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HEMP VARIETY TRIALS IN TENNESSEE 2020

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Acknowledgments

This research was funded by UT AgResearch and UT Extension with partial support from participating companies.

We gratefully acknowledge the assistance of the following individuals in conducting these experiments:

The Northeast AgResearch and Education Center (Greeneville, TN)
Justin McKinney, Director
Cory Malone, Service Supervisor IV
Dale Gregg, Field and Livestock Worker
Jeff Neas, Field and Livestock Worker
Wayne Gibson, Field and Livestock Worker

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Experimental Procedures:

Hemp variety trials were conducted at the Northeast Tennessee AgResearch and Education Center in Greeneville, Tennessee, and at two on-farm locations in Jackson, Tennessee, (PS1, PS2). At Greeneville, 24 treatments were included in the final analysis (Table 1). These treatments represent 22 varieties, one of which, BaOx, was evaluated from multiple sources. The on-farm locations, PS1 and PS2, had a total of 14 and 13 treatments, respectively, included in the final analysis (Table 1).

The Jackson locations were arranged in a randomized complete block design with three replications. Plots consisted of two rows with five plants per row. Spacing between plants was 4 feet between plants and rows were 6 feet apart. Trials were planted at PS1 on June 18, 2020, and at PS2 on June 19, 2020. The preplant fertilizer application consisted of 120 lb N/acre, 100 lb P/acre (phosphate, P2O5) and 50 lb K/acre (potash, K2O). Trials were irrigated at transplanting but were not irrigated again. Weeds were managed by cultivation. All plants were hand-harvested by cutting the plants at the base, followed immediately by hand stripping leaf and flower material from stems. Total number of plants harvested per plot was recorded. Leaf and flower material were then dried in mess trays in a controlled environment for 5 to 14 days. Leaf and flower material were weighed before and after drying.

The Greeneville trial was arranged in a randomized complete block design with four replications. Plots consisted of two rows with four plants per row. Spacing was 2 feet between plants and 6 feet between rows. The trial was planted July 13, 2020. Fertilizer was applied in-season on July 29 by side-dressing 19-19-19 fertilizer at 800 lb/acre supplying a total of 152 lbs of N, P (phosphate, P2O5) and K (potash, K2O) per acre. The trial was irrigated at transplanting and was irrigated by hand for the first two weeks following transplanting. Irrigation was applied manually by a hose attached to a 300-gallon water tank mounted to a tractor. Specific irrigation quantities were not recorded. Weeds were managed by cultivation. Hemp plants were harvested at maturity on October 9 and 15 by hand-cutting the plants at the base, followed immediately by hand stripping leaf and flower material from stems. One representative plant was harvested per plot and wet weights were recorded. A subsample of flower and leaf material from each harvested plant was collected, placed in paper bags, and placed in a dryer for two weeks. Flower and leaf subsamples were weighed before and after drying to determine the moisture content and calculate dry weight of harvested material.

Dried flower and leaf samples from the Greeneville location were submitted to New Bloom Labs (Chattanooga, Tennessee) for cannabinoid analysis. Values for max active cannabidiol (CBD), max active tetrahydrocannabinol (THC), delta-9 THC, and cannabigerol (CBG) are given in Table 2. Mean max active CBD values were determined for each plot and used to calculate CBD yield (lbs/plant). This value, given in Table 2, represents the mean biomass per plant multiplied by the mean percent CBD per plant.

At the Greeneville location, hemp plants were evaluated before harvest for morphological traits, including height and number of branches (Table 3). Plots were rated for leaf spot and powdery mildew incidence and severity on October 8 (Table 4). Incidence was rated as the percentage of leaves exhibiting disease symptoms, and severity was rated as the average percentage of the diseased area of affected leaves per plot. Percent corn earworm damage was evaluated at harvest on October 18 through 22 (Table 5). Corn earworm damage was rated based on a 0-10 scale with: 0-2 (low damage), 2-4 (low-moderate damage), 4-6 (moderate damage), 6-8 (moderate-high damage) and 8-10 (high damage). Corn earworm damage was rated in the Jackson trials as incidence and severity of damage on a percentage basis (Table 5).

