

FBGA 2025 Annual Meeting, CREC, 12/3/2025

Key Project: Methods, Overview, Results, Projections

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What Do You Get When
You Cross Bambi With A Ghost?



Key Project Inventory Methodology?

Key Project Goals

Current Production + Short-term and Long-term Projections

Inventory Levels

Culm / Clump / Plot / Farm / Industry

Fieldwork Details

Plot Location: **Systematic**

Plot Shape: **Square, Rectangular**

Plot Duration: **Permanent**

Sampling Intensity: **Precision/Confidence**

Representative Plot

80'

8' $10' \times 12' + 12' \times 12' + 12' \times 12' + 12' \times 12' + 10' \times 12' = .0147$ acres



Permanent Plot Locations in 26 Farms: 4 in 2023 + 11 in 2024 + 12 in 2025

	Farm	Age	Location	2025		Planted
				n	Size	
Thanks to the Key Project Farm Owners	Fatout	7	Frostproof	4	0.0207	0.083
	Hi Hat	8	Sarasota	10	0.0147	0.147
	Merrick	6	Sebring	16	0.0147	0.235
	MFA	6	Lake Placid	10	0.0147	0.147
	Mixon	9	Bradenton	11	0.0353	0.035
	Ingram	5	Lake Wales	10	0.0147	0.147
	Agri Citrus	5	Wauchula	6	0.0147	0.088
	SOS	5	Wauchula	6	0.0147	0.088
	Jacksonview	5	Wauchula	6	0.0147	0.088
	Bamboo Products	5	Wauchula	6	0.0147	0.088
	MacFarms	5	W. Frostproof	8	0.0147	0.118
	Windmill Farms	5	W. Frostproof	6	0.0147	0.088
	Bulow Farms	5	W. Frostproof	6	0.0147	0.088
	Browns	5	W. Frostproof	4	0.0147	0.059
	Faith Farm	5	Okeechobee	7	0.0275	0.193
	Kemen	4	W. Frostproof	8	0.0184	0.147
	Perumal	4	W. Frostproof	8	0.0184	0.147
	Nash	4	Zolfo Springs	4	0.0241	0.096
	Morson/Qalban	4	Zolfo Springs	4	0.0241	0.096
	Braukmuller	4	Zolfo Springs	4	0.0241	0.096
	Agromount	4	Zolfo Springs	4	0.0241	0.096
	Bennett	4	Zolfo Springs	8	0.0241	0.193
	Scheck	4	Zolfo Springs	8	0.0241	0.193
	Shin	4	Zolfo Springs	8	0.0241	0.193
	Bamboom Farms	4	Zolfo Springs	12	0.0147	0.176
	Wanda	4	Ft. Meade	20	0.0241	0.482
	Total			193		254.78

26,244 Culms, 1,215 Clumps, 193 Plots, 26 Farms

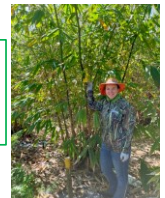
2023-25 Field and Lab Work Collaboration with Dr. Davie and CREC Crew

Culm –
tagged,
numbered,
measured,
status



Plot –
staked,
numbered,
GPSed

2024-25 Field Work Collaboration with Cathy Atchley of On Point Ag and Will Cannon of Faith Farm



Key Project Field Data Example

Farm Plot	Var	Row	Clump	Culm	Date	Age	BD	DBH	Status
A	1	Da	1	1	1	240608	2	1.2	
A	1	Da	1	1	6	240608	1	1.5	
A	1	Da	1	1	19	240608	0	3	

Culm Age Codes: 0=New, 1=Last Year, 2=Older

Annual Status Codes: 0=New, 1=Live,
2=Food, 3=Harvested, 4=Post-Harvest Sprout,
6=Wind-Throw, 8=Missing, 9=Dead

Possible Analyses:
GW for Food, GW0, GW1, GW2, and DW for Fiber
By Age for Farm and Industry
Yield Modelling
Economic Modelling

Mixon Food Culm Sample

Food Culm Wt. (lbs) = $0.1857 \times \text{BD}^2 + 0.5547$

BD	Weight
3	2.23
4	3.53
5	5.20
6	7.24

Fatout Fiber Culm Sample:

Green Weight (GW₀, lbs) Prediction, Moisture Content (MC₀,%)

Fiber Culm GW₀ (lbs) = $3.4476 \times \text{BD}^2 - 0.7042$

BD	GW ₀	MC ₀
3	30.3	
4	54.5	155
5	85.5	
6	123.4	162

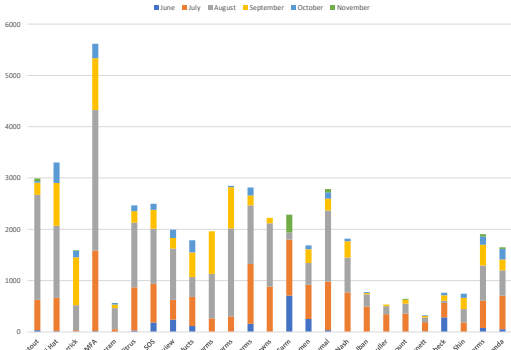
Key Project Inventory: 2025 New Culm Numbers and Weights Per Acre
By Farm for June, July, August, September, October, and November and Total

