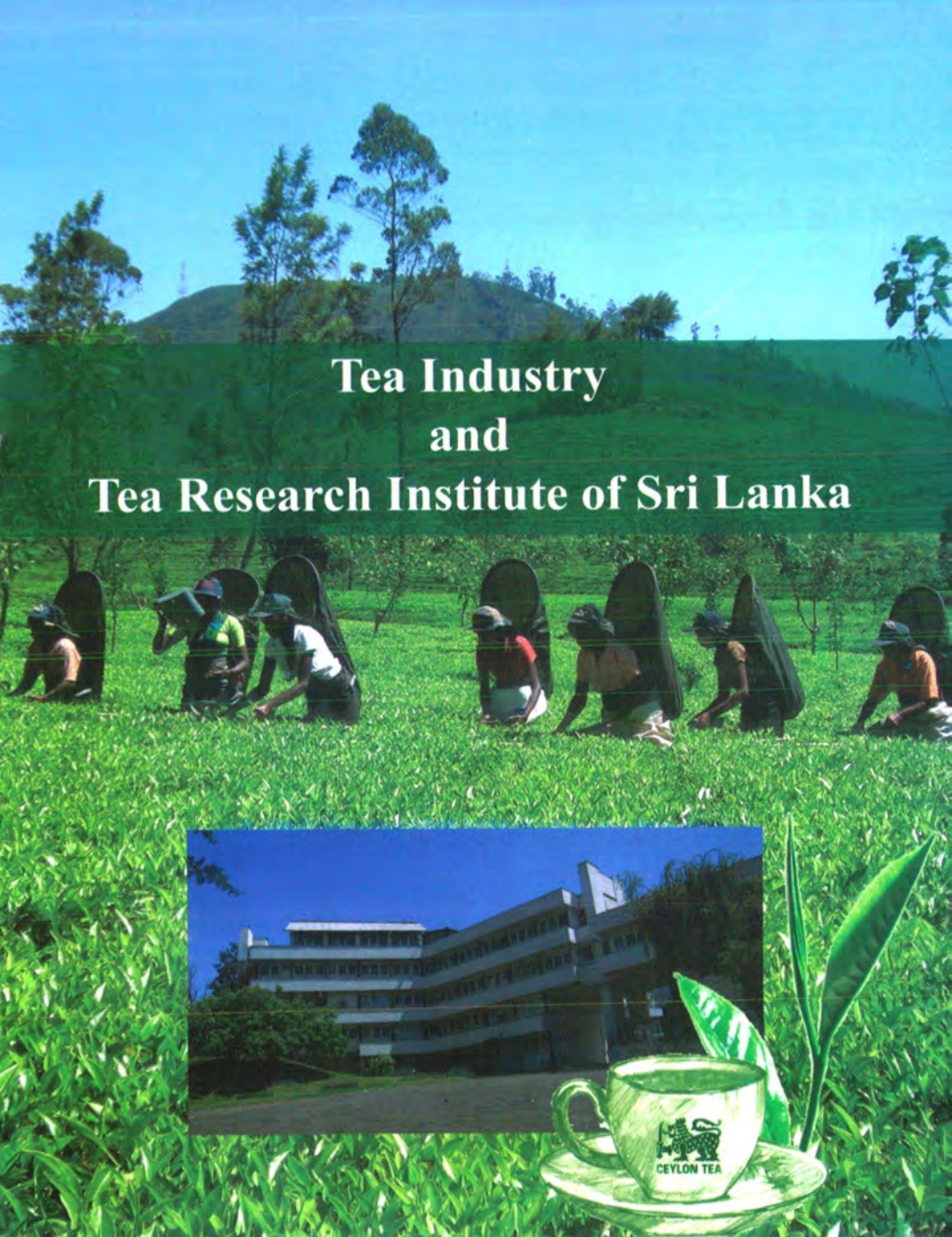
Tea Industry and Tea Research Institute of Sri Lanka



Tea Research Institute of Sri Lanka, Talawakelle

TEA INDUSTRY
AND
TEA RESEARCH INSTITUTE OF SRI LANKA

... Educational, Scenic picture-tour over
the Tea Industry
and the Tea Research Institute

Created by

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Head,
Advisory & Extension Division

Tea Research Institute of Sri Lanka
Talawakelle
2013

Tea Industry and the Tea Research Institute of Sri Lanka

The tea plant originated in China belongs to the family theaceae and genus camellia. The scientific names of popular tea varieties are *Camellia sinensis* L. and *Camellia assamica*.