Statistical Analysis and Interpretation of Data:

The tables on the following pages have been prepared with the entries listed in alphabetical order. Yield, quality and morphological data were analyzed using the GLIMMIX procedure in SAS v. 9.4 (SAS Institute, Cary, North Carolina) with mean separation performed using the Fisher's Protected LSD (Least Significant Difference) test. Mean separation for the disease data was performed using Tukey's Honestly Significant Difference (HSD) test. All analyses used a mixed model with treatment as a fixed effect and replicate as a random effect with an alpha level of 0.05 to determine significance. Across location analyses were evaluated only for treatments that were represented at all locations. The model for these analyses includes treatment as a fixed effect and location and replicate as random effects. Mean separation letters have been listed next to mean values for each trait. Varieties that have any letter in common within a column are not significantly different at the 5 percent level of probability. Varieties with performance statistically equivalent to the top performing variety will have an "a" included in the list of mean separation letters next to that entry.

Results

Yield

Performance was similar across locations, with consistently above average yields from Cherry Citrus, Cherry Wine, Double the Cherries, Green Giant and Wife (Table 2). Green Giant was a top-performer (statistically highest yield group), across all three locations. Cherry Citrus was a top-performer at both on farm locations, while Cherry Wine was a top-performer only at the PS2 location. Because hemp value is determined by both biomass yield and the percentage of CBD, selecting varieties based on highest CBD yield (biomass multiplied by concentration of CBD in that biomass) can help maximize profit. The highest CBD yielding varieties were BaOX, sourced from Tandy King; Cherry Citrus, sourced from PWP; and Double the Cherries, sourced from SCG.

In addition to maximizing CBD yield, hemp producers should select varieties that are within the legal limits for THC in Tennessee. Current Tennessee legislation for the 2021 growing season mandates delta-9 THC must not be above 0.3 percent on a dry weight basis. If that limit is exceeded, a crop must be destroyed. Seven of the varieties evaluated exceeded the legal delta-9 THC limit (Table 2). These included BaOX, sourced from Tandy King; Cherry; Cherry Improved; Double the Cherries; Pure CBD; T1; and Wife. Berry Blossom, Dutch Domination, Cherry Wine and Cherry Citrus had means slightly below the legal limit at 0.30, 0.27, 0.27, and 0.29 percent, respectively, but were within the standard error value of 0.3 percent, indicating potential to also exceed the limit. Green Giant and Siskiyou Gold 4 were the only varieties with above average CBD yield that did not exceed the legal THC limit.

One variety, BaOX, was sourced from both SCG (Springfield, Tennessee) and Tandy King (Maury County, Tennessee). These plants varied widely in terms of yield and quality. The Tandy King sourced BaOx had more than double the biomass yield and more than triple the CBD yield of the SCG sourced BaOx. However, the Tandy King sourced BaOx also exceeded the legal limit for delta-9 THC, with over six times the THC of the SCG sourced variety.

Disease Susceptibility

The majority (15) of the varieties only exhibited low-moderate or moderate susceptibility to both leaf spot and powdery mildew disease, while two of the varieties (Franklin and Green Giant) exhibited low susceptibility to both diseases (Table 4). None of the varieties exhibited high susceptibility to leaf spot and powdery mildew. Likewise, it is notable that only one variety exhibited high susceptibility to either leaf spot (Siskiyou Gold 4) or Powdery mildew (Bliss), or a high level of worm damage (Pure CBG). Green Giant was the only variety that exhibited low susceptibility to leaf spot, powdery mildew and corn earworm damage.

