
Cahaba White	Vetch	Legume	41	I	23	F	12	G	17	E	56	D	48	E	60	E-G
Summary Statistics																
Average			78		78		82		66		79		83		86	
Standard Error[z]			-		-		-		-		-		-		-	
Min			41		23		12		6		45		18		34	
Max			98		99		98		101		101		101		101	
Range			57		76		86		95		56		83		67	
ANOVA p values																
Variet			<0.001		<0.001		<0.001		0.000		0.006		<0.001		<0.001	
Locatio			<0.001													
Variety x Locatio			<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.
[z]Data required a nautral log transformation to achieve assumptions of normality. Back-transformed data are presented so no standard error is given.

Table 6. Across and by location mean percent cover crop cover ratings of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Fall Cover Crop Cover (%)											
			Avg		AL		FL		KY		SC		TN_ET		TN_HR	
					13 Jan-25		*2-Dec-24*		*4-Dec-24*		*19 Dec 24*		*6-Dec-24*		*5-Dec-24*	
Nujet 350	Brassica Carinata	Brassica	-	-	28	D	12	C-F			73	B				
Twister	Brassica, Hybrid	Brassica	74	AB	52	B	20	B-D	97	A	85	A	93	A	97	A
Aerifi	Brassica, Radish	Brassica	58	EF	48	B	8	D-F	60	D	78	AB	75	BC	78	AB
Jackpot	Brassica, Turnip	Brassica	67	CD	47	B	22	BC	90	AB	57	C	93	A	92	AB
FL 405	Cereal Rye	Cereal	-	-					97	A			68	C	93	AB
FL 406	Cereal Rye	Cereal	76	AB	73	A	38	A	97	A	82	AB	88	AB	80	AB
GO-T	Oat	Cereal	-	-			27	AB								
Horizon 214	Oat	Cereal	-	-					73	C			70	C	87	AB
Horizon 306	Oat	Cereal	-	-					77	C			78	A-C	83	AB
Horizon 578	Oat	Cereal	-	-					77	C			73	BC	63	BC
Horizon 720	Oat	Cereal	-	-					80	BC			80	A-C	82	AB
UF-BTO	Oat, Black	Cereal	71	A-C	52	B	27	AB	93	A	80	AB	85	A-C	87	AB
Frosty	Clover, Berseem	Legume	16	I-K	23	D	7	EF	5	F	15	D	13	DE	30	DE
AU Sunrise	Clover, Crimson	Legume	25	GH	37	C	18	B-E	5	F	20	D	28	D	43	C-E
eNhance	Clover, Persian	Legume	15	I-K	23	DE	3	F	5	F	20	D	5	E	35	C-E
Blaze	Clover, Red	Legume	13	JK	23	D	6	F	5	F	17	D	13	DE	15	E
Dynamite	Clover, Red	Legume	16	I-K	24	D	8	D-F	5	F	17	D	15	DE	25	DE
Q	Clover, Red	Legume	12	JK	22	DE	4	F	5	F	10	D	13	DE	18	DE
B-24.1047	Ervil	Legume	21	G-I	22	DE	7	EF	18	E	12	D	22	DE	47	CD
Cahaba White	Vetch	Legume	14	I-K	16	E	1	F	5	F	15	D	10	E	40	C-E
Summary Statistics																
Average			37		35		14		50		41		51		61	
Standard Error			2		3		4		4		3		6		11	
Min			12		16		1		5		10		5		15	
Max			76		73		38		97		85		93		97	
Range			64		58		37		92		75		88		82	
ANOVA p-values																
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**0.006**		**<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 7. Across and by location mean weed cover of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Fall Weed Cover (%)													
			Avg		AL		FL		KY		SC		TN_ET		TN_HR	
					13 Jan 25		*2-Dec 24*		*4-Dec 24*		*19 Dec 24*		*6-Dec 24*		*5-Dec 24*	
Nujet 350	Brassica Carinata	Brassica	-	-	6	B-D	1	A			27	C				
Twister	Brassica, Hybrid	Brassica	4	F	2	DE	1	A	2	G	15	D	3	F	-	D
Aerifi	Brassica, Radish	Brassica	8	DE	3	DE	1	A	13	C-G	22	CD	8	EF	2	D
Jackpot	Brassica, Turnip	Brassica	10	D	3	DE	1	A	3	G	43	B	5	F	2	D
FL 405	Cereal Rye	Cereal	-	-					2	G			5	F	0	D
FL 406	Cereal Rye	Cereal	4	F	2	DE	1	A	2	G	18	CD	3	F	-	D
GO-T	Oat	Cereal	-	-			1	A								
Horizon 214	Oat	Cereal	-	-					12	C-G			5	F	0	D
Horizon 306	Oat	Cereal	-	-					10	D-G			7	F	2	D
Horizon 578	Oat	Cereal	-	-					8	E-G			10	D-F	2	D
Horizon 720	Oat	Cereal	-	-					10	D-G			5	F	0	D
UF-BTO	Oat, Black	Cereal	6	EF	2	E	1	A	7	FG	20	CD	5	F	2	D
Frosty	Clover, Berseem	Legume	24	BC	10	A	2	A	22	B-E	85	A	22	A-D	7	C
AU Sunrise	Clover, Crimson	Legume	23	C	4	DE	1	A	28	AB	80	A	15	C-F	8	BC