The first batch of tea seeds reached to Sri Lanka (then Ceylon) in December 1839 and planted at the Botanical Gardens at Peradeniya.

However, the first commercial planting of tea was done by James Taylor in 1867 on 19 acres of land on Loolecondera Estate, Hewaheta.

The first tea plant

James Taylor

Soil and climatic requirement for tea

Tea is grown mainly under rain fed condition and it mainly depends on the South-West monsoon rains (May to September) North East Monsoon (December to February) and Inter monsoonal rains during March to April and October to November.

The optimum annual rainfall for tea growing is 2500-3000 mm with a minimum requirement of 1200 mm rainfall annually. The ideal ambient temperature for tea growth is about 18^0 - 25^0 C.

The major tea growing regions and the Agro-ecological regions where tea is grown;

Up country region

Up country: WU1, WU2a, WU2b, WU3,

Uva: IU1, IU2, IU3a, IU3b, IU3c, IU3d, IU3e

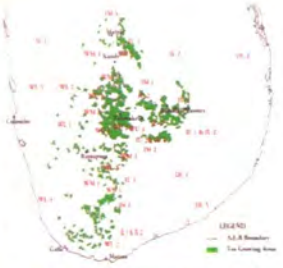
Mid country: WM1a, WM1b, WM2a, WM2b, WM3a, WM3b, IM1a, IM2a, IM2b, IM3c,

Low country: WL1a, WL2a

[W- Wet zone, I –Intermediate zone, U- Up country, M- Mid country, L- Low country]

Mid country region

Soils: A better growth of tea plant needs deep, permeable, well drained acidic soil with a pH values between 4.5 - 5.5



Map of tea growing areas

Uva region

Low country region

Tea varieties

At the beginning tea was planted with seeds. Propagation of tea by vegetative parts was introduced in mid 1950s. Now tea is mainly cultivated with vegetatively propagated (VP) improved, high yielding tea varieties (cultivar/clone)

Tea field planted with seeds

Vegetatively propagated (VP) tea field

Approved new cultivars (VP tea) for different regions

Region	Cultivars
Low country region	TRI3014, TRI3022, TRI3025, TRI3047, TRI3051, TRI3052, TRI3055, TRI3069 TRI4004, TRI4006, TRI4014, TRI4024, TRI4042, TRI4043, TRI4047, TRI4049, TRI4052, TRI4053, TRI4054, TRI4055, TRI4059, TRI4064,
Mid country wet region	TRI3013, TRI3014 TRI3015, TRI3017, TRI3018, TRI3019, TRI3020, TRI3025, TRI4006, TRI4042, TRI4046, TRI4047, TRI4053, TRI4071
Mid country dry region (Uva	TRI3013, TRI3015, TRI3017, TRI3018, TRI3019, TRI3022, TRI3035, TRI4042, TRI4046, TRI4052, TRI4053, TRI4071, TRI4078,
Up country region	TRI3013, TRI3015, TRI3016, TRI3018, TRI3019, TRI3020, TRI3072 TRI3073, TRI4006, TRI4034, TRI4052, TRI4067, TRI4071, TRI4078, TRI4079, TRI4085

Popular high yielding VP tea varieties (clones)


TRI 3020


TRI 4006

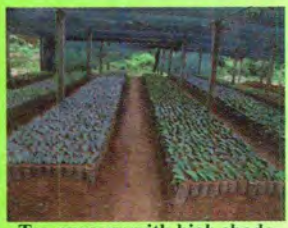

TRI 4042

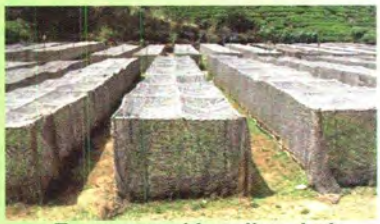

TRI 4049

VP TEA NURSERY

Nursery is the starting point of tea cultivation.

A suitable site, suitable rooting media (soil) and healthy planting materials (tea shoots) have to be selected to establish a successful nursery.


