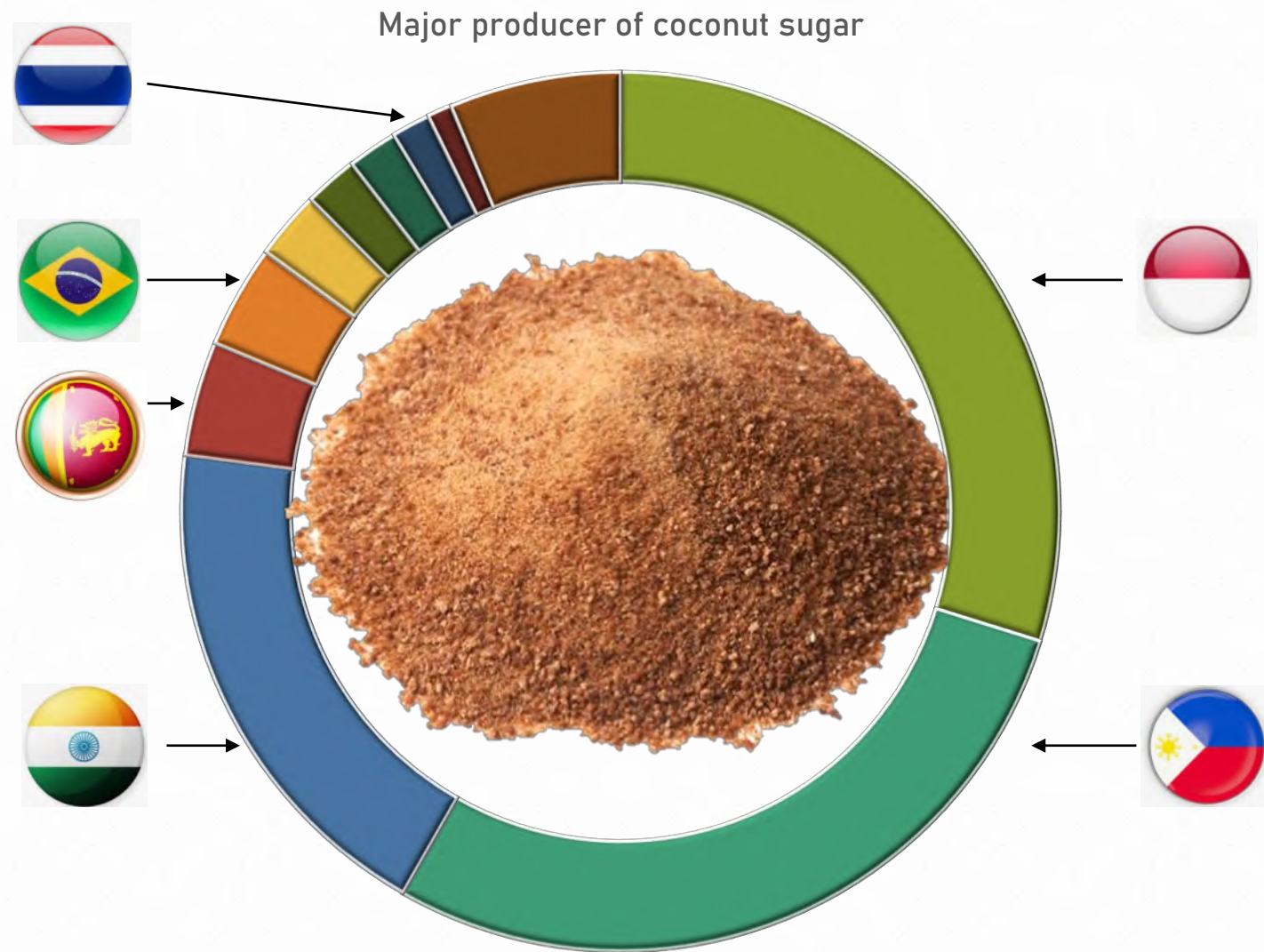




# Coconut Sugar

The world most wanted sweetener.



Source: FAO, 2018 numbers, <http://www.fao.org/faostat/en/#data/QC>



## Coconut Sugar Market Size, Share & Trends Analysis Report By Application, Regional Outlook, Competitive Strategies, And Segment Forecasts, 2019 To 2025

Growing demand as a preferred sweetener from lower glycemic index than cane sugar/ honey.

Tea / Coffee/ Beverage/ Cosmetic Industry

herbal skin and haircare in Korea, China, India

body scrubs, shaving gels, face, and body creams

high in mineral rich source : iron, magnesium, potassium, and magnesium  
various vitamins: B6, B2, B1, and B3.

30 times phosphorous

18 times potassium than brown sugar.

Friendly for

Diabetics/ Heart Disease

Obesity

Senior age growing population

Bio-based cosmetic



## Coconut Sugar Market Size, Share & Trends Analysis Report By Application, Regional Outlook, Competitive Strategies, And Segment Forecasts, 2019 To 2027



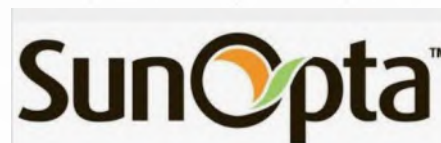
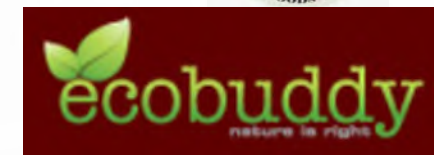
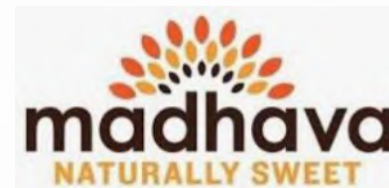
SEA Local  
Sweeteners

The prices for the product are likely to increase over the forecast period owing to the surging demand in the international market.