eNhance	Clover, Persian	Legume	29	A	9	AB	1	A	40	A	80	A	32	AB	12	B
Blaze	Clover, Red	Legume	25	BC	5	CD	1	A	25	BC	83	A	20	B-E	17	A
Dynamite	Clover, Red	Legume	23	BC	4	C-E	3	A	18	B-F	83	A	22	A-D	8	BC
Q	Clover, Red	Legume	26	A-C	6	B-D	1	A	22	B-E	90	A	25	A-C	10	BC
B-24.1047	Ervil	Legume	24	BC	8	A-C	1	A	23	B-D	88	A	13	C-F	12	B
Cahaba White	Vetch	Legume	26	AB	4	DE	2	A	25	BC	85	A	33	A	10	BC
Summary Statistics																
Average			18		5		1		15		59		13		5	
Standard Error			1		1		0		5		4		4		2	
Min			4		2		1		2		15		3		-	
Max			29		10		3		40		90		33		17	
Range			25		8		2		38		75		30		17	
ANOVA p values																
Variety			<0.001		<0.001		N.S.		<0.001		0.006		<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 8. Across and by location mean cover crop cover of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Winter Cover Crop Cover (%)											
			Avg		AL		FL		KY		SC		TN ET		TN HR	
					10 Feb 25		*7 Feb 25*		*30 Jan 25*		*13 Feb 25*		*25 Feb 25*		*26 Feb 25*	
Nujet 350	Brassica Carinata	Brassica	-	-	42	EF	17	C-E			72	B				
Twister	Brassica, Hybrid	Brassica	55	B	52	C-E	32	B-D	40	D	83	A	63	A-F	62	CD
Aerifi	Brassica, Radish	Brassica	34	D-F	73	AB	26	B-E	0	F	80	A	22	FG	2	G
Jackpot	Brassica, Turnip	Brassica	39	C-E	53	C-E	29	B-D	7	F	63	C	57	A-G	28	EF
FL 405	Cereal Rye	Cereal	-	-					97	AB			67	A-E	87	AB
FL 406	Cereal Rye	Cereal	82	A	81	A	36	B-D	100	A	80	A	97	A	100	A
GO-T	Oat	Cereal	-	-			29	B-D								
Horizon 214	Oat	Cereal	-	-					87	BC			97	A	57	D
Horizon 306	Oat	Cereal	-	-					83	C			88	A-C	82	A-C
Horizon 578	Oat	Cereal	-	-					83	C			90	AB	83	A-C
Horizon 720	Oat	Cereal	-	-					90	A-C			98	A	77	A-D
UF-BTO	Oat, Black	Cereal	43	CD	63	B-D	29	B-D	0	F	83	A	83	A-D	0	G
Frosty	Clover, Berseem	Legume	29	E-G	57	B-E	43	B	5	F	20	DE	20	FG	32	E
AU Sunrise	Clover, Crimson	Legume	49	BC	68	A-C	79	A	20	E	23	D	40	D-G	65	B-D
eNhance	Clover, Persian	Legume	25	F-H	55	C-E	23	B-E	5	F	17	D-F	47	B-G	5	FG
Blaze	Clover, Red	Legume	12	I	22	G	10	DE	5	F	17	D-F	13	G	7	FG
Dynamite	Clover, Red	Legume	18	HI	24	G	19	B-E	5	F	15	EF	35	E-G	8	E-G
Q	Clover, Red	Legume	21	G-I	28	FG	24	B-E	5	F	12	F	45	C-G	10	E-G
B-24.1047	Ervil	Legume	20	G-I	47	DE	38	BC	0	F	17	D-F	15	G	3	G
Cahaba White	Vetch	Legume	16	HI	25	FG	0	E	5	F	17	D-F	33	E-G	18	E-G
Summary Statistics																
Average			34		49		29		35		43		56		40	
Standard Error			4		6		9		4		3		16		8	
Min			12		22		0		0		12		13		0	
Max			82		81		79		100		83		98		100	
Range			70		59		79		100		72		85		100	
ANOVA p values																
Variety			**<0.001**		**<0.001**		**0.001**		**<0.001**		**0.006**		**<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 9. Across and by location mean weed cover of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Weed Cover (%)											
			Avg		AL		FL		KY		SC		TN ET		TN HR	
					10 Feb 25		*7 Feb 25*		*30 Jan 25*		*13 Feb 25*		*25 Feb 25*		*26 Feb 25*	
Nujet 350	Brassica Carinata	Brassica	-	-	6	B-E	5	DE			28	E				
Twister	Brassica, Hybrid	Brassica	13	F	2	E	7	B-E	37	D	17	F	8	B-E	5	DE
Aerifi	Brassica, Radish	Brassica	17	EF	2	E	7	B-E	47	CD	20	F	18	A-D	10	B-E
Jackpot	Brassica, Turnip	Brassica	20	E	2	E	5	C-E	57	A-D	37	D	10	A-E	10	B-E
FL 405	Cereal Rye	Cereal	-	-					3	E			7	C-E	3	DE
FL 406	Cereal Rye	Cereal	5	G	3	E	2	DE	0	E	20	F	2	E	-	E
GO-T	Oat	Cereal	-	-			3	DE								
Horizon 214	Oat	Cereal	-	-					7	E			0	E	5	DE
Horizon 306	Oat	Cereal	-	-					7	E			3	DE	5	DE
Horizon 578	Oat	Cereal	-	-					7	E			3	DE	5	DE
Horizon 720	Oat	Cereal	-	-					3	E			0	E	7	C-E
UF-BTO	Oat, Black	Cereal	17	EF	2	E	1	E	73	AB	17	F	2	E	8	C-E
Frosty	Clover, Berseem	Legume	30	CD	4	DE	13	B-D	50	B-D	80	BC	23	AB	10	B-E