Tea nursery with high shade


Tea nursery with medium shade


Tea plant ready for planting


Tea nursery under polythene tent


Preparing tea cuttings for planting

TEA CULTIVATION


Land preparation

Land Preparation Remove all the vegetation in the field selected for planting tea and fork to a depth of 45 cm (18 in) to remove roots, stone etc.

Soil conservation

Construct lateral drains and terraces on contours and leader drains, etc, to minimize soil erosion and to conserve soil and water.


Live hedge rows and contour drains for soil conservation

Soil rehabilitation

Soil has to be reconditioned planting mana *(Cymbopogan confertiflorus)* or Gautemala *(Tripsacum laxum)* grasses and maintaining them for about 18-24 months


mana grass

Soil conservation measures

Planting of tea

Healthy and vigorous tea plant has to be planted in 18 inches deep planting hole with a diameter of 12 inches, at 4 ft X 2 ft distance on contour lines in the field.

Tea plant has to be trained to form a bush by cutting the main branches and leaving the side branches to grow laterally.

Gautemala grasses

planting hole

Newly planted VP tea

Shade trees

Tea prefers a certain amount of shade condition for a better growth. Therefore, the recommended tree species have to be planted at the recommended spacing and manage them properly to provide shade to tea.

Tea field with high shade

Tea field with medium shade

Weed management

It is advocated to follow the integrated approach to manage weeds in tea field, which includes manual, chemical cultural/ecological and biological weed control methods.

Harvesting of tea

Harvesting/plucking of tea is most important and the major operations in tea field. Two fully grown immature leaves and a bud is the standard harvestable unit of tea bush. Normally, harvesting is done at 5-7 days intervals.

The selective manual plucking considered to be the best harvesting method.

Standard harvestable unit

Tea plucker

Pruned tea field sprayed with hydrated lime

Pruning of tea: Pruning is done at a regular interval to maintain tea bush at a vegetative phase and a convenient height.

There are different pruning methods suitable for different areas and for different conditions.

Fertilizer use:

Recommended fertilizer mixtures have to be applied at correct time with the correct quantities, for better growth of tea.

Recommended fertilizer mixture for mature tea

Tea leaves show unusual symptoms when bushes are deficient with important nutrients.

Nitrogen deficiency symptoms

Magnesium deficiency symptoms

DISEASES OF TEA

All common tea diseases are fungal diseases. Various fungi species attack for various sites such as foliage,stems,roots of the tea bush.

The most common tea diseases:

Blister blight leaf disease*(Exobasidium vexans)*

Stem and branch canker disease
(Macrophoma theicola)

Horse Hair blight disease
(Marasmius eqicrinis)

Collar and Branch canker
(Phomopsis theae)

Red root disease *(Poria hypolateritia)*

Brown root disease
(Phellinus noxius)

Black root disease *(Rosellinia arcuata)*

White root disease
(Regidiporus microporus)

Charcoal root disease *(Ustulina deusta)*

COMMON TEA PESTS

Several insects, mites and nematode pests attack the different sites of tea bush.

The most common tea pests are:

Tea Tortrix caterpillar *(Homona Coffearia)*

Red spider mite *(Oligonychus coffeae)*

Yellow mite *(Hemitarsonemus latus)*

Scarlet mite *(Brevipalpus californicus)*

Shot-hole borer *(Xyleborus fornicates)*

Low country live wood termite
(Glyptotermes dilatatus)

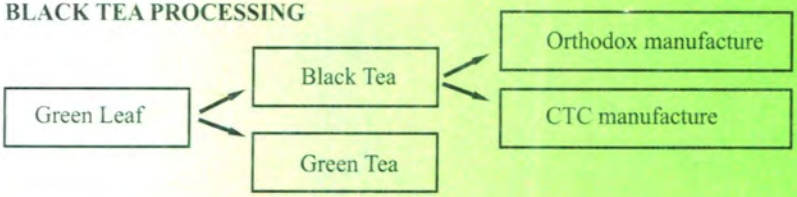
Nettle grub *(Macroplectra nararia)*

White grub larva *(Holotrichia disparilis)*

Namatode attack in a tea field

Up country live wood termite
(Postelectrotermes militaris)

BLACK TEA PROCESSING



From tea leaf to cup

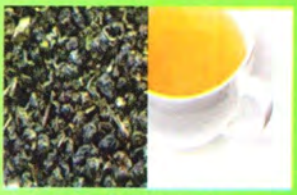
Tea is manufactured by processing young shoots of the plant.