# Coconut Sugar Market Size, Share & Trends Analysis Report By Application, Regional Outlook, Competitive Strategies, And Segment Forecasts, 2019 To 2025

## Key Players



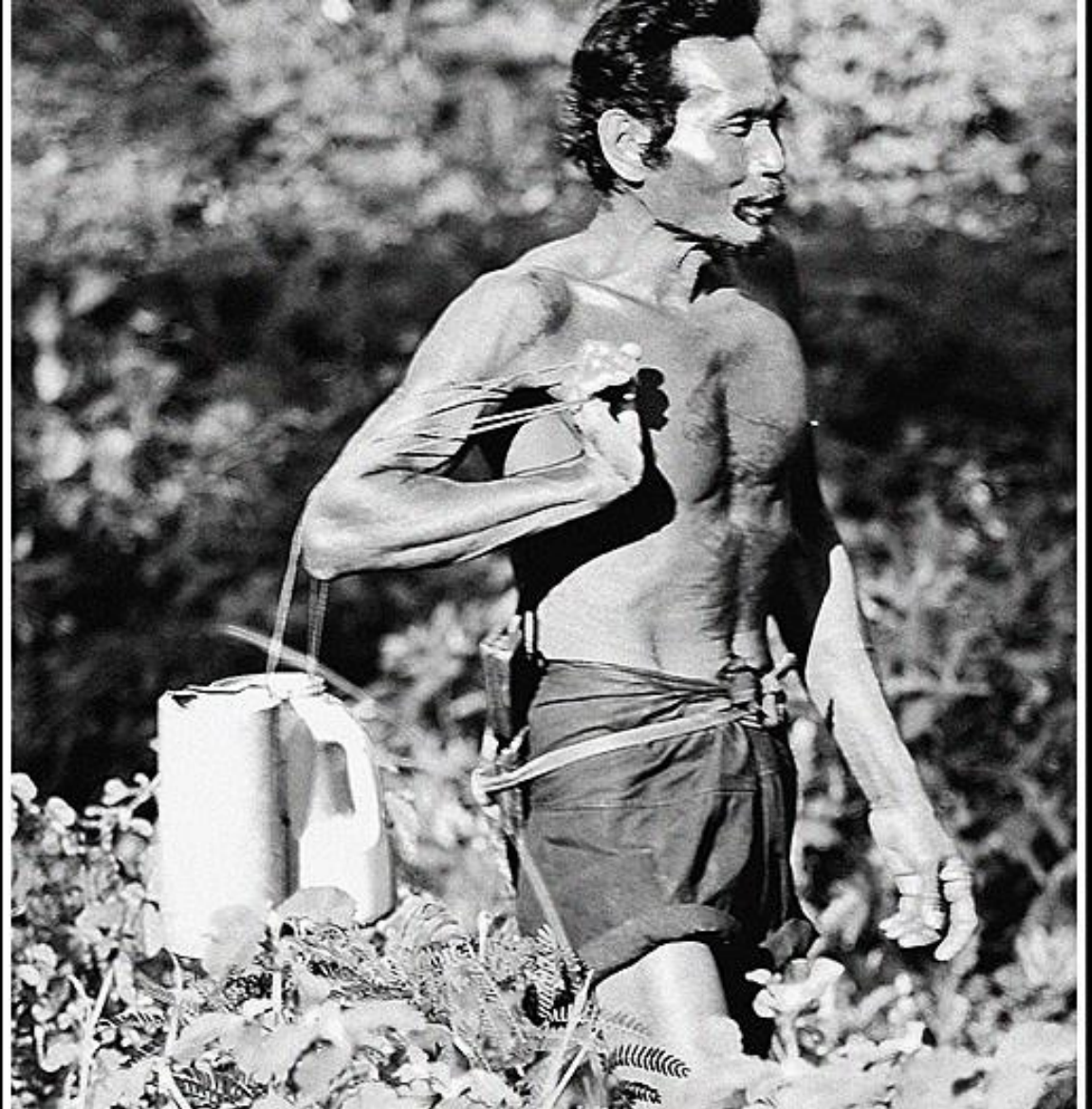


Coconut as Tree of Life ...long before our time.












Nov 03, 2015 · 10:30 pm


Mark Horton, Alexander  
Bentley and Philip Langton,  
The Conversation

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**sugarcane** is the world's third most valuable crop after cereals and rice, and occupies 26,942,686 hectares of land across the globe.

Evidence from plant remnants and DNA : South East Asia. in Papua New Guinea at 8,000BC.

The crop spread around the Eastern Pacific and Indian Oceans around 3,500 years ago, carried by Austronesian and Polynesian seafarers.



Coconut Sugar  
a long tradition  
In SEA culture as  
ancient wisdom.

High skill needed.  
Labor intensive.



Coconut sugar has become the world replacer for sugar cane. High demand is raised through out the world.

The discovery is in South East Asia over a few hundred years and now starts to spread around the world.