Leaf spot: The varieties exhibited varying susceptibility to leaf spot (Table 4). Among the varieties, leaf spot incidence occurred from 2 percent to 100 percent and severity occurred from 1 percent to 23 percent. Thirteen of the varieties were moderately susceptible to leaf spot. Their leaf spot incidence occurred from 58 percent to 100 percent and severity from 6 percent to 13 percent. Four had moderate-low leaf spot susceptibility, with leaf spot incidence occurring from 17 percent to 40 percent and severity from 2 percent to 7 percent. Another four varieties (Bliss, Pure CBG, Siskiyou Gold 1 and Siskiyou Gold 2) had moderate-high susceptibility, with leaf spot incidence of 100 percent and severity from 18 percent to 21 percent. Two varieties (Franklin and Green Giant) had

low susceptibility, with leaf spot incidence from 3 percent to 5 percent and severity from 1 percent to 2 percent. One variety (Siskiyou Gold 4) exhibited high leaf spot susceptibility, with the leaf spot incidence of 100 percent and severity of 23 percent.

Powdery mildew: Tested varieties exhibited varying susceptibility to powdery mildew (Table 4). Among the varieties, powdery mildew incidence occurred from 41 percent to 100 percent and severity occurred from 8 percent to 83 percent. Eighteen of the varieties were moderately susceptible to powdery mildew. Their powdery mildew incidence occurred from 73 percent to 100 percent and severity from 18 percent to 77 percent. Five varieties (Dutch Domination, Franklin, Green Giant, Siskiyou Gold 1 and Stout) had low susceptibility, having powdery mildew incidence from 41 percent to 75 percent and severity from 8 percent to 22 percent. One variety (Bliss) exhibited high powdery mildew susceptibility of 100 percent incidence and 83 percent severity.

Insect Damage

Corn earworm: Performance was inconsistent among locations, with the exception being Bliss, which exhibited moderate to high susceptibility at all three locations (Table 5). Pure CBG was rated as highly susceptible at Greeneville and had high incidence and severity at PS2, but exhibited very little damage at PS1. Likewise, Cherry Improved had above average incidence and severity scores at both PS1 and PS2, but was rated only low-mod at Greeneville. Double the Cherries, Pure CBD and Sweetened only exhibited above average susceptibility at the PS1 location. Across locations, Cherry Citrus, Cherry Wine, Franklin, Green Giant and Wife were rated low or low-mod and had below average incidence and severity ratings.

Table 1. Variety, source and planting/harvest date for each University of Tennessee AgResearch location at which hemp variety trials were evaluated in 2020. Each variety/source combination was evaluated as a separate treatment.

		Greeneville		Jackson - PS1		Jackson - PS2	
Variety	Source[z]	Planting Date	Harvest Date	Planting Date	Harvest Date	Planting Date	Harvest Date
BaOx	South Central Growers	7/13/20	10/9/20				
BaOx	Tandy King	7/13/20	10/9/20				
BaOx2	South Central Growers	7/13/20	10/9/20				
Berry Blossom	South Central Growers	7/13/20	10/9/20	6/18/20	10/22/20	6/19/20	10/22/20
Bliss	PWP	7/13/20	10/9/20	6/18/20	10/2/20	6/19/20	10/6/20
Cherry	PWP	7/13/20	10/9/20	6/18/20	10/9/20		
Cherry Citrus	PWP	7/13/20	10/15/20	6/18/20	10/27/20	6/19/20	10/27/20
Cherry Improved	South Central Growers	7/13/20	10/15/20	6/18/20	10/21/20	6/19/20	10/21/20
Cherry Wine	South Central Growers	7/13/20	10/15/20	6/18/20	10/28/20	6/19/20	10/22/20
Stray Kat	Tandy King	7/13/20	10/15/20				
Double the Cherries	South Central Growers	7/13/20	10/15/20	6/18/20	10/21/20	6/19/20	10/22/20
Dutch Delight	South Central Growers	7/13/20	10/15/20				
Dutch Domination	South Central Growers	7/13/20	10/15/20				
Franklin	South Central Growers	7/13/20	10/15/20	6/18/20	11/12/20	6/19/20	11/16/20
Green Giant	PWP	7/13/20	10/15/20	6/18/20	11/15/20	6/19/20	11/16/20
Pure CBD	South Central Growers	7/13/20	10/15/20	6/18/20	10/2/20	6/19/20	10/6/20
Pure CBG	South Central Growers	7/13/20	10/15/20	6/18/20	10/9/20	6/19/20	10/9/20
Siskiyou Gold #1	South Central Growers	7/13/20	10/15/20				
Siskiyou Gold #2	South Central Growers	7/13/20	10/15/20				
Siskiyou Gold #4	South Central Growers	7/13/20	10/15/20				
Sweetened	South Central Growers	7/13/20	10/15/20	6/18/20	10/20/20	6/19/20	10/9/20
Stout	South Central Growers	7/13/20	10/15/20				
T1	South Central Growers	7/13/20	10/15/20	6/18/20	10/21/20	6/19/20	10/22/20
Wife	Willow Oaks Farm	7/13/20	10/15/20	6/18/20	10/22/20	6/19/20	10/22/20

