



XOCO

— GOURMET COCOA —
EST. 2007

Cocoa Cultivation & Genetics

-- what price should chocolate be at?

Presentation Academy of Chocolate, London, November 16, 2014
www.xocogourmet.com



“Xoco Fine Cocoa Company”



XOCO PLANTED MORE THAN 1M COCOA TREES



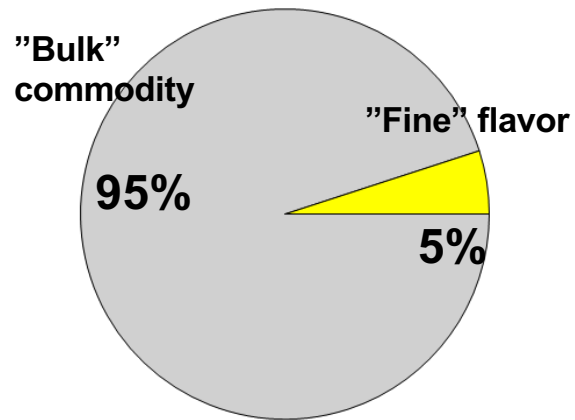
- Private company founded 2007 focused on fine cocoa
- Honduras, Nicaragua and Guatemala (...and more to follow)
- Selected heirloom fine cocoa varieties
- Planted 1m+ trees with 600 outgrower farmers



