



CBB in Kona

The Experience of Greenwell Farms
over the past two years.

January, 2013

Greenwell Farms, Inc.

A Tradition based on Quality

- Family History back to the mid 1800's in Kona Coffee
- Current generation began farming Kona Coffee in early 1980's
- Took leadership roles in KCC, HCA, HCGA
- Participated in the development of Hawaii coffee standards.
- Today GFI is multifaceted:
 - Farming
 - Processing
 - Custom processing and roasting
 - Purveyor to specialty coffee markets in Europe, across USA, and Pacific Rim
 - Retail and mail order

Each business segment has been built on a philosophy of Quality before Quantity.

CBB Crises in Kona - As witnessed by Greenwell Farms

2010/11 Season – Began seeing CBB coming into the pulp mill

- Initiated periodic testing of cherry deliveries
- Overall infestation rate was still not a factor but increases by season's end were alarming .

CBB Crises in Kona - As witnessed by Greenwell Farms

2010/11 Season – Began seeing CBB coming into the pulp mill

- Initiated periodic testing of cherry deliveries
- Overall infestation rate was still not a factor but increases by season's end were alarming .

2011/12 Season – CBB becomes a larger threat to quality.

- Began rigorous testing of every bag of EVERY delivery.
- Increases from previous year were significant.
- October 15 – Announced cherry price sliding scale base on CBB%.
- Nearly one half of farmers migrated to other mills NOT testing.
- GFI began intensive CBB program on its own farms.

CBB Crises in Kona - As witnessed by Greenwell Farms

2010/11 Season – Began seeing CBB coming into the pulp mill

- Initiated periodic testing of cherry deliveries
- Overall infestation rate was still not a factor but increases by season's end were alarming .

2011/12 Season – CBB becomes a larger threat to quality.

- Began rigorous testing of every bag of EVERY delivery.
- Increases from previous year were significant.
- October 15 – Announced cherry price sliding scale base on CBB%.
- Nearly one half of farmers migrated to other mills NOT testing.
- GFI began intensive CBB program on its own farms.

2012/13 Season – CBB populations spread across Kona.

- To stay relevant in cherry market – Move top tier price to 50% CBB.
- Refine testing methods to measure infected parchment ONLY.
- CBB rates of purchased cherry continue to climb.
- GFI and others successfully lower CBB.
- Cherry Market continues to discourage CBB control.

CBB Testing Methods at Greenwell Farms

- EVERY Delivery is tested.
- Grab samples are taken from each bag in each delivery.
- Grab samples are then mixed.
- Test samples are then taken from the blended Grab Samples.
- Each cherry is inspected and separated into two piles:
 - Clean – NO CBB damage
 - BAD – CBB damage observed.
- BAD cherry are then hand pulped.
- Delivery Tag is then noted with:
 - Number of clean cherry
 - Number of Bad cherry
 - Number of parchment with CBB damage.



Testing Station at Greenwell Farms

CBB Percentage EQUALS:
Parchment with CBB
DIVIDED BY
Total Parchment (Cherry in Sample TIMES 2).

Typical Delivery Slip Given to Farmers for Each Delivery

067795



GREENWELL FARMS INC.
P.O. BOX 248
KEALAKEKUA, HI 96750
(808) 323-2862 • FAX (808) 323-2584

NOTES:

I certify that this coffee delivery is coffee grown in the geographic region of Kona as defined in Section 4-143-3 of the Hawaii Administrative Rules.