AU Sunrise	Clover, Crimson	Legume	28	D	6	B-E	8	B-E	50	B-D	77	C	22	A-C	7	C-E
eNhance	Clover, Persian	Legume	30	CD	5	B-E	9	B-E	47	CD	83	A-C	13	A-E	23	A
Blaze	Clover, Red	Legume	35	BC	9	BC	17	B	57	A-D	83	A-C	25	A	17	A-C
Dynamite	Clover, Red	Legume	32	B-D	8	B-D	13	B-D	57	A-D	85	AB	12	A-E	20	AB
Q	Clover, Red	Legume	29	D	9	B	8	B-E	43	CD	88	A	10	A-E	13	A-D
B-24.1047	Ervil	Legume	36	AB	5	C-E	16	BC	80	A	83	A-C	15	A-E	20	AB
Cahaba White	Vetch	Legume	41	A	19	A	46	A	67	A-C	83	A-C	12	A-E	17	A-C
Summary Statistics																
Average			26		6		11		38		57		10		10	
Standard Error			2		2		4		9		3		6		4	
Min			5		2		1		0		17		0		-	
Max			41		19		46		80		88		25		23	
Range			36		17		45		80		72		25		23	
ANOVA p values																
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**0.006**		**0.033**		**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 10. Across and by location mean cover crop biomass of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Biomass (DM lbs/ac)[§]																	
			Avg		AL		FL		GA		KY		LA		SC		TN_ET		TN_HR	
					10-Mar-25		12-Mar-25		28-Mar-25		10-Apr-25		28-Mar-25		19-Mar-25		2-Apr-25		1-Apr-25	
Nujet 350	Brassica Carinata	Brassica	-	-	1,006	C-G	2,436	B-D	782	E-G					2,830	B				
Twister	Brassica, Hybrid	Brassica	1,639	D-F	1,288	C-E	1,876	B-E	2,348	BC	335	C	869	A	4,178	A	2,309	B-D	1,729	B-D
Aerifi	Brassica, Radish	Brassica	524	H-K	1,761	BC	1,372	C-F	888	D-G	1	F	711	A	2,574	BC	354	HI	1	G
Jackpot	Brassica, Turnip	Brassica	1,122	D-G	1,638	B-D	1,627	C-E	2,030	CD	1	F	1,350	A	2,635	B	1,595	C-E	823	E
FL 405	Cereal Rye	Cereal	-	-							3,718	A					3,284	B	2,631	AB
FL 406	Cereal Rye	Cereal	3,837	A-C	3,794	A	4,316	AB	5,641	A	3,936	A	2,656	A	2,201	BC	6,056	A	3,174	A
GO-T	Oat	Cereal	-	-			3,103	A-C	5,182	A										
Horizon 214	Oat	Cereal	-	-							786	B					2,415	B-D	1,936	BC
Horizon 306	Oat	Cereal	-	-							1,071	B					3,922	AB	1,955	BC
Horizon 578	Oat	Cereal	-	-							1,122	B					2,714	BC	1,743	B-D
Horizon 720	Oat	Cereal	-	-							940	B					3,054	B	1,151	DE
UF-BTO	Oat, Black	Cereal	-	-	2,311	B	3,459	A-C	4,169	AB	1	F			1,699	C	659	F-H	1	G
Frosty	Clover, Berseem	Legume	749	G-J	845	E-G	1,967	B-E	1,432	C-F	24	E	1,200	A	297	E-G	1,046	E-G	745	E
AU Sunrise	Clover, Crimson	Legume	1,455	D-F	1,608	B-D	5,873	A	1,844	C-E	124	D	1,880	A	779	D	1,382	D-F	1,320	C-E
eNhance	Clover, Persian	Legume	389	H-L	898	D-G	665	E-G	639	FG	1	F	1,917	A	358	EF	245	HI	100	F
Blaze	Clover, Red	Legume	160	L-N	597	FG	237	G	549	G	1	F	185	A	141	GH	115	I	56	F
Dynamite	Clover, Red	Legume	248	K-N	232	H	387	FG	751	FG	1	F	1,187	A	71	H	396	HI	103	F
Q	Clover, Red	Legume	278	K-N	542	GH	935	D-G	837	E-G	1	F	432	A	119	GH	317	HI	96	F
B-24.1047	Ervil	Legume	434	H-K	1,079	C-G	2,078	B-E	947	D-G	1	F	1,720	A	186	F-H	522	GH	1	G
Cahaba White	Vetch	Legume	751	G-J	1,198	C-F	2,739	BC	1,098	C-G	204	CD	628	A	458	DE	1,090	E-G	151	F
Summary Statistics																				
Average			966		1,343		2,205		1,942		682		1,228		1,323		1,749		984	
Standard Error[z]			-		-		-		-		-		-		-		-		-	
Min			160		232		237		549		1		185		71		115		1	
Max			3,837		3,794		5,873		5,641		3,936		2,656		4,178		6,056		3,174	
Range			3,678		3,562		5,636		5,092		3,935		2,471		4,106		5,941		3,173	
ANOVA p-values																				
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**<0.001**		**N.S.**		**0.006**		**<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 0%=red, 50% = yellow and 100%=green.
[z]Data required a cubed root transformation to achieve assumptions of normality. Back-transformed data are presented and no standard error is given.