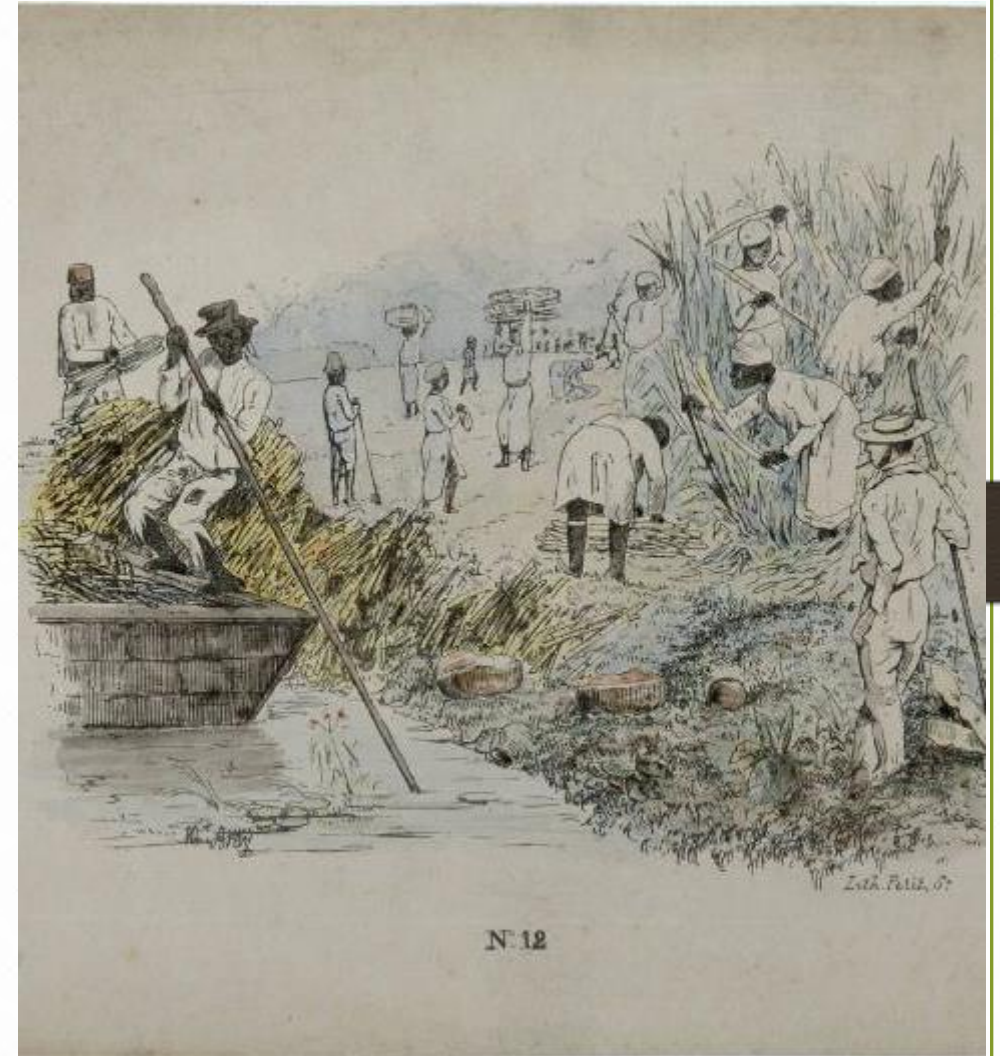


The first chemically refined sugar appeared on the scene in India about 2,500 years ago.

The first place to cultivate sugarcane explicitly for large-scale refinement and trade was the Atlantic island of Madeira, during the late 15th century.

Then, it was the Portuguese who realised that new and favourable conditions for sugar plantations existed in Brazil.

When Brazilian sugarcane was introduced in the Caribbean, shortly before 1647, it led to the growth of the industry which came to feed the sugar craze of Western Europe.





## Key facts

- Noncommunicable diseases (NCDs) kill 41 million people each year, equivalent to 71% of all deaths globally.
- Each year, 15 million people die from a NCD between the ages of 30 and 69 years; over 85% of these "premature" deaths occur in low- and middle-income countries.
- Cardiovascular diseases account for most NCD deaths, or 17.9 million people annually, followed by cancers (9.0 million), respiratory diseases (3.9 million), and diabetes (1.6 million).
- These 4 groups of diseases account for over 80% of all premature NCD deaths.



**– nobody needed, but everyone craved –**



# TOP SUGAR PRODUCERS

Unit: 1,000 tonnes



Year	Brazil	India	EU	Thailand
2014-15	35,950	30,460	18,449	10,793
2015-16	34,650	27,385	14,283	9,743
2016-17	39,150	22,200	18,314	10,033
2017-18	38,870	34,309	20,823	14,710
2018-19	29,500	34,300	17,731	14,581
2019-20f	29,350	29,350	17,850	12,000

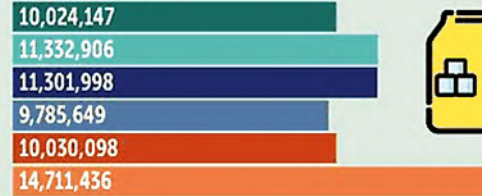
Sources: US Department of Agriculture (USDA), Office of the Cane and Sugar Board (OCSB)