[z]South Central Growers, Springfield, TN; Tandy King, Maury County, TN; PWP Greenhouses Inc., Pall Mall, TN; Willow Oaks Farm, Brownsville, TN.

Table 2. Mean[z] yield and quality traits of hemp treatments (variety by source) evaluated in small plot replicated trials at the Northeast Tennessee AgResearch and Education Center in Greeneville, TN (yield and quality) and two on-farm locations in Jackson, TN (PS1 and PS2, yield data only).

Variety_Source	Biomass Yield[y] (lbs DM / plant)			CBD Yield[y] (lbs / plant)	Max Active CBD (%)	Max Active THC[x] (%)	Delta-9 THC[x] (%)	CBG[y] (%)	CBGA[y] (%)	Total Cannabinoids (%)
	Greeneville	Jackson - PS1	Jackson - PS2	Greeneville	Greeneville	Greeneville	Greeneville	Greeneville	Greeneville	Greeneville
BaOx_SCG	0.7 efghi			0.04 fghij	5.41 hij	0.08 ijk	0.06 jk	0.00 d	0.06 cdef	6.58 ijk
BaOx_Tandy King	1.5 bc			0.26 a	17.64 a	0.51 a	0.39 a	0.08 bc	0.14 abcd	20.73 a
BaOx2_SCG	0.2 kl			0.01 ij	4.21 ij	0.07 jk	0.07 jk	0.00 d	0.02 ef	4.85 jk
Berry Blossom_SCG	0.7 efghi	0.3 g	0.2 cd	0.08 cdef	13.06 cd	0.42 ab	0.30 cd	0.04 bcd	0.24 ab	15.93 bcde
Bliss_PWP	0.5 ghijk	0.1 g	0.2 d	0.00 j	0.06 l	0.12 hij	0.12 hij	6.24 a	6.10 a	12.96 efg
Cherry_PWP	0.3 ijkl	0.3 efg		0.04 fghij	13.72 bcd	0.33 cde	0.31 bcd	0.00 d	0.08 bcde	15.55 cdef
Cherry Citrus_PWP	1.8 b	1.5 a	0.9 ab	0.24 a	13.04 cd	0.36 bcde	0.29 cde	0.03 cd	0.21 ab	15.52 cdef
Cherry Improved_SCG	0.7 efgh	0.3 efg	0.4 cd	0.11 bcd	16.17 ab	0.38 bcd	0.38 ab	0.00 d	0.02 ef	18.82 ab
Cherry Wine_SCG	1.0 de	1.0 bc	1.2 a	0.12 bc	11.69 def	0.28 ef	0.27 def	0.05 bcd	0.03 ef	13.43 efg
Stray Kat_Tandy King	0.4 hijkl			0.04 fghij	9.96 efg	0.24 fg	0.20 fgh	0.00 d	0.15 abc	12.73 efg
Double the Cherries_SCG	1.7 b	0.6 def	0.6 bc	0.24 a	13.93 bcd	0.36 bcde	0.33 abcd	0.03 cd	0.09 bcdef	17.35 bcd
Dutch Delight_SCG	0.3 hijkl			0.03 fghij	9.41 fg	0.22 fg	0.22 efg	0.43 cd	0.26 ab	11.23 gh
Dutch Domination_SCG	0.5 ghijk			0.06 defgh	12.37 cde	0.29 def	0.27 def	0.08 bc	0.17 ab	14.91 def
Franklin_SCG	0.8 defg	0.4 efg	0.3 cd	0.07 cdefgh	7.92 gh	0.16 ghi	0.16 ghi	0.05 bcd	0.16 abc	9.43 hi