SR

Ticket No: 93630

01/21/2013 17:29:38

Farmer _____

Beetle damage to the last posted batch of cherry you delivered on 01/17/2013 was 13%

Bags 4

Gross 330

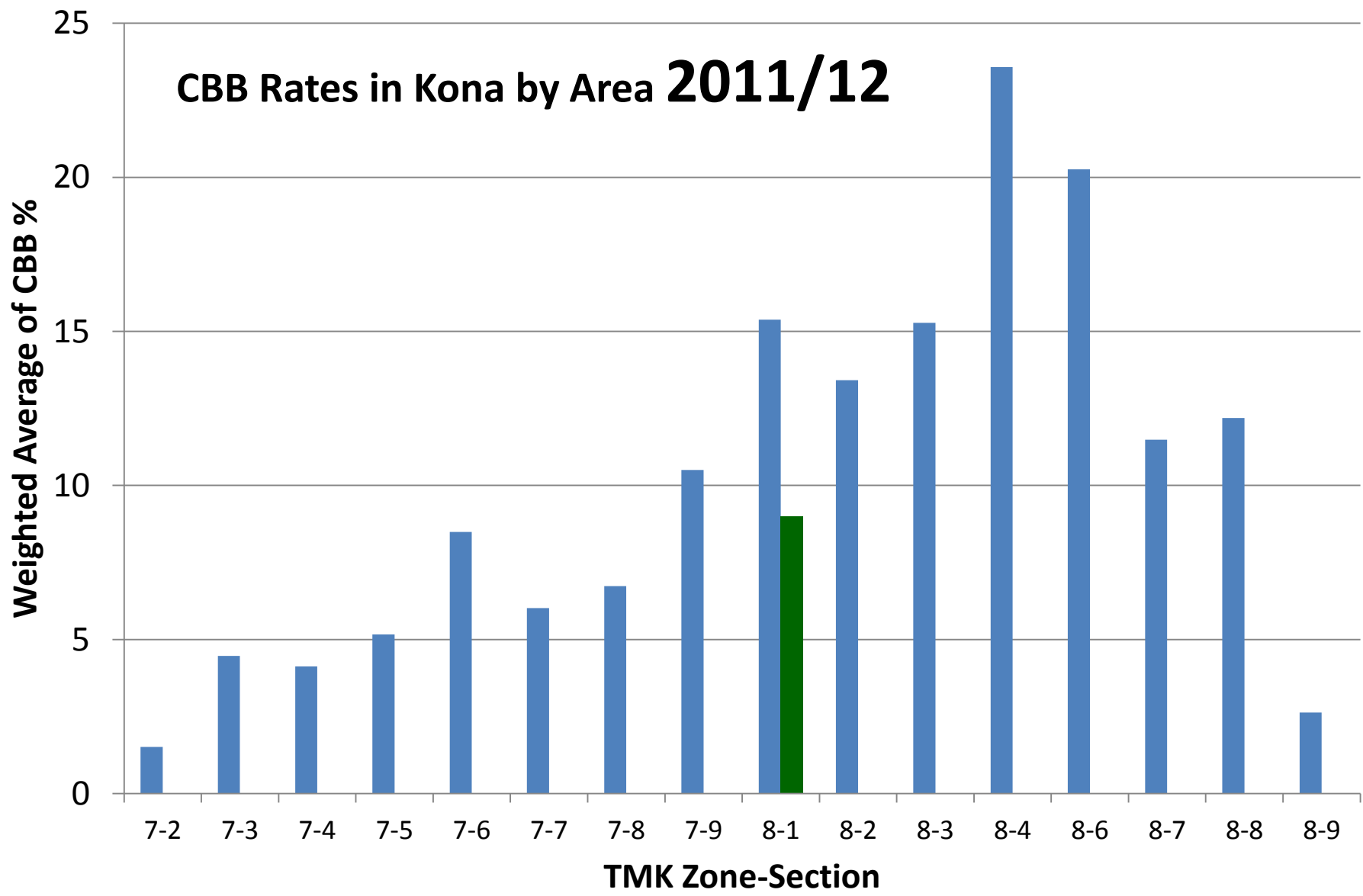
Tare 4

Net Weight 326

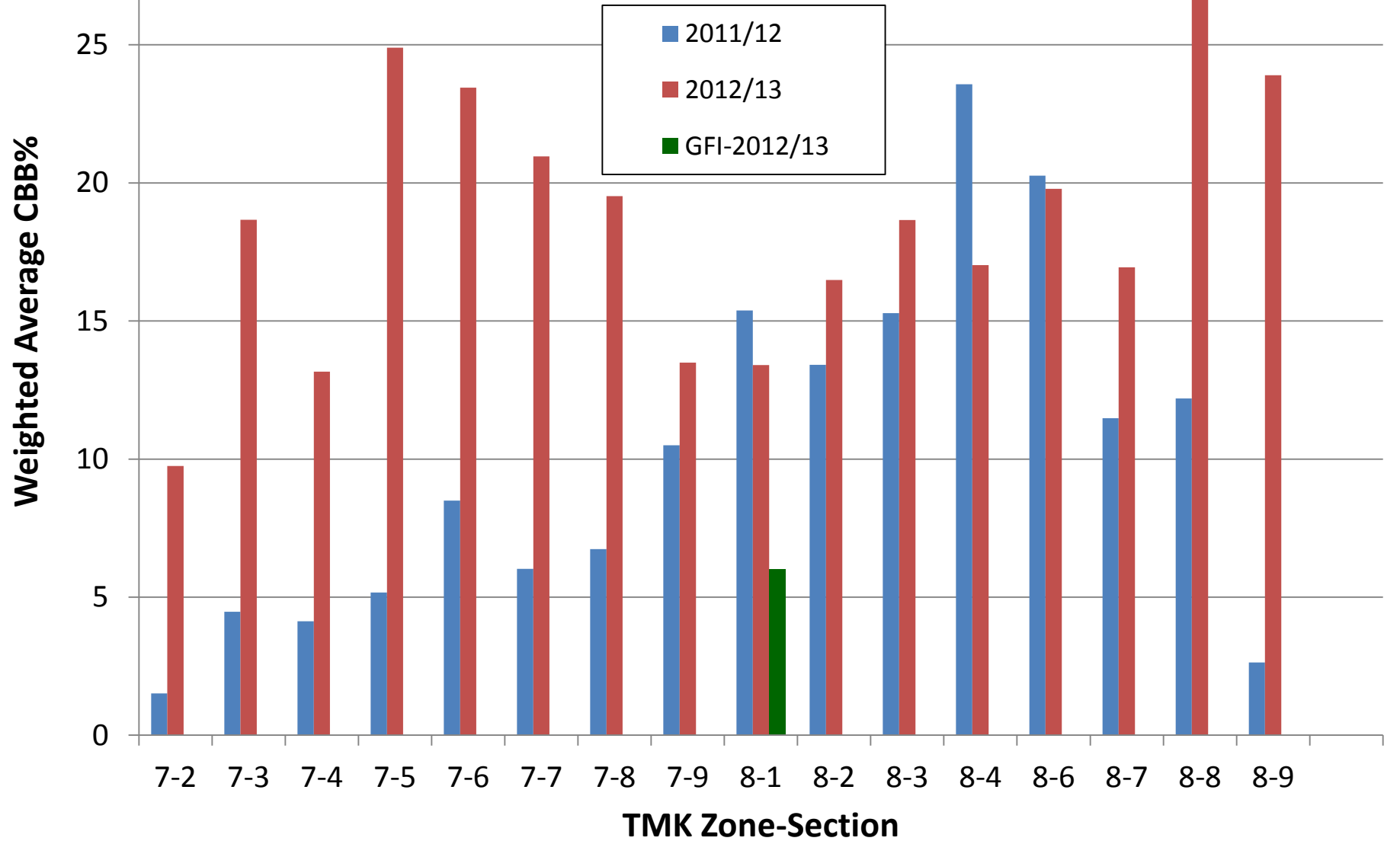
SIGNATURE



CBB Rates in Kona by Area 2011/12



CBB Rates in Kona by Area 2011/12 & 2012/13



Impact on Overall Yields – Cherry to Green

	3 years Ago (Pre CBB)		Current (CBB Era)	
		Qty		Qty
Cherry Purchased		1,000		1,000
Cost of Pulping				
Conversion Rate to Parchment		4.25		5.42
Dried Parchment		235		185
Cost of Milling				
Conversion Rate to Green		1.20		1.25
Green Bean		196		148
Grades	Percentage	Qty	Percentage	Qty
Extra Fancy	22%	43	0	0
Fancy	30%	59	0	0
No 1.	24%	47	0	0
Prime 19 screen	0%		9%	13
Prime 18 screen	0%		11%	16
Prime 16 screen	0%		11%	16
Prime	13%	25	51%	75
Pea Berry	4%	8	4%	6
H3	4%	8	8%	12
Off-Grade	3%	6	6%	9
Total	100%	196	100%	147
Graded as Kona	93%	182	86%	126
Cherry to Green Ratio	5.49	to one	7.94	to one

Note: As this season comes to a close, the CBB rates have increased and lots are beginning to fail more into H3. These figures should be considered better than how the total year will end.

Impact of CBB on Green Bean Grading

	P19			P18			P16		