## THAILAND'S SUGAR INDUSTRY 2013-19

Unit: Tonnes

### ■ Sugar output



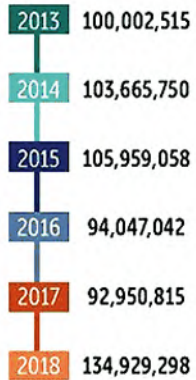
### ■ Domestic demand



### ■ Export



### ■ Cane output

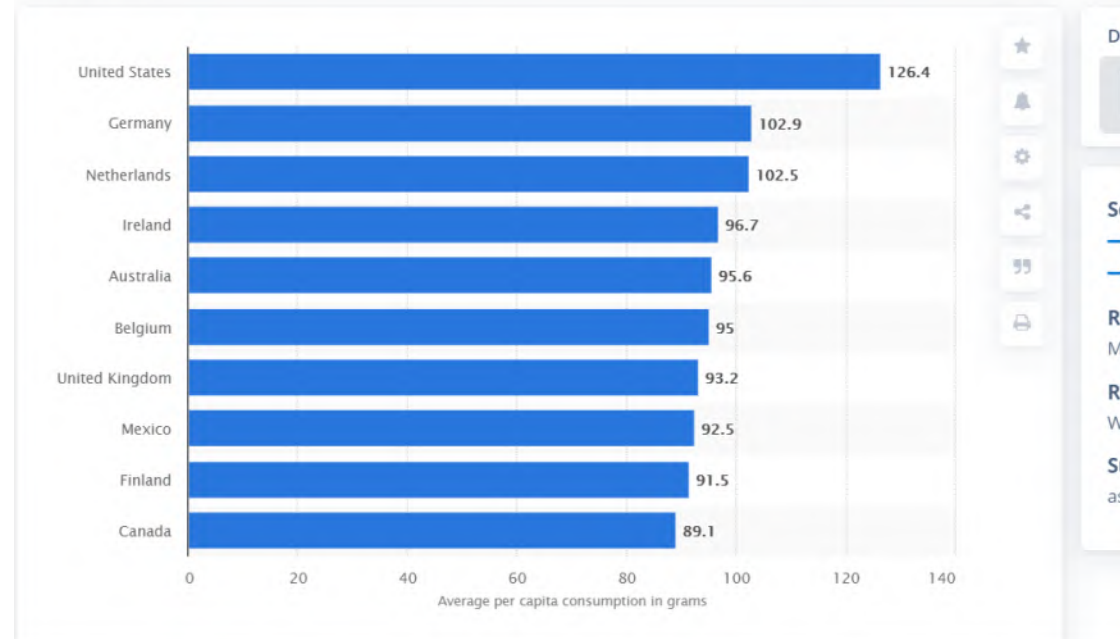


\*Actual figures from January-August

Source: Office of Cane and Sugar Board

BANGKOK POST GRAPHICS

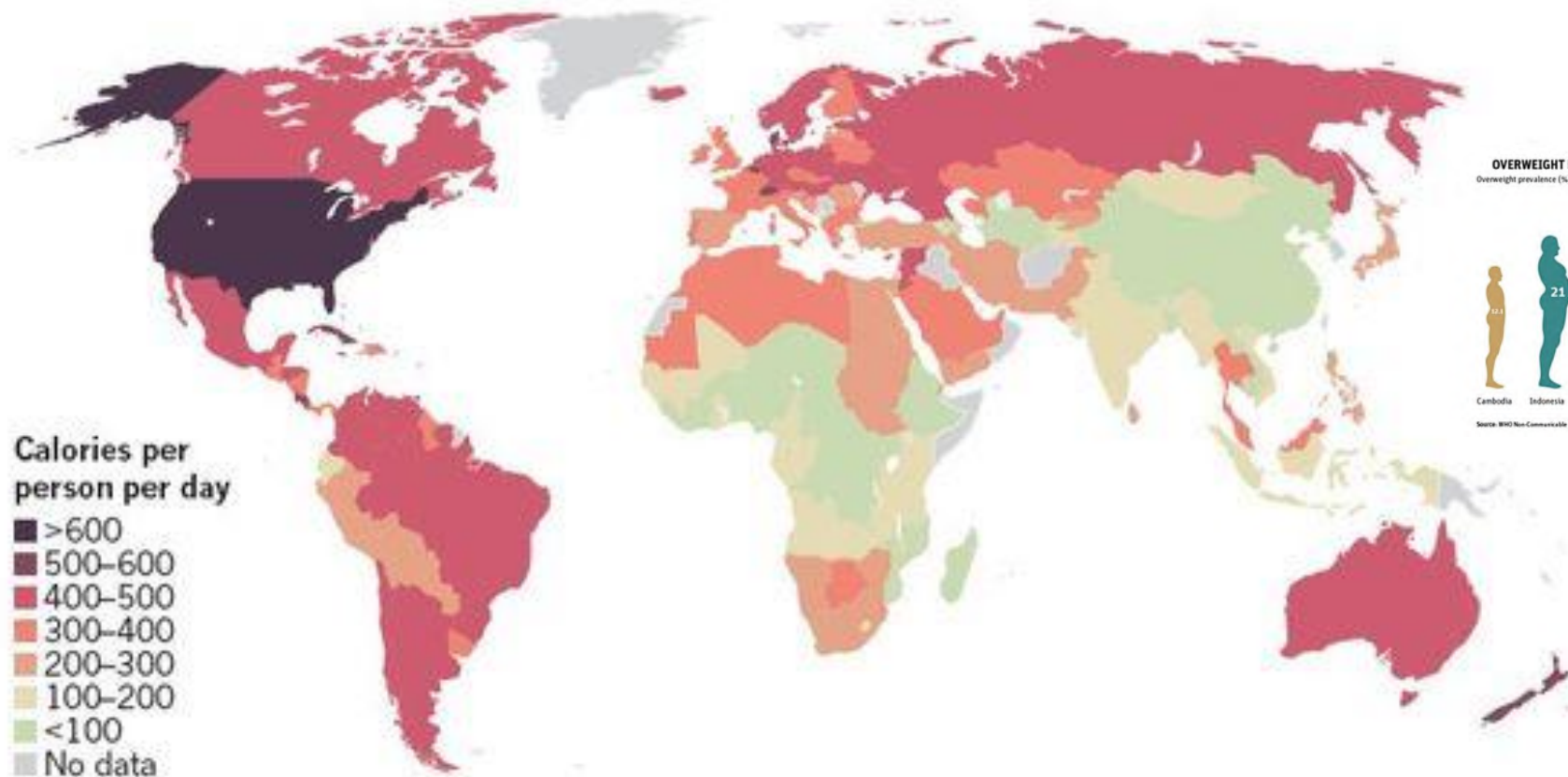
## Average per capita consumption of sugar as of 2016, by country (in grams)





# THE GLOBAL SUGAR GLUT

Global sugar supply (in the form of sugar and sugar crops, excluding fruit and wine) expressed as calories per person per day, for the year 2007.