CLEAR FLAVOR DIFFERENCE BETWEEN FINE AND BULK

World cocoa bean production

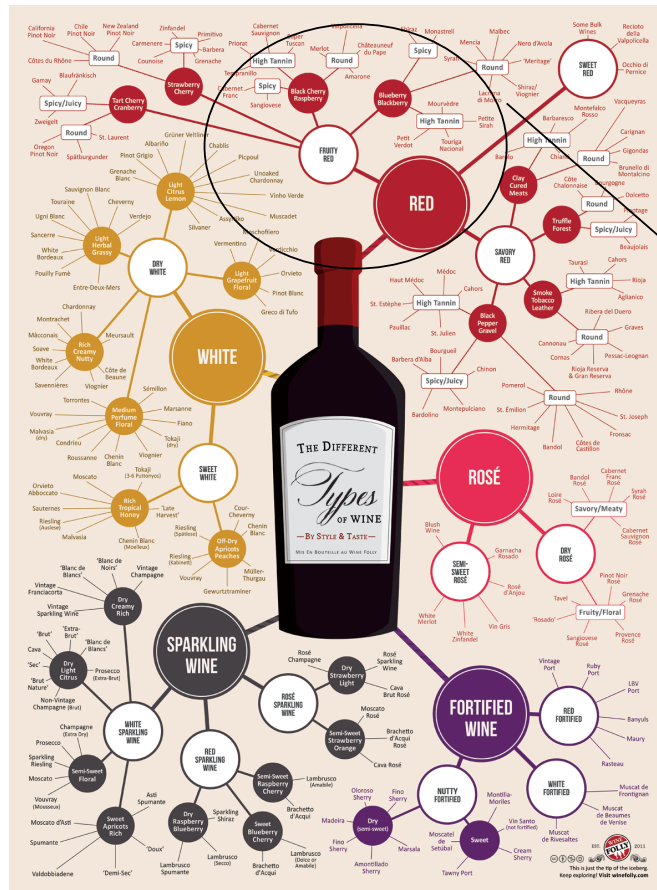
% by segment, 100% = 4m tons/year



Differences between bulk and fine segments

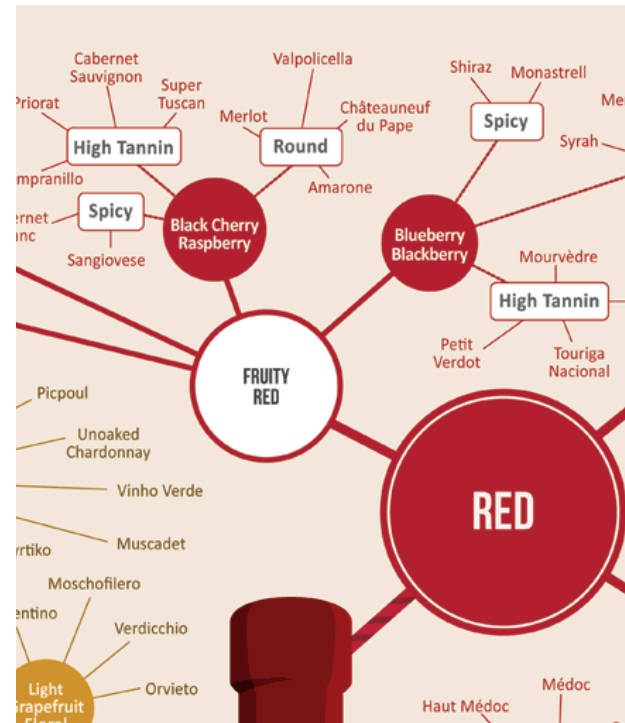
	<u>Fine flavor</u>	<u>vs. Bulk</u>
<i>Genetic variety</i>	Rare	Common
<i>Flavor notes</i>	Complex, fruity, nutty, long aftertaste	Flat, earthy, astringent
<i>% world production</i>	5%	95%
<i>Mostly from...</i>	Upper Latin America	Africa, Indonesia, Brazil

LIKE WINE, BUT A BIT MORE COMPLEX



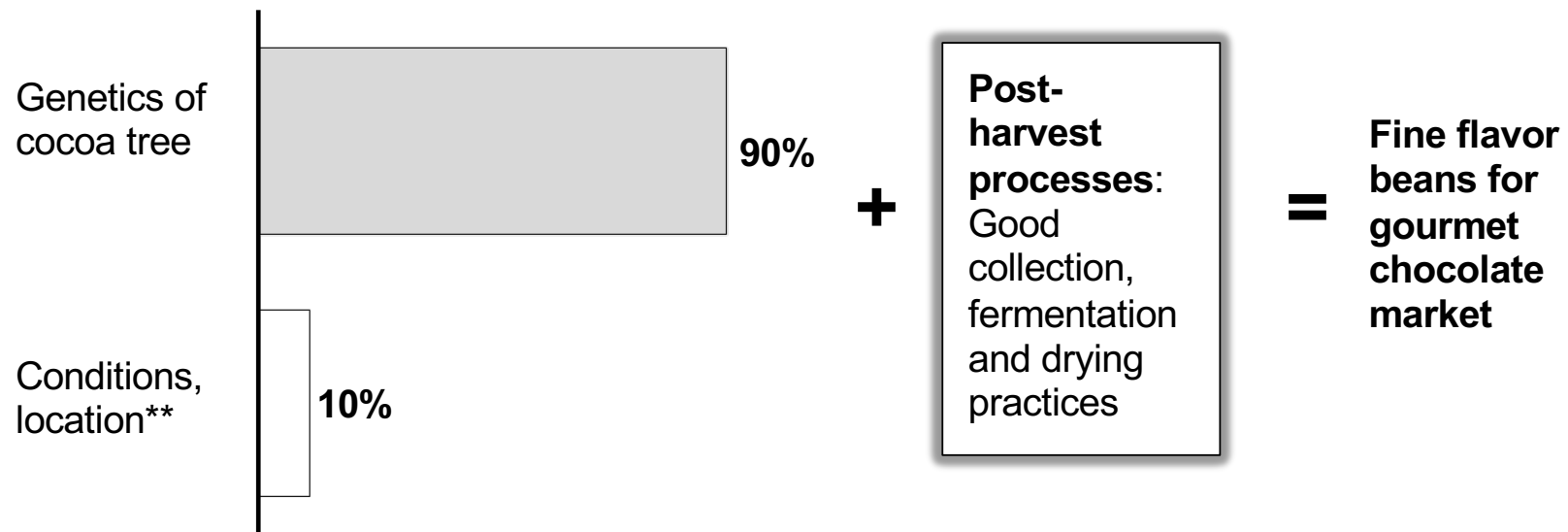
Flavor chart links color of wine to flavor characteristics and grape variety/origin

