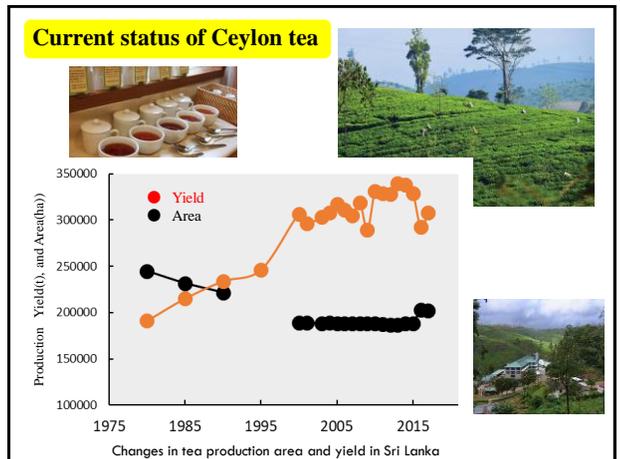
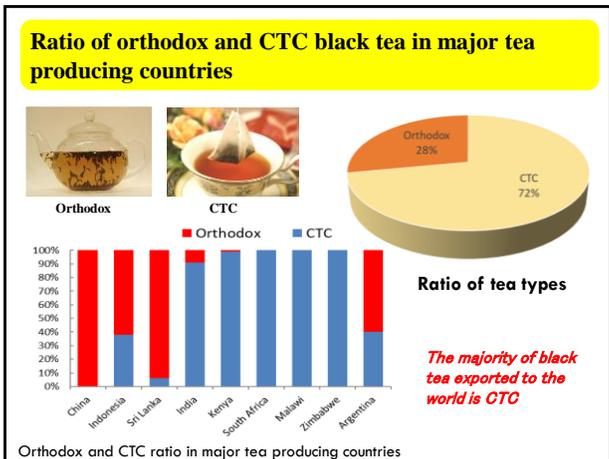
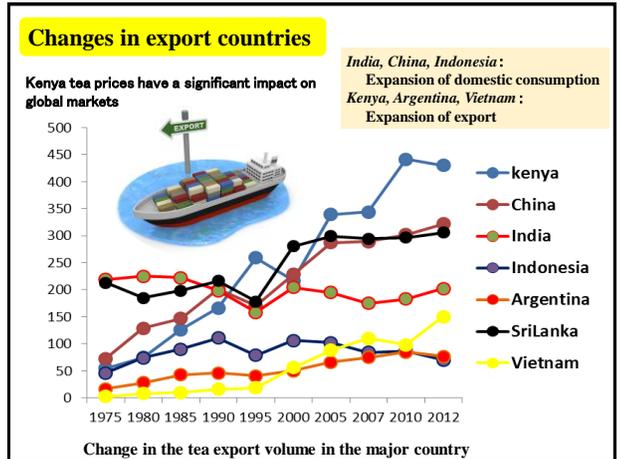
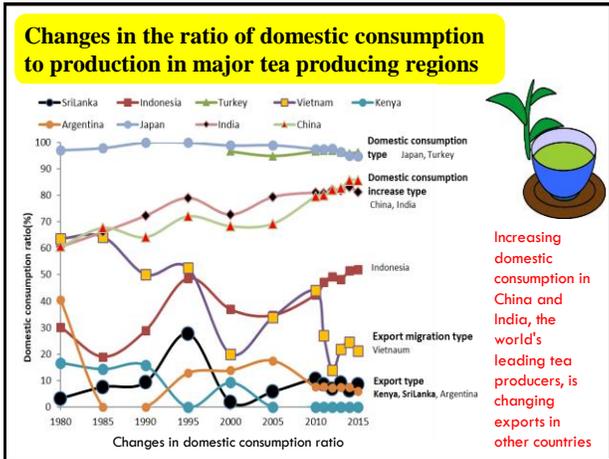
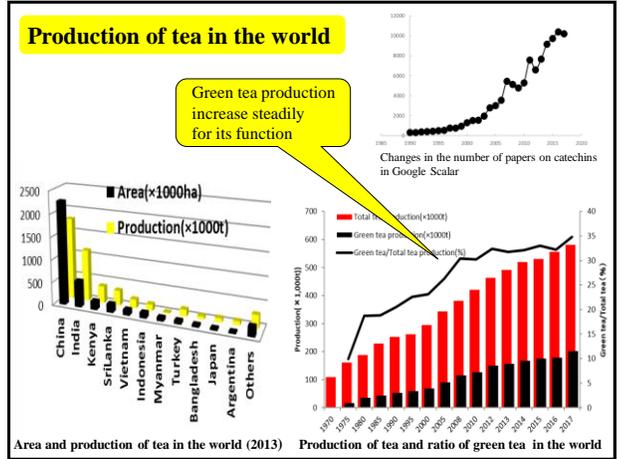