## OVERWEIGHT POPULATIONS IN SOUTHEAST ASIA

Overweight prevalence (%) for adults of both sexes (BMI of  $\geq 25$  kg/m<sup>2</sup>)



Source: WHO Non-Communicable Diseases Country Profiles, 2010



The lesson learned from refining cane sugar drives coconut sugar industry towards Organic Direction for **taking wholeness from nature.**

Smaller players, community developments. Hand made  
Lower standards. Difficult challenge







CANE SUGAR :  
mass consumption from the mid-17th century onwards  
that created the health risks.

COCONUT SUGAR  
More consumption started on 21<sup>st</sup> century onwards  
That created healthy society.



# BALANCE

SWEETNESS

**– nobody needed, but everyone craved –**



### **Electrolytes**

Coconut sugar contains potassium, magnesium, and sodium, which are all essential for regulating your body's water content as well as many heart, nerve, and muscle functions. It has nearly 400 times more potassium than regular sugar.

### **A low-glycemic index**

Clinically proven. Diabetic friendly.

### **Minimum Process**

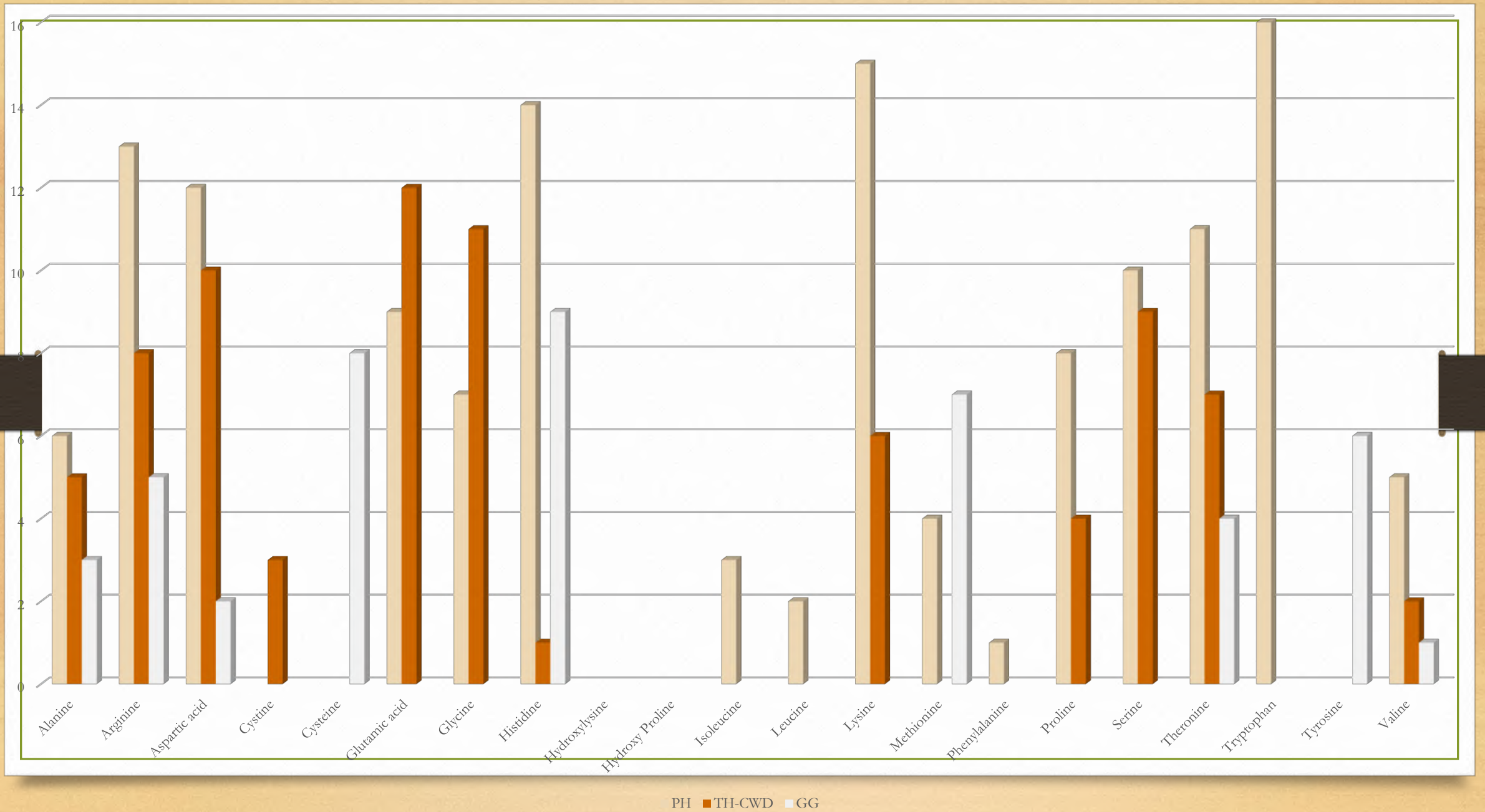
Contain more than 10 amino acids

# **DIFFERENT**

# *SWEETNESS*



Amino acid sequence



## Amino Acids Work Together to Produce the Taste of Foods!

### Umami, Sour

Glutamate  
Aspartate

### Sweet

Glycine  
Alanine  
Threonine  
Glutamine  
Proline  
Asparagine  
Serine

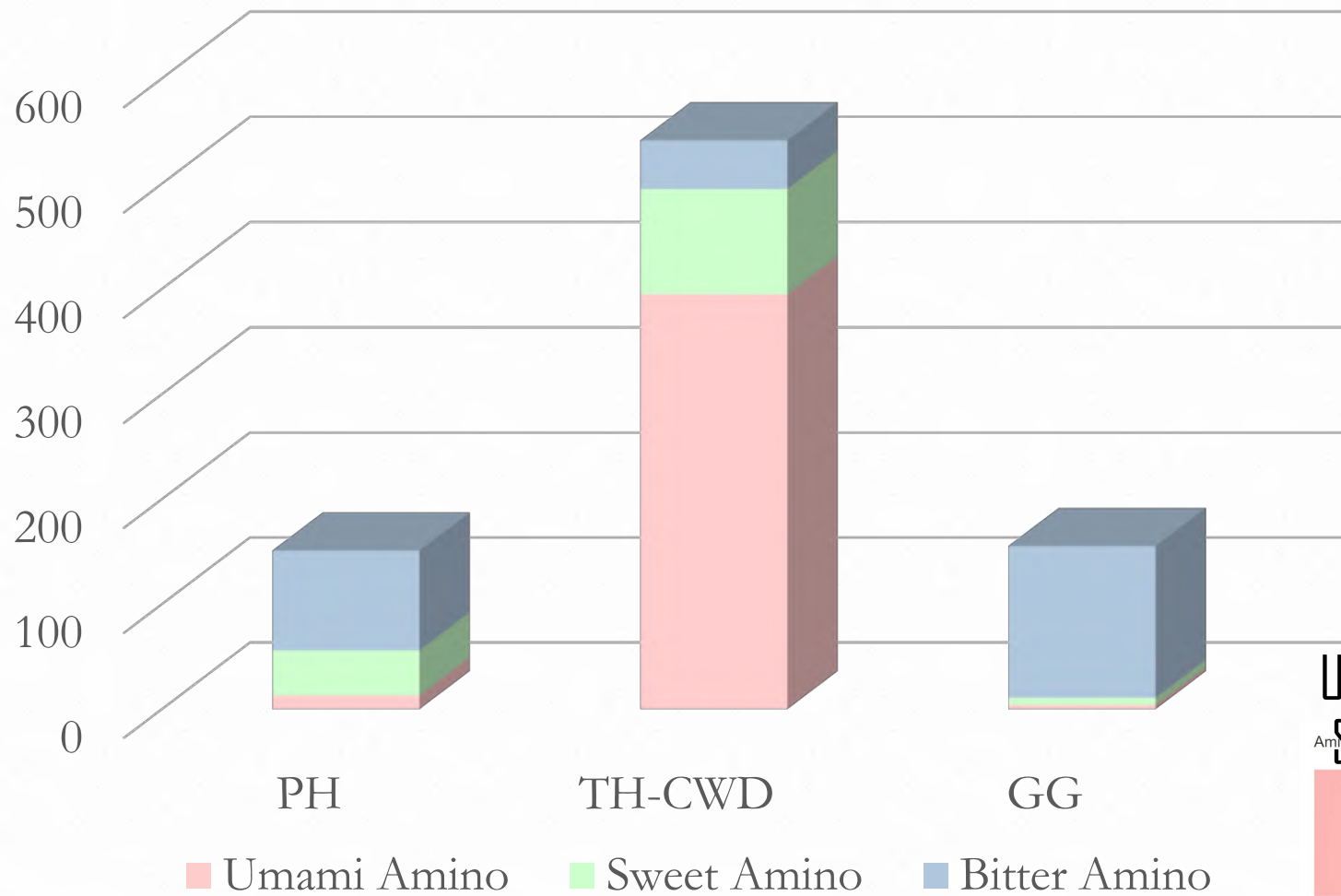
### Bitter

Tryptophan	Phenylalanine
Isoleucine	Arginine
Leucine	Valine
Cysteine	Methionine
Lysine	Histidine
Tyrosine	

\*Uneyama et al., Amino Acids, 43, 2349-2358 (2012)



## Amino Quantity by Taste Group

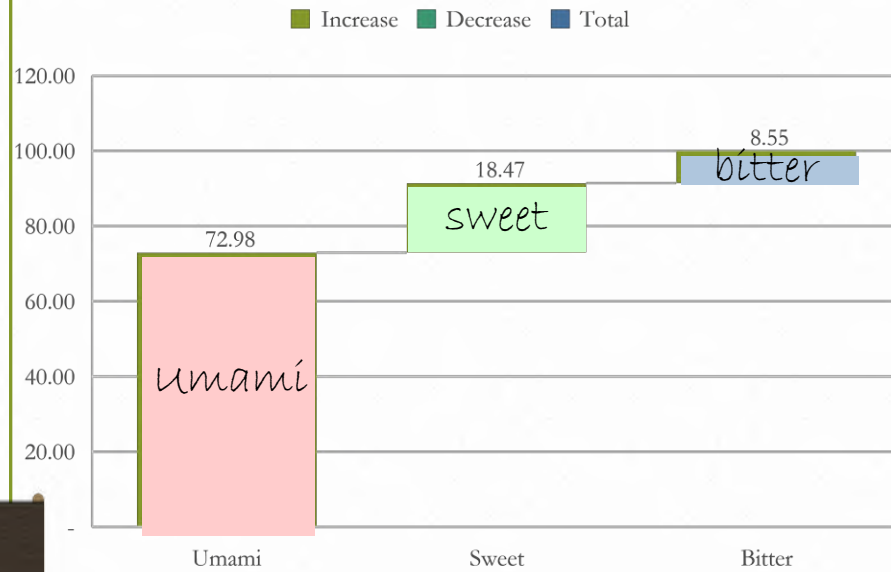


Amino Acids Work Together to Produce the Taste of Food!