A large number of chemical compounds are present in the fresh tea leaf, but the most important group of compounds is polyphenols. These compounds undergo a series of changes during black tea processing to give the colour and taste to tea brew.

Main Tea Products;

Black tea

Green tea



Oolong tea

Other Tea Products;

Carbonated tea

Tea Cordial

Tea wine

Tea seeds oil

Different types of tea containers;

Bulk tea bags

Tea packets

Tea bags

TEA MANUFACTURE

There are several stages in the manufacture of black tea from tender shoots harvested from the field. The main stages of them are the withering, rolling, fermentation, firing/drying and grading.

Trough withering

Withering

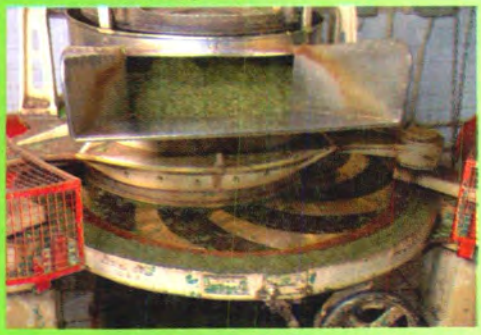
The first stage of tea manufacture is withering. The most obvious change during withering is the loss of moisture resulting in the leaf becoming flaccid. Moreover, the chemical changes also occur within the leaf cells during withering.

Rolling

The purpose of rolling is primarily to break up the leaf cells and to mix up the chemical compounds within the cell with the enzymes, which leads to a number of reactions.

Various types of rollers are used to achieve this objective.

The first roll is known as the 'pre-conditioning roll'. Subsequent rolling is done to achieve thorough breakdown of the leaf cells.



Orthodox roller

Orthodox roller

The 'pre-conditioning roll' is done with the orthodox roller.

Rotorvane roller

Rotorvane roller

Further rolling is done with rotorvane roller to breakdown the leaf in to smaller particles.

Roll breaker

Smaller leaf particles are separated from the leaf bulk with the roll-breaker.

Roll breaker

Fermentation table

Drying of tea

Fermentation

During the process of fermentation, a series of complex chemical reactions are taken place; the most important being the oxidation of polyphenols.

The main compounds those are formed during fermentation are the orange red Theaflavins (TF) and the dark brown Thearubigins (TR).

Firing/drying

The process of firing removes most of the leaf moisture and stops fermentation by destroying the enzymes.

Grading of tea

Grading of tea is done with sorting machineries. Made tea are graded on the size of tea particles.

Stalk and Fiber removing machines

Various machines are used to remove stalk particles and fibers from graded tea.

Middleton bubble Tray stalk extractor
Electrostatic stalk extractor
Colour separator

Chota-Rotary sifter(grading of tea)

Electrostatic stalk extractor

Colour separator

Black tea

Health benefits of tea:

Cup of tea contains 99.65% water and the balance is solid fraction. In the solid fraction 40% is polyphenols, 7% carbohydrates, 6% proteins, 3% theanine (amino acid) 3% other amino acids), 2% organic acids, 3% lipids, 3% caffeine and the balance minerals and volatile compounds.

Several scientific investigations carried out around the world have shown that tea drinking could contribute to reduce the risk of diseases such as heart disease, high blood pressure, stroke, cancers and diabetes. The anti-oxidant activity of tea polyphenols is the most important factor in reducing the risk of those diseases. Both, black tea and green tea are equally effective in preventing those diseases. In addition, tea could also improve the oral health and increase the useful microbial populations in the intestine.

TEA RESEARCH INSTITUTE (TRI) OF SRI LANKA

The first lab of TRI established at Lindfield at Nuwaraeliya in 1925

TRI at St. Coombs estate in 1970

Present view of the TRI

The Tea Research Institute (TRI) was founded in 1925 in accordance with the provisions of an Ordinance passed in the Legislative Council of Ceylon. The Institute is presently managed by the Tea Research Board that was established by an Act of Parliament in 1993.

Its functions are to engage in, and to encourage, foster and facilitate research into, and investigations of, all problems and matters affecting the production and manufacture of tea, including research into the economic viability and future economic trends in the industry.