Green Giant_PWP	2.8 a	1.4 ab	1.1 a	0.16 b	5.68 hij	0.15 ghij	0.10 ijk	0.02 cd	0.20 bcd	6.84 ij
Pure CBD_SCG	0.5 ghijk	0.1 g	0.2 cd	0.08 cdefg	14.98 bc	0.41 bc	0.34 abc	0.04 cd	0.16 abc	17.30 bcd
Pure CBG_SCG	0.7 efgh	0.2 g	0.2 cd	0.01 ij	1.31 kl	0.08 ijk	0.06 jk	2.19 ab	0.84 ab	4.95 jk
Siskiyou Gold #1_SCG	0.1 l			0.00 j	3.07 jk	0.03 k	0.03 k	0.00 d	0.00 f	3.38 k
Siskiyou Gold #2_SCG	0.2 jkl			0.01 hij	5.41 hij	0.12 hijk	0.12 hij	0.00 d	0.06 bcdef	6.37 ijk
Siskiyou Gold #4_SCG	1.0 def			0.10 cde	10.26 efg	0.21 fgh	0.21 fg	0.00 d	0.02 ef	12.69 fg
Sweetened_SCG	0.5 ghijk	0.3 fg	0.3 cd	0.05 efghi	9.75 efg	0.23 fg	0.23 efg	0.05 bcd	0.10 bcdef	11.45 gh
Stout_SCG	0.5 ghijk			0.03 ghij	5.84 hi	0.12 hijk	0.12 hij	0.00 d	0.11 abcd	6.85 ij
T1_SCG	0.6 fghij	0.8 cd	0.5 cd	0.09 cde	16.06 ab	0.41 bc	0.39 a	0.04 cd	0.16 bcd	18.36 abc
Wife_Willow Oaks Farm	1.1 cd	0.7 cde	0.6 bc	0.16 b	14.71 bc	0.37 bcd	0.35 abc	0.00 d	0.05 def	17.19 bcd
Average	0.8	0.6	0.5	0.08	9.82	0.25	0.22	0.39	0.39	12.31
Standard Error	0.1	0.1	0.1	0.02	0.98	0.03	0.03	0.06	0.07	1.17
ANOVA p-values - Variety	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

[z]Means followed by the same letter(s) within columns are not significantly different. (Fisher's Protected LSD, $P<0.05$).

[y]Within biomass yield and CBD yield columns, mean values highlighted in dark orange are not statistically different from the highest yield and mean values highlighted in light orange are above the test average.

[x]Within the delta-9 THC column, mean values plus the standard error exceeding the state legal limit of 0.3 percent are highlighted in red. Mean values plus the standard error exceeding 0.3 percent max active THC are also highlighted in red.

[w]Data were log-transformed for analysis due to non-normal distribution. Non-transformed means are reported.

Table 3. Mean[z] morphological traits of hemp treatments (variety by source) evaluated in small plot replicated trials at the Northeast Tennessee AgReseearch and Education Center in Greeneville, TN during 2020.