Farm	Month																		2025 Total
	N1	N3	P3	N1	N3	P3	N1	N3	P3	N1	N3	P3	N1	N3	P3	N1	N3	P3	
Farm	48	12	33	206	169	593	908	690	2,045	278	85	237	73	31	73	24	54	1,586	992
Fatout	27	7	18	374	238	948	1,238	520	1,403	795	279	832	435	150	804	27	0	2,897	1,177
Hi Hat	21	4	13	20	9	23	370	166	184	944	340	908	298	51	122	34	4	12	1,693
Merrick	48	7	18	544	463	1,567	1,054	816	2,742	633	306	1,010	245	95	280	0	0	2,524	1,687
MFA	88	0	0	497	20	54	898	156	213	578	27	65	286	14	33	75	0	0	2,422
Ingram	113	11	27	1,111	295	948	1,281	480	1,257	660	91	222	431	45	159	102	0	0	3,707
Agri Citrus	183	68	387	805	272	750	1,054	406	1,072	476	147	366	227	45	117	0	0	2,755	940
SOB	204	91	241	510	147	386	794	329	1,000	261	79	205	113	57	158	23	0	1,905	703
Jacksonview	125	45	116	624	193	568	692	159	383	635	193	486	340	91	237	57	0	2,473	681
Bamboo Products	9	0	0	417	102	263	627	323	869	561	315	528	544	0	85	0	0	2,943	740
MacFarm	11	0	0	374	102	304	1,202	646	1,714	680	329	801	238	11	25	11	0	2,516	1,088
Windmill Farms	68	57	162	1,043	397	1,165	816	385	1,137	249	79	160	227	57	157	23	0	0	2,426
Bulow Farms	119	0	0	902	523	889	901	459	1,233	289	34	104	255	0	9	17	0	2,533	816
Browns	1,027	233	370	520	238	1,048	119	47	136	612	254					171	83	354	2,432
Falls Farm	951	102	256	1,162	238	667	1,019	156	423	700	102	264	700	20	79	143	0	0	4,675
Kamen	238	14	36	995	326	944	1,020	523	1,385	391	88	238	476	48	120	136	27	67	3,226
Perennial	0	0	0	1,255	311	773	1,131	270	675	1,089	135	311	425	21	52	176	0	0	4,056
Nash	73	0	0	1,359	197	497	620	83	237	830	10	231	467	10	23	124	0	0	3,673
Moison/Qalban	145	0	0	1,795	135	349	488	62	151	747	10	32	581	0	0	73	0	0	3,829
Braukmiller	10	0	0	1,494	135	338	851	73	163	923	31	75	436	0	0	114	10	23	3,828
Agromount	671	5	12	918	73	181	676	36	190	456	16	235	441	5	13	218	0	0	3,180
Bonnett	944	109	283	830	114	263	602	16	42	643	47	106	690	21	52	62	0	0	3,771
Scheck	176	0	0	1,151	78	182	700	109	264	560	88	218	586	36	85	88	0	0	3,261
Shin	516	6	181	522	193	536	697	249	184	703	159	487	590	68	181	170	17	42	3,198
Bamboom Farms	284	33	54	828	351	657	840	193	487	693	87	216	602	81	205	141	12	31	3,378
Wanda	228	31	84	687	189	547	824	293	316	640	152	385	386	47	123	80	7	24	2,846
Weighted Average	228	31	84	687	189	547	824	293	316	640	152	385	386	47	123	80	7	24	2,846

Total Harvestable Food Culm (BD>3") Weight
for the 252.44 Acres Planted on These 25 Farms = 499,307 Pounds; @\$1.25/lb = \$624K

Food Culm Pounds Per Acre Summary for 2025 by Farm and Month

2025 New Culm Pounds/Acre by Farm and Month
(June, July, August, September, October, November)



Fiber Culm (BD ≥3") Yield Projection Assumptions by First Inventory Year and Harvest Season (Based on 2 Year Maturity)

First Year (# of Farms)	Harvest Season		
	12/25 – 5/26	12/26 – 5/27	12/27 – 5/28
2023 (4)	Old Culms + 2023 and 2024 Uncut New Food Culms	2025 Uncut New Food Culms	30% of "2026" New Food Culms
2024 (10)	Old Culms + 2024 Uncut New Food Culms	2025 Uncut New Food Culms	30% of "2026" New Food Culms
2025 (11)		Old Culms + 2025 Uncut New Food Culms	30% of "2026" New Food Culms

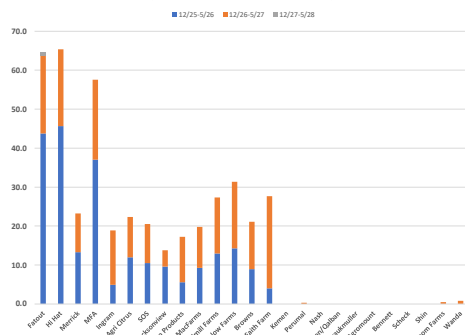
Key Project Inventory: Projected Fiber Yields Culm Numbers (N3) and Weights (T3) Per Acre By Farm and Harvest Season