Table 11. Across and by location mean proportion of cover crops to total biomass (cover crops + weeds), by weight, of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Proportion of Cover Crops to Total Biomass by Weight (%)													
			Avg		AL		FL		GA		KY		LA		SC		TN_ET		TN_HR	
					10-Mar-25		*12-Mar-25*		*28-Mar-25*		*10-Apr-25*		*28-Mar-25*		*19-Mar-25*		*2-Apr-25*		*1-Apr-25*	
Nujet 350	Brassica Carinata	Brassica	-	-	87	AB	80	A	49	FG					77	B				
Twister	Brassica, Hybrid	Brassica	80	CD	92	AB	80	A	73	C-E	26	D	73	A	99	A	98	A	100	A
Aerifi	Brassica, Radish	Brassica	52	G-I	96	A	85	A	50	FG	0	E	49	A	84	AB	50	E	0	D
Jackpot	Brassica, Turnip	Brassica	71	EF	71	B-D	75	AB	75	B-E	-	E	80	A	78	B	99	A	94	AB
FL 405	Cereal Rye	Cereal	-	-							97	A					100	A	100	A
FL 406	Cereal Rye	Cereal	95	AB	100	A	93	A	97	A	99	A	83	A	89	AB	100	A	100	A
GO-T	Oat	Cereal	-	-			94	A	92	AB										
Horizon 214	Oat	Cereal	-	-							51	C					96	AB	99	A
Horizon 306	Oat	Cereal	-	-							76	B					98	A	99	A
Horizon 578	Oat	Cereal	-	-							62	C					98	A	99	A
Horizon 720	Oat	Cereal	-	-							53	C					98	A	98	A
UF-BTO	Oat, Black	Cereal	-	-	100	A	96	A	82	A-C	-	E			96	A	75	B-D	0	D
Frosty	Clover, Berseem	Legume	60	GH	82	A-C	57	BC	78	B-D	4	E	57	A	33	DE	91	A-C	77	B
AU Sunrise	Clover, Crimson	Legume	73	C-E	82	A-C	94	A	85	A-C	12	E	85	A	49	C	91	A-C	90	AB
eNhance	Clover, Persian	Legume	46	IJ	62	C-E	45	CD	59	D-F	0	E	78	A	30	DE	59	DE	32	C
Blaze	Clover, Red	Legume	29	KL	29	F	14	E	39	G	0	E	51	A	22	EF	60	DE	15	CD
Dynamite	Clover, Red	Legume	36	KL	23	F	29	DE	58	EF	0	E	66	A	12	F	70	C-E	26	C
Q	Clover, Red	Legume	36	KL	41	EF	38	CD	60	D-F	0	E	49	A	13	F	54	DE	30	C
B-24.1047	Ervil	Legume	46	IJ	63	C-E	77	AB	74	B-E	0	E	67	A	29	DE	62	DE	0	D
Cahaba White	Vetch	Legume	57	GH	57	DE	84	A	53	FG	26	D	83	A	40	CD	88	A-C	27	C
Summary Statistics																				
Average			57		70		69		68		28		68		54		82		60	
Standard Error			3		8		8		7		4		17		5		8		6	
Min			29		23		14		39		-		49		12		50		0	
Max			95		100		96		97		99		85		99		100		100	
Range			66		77		82		58		99		36		86		50		100	
ANOVA p-values																				
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**<0.001**		**N.S.**		**0.006**		**<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 12. Across and by location mean cover crop cover of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Cover (%)															
			Avg		AL		FL		GA		KY		LA		SC		TN_ET		TN_HR	
					10-Mar-25		*12-Mar-25*		*28-Mar-25*		*10-Apr-25*		*28-Mar-25*		*19-Mar-25*		*2-Apr-25*		*1-Apr-25*	
Nujet 350	Brassica Carinata	Brassica	-	-	63	CD	43	C-E	23	F					77	C				
Twister	Brassica, Hybrid	Brassica	68	CD	78	BC	35	D-F	62	B-D	20	DE	67	A	95	A	100	A	88	AB
Aerifi	Brassica, Radish	Brassica	44	G-J	80	A-C	48	B-E	50	DE	-	G	35	A	85	A-C	50	C-E	0	F
Jackpot	Brassica, Turnip	Brassica	58	EF	82	AB	38	DE	68	A-D	5	FG	73	A	78	BC	68	BC	53	C
FL 405	Cereal Rye	Cereal	-	-							100	A					100	A	97	A
FL 406	Cereal Rye	Cereal	90	AB	97	A	73	AB	83	A	100	A	80	A	87	A-C	100	A	98	A
GO-T	Oat	Cereal	-	-			73	AB	80	AB										
Horizon 214	Oat	Cereal	-	-							73	C					95	A	85	AB
Horizon 306	Oat	Cereal	-	-							73	C					93	A	85	AB
Horizon 578	Oat	Cereal	-	-							87	B					93	A	85	AB
Horizon 720	Oat	Cereal	-	-							83	BC					93	A	73	B
UF-BTO	Oat, Black	Cereal	-	-	96	A	68	A-C	88	A	-	G			93	AB	68	BC	0	F
Frosty	Clover, Berseem	Legume	51	E-G	63	CD	42	C-E	58	C-E	20	DE	37	A	33	D-F	82	AB	77	B
AU Sunrise	Clover, Crimson	Legume	71	CD	72	B-D	93	A	73	A-C	23	D	78	A	48	D	83	AB	95	A
eNhance	Clover, Persian	Legume	46	GH	77	B-D	35	D-F	50	DE	10	E-G	72	A	32	EF	67	BC	25	DE
Blaze	Clover, Red	Legume	26	MN	40	E	8	F	25	F	10	E-G	35	A	27	FG	42	DE	20	E
Dynamite	Clover, Red	Legume	35	J-L	42	E	28	EF	62	B-D	13	D-F	37	A	13	GH	62	C	25	DE
Q	Clover, Red	Legume	29	K-M	37	E	22	EF	52	DE	10	E-G	25	A	10	H	55	CD	22	E
B-24.1047	Ervil	Legume	36	I-L	61	D	62	B-D	55	C-E	-	G	50	A	27	FG	35	E	0	F
Cahaba White	Vetch	Legume	45	G-I	35	E	60	B-D	40	EF	20	DE	32	A	43	DE	92	A	40	CD
Summary Statistics																				
Average			50		66		49		58		36		52		53		77		54	
Standard Error			3		6		10		7		5		20		6		7		5	
Min			26		35		8		23		-		25		10		35		0	
Max			90		97		93		88		100		80		95		100		98	
Range			64		62		85		65		100		55		85		65		98	
ANOVA p-values																				