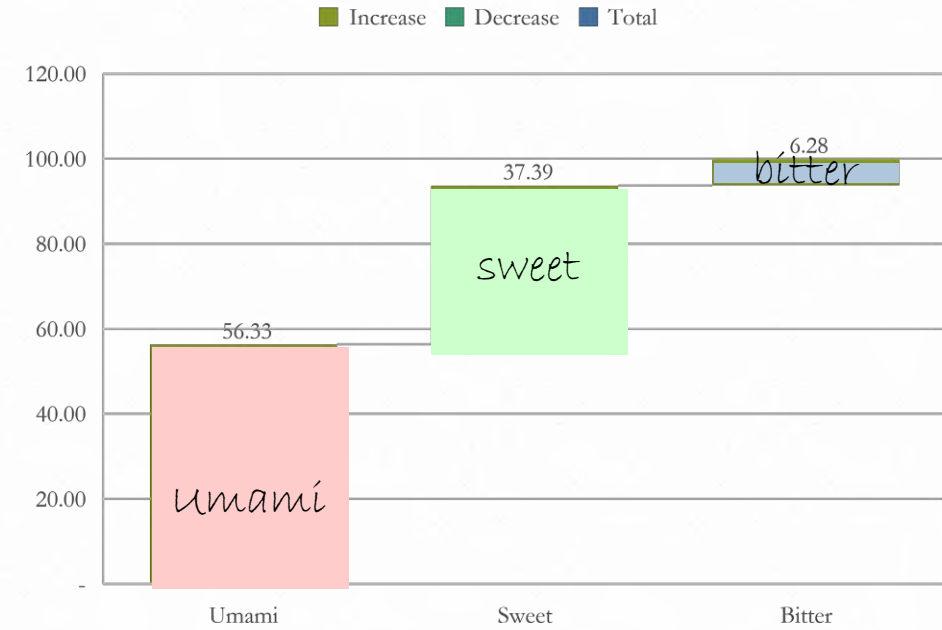
Umami/Sour	Sweet	Bitter
Glutamate Aspartate	Glycine Alanine Threonine Glutamine Proline Asparagine Serine	Tryptophan Isoleucine Leucine Cysteine Lysine Tyrosine Phenylalanine Arginine Valine Methionine Histidine

\*Uneyama et al., Amino Acids, 43, 2349-2358 (2012)