Enhancement of Ceylon tea brand power and marketing



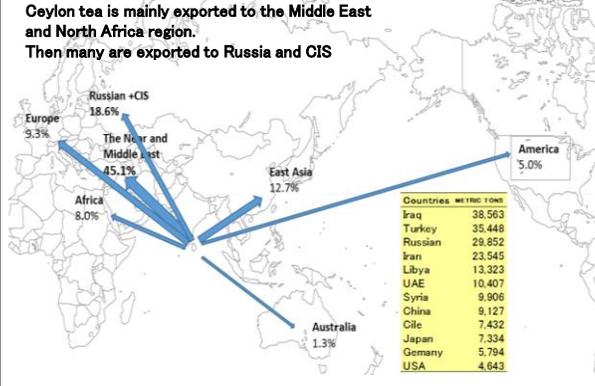


University of Shizuoka
Tea science center
Project Professor
Yoriyuki NAKAMURA

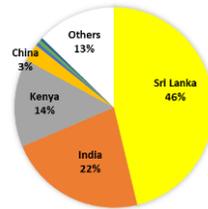


Major export destinations and ratios of Ceylon tea

Ceylon tea is mainly exported to the Middle East and North Africa region. Then many are exported to Russia and CIS



Export of Ceylon tea to Japan

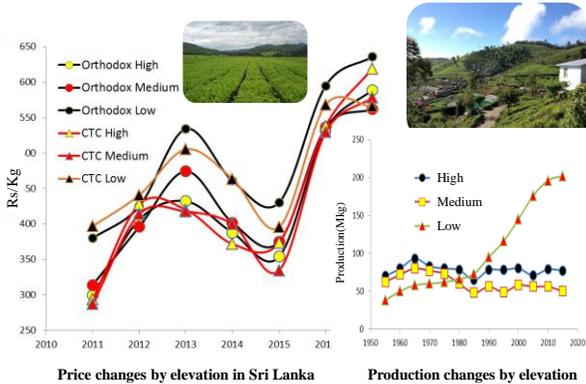


Ratio of black tea imported to Japan



There are many Ceylon tea specialty stores in Japan

Trends in orthodox and CTC tea prices in Ceylon tea



Ceylon tea production by altitude

Tea production is overwhelmingly in the low districts, and the high districts are mostly in the area around Nuwara Eliya

Table District wise Tea Production (in ton) 2015

District	High	Medium	Low	Total	Ratio(%)
Badulla	14,942	14,164		29,107	8.9
Colombo			825	825	0.3
Galle			48,101	48,101	14.6
Hambantota			246	246	0.1
Kalutara			18,325	18,325	5.6
Kandy		20,924	11,790	32,714	10.0
Kgalle		666	9,575	10,241	3.1
Matale		2,168	861	3,029	0.9
Matara		190	41,378	41,567	12.6
Nuwara Eliya	60,323	10,766	762	71,851	21.9
Ranapura	160	2,088	70,517	72,765	22.1
Total	75,426	50,966	201,379	328,771	100.0

Supply ratio of raw leaves of Ceylon tea

In general, low districts tends to have a high bought leaf ratio, and high districts tends to have more own leaf.