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**<0.001**		**N.S.**		**0.006**		**<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 13. Across and by location mean weed cover of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Weed Cover (%)															
			Avg		AL		FL		GA		KY		LA		SC		TN_ET		TN_HR	
					10-Mar-25		*12-Mar-25*		*28-Mar-25*		*10-Apr-25*		*28-Mar-25*		*19-Mar-25*		*2-Apr-25*		*1-Apr-25*	
Nujet 350	Brassica Carinata	Brassica	-	-	5	B	10	D-F	77	A					23	F				
Twister	Brassica, Hybrid	Brassica	22	HI	2	B	15	B-E	38	C-E	80	CD	33	A	5	H	-	E	2	DE
Aerifi	Brassica, Radish	Brassica	37	FG	2	B	8	D-F	50	BC	100	A	65	A	15	F-H	35	AB	23	B-D
Jackpot	Brassica, Turnip	Brassica	27	HI	1	B	17	B-D	32	C-F	95	AB	27	A	22	FG	8	DE	12	DE
FL 405	Cereal Rye	Cereal	-	-							-	G					-	E	2	DE
FL 406	Cereal Rye	Cereal	7	JK	0	B	4	EF	17	F	0	G	20	A	13	F-H	-	E	-	E
GO-T	Oat	Cereal	-	-			4	EF	20	EF										
Horizon 214	Oat	Cereal	-	-							27	E					5	E	5	DE
Horizon 306	Oat	Cereal	-	-							27	E					7	E	3	DE
Horizon 578	Oat	Cereal	-	-							13	F					7	E	3	DE
Horizon 720	Oat	Cereal	-	-							17	EF					7	E	7	DE
UF-BTO	Oat, Black	Cereal	-	-	-	B	4	F	12	F	100	A			7	GH	27	A-C	35	A-C
Frosty	Clover, Berseem	Legume	38	FG	5	B	25	AB	42	B-D	80	CD	63	A	67	C-E	12	C-E	13	C-E
AU Sunrise	Clover, Crimson	Legume	25	HI	6	B	3	F	27	D-F	77	D	22	A	52	E	7	E	5	DE
eNhance	Clover, Persian	Legume	42	D-F	4	B	20	A-D	50	BC	90	A-C	28	A	68	CD	25	B-D	50	A
Blaze	Clover, Red	Legume	58	AB	32	A	32	A	75	A	90	A-C	65	A	73	BC	43	A	55	A
Dynamite	Clover, Red	Legume	48	C-E	23	A	17	B-D	38	C-E	87	B-D	63	A	87	AB	27	A-C	45	AB
Q	Clover, Red	Legume	54	A-C	25	A	23	A-C	48	BC	90	A-C	75	A	90	A	38	AB	40	AB
B-24.1047	Ervil	Legume	49	C-E	9	B	17	B-D	45	B-D	100	A	50	A	73	BC	42	AB	55	A
Cahaba White	Vetch	Legume	44	D-F	27	A	13	C-F	60	AB	80	CD	68	A	57	DE	10	C-E	35	A-C
Summary Statistics																				
Average			38		10		14		42		64		48		47		17		22	
Standard Error			3		4		4		7		5		20		6		6		8	
Min			7		-		3		12		-		20		5		-		-	
Max			58		32		32		77		100		75		90		43		55	
Range			51		32		28		65		100		55		85		43		55	
ANOVA p-values																				
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**<0.001**		**N.S.**		**0.006**		**<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 14. Across and by location mean cover crop height of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Height (in)															
			Avg		AL		FL		GA		KY		LA		SC		TN_ET		TN_HR	
					10-Mar-25		*12-Mar-25*		*28-Mar-25*		*10-Apr-25*		*28-Mar-25*		*19-Mar-25*		*2-Apr-25*		*1-Apr-25*	
Nujet 350	Brassica Carinata	Brassica	-	-	29	C	79	B	37	C-E					51	D				
Twister	Brassica, Hybrid	Brassica	48	G-J	21	D	11	GH	50	BC	43	B	34	A	69	B	93	B	61	B
Aerifi	Brassica, Radish	Brassica	-	-	24	CD	80	B	43	B-D	-		14	A	59	CD	61	D	-	
Jackpot	Brassica, Turnip	Brassica	-	-	19	DE	14	F-H	57	B	-		10	A	61	C	74	C	50	C
FL 405	Cereal Rye	Cereal	-	-							107	A					130	A	71	A
FL 406	Cereal Rye	Cereal	94	A-F	117	A	114	A	110	A	100	A	24	A	88	A	127	A	75	A
GO-T	Oat	Cereal	-	-			53	CD	42	B-D										
Horizon 214	Oat	Cereal	-	-							27	C					47	E	28	D
Horizon 306	Oat	Cereal	-	-							28	C					51	DE	28	D
Horizon 578	Oat	Cereal	-	-							25	CD					42	EF	20	D-F
Horizon 720	Oat	Cereal	-	-							28	C					52	DE	23	DE
UF-BTO	Oat, Black	Cereal	-	-	62	B	62	BC	48	B-D	-				31	E	32	FG	-	
Frosty	Clover, Berseem	Legume	18	K-M	10	FG	26	E-G	32	D-F	9	F	15	A	16	F	25	GH	14	E-G
AU Sunrise	Clover, Crimson	Legume	15	K-M	8	FG	20	F-H	16	FG	15	EF	10	A	8	GH	25	GH	21	D-F
eNhance	Clover, Persian	Legume	-	-	13	EF	17	F-H	17	FG	-		13	A	7	GH	25	GH	12	FG
Blaze	Clover, Red	Legume	-	-	6	G	5	H	8	G	-		19	A	3	H	11	I	6	G
Dynamite	Clover, Red	Legume	-	-	8	FG	10	GH	15	FG	-		11	A	4	H	19	HI	14	E-G
Q	Clover, Red	Legume	-	-	7	FG	5	H	10	G	-		6	A	4	H	14	HI	10	G
B-24.1047	Ervil	Legume	-	-	20	DE	43	DE	21	E-G	-		9	A	14	FG	21	G-I	-	
Cahaba White	Vetch	Legume	17	K-M	12	FG	32	EF	17	FG	18	DE	13	A	9	F-H	26	GH	7	G
Summary Statistics																				
Average			38		25		38		35		22		15		30		49		24	
Standard Error			2		2		7		6		2		8		3		4		3	
Min			15		6		5		8		-		6		3		11		-	
Max			94		117		114		110		107		34		88		130		75	
Range			79		111		110		102		107		28		84		119		75	
ANOVA p-values																				
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**<0.001**		**N.S.**		**0.006**		**<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 0%=red, 50% = yellow and 100%=green.