Farm Details		2025	Age	Location	Acres	Harvest Season						Total	
						Planted	12/25 - 5/26	12/26 - 5/27	12/27 - 5/28				
Farm	Age					N3	T3	N3	T3	N3	T3	N3	T3
Fatout	7	Frostproof	3.7	2,311	43.8	992	20.0	298	6.7	3,601	70.5		
Hi Hat	8	Sarasota	15.7	2,442	45.7	1,177	19.7	353	7.2	3,972	72.6		
Merrick	6	Siebert	27	774	13.3	574	10.0	172	3.5	1,520	26.8		
MFA	6	Lake Placid	10	1,776	37.1	1,558	20.5	467	11.7	3,801	69.3		
Ingram	5	Lake Wales	22.27	272	4.9	218	14.0	65	1.2	555	20.1		
Agri Citrus	5	Wauchula	8.41	601	11.9	941	10.4	282	5.3	1,824	27.6		
SOS	5	Wauchula	8.92	601	10.5	941	10.0	282	5.4	1,824	25.9		
Jacksonview	5	Wauchula	8.4	488	9.6	703	4.2	211	2.0	1,402	15.8		
Bamboo Products	5	Wauchula	7.62	295	5.6	680	11.7	204	3.9	1,179	21.2		
MacFarms	5	W. Frostproof	4.55	553	9.3	740	10.5	222	4.2	1,515	24.0		
Windmill Farms	5	W. Frostproof	11.42	726	13.0	1,088	14.4	327	6.1	2,141	33.5		
Bulow Farms	5	W. Frostproof	11.26	748	14.3	975	17.1	293	6.2	2,016	37.6		
Browns	5	W. Frostproof	7.43	476	8.9	816	12.2	245	4.8	1,537	25.9		
Faith Farm	5	Okeechobee	9.22	176	4.1	857	23.6	257	7.1	1,290	34.8		
Kemen	4	W. Frostproof	7.75			0	0.0	185	3.7	185	3.7		
Perumal	4	W. Frostproof	11.39			20	0.3	308	6.1	328	6.4		
Nash	4	Zolfo Springs	4.33			0	0.0	221	3.8	221	3.8		
Morson/Qalban	4	Zolfo Springs	4.04			0	0.0	93	1.7	93	1.7		
Braukmuller	4	Zolfo Springs	4.14			0	0.0	62	1.1	62	1.1		
Agromount	4	Zolfo Springs	3.95			0	0.0	75	0.7	75	0.7		
Bennett	4	Zolfo Springs	6.94			0	0.0	40	0.7	40	0.7		
Scheck	4	Zolfo Springs	7.99			0	0.0	92	1.6	92	1.6		
Shin	4	Zolfo Springs	8.34			0	0.0	93	1.6	93	1.6		
Bamboom Farms	4	Zolfo Springs	11.84			34	0.5	316	6.3	350	6.8		
Wanda	4	Fl. Meade	25.83			10	0.8	197	3.6	207	4.4		
Farm Acres Weighted Average						852	16.0	503	8.8	219	4.4	1,248	23.0

Total Harvestable Fiber Culm (BD≥3") Weight
for the 252.44 Acres Planted on These 25 Farms = 5,807 Tons; @\$125/ton = \$726K

Key Project Inventory: Projected Fiber Yields

Fiber Culm Tons/Acre by Farm and Harvest Season
(12/25-5/26, 12/26-5/27, 12/27-5/28)



Total Harvestable Fiber Culm (BD≥3") Weight
for the 252.44 Acres Planted on These 25 Farms = 5,807 Tons; @\$125/ton = \$726K

Predict A Farm's Yearly Food Culm Production?

Predictors at the beginning of the Season:

Age,

Culm Basal Area Per Acre (BAA),
Basal Area (sq.ft.) = .005454 x D(in)²

Average Basal Diameter (BD),

Total Number of Culms

Total Food Culm Weight Per Acre (Pounds) = 350.8 x Age + 1.17 x BAA

$$r^2 = .83$$

Status of FBGA Key Project

1. Coordination – FBGA
2. Collaboration with 26 growers, UF/IFAS CREC, and OPA
3. Establishment of 193 permanent plots
4. Food and fiber culm equations and analyses: green and field dry weights, green weight/dry weight
5. Initial measurements + two remeasurements: 26,244 culms total
6. Food and fiber production estimates: By Farm and Overall, etc.
7. Publication – Agriculture and Food Sciences Research, EDIS?

FBGA Key Project: Future Activities

1. Expand fiber culm analysis
2. Expand food culm analysis
3. 2026 remeasurements and beyond
4. Add more farms
5. Preliminary yield model / Economic modelling
6. Carbon sequestration and associated economics w/ and w/o carbon credits for management options?

Key Project

A Bamboo Species + Field Data? “Asper”ations



Thank you! Questions?

For More Information, Contact:

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www.FloridaFGT.info

<https://fbgabamboo.com/events>