Variety_Source	Plant Height (in.)		Plant Width (in.)		Branches (count)	
BaOx_SCG	28	efgh	28	fgh	21	defg
BaOx_Tandy King	33	de	33	def	22	cdefg
BaOx2_SCG	19	kl	20	ijkl	20	efg
Berry Blossom_SCG	27	fgh	28	efg	27	bc
Bliss_PWP	25	ghij	18	kl	20	efg
Cherry_PWP	20	jkl	16	kl	19	fg
Cherry Citrus_PWP	41	bc	39	bc	26	bcd
Cherry Improved_SCG	30	defg	21	ijk	20	efg
Cherry Wine_SCG	34	d	31	def	17	gh
Stray Kat_Tandy King	27	fgh	18	kl	20	efg
Double the Cherries_SCG	46	b	43	b	26	bcd
Dutch Delight_SCG	27	fghi	24	ghi	19	fg
Dutch Domination_SCG	27	fghi	21	ijk	21	defg
Franklin_SCG	35	cd	32	def	24	cdef
Green Giant_PWP	62	a	69	a	45	a
Pure CBD_SCG	21	ijkl	18	jkl	19	fg
Pure CBG_SCG	23	hijkl	22	hijk	22	cdefg
Siskiyou Gold #1_SCG	12	m	10	m	13	h
Siskiyou Gold #2_SCG	18	l	14	lm	13	h
Siskiyou Gold #4_SCG	35	d	34	cde	30	b
Sweetened_SCG	31	def	25	ghi	24	cdef
Stout_SCG	30	defg	24	ghij	22	cdefg
T1_SCG	24	ghijk	18	kl	18	gh
Wife_Willow Oaks Farm	44	b	35	cd	25	bcde
Average	**30**		**27**		**22**	
Standard Error	**2**		**2**		**2**	
ANOVA p-values						
- Variety	**<0.001**		**<0.001**		**<0.001**	

[z]Means followed by the same letter(s) within columns are not significantly different. (Fisher's Protected LSD, $P<0.05$).

Table 4. Mean[z] disease ratings of hemp treatments (variety by source) evaluated in small plot replicated trials at the Northeast Tennessee AgResearch and Education Center in Greeneville, TN.

	Leaf Spot				Powdery Mildew			
Variety_Source	Incidence (%)	Severity (%)	Disease Index[y]	Susceptibility[x]	Incidence (%)	Severity (%)	Disease Index[y]	Susceptibility[x]
BaOx_SCG	98 ab	13 abcde	13 abcdef	moderate	100 a	49 abc	49 abc	moderate
BaOx_Tandy King	43 cde	2 de	1 efg	mod-low	100 ab	63 abc	63 abc	moderate
BaOx2_SCG	100 a	13 abcde	13 abcdef	moderate	95 ab	46 abc	42 abc	moderate
Berry Blossom_SCG	95 ab	13 abcde	13 abcdefg	moderate	78 ab	38 abc	31 abc	moderate
Bliss_PWP	100 a	21 ab	21 ab	mod-high	100 a	83 a	83 a	high
Cherry_PWP	100 a	13 abcde	13 abcdefg	moderate	85 ab	58 abc	56 abc	moderate
Cherry Citrus_PWP	40 cde	3 de	1 fg	mod-low	100 a	31 abc	31 abc	moderate
Cherry Improved_SCG	100 a	16 abc	16 abcd	moderate	100 a	48 abc	48 abc	moderate
Cherry Wine_SCG	82 abc	9 abcde	7a bcdefg	moderate	100 ab	43 abc	45 abc	moderate
Stray Kat_Tandy King	100 a	9 bcde	9 bcdefg	moderate	83 ab	18 bc	15 bc	moderate
Double the Cherries_SCG	89 ab	12 abcde	10 abcdefg	moderate	100 a	25 abc	25 bc	moderate
Dutch Delight_SCG	76 abc	9 bcde	7 cdefg	moderate	93 ab	36 abc	35 abc	moderate
Dutch Domination_SCG	58 bcd	6 cde	4 defg	moderate	75 ab	15 bc	11 c	low
Franklin_SCG	5 e	1 e	0 g	low	68 ab	18 bc	11 c	low
Green Giant_PWP	3 e	2 de	0 g	low	41 b	19 bc	9 c	low
Pure CBD_SCG	100 a	15 abcd	15 abcde	moderate	73 ab	30 abc	21 abc	moderate
Pure CBG_SCG	100 a	20 ab	20 ab	mod-high	100 a	58 abc	58 abc	moderate
Siskiyou Gold #1_SCG	100 a	21 ab	21 ab	mod-high	67 ab	8 c	8 c	low
Siskiyou Gold #2_SCG	100 ab	18 abc	18 abc	mod-high	93 ab	33 abc	30 abc	moderate
Siskiyou Gold #4_SCG	100 a	23 a	23 a	high	100 a	48 abc	48 abc	moderate
Sweetened_SCG	100 a	10 abcde	10 abcdefg	moderate	100 a	23 bc	23 bc	moderate
Stout_SCG	17 de	4 cde	1 efg	mod-low	53 ab	22 abc	10 c	low
T1_SCG	100 a	14 abcde	14 abcdef	moderate	100 a	77 ab	77 ab	moderate
Wife_Willow Oaks Farm	40 cde	7 cde	3 efg	mod-low	100 a	50 abc	50 abc	moderate