The Institute had its early beginnings in Nuwara Eliya and the transfer to the present location, at St Coombs Talawakelle, took place in December 1929, and since then the institute has expanded progressively.

The technical staff strength now is 114 with another 157 members in the administrative/support services.

The services of the Institute in research and extension are uniformly available to all tea producers in Sri Lanka and both the corporate and smallholder sector look to the TRI for guidance. It is largely mandated to improve productivity, contain production cost, enhance product quality and ensure the sustainability of plantations.

Research and Advisory Divisions

Plant Breeding Division

The main laboratories of the TRI at Talawakelle are well equipped for basic scientific, as well as applied research.

The Low country regional station is located at Ratnapura and is equipped to undertake all research, experimentation and advisory functions for low country region specific problems.

The Mid country regional station located in Kandy undertakes research and advisory work specific to that region.

Soils and plant Nutrition Division

Agronomy Division

Entomology /Nematology Division

Plant physiology Division

Six Advisory and extension Centers/Units are also established in Ratnapura (Ratnapura & Kegalle District), Kandy (Kandy & Matale District) Passara (Badulla District), Kottawa (Galle District), Deniyaya (Matara District) and Matugama (Kalutara District) with limited research facilities

Processing Technology Division

Biochemistry Division

Research is carried out under the disciplines of Agronomy, Entomology/Nematology, Plant Pathology, Plant Physiology, Plant Breeding, Soils and Plant Nutrition, Biochemistry, Tea processing Technology and Agriculture Economics Division. All research work is planned and directed from Talawakelle with officers of the appropriate disciplines stationed in the other five stations.

Plant Pathology Division

Agric. Economics Division

Advisory & Extension Division

Locations and Accessibility to TRI Main Centre and to the Regional Centres

Tea Research Institute, Talawakelle

The administrative headquarters and main laboratories of the Institute are situated at St Coombs Estate (elevation 1,382 m amsl) in the Dimbulla planting district of the Central Province (Nuwara Eliya 25 km; Talawakelle 10 km and Colombo 158 km); and is approached from the Colombo-Avissawella-Hatton-Nuwara Eliya Road (A 4, A 7).

Telephone: 052-2258201;
Fax: 052-2258311; 052-2258229.
e-mail: info@tri.lk Web: www.tri.lk
Correspondence: Director, TRI, Talawakelle

Low-country Regional Centre, Ratnapura

The Low-country regional centre is situated at St Joachim Estate (elevation 29 m amsl) in the Ratnapura district of Sabragamuwa Province (Ratnapura 10 km; Colombo 100 km); and is approached from the Colombo- Avissawella-Ratnapura Road (A 4) by a branch road (3 km) at the 96th km post.

Low country regional centre

Telephone: 045 2228851-2, 045 2228928, 045 2228514
Fax: 045 2228628
e-mail: madawalawije@yahoo.co.lk
Correspondence: Officer-in-Charge, TRI-Low Country Regional Centre, St Joachim Estate, Ratnapura

Mid-country Regional Centre, Kandy

The Mid-country Station is situated at Hantane (elevation 762 m amsl) in the Kandy district of the Central Province (Kandy 5 km; Colombo 122 km); and is approached from the Kandy-Uduwela-Galaha Road.

Mid country regional centre

Telephone: 081 2218832-3, 081 2279480
Fax: 081 2218509
e-mail: rjanaka@gmail.com
Correspondence: Officer-in-Charge, TRI Mid Country Regional Centre, Hantana Road, Kandy

Uva Advisory & Extension Centre

Badulla District (Uva) Advisory and Extension Centre, Passara

The Advisory & Extension Centre for Uva region is situated at Gonakelle Estate (elevation 1,120 m amsl) in Passara of the Uva Province (Badulla 15 km; Colombo 246 km); and is approached from the Badulla-Passara Road (A 5).

Telephone: 055-2288246; 055-2288474.
Fax: 055-2288246
e-mail: warnasiri@yahoo.com
Correspondence: Officer-in-Charge, TRI Advisory & Extension Centre, Pelagahatenna, Passara

Galle (Kottawa) Advisory & Extension Centre

Galle District Advisory and Extension Centre, Kottawa, Talgampola

The Advisory and Extension Centre for the Galle district is situated at Kottawa,Talgampola (elevation 30 m amsl) in the Southern Province (Galle 16 km; Colombo 132 km); and is approached from the Galle-Udugama Road.