	Wt Grams	Percentage	Estimated Defect Count	Wt Grams	Percentage	Estimated Defect Count	Wt Grams	Percentage	Estimated Defect Count
Sample Size	200	100%		200	100%		200	100%	
Defects									
Black									
Partly Black				0.2	0.1%	0.3	0.8	0.4%	1.2
Moldy									
Partly Moldy						0	0.3	0.2%	0.45
Sour									
Partly Sour						0	0.1	0.1%	0.15
Stinker									
Partly Stinker									
Quaker	0.7	0.4%	1.1	1.0	0.5%	1.5	1.9	1.0%	2.9
Shell	0.1	0.1%	0.2	0.0	0.0%	0.0	0.0	0.0%	0.0
Mother	0.4	0.2%	0.6	0.0	0.0%	0.0	0.0	0.0%	0.0
Insect damage	17.0	8.5%	25.5	16.2	8.1%	24.3	15.5	7.8%	23.3
Broken or Cut	1.6	0.8%	2.4	1.2	0.6%	1.8	2.2	1.1%	3.3
Oher: Aged/Discolored									
Other:				0.6	0.3%		0.4	0.2%	
Total	19.8	9.9%	29.7	19.2	9.6%	27.6	21.2	10.6%	29.4
Less Insect Damage		-8.5%	(25.5)		-8.1%	(24.3)		-7.8%	(23.3)
Net of Insect Damage		1.4%	4.2		1.5%	3.3		2.9%	6.2
	Maximum Allowed		8	Maximum Allowed		12	Maximum Allowed		18

Percentage counts taken from actual HDOA Certificate Grade Sheets.
Estimated Counts are based on an assumed 5 beans per gram.

The Outlook?

- **Green bean Market for Kona Remains Strong**
 - It has taken years to develop major Kona Programs in Europe, Across the USA and around the Pacific Rim.
 - The current lack of certified upper grades has driven prices to unprecedented highs.

The Outlook?

- Green bean Market for Kona Remains Strong
 - It has taken years to develop major Kona Programs in Europe, Across the USA and around the Pacific Rim.
 - The current lack of certified upper grades has driven prices to unprecedented highs.
- CBB is a MAJOR threat to the Kona Brand
 - The declining quality of Kona green bean renders current high prices unsustainable.
 - The current population of CBB is dangerously close to disqualifying ALL green bean from the cherry market as legitimate KONA Coffee.

The Outlook?

- **Green bean Market for Kona Remains Strong**
 - It has taken years to develop major Kona Programs in Europe, Across the USA and around the Pacific Rim.
 - The current lack of certified upper grades has driven prices to unprecedented highs.
- **CBB is a MAJOR threat to the Kona Brand**
 - The declining quality of Kona green bean renders current high prices unsustainable.
 - The current population of CBB is dangerously close to disqualifying ALL green bean from the cherry market as legitimate KONA Coffee.
- **Only farmers can gain control over CBB.**
 - There exists examples in Kona of farmers controlling CBB.
 - HOWEVER, farmers have little incentive to struggle against CBB as long as the cherry market will pay top dollar for infected cherry.