Table. District wise Tea Production (Ratio) 2015

District	Own Leaf	Estate Leaf	Bought Leaf	Total
Badulla	43.2	23.9	32.9	100.0
Colombo	0.0	0.0	100.0	100.0
Galle	1.8	1.0	97.2	100.0
Hambantota	0.0	0.0	100.0	100.0
Kalutara	3.0	0.5	96.6	100.0
Kandy	16.0	5.2	78.8	100.0
Kgalle	11.7	2.8	85.5	100.0
Matale	7.7	3.3	89.0	100.0
Matara	5.0	1.2	93.8	100.0
Nuwara Eliya	64.3	14.6	21.1	100.0
Ranapura	6.4	1.3	92.3	100.0
Total	22.4	6.5	71.1	100.0

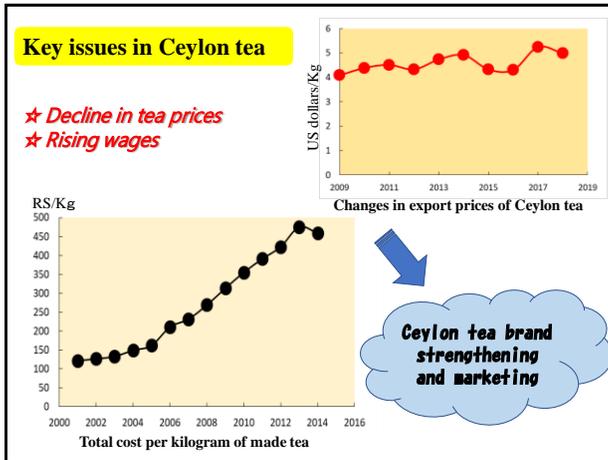
Major issues to be solved in Ceylon tea

The cost of production of made tea has rapidly increased. However, there has been no increase in export prices



Task

- ★ Decline in tea price
- ★ Rising production costs
- ★ Production instability due weather fluctuation
- ★ Small holder vulnerability
- ★ Diversification etc.



Enhancement of Ceylon tea brand power

Personal idea

- 100% pure Ceylon tea
- 100% packaged in Sri Lanka

With a premium lion logo
Need to add value

For example,

- ☆ Development of premium lion logo products
- ☆ Development of functional tea
- ☆ Development of high quality tea

What can be considered to further enhance the brand power of the Ceylon tea lion logo

Ceylon tea flag product creation

Silver Lion Tea

Silver chips made only from buds
→ I make it with a bud and one leaf and make silver lion tea

Pearl Ceylon Silver Tea

Shining island, Creation of Ceylon tea inspired by Indian Ocean pearls

Development of tea with added functionality

In the case of Japan

Low caffeine tea

- For children and pregnant women
- For those who can't sleep after drinking tea at night

GABA (gamma amino butyric acid) tea

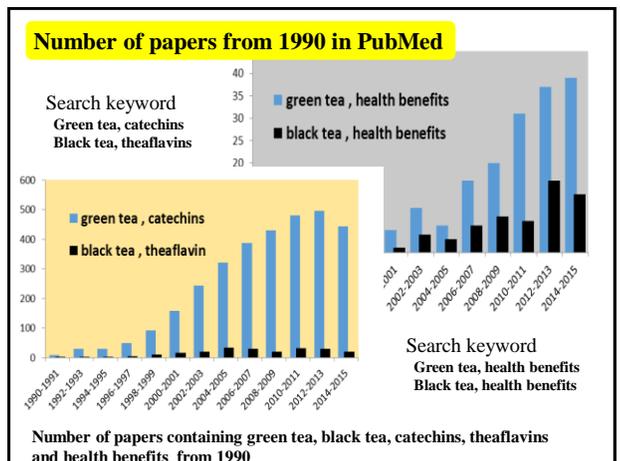
- For improvement of hypertension
- For get a good night's sleep