Over 5,000 different grape varieties, often linked to certain regions



GENETICS AND GOOD POST-HARVEST PROCESSES KEY FOR FLAVOR IN COCOA BEANS

Relative importance of factors determining bean flavor*
Percent



*Sensory evaluation. Sources: Domori (“gourmet”) chocolate (IT)/Hacienda San Jose; Cocoa Research Unit Trinidad (Sukha et al), Xoco team evaluation

**Altitude, sunshine/rain, soil, other

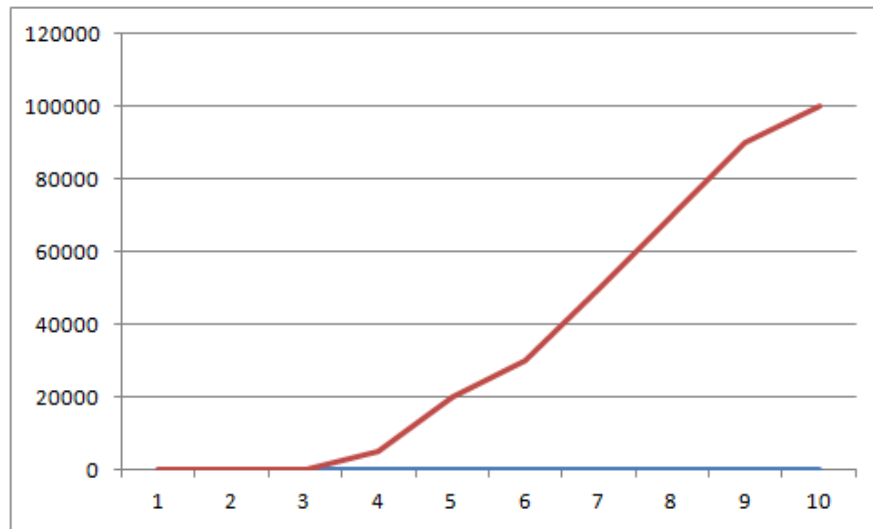
TYPICAL FINE COCOA FARMER HAS SMALL FARM AND LIVES IN POVERTY



- Lives in the Tropical Belt in Latin America
- Earns \$2,000 to \$3,000 a year, \$9-\$11 a work day
- (= \$1.3/day per family member)
- 5 – 10 ha. of land is his/her net worth
- Half used for own consumption (e.g., rice, beans)
- Other half for cash crops (e.g., coffee, cocoa, banana)



TO START FINE COCOA PROJECT, FARMER(S) NEED MIN. 100 HECTARES



- New cocoa trees ramp up slowly over 4 to 10 years until they reach peak



- Min. 500 kilos pulp for good fermentation
- Need about 100 hectares to fill in slow months during ramp-up

**Min. size:
100 hectares**

COSTLY VENTURE REQUIRING MORE THAN \$1M CAPITAL

Secure 100 hectares min. scale

\$500k



Select genetic material

\$50k



Establish nursery and graft for genetic fidelity

\$100k



Plant and Maintain for 4-5 years before production

\$450k



Build post Harvest facilities

\$50k



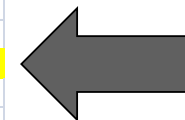
- Manage and administrate
- Ferment and dry, store
- Sell
- Send samples
- Negotiate price
- Ship, receive payment