Telephone: 091 3903259, 091 3922853
Fax: 091 4943890 (OIC/Fax)
e.mail: prasanjithjm@gmail.com
Correspondence: Officer-in-Charge, TRI Advisory & Extension Centre, Kottawa, Talgampola

Deniyaya Advisory & Extension Centre

Matara District Advisory and Extension Centre, Deniyaya

The Advisory and Extension Centre for Matara district is situated at Deniyaya (elevation 425 m amsl) in the Southern Province (Deniyaya 2 km, Matara 77 km Galle 82 km;) and is approached from the Deniyaya Ratnapura Road (A4, A18, A17), and Galle,Akurassa,Deniyaya Road (A17)

Telephone: 041 2273940-1

Fax: 041 2273940

e.mail: sprspr72@yahoo.com

Correspondence: Officer-in-Charge, TRI Advisory and Extension Centre, Ratnapura Road, Deniyaya

Matugama Advisory & Extension Centre

Kalutara District Advisory and Extension Centre, Matugama

The Advisory and Extension Centre for Kalutara district is situated at Nivitigalakelle, Matugama (elevation 11 m amsl) in the Western Province (Matugama 03 km, Kalutara 21 km; Colombo 59 km);

Telephone: 034 3748565

Fax: 034 3748565

E-mail: haranrri@yahoo.com

Correspondence: Officer-in-Charge, TRI Advisory and Extension Centre, Nivitigalakelle, Matugama.

Walahanduwa soil lab

Soils & Plant Nutrition Analytical Laboratory, Walahanduwa

This Laboratory is situated at Walahanduwa (25 m amsl) in the Galle district of the Southern Province (Galle 12 km; Colombo 120 km); and is approached from the Galle-Udugama Road.

Estates Managed by the TRI

St. Coombs Tea Factory

St Coombs Estate, Talawakelle

The presently known as St Coombs was acquired in 1928 to establish the Tea Research Institute. Lamiliere Division of Mattakelle Estate was also acquired in 1975 and amalgamated with St Coombs. Now they are maintained as two Divisions of St Coombs Estate which is situated at an elevation of 1372 m amsl and covers a total extent of 238 ha of which 155 ha is under tea, with over 90% being VP tea.

St. Joachim Tea Factory

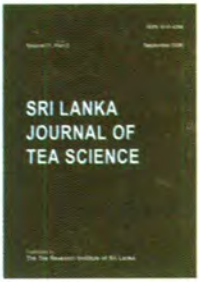
St Joachim Estate, Ratnapura

St Joachim Estate is situated at an elevation of 29 m amsl and covers an extent of 142 ha out of which 92 ha is under tea and 7.3 ha under tea & rubber intercropping. Other crops (rubber, coconut and paddy) cover 25 ha.

St Joachim factory was constructed in 1965 and is fully equipped on modern lines for low grown type of manufacture. It has a capacity of 16,000 kg green leaf per day.

PUBLICATIONS OF THE INSTITUTE

The Publications available in the TRI are as follows



Sri Lanka Journal of Tea Science: (English) It reports experimental results and is an internationally accepted, refereed, scientific journal.

Tea Bulletin: (English/Sinhala/Tamil) This is a journal of topical interest and is used for disseminating scientific information in the form of popular articles.

TRI Update: (English). This publication carries advance information on recent research developments, in simple and easily understandable form.

Annual Report: (English/Sinhala/Tamil) This gives a brief description of work undertaken by each Division with results from the experiments in progress during the year.

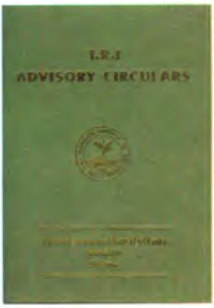
Advisory Circulars: (English/Sinhala/Tamil) These documents give practical advice/recommendation on specific subjects and outlines how a particular aspect of tea cultivation or manufacture should be carried out and serves as a reference material for plantation managers.

"තේ තතු": (Sinhala) This is a Newsletter published in Sinhala on a biannual basis. It carries articles of topical interest to the tea smallholder.

Monograph No. 4 - KEEGEL, E. L. (1956): (English) Tea Manufacture in Ceylon (179 pp) Revised 1958.