High concentration catechin tea

- For obesity prevention
- For burning fat

Physiological functions of black tea components

Black Tea Components	Contents	Functions
Theaflavins (+Thearubigins)	1~2%	Blood flow improvement effect, Anti-oxidative, Anti-mutagenic, Anti-hypercholesterolemic, Anti-hyperglycemic, Fat reducing, Anti-hypertensive, Anti-ulcer, Anti-bacterial etc.
Caffeine	3~4%	Removal of fatigue, Sleepy feeling, Diuretic etc.
Vitamin C	0%	
Vitamin B	0.1mg%	Excitometabolic action of carbohydrates and amino acids
Vitamin E	11.4mg%	Anti oxidative, Aging prevention
γ amino butyric acid		Anti hypertensive
Flavonoids	1~3%	Halitosis prevention
Theanine	1.40%	Anti hypertensive

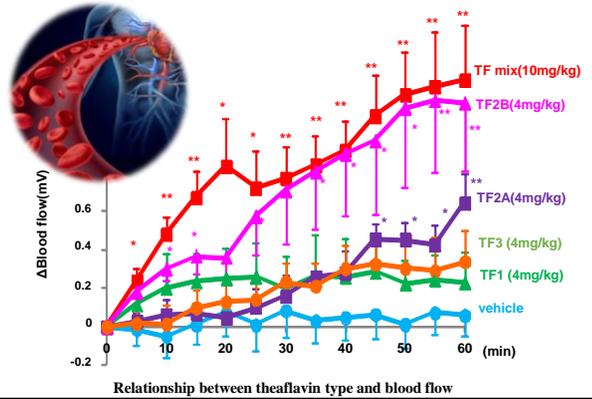


Characteristic of health benefits of black tea

- ☆ Blood flow improvement effect
(Nothing in Catechins)
- ☆ Anti-viral, bacterial action
(Stronger than that of Catechins)
- ☆ Anti-hypercholesterolemic action
- ☆ Anti-hyperglycemic action
- ☆ Anti-hypertensive action
- ☆ Fat reduce action



Blood flow improvement effect of theaflavins

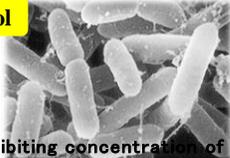


Anti-bacterial action in polyphenol

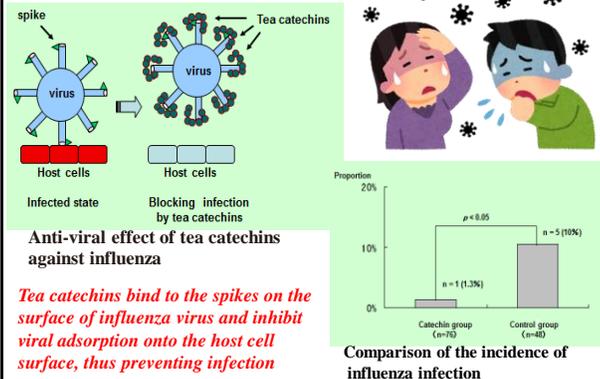
Theaflavins > Catechins

Comparison of minimum growth inhibiting concentration of tea polyphenol against bacteria (Hara. Y & Watanabe. M: 1989)

	<i>B.subtilis</i>	<i>B.sleaothermophilus</i>	<i>D.nigrificans</i>
	minimum growth inhibiting concentration(ppm)		
EGC	>800	300	>1000
EC	>800	800	>1000
EGCG	>800	200	>1000
ECG	>800	<100	>1000
TF1	>1000	200	>1000
TF2A	500	300	>1000
TF2B	450	300	>1000
TF3	400	200	>1000