**Total:
\$1,150k+**

NET PRESENT VALUE OF PROJECT ONLY POSITIVE IF A PRICE OF \$8.88 PER KILO DRY COCOA CAN BE SECURED

	Yr.									
	1	2	3	4	5	6	7	8	9	10
Prepare and clean land, labor	\$ 100									
Graft and plant trees	\$ 100	\$ 10	\$ 10							
Maintenance, labor (weed control, other)		\$ 65	\$ 70	\$ 70	\$ 70	\$ 70	\$ 70	\$ 70	\$ 70	\$ 70
Maintenance, materials	\$ 25	\$ 20	\$ 10	\$ 10	\$ 10	\$ 10	\$ 10	\$ 10	\$ 10	\$ 10
Fermentation-drying, storage, vehicles, other	\$ 35		\$ 50	\$ 15	\$ 15	\$ 15	\$ 15	\$ 15	\$ 15	\$ 15
Administration (Manager, accountant, travel, communications, office, other)	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50
Sales and marketing (website, travel, samples)	\$ 2	\$ 2	\$ 10	\$ 15	\$ 15	\$ 15	\$ 15	\$ 15	\$ 15	\$ 15
Total out	\$ 310	\$ 145	\$ 190	\$ 145	\$ 145	\$ 145	\$ 145	\$ 145	\$ 145	\$ 145
Bean production curve (% peak)				5%	20%	30%	50%	70%	90%	100%
Bean production (tons)	-	-	-	5	20	30	50	70	90	100
Bean sales price, ex works, per ton				\$ 8.88	\$ 8.88	\$ 8.88	\$ 8.88	\$ 8.88	\$ 8.88	\$ 8.88
Total in				\$ 44	\$ 178	\$ 266	\$ 444	\$ 622	\$ 799	\$ 888
EBITDA	\$ (310)	\$ (145)	\$ (190)	\$ (101)	\$ 33	\$ 121	\$ 299	\$ 477	\$ 654	\$ 743
Present Value future cash flows	\$ (250)	\$ (94)	\$ (100)	\$ (43)	\$ 11	\$ 33	\$ 66	\$ 85	\$ 94	\$ 86
Land opportunity cost if rented	-48	\$ (39)	\$ (31)	\$ (25)	\$ (20)	\$ (17)	\$ (13)	\$ (11)	\$ (9)	\$ (7)
Total value future flows	\$ (298)	\$ (133)	\$ (131)	\$ (68)	\$ (9)	\$ 17	\$ 53	\$ 75	\$ 86	\$ 79
Terminal value	\$ 331									
Net Present Value (NPV)	\$ 1									
Farm size (hectares)	100									
Number of trees ('000)	100									
Peak production per tree/yr. (kgs. dry)	1									
Labor cost per day (USD)	\$ 9.0									
Discount factor (percent)	24%									



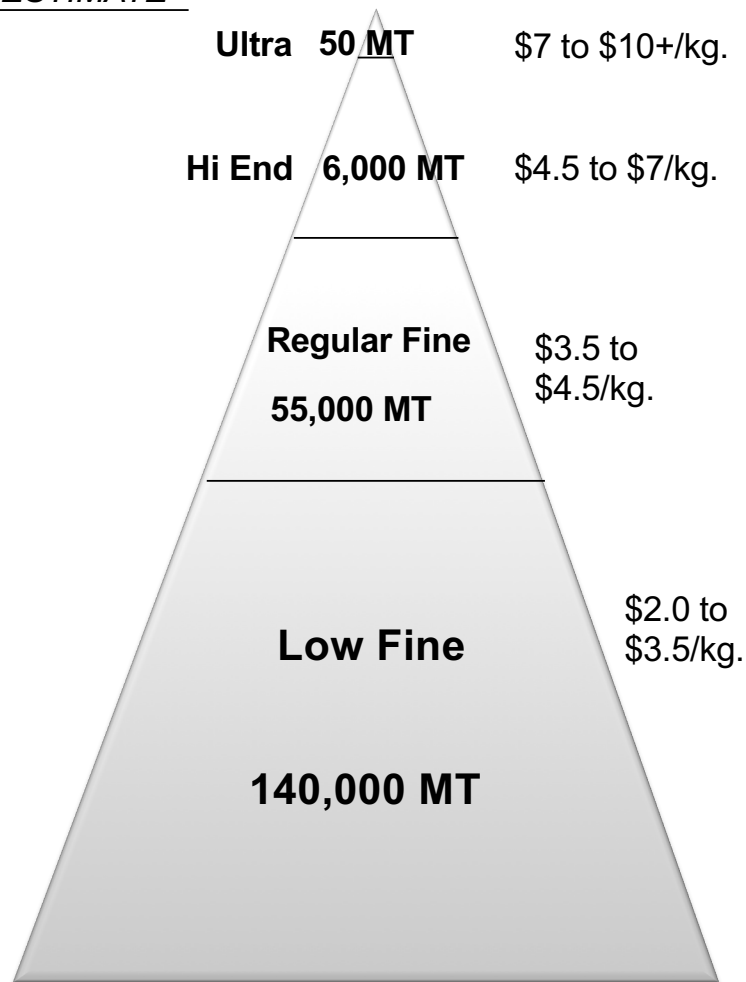
\$8.88/KG.MIN.