Monograph No: 6 – CRANHAM, J.E. (1967): (English) Insect and Mite Pests of Tea in Ceylon and their Control (122 pp)

Shoot Growth and Harvesting of Tea WIJERATNE, M A. (2001): (45 pp) (English)



Tea and Health- MODDER, W.W.D. and AMARAKOON, A.M.T. (2002): (180 pp) (English)

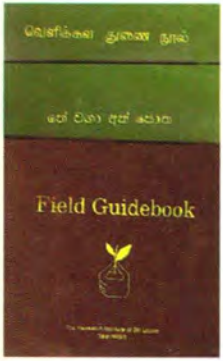
Tea for Health- AMARAKOON, A.M.T. (2008): (Sinhala/English)

Manual on "Cost of Tea Cultivation from Nursery to the Field" Jayakody J A A M and Shyamalie H W (2002): (57 pp) (English)

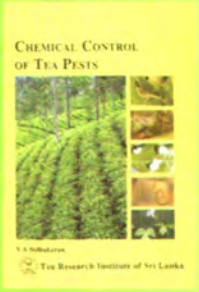
Hand Book on Tea (1986, 1st Edition 2008): This book covers all disciplines in tea growing and processing and is a useful teaching/learning aid for plantation managers. It also serves as a reference book to all educational institutions interested in tea. (English)

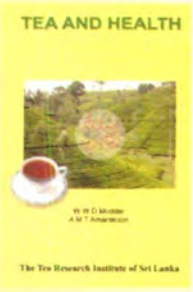
Field Guide Book (1995): This book serves to provide the practical tea grower with all recommended practices in tea cultivation and manufacture in a concise manner. (English/Sinhala/Tamil)

Chemical Control of Tea Pests (1997, 1st Edition 2009): This is a review of work on chemical control of pests. (English/Sinhala/Tamil)



Tea and Rubber Intercropping Systems (2000): (Sinhala)





BASIC TEA STATISTICS

Land Use in the Corporate Sector

Land Use	Extent (Ha)	%
VP Tea	37,227.7	21.8
Seedling Tea	38,313.7	22.5
Immature VP	1,579.8	0.9
Rehabilitation Grass	1,209.3	0.7
Nurseries	285.5	0.2
Thatch Banks	756.3	0.4
Rubber	17,190.4	10.1
Coconut	846.5	0.5
Oil Palm	1,909.5	1.1
EAC*/Fruits	194.6	0.1
Fuel Wood/Timber	19,074.2	11.2
Forest/scrub lands	12,569.7	7.4
Buildings/Gardens	11,549.3	6.8
Uncultivated	14,287.8	8.4
Unspecified	13,401.6	7.9
Total	170,395.7	100.0

Samansiri B A D and et al 2011, Agronomic Profile of the Corporate Sector Tea Plantations in Sri Lanka, TRI,

Land Use in the Tea Small holdings Sector

Land Use	Extent (Ha)	Extent (Ha)
Total extent of SH	191,402	
Total Tea extent	132,329	
Mature Tea Extent	110,236	
Mature Seedling		14,265
Mature VP Tea		95,971
Immature VP Tea	8,039	
Rehabilitated area	4,337	
Uprooted for replanting	2,154	
Area under nurseries	253	
Abandoned Tea lands	7,310	

Tea Smallholdings Census: 2005, TSHDA

Key information of the Tea Industry

Item	Unit	2010	2011	2012
Total Production	Mn. kgs	331.4	327.5	326.3
a. High grown	Mn. kgs	79.1	77.4	71.9
b. Medium grown	Mn. kgs	56.1	51.2	50.7
c. Low grown	Mn. kgs	196.2	195.9	200.7
Green Tea	Mn. kgs		2.99	2.94
Extent				
a. High grown	hec.	41,137	41,137	41,137
b. Medium grown	hec.	71,018	71,018	71,018
c. Low grown	hec.	109,814	109,814	109,814
Total	hec.	221,969	221,969	221,969
Ext. in bearing	hec.	181,400	181,400	181,400
Yield	kg/ha	1,478	1,476	1,470
Replanting	hec.	1,683	1,202	
New Planting	hec.	2.5	28	
Prices				
a. Colombo net	Rs./kg	370.61	360.68	391.64
b. Export f.o.b.	Rs./kg	494.68	510.41	563.94
COP	Rs./kg	313.17	350.00	
Total Exports	Mn. kgs	314.60	313.27	
Export earnings	Rs. mn.	155,608	164,869	
	US$ mn	1,376.3	1,496.6	