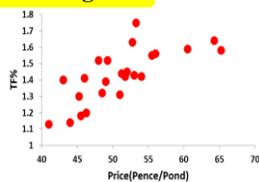


Effects of catechins on influenza virus



Development of high quality tea using NIR

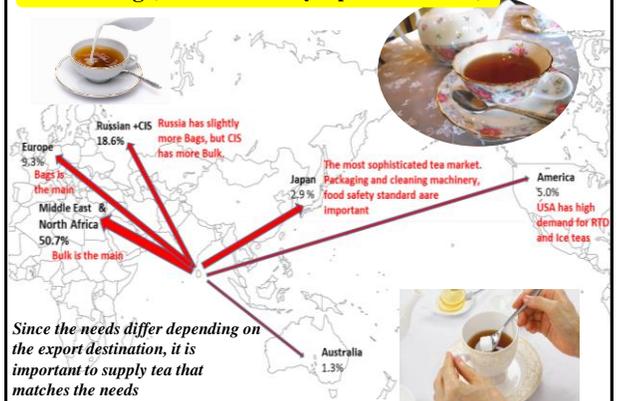
The higher the theaflavin content, the better the taste and color, and the higher the quality and price.



Faster analysis
Evaluate numerically



Marketing (Demand varies by export destination)



Tea bags are interesting (Tea bags need to be fun and fashionable etc.)



**Expand the place to drink fine tea
Bottle tea; Wine without alcohol**



- ★Highest umami extraction possible
- ★Anyone can serve with the same taste
- ★Direction is possible
- ★Improve added value

Tea Foods for specified function uses



Tea Foods with function claims



For low cost production of Ceylon tea

Mechhanization is important



India



Kenya



Sri Lanka

With the boom in the tea industry, From hand-picking to machine-picking are rapidly progressing worldwide to reduce costs

Mechanization has become necessary due to rise in labor costs and declining labor force

Difference between the hand and the mechanical plucking



Hand plucking

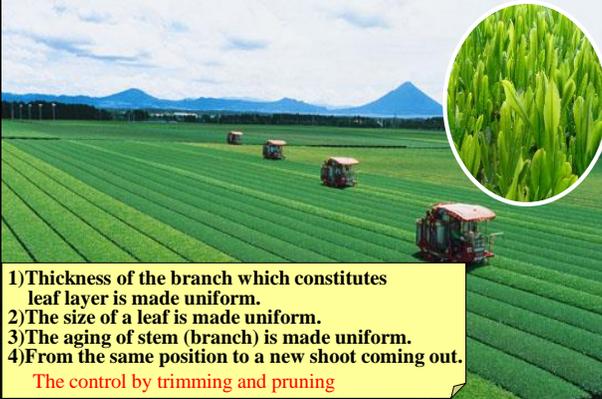
- ★ A new shoot is chosen and it plucking
- ★ The amount of plucked shoot is 10-15kg/day
- ★ Plucking method for high grade tea



Mechanical plucking

- ★ All the new shoots are plucked in fixed height
- ★ The amount of plucked shoot is 700-1000kg/day using portable machine for two person
- ★ Plucking method for middle grade tea

The point for making a plucking surface of tea uniform



- 1) Thickness of the branch which constitutes leaf layer is made uniform.
- 2) The size of a leaf is made uniform.
- 3) The aging of stem (branch) is made uniform.
- 4) From the same position to a new shoot coming out.

The control by trimming and pruning

Organic tea is also a boom



Organic farming is increasing in high altitude tea fields

Good tea tourism

It is also necessary to make tea a tourist destination in the future



For the success of Ceylon tea

Five key issue

1. Enhancement of brand power
⇒ *Promotion the premium quality of Ceylon tea*
2. Increase in labor cost, decrease in labor force
⇒ *From hand plucking to mechanization*
3. Promoting the functionality of Ceylon tea
⇒ *Deepening of functional research and PR*
4. Demand varies by export destination
⇒ *Build marketing strategies by export destination other uses*
5. Raising the cultural values of tea
⇒ *Preservation of tea tradition, habitalization and utilization as tourism resources*