**...NOT
COUNTING
COST OF LAND**

Sources: FHIA Honduran cocoa research institute, farmers, Xoco team

\$8.88/KG. IS PROBABLY 30-40% ABOVE WHAT THE HI END MARKET WILL PAY

ESTIMATE



\$8.88/KG. MIN.

VERY SMALL MARKET

**HIGHLY UN-REALISTIC
THAT SUPPLY OF FINE
COCOA WILL GROW**

Sources: ICCO, Rezek, Åkesson, Xoco team evaluation

A GOURMET BAR SHOULD SELL AT \$10 AND UP TO INCENTIVIZE FINE COCOA GROWING

ILLUSTRATIVE ESTIMATE.

- *If* a chocolate bar is made with fine cocoa, and about 9% of retail price goes to beans, then a 100g 72% bar should be...

\$10+



- *Not...*



WHAT WENT WRONG?



\$2.99

100g/Retail

“Choosing our chocolate is one way you can honor farmers and support **sustainable farming** practices. **We pay a social premium** for our ingredients to ensure that **farmers are supported** and species are protected. **Please take a look at our certifications** by clicking on the logos below”

BUYER BARGAINING POWER AND COMMODITIZATION RESULTS IN BEAN PRICE SQUEEZE



Bean suppliers

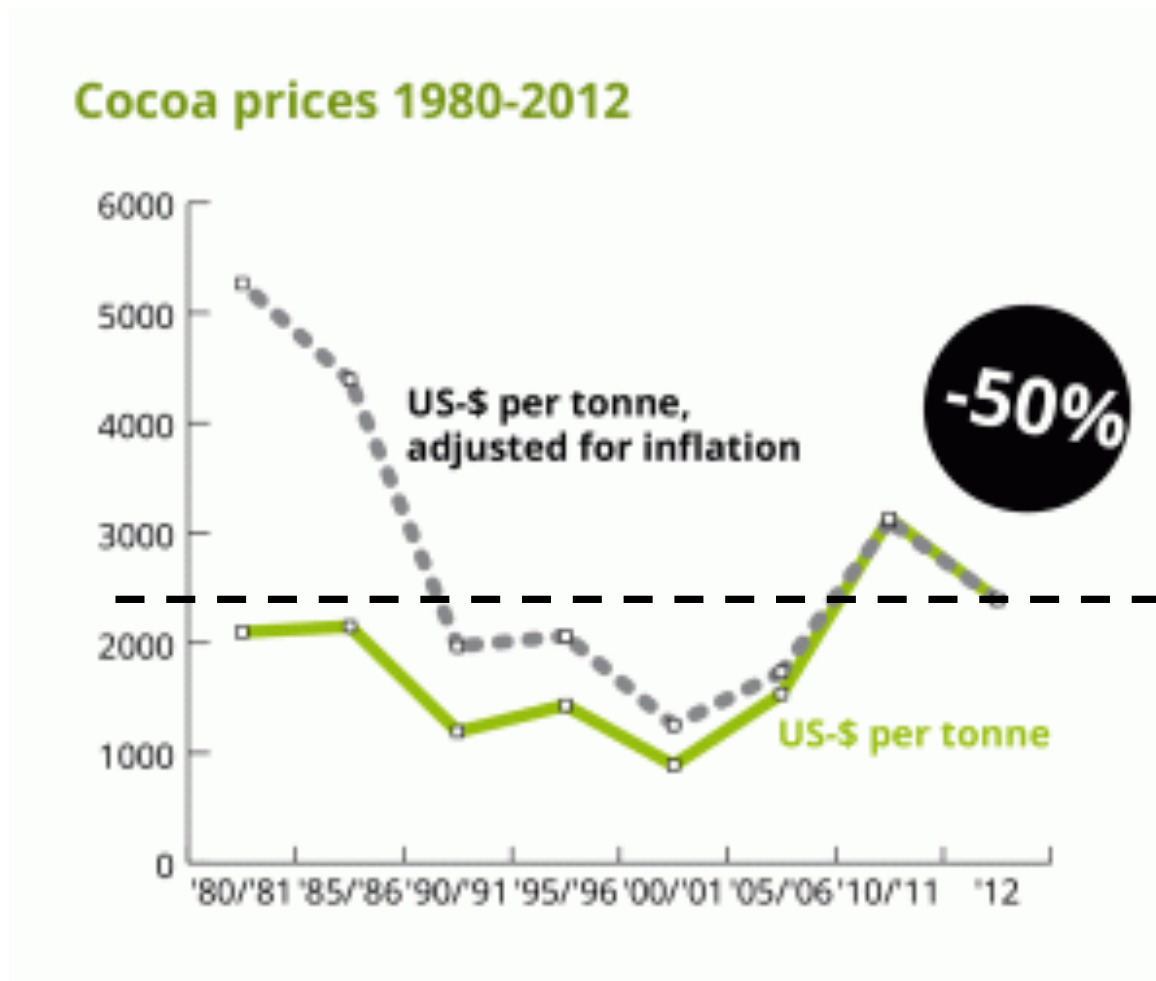
- Disperse supplier base
- No significant local markets
- No real differentiation
- Need to sell for cash now



Bean buyers

- Concentrated buyer base
- Low or no switching costs
- High price sensitivity

COCOA PRICES NEGOTIATED BELOW COST OF PRODUCTION



*Africa salary. Assuming 30% broker fee (very conservative). Existing = old trees, no replanting, only harvest

PLANTING NEW IS OUT OF THE MONEY => DECREASING SUPPLY

USD per dry kilo needed
for positive NPV