Table 15. Across and by location mean cover crop biomass of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Biomass (DM lbs/ac)[§]															
			Avg		AL		GA		KY		LA		SC		TN_ET		TN_HR	
					23 Apr 25		*9-May 25*		*29 Apr 25*				*9-May 25*		*30 Apr 25*		*5-May 25*	
Nujet 350	Brassica Carinata	Brassica	-	-	5,891	C	3,854	C-G					10,711	B				
Twister	Brassica, Hybrid	Brassica	4,141	D-F	2,653	DE	2,534	FG	655	E	7,415	A	7,267	BC	4,378	C-F	4,086	BC
Aerifi	Brassica, Radish	Brassica	2,887	G-J	6,370	BC	2,135	G	0	E	3,744	A	6,999	BC	761	GH	202	E
Jackpot	Brassica, Turnip	Brassica	3,616	D-G	2,424	E	3,622	D-G	0	E	6,999	A	8,676	B	1,416	F-H	2,177	C-E
FL 405	Cereal Rye	Cereal	-	-					7,577	A					9,011	AB	7,572	A
FL 406	Cereal Rye	Cereal	8,959	A-C	8,152	AB	6,977	AB	6,012	B	8,720	A	15,205	A	9,790	A	7,857	A
GO-T	Oat	Cereal	-	-			5,894	A-D										
Horizon 214	Oat	Cereal	-	-					3,388	CD					8,107	AB	8,327	A
Horizon 306	Oat	Cereal	-	-					3,277	CD					6,959	A-C	8,071	A
Horizon 578	Oat	Cereal	-	-					3,983	C					9,909	A	7,619	A
Horizon 720	Oat	Cereal	-	-					3,001	D					7,358	A-C	5,948	AB
UF-BTO	Oat, Black	Cereal	-	-	9,033	A	7,613	A	-	E			17,307	A	3,711	D-G	0	E
Frosty	Clover, Berseem	Legume	3,583	D-G	4,514	CD	6,668	A-C	241	E	3,148	A	3,712	CD	3,426	D-H	3,372	CD
AU Sunrise	Clover, Crimson	Legume	4,803	DE	6,147	C	5,882	A-E	754	E	5,178	A	4,025	CD	4,842	C-E	6,792	A
eNhance	Clover, Persian	Legume	3,036	F-J	3,331	DE	4,247	B-G	208	E	8,043	A	1,632	D	1,951	E-H	1,844	C-E
Blaze	Clover, Red	Legume	2,136	H-K	1,563	E	5,395	A-F	68	E	3,543	A	1,990	D	1,190	GH	1,201	DE
Dynamite	Clover, Red	Legume	2,505	G-K	2,354	E	5,966	A-D	86	E	4,513	A	1,990	D	1,368	F-H	1,261	DE
Q	Clover, Red	Legume	1,979	J-L	1,619	E	4,330	B-G	54	E	2,923	A	1,766	D	1,743	E-H	1,416	DE
B-24.1047	Ervil	Legume	1,418	KL	2,969	DE	2,974	E-G	0	E	2,430	A	1,006	D	547	H	-	E
Cahaba White	Vetch	Legume	3,226	F-I	4,534	CD	5,151	A-F	603	E	2,151	A	1,834	D	6,180	B-D	2,129	C-E
Summary Statistics																		
Average			3,524		4,397		4,883		1,662		4,901		6,009		4,591		3,882	
Standard Error			440		690		1,009		273		2,008		1,398		1,082		880	
Min			1,418		1,563		2,135		-		2,151		1,006		547		-	
Max			8,959		9,033		7,613		7,577		8,720		17,307		9,909		8,327	
Range			7,541		7,471		5,478		7,577		6,568		16,301		9,362		8,327	
ANOVA p values																		
Variety			**<0.001**		**<0.001**		**0.010**		**<0.001**		**N.S.**		**0.006**		**<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 0%=red, 50% = yellow and 100%=green.