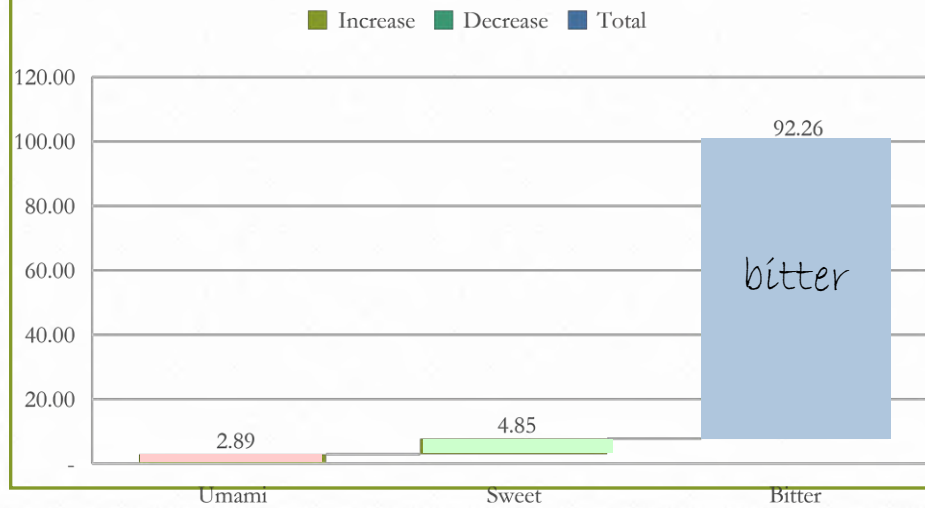
### TH-CWD amino acids ratio



### PH amino acids ratio



### GG RG amino acids ratio



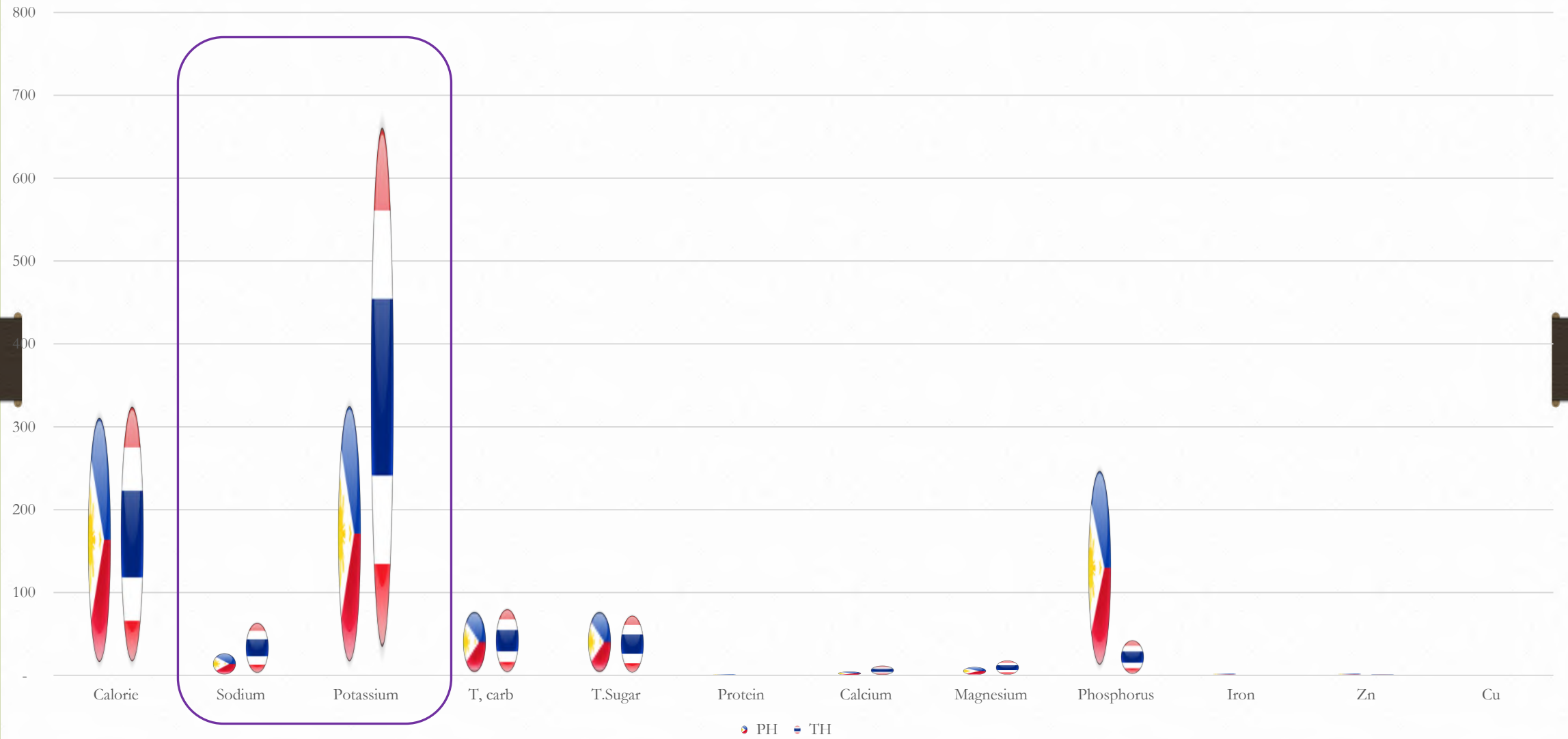
Amino Acids Work Together to Produce the Taste of Foods!

Umami, Sour	Sweet	Bitter
Glutamate	Glycine	Tryptophan
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	Threonine	Isoleucine
	Glutamine	Arginine
	Proline	Leucine
	Asparagine	Valine
	Serine	Cysteine
		Methionine
		Lysine
		Histidine
		Tyrosine

\*Uneyama et al., Amino Acids, 43, 2349-2358 (2012)



# Minerals PH/TH







Characteristic  
Intense/ Delicious



Characteristic  
Sweet



Characteristic  
Bitter



Market will grow as the demand has been increasing for more application beyond sweetness.

















Coconut Aminos



สูตร  
โซเดียม  
45%



Chiwadi  
ARTISAN

ORGANIC  
COCONUT  
SEASONING SAUCE

ซอสปรุงรส

จากมะพร้าวอินทรีย์







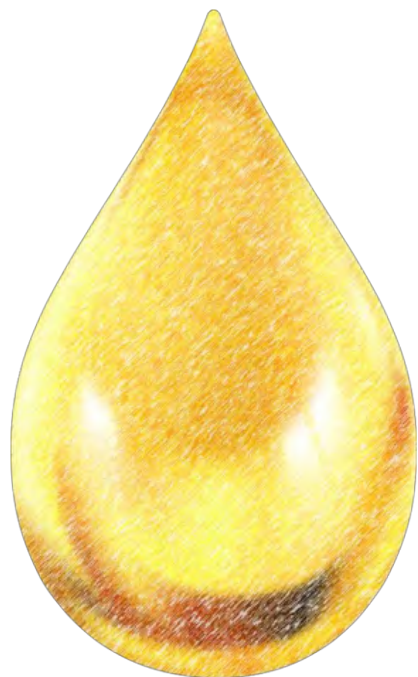




























PURE FIJI











Mahidol University  
*Wisdom of the Land*

- \*Clinically tested
- increasing muscular mass
- increase metabolic rate
- reduce carb crave
- promote quality sleep
- promote quality of life

## Coconut Flower Vinegar











2017 forward

2013-6



2011-2





2012-3



2014-5



2016-7



2018-9





Thailand	Cane	Coconut small area		Coconut promotion	
		Nam Hom	New	Nam Hom	New
Area cultivated M rai	6.84	0.05	0.05	0.75	0.75
T Juice/ rai/yr	5	12.96	54	12.96	54
M Ton Cane Juice/ yr	34.2	0.648	2.7	9.72	40.5
Farmer @ B/M	1,588	8,100	16,875		
Farmer @ USD/M	50	257	535		





**Chiwadi®**

## Business Issues

- Date sugar / Tanot sugar other palm family plants are coming up as alternatives.
- High demand with slow supply for coconut sugar forcing alternatives:-
  - Date Sugar
  - Palm Sugar ( Tanot)
  - Other palm sugar

## Farm Issues

- the best sap productivity coconut seeds not in commercial availability.
  - Can ICC work together to get seeding / tissue culture done?
  - Can ICC dissolve importation barrier?
  - Each development takes a few years, the world is moving faster.
- the dwarf tree that enable business with less risk taking.
- technology at farm to avoid climbing to harvest.
- no labor available for harvest job.
- Offer special fund and medical services for coconut harvest career.
- Reserve agricultural land for coconut for affordable investment.



**Chiwadi®**