[z]Means followed by the same letter(s) within columns are not sigificantly different (Tukey's HSD, $P<0.05$).

[y]Disease index was calculated using the following formula: DI=(I*S)/100, where DI=disease index, I=disease incidence, S=disease severity, and 100 represents the maximum possible incidence and severity scores.

[x]Disease index mean separations were used to categorize cultivars by leaf spot susceptibility. "Low" are siginficantly different from "high," and "low-mod" are significantly different from "mod-high."

Table 5. Corn earworm ratings of hemp treatments (variety by source) evaluated in small plot replicated trials at the Northeast Tennessee AgResearch and Education Center in Greeneville, TN and two on-farm locations in Jackson, TN (PS1 and PS2).

	Greeneville	Jackson - PS1		Jackson - PS2	
Variety_Source	Susceptibility[z]	Incidence[y] (%)	Severity[y] (%)	Incidence[y] (%)	Severity[y] (%)
BaOx_SCG	low-mod				
BaOx_Tandy King	low-mod				
BaOx2_SCG	low				
Berry Blossom_SCG	low	4 c	4 de	4 c	4 d
Bliss_PWP	moderate	88 a	80 a	75 a	78 a
Cherry_PWP	moderate	7 c	8 de		
Cherry Citrus_PWP	low	12 c	10 de	10 c	13 cd
Cherry Improved_SCG	low-mod	77 a	35 c	45 b	43 b
Cherry Wine_SCG	low-mod	13 c	7 de	19 c	12 cd
Stray Kat_Tandy King	low-mod				
Double the Cherries_SCG	low-mod	75 a	80 a	7 c	13 cd
Dutch Delight_SCG	low-mod				
Dutch Domination_SCG	low-mod				
Franklin_SCG	low-mod	5 c	5 de	8 c	12 cd
Green Giant_PWP	low	2 c	1 e	12 c	18 cd
Pure CBD_SCG	low	82 a	35 c	20 c	13 cd
Pure CBG_SCG	high	3 c	4 de	70 a	65 a
Siskiyou Gold #1_SCG	low				
Siskiyou Gold #2_SCG	moderate				
Siskiyou Gold #4_SCG	low-mod				
Sweetened_SCG	low-mod	30 b	58 b	13 c	4 d
Stout_SCG	low				
T1_SCG	low-mod	13 c	7 de	12 c	27 bc
Wife_Willow Oaks Farm	low	8 c	8 de	2 c	2 d
Average		**30**	**25**	**23**	**24**
Standard Error		**2**	**3**	**6**	**7**
ANOVA p-values - Variety		**<0.001**	**<0.001**	**<0.001**	**<0.001**

[z]CEW - Corn Earworm (Helicoverpa zea) susceptibility based on 0-10 scale with: 0-2 (low damage), 2-4 (low-moderate damage), 4-6 (moderate damage), 6-8 (moderate-high damage), and 8-10 (high damage).

[y]Means followed by the same letter(s) within columns are not sigificantly different (Tukey's HSD, $P<0.05$)

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