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Table 16. Across and by location mean proportion of cover crops to weeds, by weight, of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Proportion of Cover Crops to Total Biomass by Weight (%)															
			Avg		AL		GA		KY		LA		SC		TN_ET		TN_HR	
					23 Apr 25		*9-May 25*		*29 Apr 25*				*9-May 25*		*30 Apr 25*		*5-May 25*	
Nujet 350	Brassica Carinata	Brassica	-	-	99	A	80	D-F					81	AB				
Twister	Brassica, Hybrid	Brassica	81	BC	98	A	69	F	41	D	77	A	83	AB	99	A	97	AB
Aerifi	Brassica, Radish	Brassica	52	F	96	A	73	EF	-	F	62	A	81	AB	29	D	22	E
Jackpot	Brassica, Turnip	Brassica	75	B-D	96	A	81	C-F	-	F	97	A	83	AB	90	AB	75	CD
FL 405	Cereal Rye	Cereal	-	-					94	AB					100	A	100	A
FL 406	Cereal Rye	Cereal	97	A	100	A	98	AB	98	A	87	A	99	A	99	A	100	A
GO-T	Oat	Cereal	-	-			99	A										
Horizon 214	Oat	Cereal	-	-					82	BC					100	A	100	A
Horizon 306	Oat	Cereal	-	-					84	BC					99	A	100	A
Horizon 578	Oat	Cereal	-	-					87	A-C					99	A	97	A-C
Horizon 720	Oat	Cereal	-	-					77	C					99	A	99	AB
UF-BTO	Oat, Black	Cereal	-	-	100	A	99	A	0	F			98	A	93	AB	-	E
Frosty	Clover, Berseem	Legume	74	CD	99	A	99	A	16	E	57	A	55	BC	92	AB	97	AB
AU Sunrise	Clover, Crimson	Legume	83	B	100	A	95	A-C	35	D	94	A	57	BC	99	A	99	AB
eNhance	Clover, Persian	Legume	74	B-D	97	A	88	A-D	12	EF	91	A	50	CD	94	AB	85	A-C
Blaze	Clover, Red	Legume	60	EF	70	B	95	A-D	4	EF	60	A	42	CD	75	C	77	B-D
Dynamite	Clover, Red	Legume	61	E	81	AB	92	A-D	6	EF	82	A	29	CD	82	BC	56	D
Q	Clover, Red	Legume	63	E	66	B	91	A-D	4	EF	62	A	52	CD	87	A-C	78	A-C
B-24.1047	Ervil	Legume	42	G	96	A	84	B-E	-	F	51	A	32	CD	31	D	-	E
Cahaba White	Vetch	Legume	69	DE	98	A	94	A-D	40	D	50	A	25	D	96	A	82	A-C
Summary Statistics																		
Average			69		93		89		38		72		62		87		76	
Standard Error			3		7		5		5		15		10		5		8	
Min			42		66		69		-		50		25		29		-	
Max			97		100		99		98		97		99		100		100	
Range			55		34		29		98		48		74		71		100	
ANOVA p values																		
Variety			**<0.001**		**0.006**		**0.001**		**<0.001**		**N.S.**		**0.006**		**<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 17. Across and by location mean cover crop cover of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Cover (%)															
			Avg		AL		GA		KY		LA		SC		TN_ET		TN_HR	
					23 Apr 25		*9-May 25*		*29 Apr 25*				*9-May 25*		*30 Apr 25*		*5-May 25*	
Nujet 350	Brassica Carinata	Brassica	-	-	95	A	75	CD					80	A-D				
Twister	Brassica, Hybrid	Brassica	77	CD	94	AB	72	D	30	CD	83	A	88	A	93	A	80	A-C
Aerifi	Brassica, Radish	Brassica	44	IJ	94	AB	53	E	-	F	63	A	82	A-C	15	C	3	E
Jackpot	Brassica, Turnip	Brassica	64	F-H	94	AB	75	CD	5	EF	82	A	85	AB	50	B	58	D
FL 405	Cereal Rye	Cereal	-	-					100	A					98	A	100	A
FL 406	Cereal Rye	Cereal	94	AB	95	A	78	B-D	100	A	83	A	98	A	100	A	100	A
GO-T	Oat	Cereal	-	-			89	A-C										
Horizon 214	Oat	Cereal	-	-					90	AB					100	A	100	A
Horizon 306	Oat	Cereal	-	-					88	AB					97	A	98	AB
Horizon 578	Oat	Cereal	-	-					80	AB					98	A	93	AB
Horizon 720	Oat	Cereal	-	-					73	B					98	A	87	AB
UF-BTO	Oat, Black	Cereal	-	-	97	A	93	AB	-	F			98	A	88	A	-	E
Frosty	Clover, Berseem	Legume	73	C-F	98	A	88	A-C	30	CD	50	A	55	C-F	97	A	93	AB
AU Sunrise	Clover, Crimson	Legume	80	CD	99	A	90	A-C	33	C	85	A	57	B-E	100	A	93	AB
eNhance	Clover, Persian	Legume	74	C-E	99	A	92	AB	27	C-E	77	A	50	EF	95	A	78	B-D
Blaze	Clover, Red	Legume	62	GH	62	E	92	AB	33	C	47	A	42	EF	92	A	65	CD
Dynamite	Clover, Red	Legume	65	F-H	73	DE	94	A	10	D-F	67	A	28	EF	93	A	87	AB
Q	Clover, Red	Legume	59	GH	77	C-E	95	A	5	EF	33	A	52	D-F	93	A	60	CD
B-24.1047	Ervil	Legume	38	IJ	78	B-D	57	E	-	F	53	A	30	EF	43	B	2	E
Cahaba White	Vetch	Legume	68	E-H	90	A-C	83	A-D	47	C	52	A	27	F	97	A	80	A-C
Summary Statistics																		
Average			66		89		82		42		65		62		86		71	
Standard Error			3		5		5		8		15		10		5		7	
Min			38		62		53		-		33		27		15		-	
Max			94		99		95		100		85		98		100		100	
Range			56		38		42		100		52		72		85		100	
ANOVA p values																		
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**N.S.**		**0.006**		**<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 18. Across and by location mean weed cover of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Weed Cover (%)													