*After Ghana price hike in 2014; Ivory Coast much lower

BUYERS DON'T SEEM TO GET IT

“In 2009-2010 alone, industry will have spent more than \$40 million on projects across West Africa and impacted more than three million direct and indirect beneficiaries, including hundreds of thousands of cocoa farming families and more than one million children.”

Big chocolate
industry
association

**Equivalent of 1
US cent more
per kilo beans,
or about 1/3 of 1%**

No solution!

INDUSTRY AT A LOSS FOR LONG TERM ANSWERS

One large bean buyer:

- Provide farmers with trees and fertilizers
- Double production over 6 years!, expanding ww production by 10% (Quiz: Supply goes up; prices go_____)
- Farmer training: Education, Gender parity, No childlabor



Perpetuate status quo



No solution!

RACE TO THE BOTTOM...



Not good for anyone

- No poverty reduction = volatility
- No re-planting = supply lag problems
- Incentive to use low cost slave labor = future image problems
- Incentive to use low cost, harmful fertilizers and pesticides = environmental image concerns
- Commoditization = Inevitable race to the bottom for the lowest cost
- Buyers profits end up getting hit as well

HOW TO SOLVE

- **Buyers:** Market flavor, emphasize the story, create competitive advantages by quality
- **Suppliers:** De-commoditize all cocoa: Ferment and dry, promote region **and** tree varieties for distinct flavors. Work with the genetics, get the flavor out
- **Consumers** have the power: Stop buying cheap chocolate! Let's be out-spoken. Act up!
 - Labeling?