			Avg		AL		GA		KY		LA		SC		TN_ET		TN_HR	
					23-Apr-25		*9-May-25*		*29-Apr-25*				*9-May-25*		*30-Apr-25*		*5-May-25*	
Nujet 350	Brassica Carinata	Brassica	-	-	5	E	25	BC					20	C-F				
Twister	Brassica, Hybrid	Brassica	20	IJ	6	DE	28	B	70	B	17	A	12	F	5	D	5	E
Aerifi	Brassica, Radish	Brassica	48	A-C	6	DE	47	A	100	A	37	A	18	D-F	83	A	43	AB
Jackpot	Brassica, Turnip	Brassica	30	F-H	6	DE	25	BC	95	A	18	A	15	EF	40	C	13	DE
FL 405	Cereal Rye	Cereal	-	-					-	F					2	D	-	E
FL 406	Cereal Rye	Cereal	6	KL	5	E	22	B-D	-	F	17	A	2	F	-	D	-	E
GO-T	Oat	Cereal	-	-			11	C-E										
Horizon 214	Oat	Cereal	-	-					10	EF					-	D	-	E
Horizon 306	Oat	Cereal	-	-					12	D-F					3	D	-	E
Horizon 578	Oat	Cereal	-	-					20	DE					2	D	3	E
Horizon 720	Oat	Cereal	-	-					27	D					2	D	3	E
UF-BTO	Oat, Black	Cereal	-	-	3	E	7	DE	100	A			2	F	12	D	52	A
Frosty	Clover, Berseem	Legume	20	IJ	2	E	12	C-E	22	D-F	50	A	45	A-D	3	D	7	DE
AU Sunrise	Clover, Crimson	Legume	20	IJ	1	E	10	C-E	67	BC	15	A	43	B-E	-	D	7	DE
eNhance	Clover, Persian	Legume	25	G-I	1	E	8	DE	73	B	23	A	50	AB	7	D	15	C-E
Blaze	Clover, Red	Legume	36	D-F	38	A	8	DE	67	BC	53	A	58	AB	7	D	23	CD
Dynamite	Clover, Red	Legume	35	D-F	27	AB	6	E	90	A	33	A	72	AB	7	D	10	DE
Q	Clover, Red	Legume	40	C-E	23	A-C	5	E	95	A	67	A	48	A-C	7	D	32	BC
B-24.1047	Ervil	Legume	54	AB	22	B-D	43	A	100	A	47	A	70	AB	53	B	42	AB
Cahaba White	Vetch	Legume	31	D-G	10	C-E	17	B-E	53	C	48	A	73	A	3	D	15	C-E
Summary Statistics																		
Average			31		11		18		56		35		38		13		15	
Standard Error			3		6		5		6		15		10		4		6	
Min			6		1		5		-		15		2		-		-	
Max			54		38		47		100		67		73		83		52	
Range			47		38		42		100		52		72		83		52	
ANOVA p-values																		
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**N.S.**		**0.006**		**<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 19. Across and by location mean cover crop height of 20 cover crop varieties planted in fall 2024 and terminated in spring 2025. Small plot replicated trials were conducted at 8 sites across 7 states in the South. Evaluation date is listed below each location.

Variety	Common Name	Group	Cover Crop Height (in)															
			Avg		AL		GA		KY		LA		SC		TN_ET		TN_HR	
					23 Apr 25		*9-May 25*		*29 Apr 25*				*9-May 25*		*30 Apr 25*		*5-May 25*	
Nujet 350	Brassica Carinata	Brassica	-	-	115	BC	96	C					112	C				
Twister	Brassica, Hybrid	Brassica	101	E-G	117	BC	123	B	100	B	36	A	114	C	119	B	97	BC
Aerifi	Brassica, Radish	Brassica	-	-	103	C	67	E-G	-		14	A	97	C	47	GH	42	E-G
Jackpot	Brassica, Turnip	Brassica	-	-	113	BC	118	B	-		10	A	136	B	83	E	101	B
FL 405	Cereal Rye	Cereal	-	-					150	A					152	A	139	A
FL 406	Cereal Rye	Cereal	130	A-D	122	AB	157	A	150	A	24	A	164	A	156	A	135	A
GO-T	Oat	Cereal	-	-			77	D-F										
Horizon 214	Oat	Cereal	-	-					70	C					97	CD	96	BC
Horizon 306	Oat	Cereal	-	-					65	C					94	C-E	89	B-D
Horizon 578	Oat	Cereal	-	-					65	C					93	DE	87	CD
Horizon 720	Oat	Cereal	-	-					67	C					106	C	82	D
UF-BTO	Oat, Black	Cereal	-	-	134	A	143	A	-				149	AB	119	B	-	
Frosty	Clover, Berseem	Legume	53	H-K	66	D	81	C-E	23	E	16	A	75	D	61	F	47	EF
AU Sunrise	Clover, Crimson	Legume	46	L-N	48	EF	53	G	42	D	10	A	57	DE	62	F	51	E
eNhance	Clover, Persian	Legume	49	K-N	74	D	62	FG	27	E	12	A	65	D	64	F	38	E-G
Blaze	Clover, Red	Legume	30	O-Q	27	G	59	G	23	E	15	A	26	F	30	I	30	GH
Dynamite	Clover, Red	Legume	34	O-Q	29	G	65	FG	23	E	12	A	29	F	44	H	33	GH
Q	Clover, Red	Legume	34	O-Q	33	G	58	G	23	E	9	A	44	EF	45	GH	29	GH
B-24.1047	Ervil	Legume	-	-	36	FG	53	G	-		8	A	36	F	40	HI	18	H
Cahaba White	Vetch	Legume	55	H-J	59	DE	86	CD	35	D	10	A	102	C	57	FG	36	FG
Summary Statistics																		
Average			59		77		87		48		15		86		81		64	
Standard Error			2		5		5		3		7		7		4		5	
Min			30		27		53		-		8		26		30		-	
Max			130		134		157		150		36		164		156		139	
Range			99		107		104		150		28		137		126		139	
ANOVA p values																		
Variety			**<0.001**		**<0.001**		**<0.001**		**<0.001**		**N.S.**		**0.006**		**<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.

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