Tea production of major Tea producing Countries (Million Kgs)

Country	2010	2011
China	1,467.5	1,257.4
India	991.2	805.2
Kenya	399.0	345.8
Sri Lanka	331.4	327.5
Turkey	235.0	198.0

Source: Statistical Bulletin, SLTB

Productivity of Major Tea Producing countries Kg of Made tea /ha/yr)

Country	2010	2011
Kenya	2170	2106
Argentina	2156	2338
Turkey	1961	1921
Japan	1960	1733
India	1985	1690
Sri Lanka	1665	1684
Indonesia	1068	1032
Bangladesh	1087	1088

Source: International Tea Committee, 2012

Average Auction prices of Main tea Auctions (US $)

Auction centers	2010	2011
Kolkata	2.86	2.77
Cochin	1.71	1.73
Chittagong	2.61	2.14
Mombasa	2.54	2.72
Jakarta	1.82	1.94
Colombo	3.28	3.26
Guwahati	2.43	2.33
Malawi	1.58	1.61

Institutes/Organizations under the Ministry of Plantation Industries

Sri Lanka Tea Board
574. Galle Road. Colombo 05
Main Divisions

- Sri Lanka Tea Board Head Office
- Tea Commissioner's Division
- Tea Promotion Division
- Market Intelligence and Resource Division
- Analytical Laboratory
- Tea Tasting Unit

Tea Research Institute of Sri Lanka
St. Coombs Estate, Talawakelle

Main Centre: St Coombs Estate. Talawakelle

Regional Centres

Low Country Regional Centre Ratnapura
Mid Country Regional Centre, Hantana, Kandy
Badulla District Advisory & Extension Centre, Palgahtenne, Passara
Galle District Advisory & Extension Centre, Kottawa, Talgampola
Matara District Advisory & Extension Centre, Ratnapura Road, Deniyaya
Kalutara District Advisory & Extension Centre, Nivitigalakelle, Matugama

Tea Small Holding Development Authority (TSHDA) 70, Parliament Rd, Palawatta, Baththaramulla

Head Office of Tea Small Holding Development Authority

Soil sampling in a tea small holder's tea land

Regional Office	Sub Office			
Galle	Elpitiya	Hiniduma	Wanduramba	Akmeemana
Matara	Akuressa	Kotapola	Pasgoda	
Ratnapura	Balangoda	Kuruwita	Rakwana	Nivithigala
Kandy	Giragama	Hanguranketha	Matale	Wattegama
Gampola	Udu Nuwara	Ginigathena	Kothmale	
Uva	Bandarawela	Hali Ela	Welimada	
Kalutara	Horana	Meegahathenna		
Kegalle	Deraniyagala	Kegalle		

Tea Shakthi Fund
No.5S3A, Madiwela Road, Thalawathugoda

Main Projects
Factory project - Consist of 13 tea factories
Fertilizer project
Local tea sales project
Welfare project

Kalubowitiyana Tea Factory Limited
Head Office, CTC Tea Factory, Kalubowitiyana
Main Centres
Kalubowitiyana Tea Factory Limited, Head Office,Kalubowitiyana
Derangala Tea Factory, Kiriwelkelle, Pitabeddara.

Tea, Rubber & Coconut Estates (Control of Fragmentation) Board 55/75. Vauxhall Street, Colombo 02

The Control of Fragmentation Act no 02 of 1958 was amended by the Control of fragmentation Act no 20 of 2005. Under the provisions of this Act the approval of the Board of the Control of Fragmentation has to be obtained to sub divide or transfer of ownership of Tea and rubber estates which are over 20 hectares, and coconut estates which are over 4 hectares in extent. The board of Directors has the authority to approve the fragmentation of these estates

National Institute of Plantation Management (NIPM) M.D.H. Jayawardena Mw, Athurugiriya.

To provide training to all categories of employees working in the Plantation Sector and provide consultancy services and conduct researches in various aspects of Plantation Management.

Small Holder Plantations Entrepreneurship Development Program, No. 172, 2nd Floor, Elwitigala Mawatha, Colombo 08

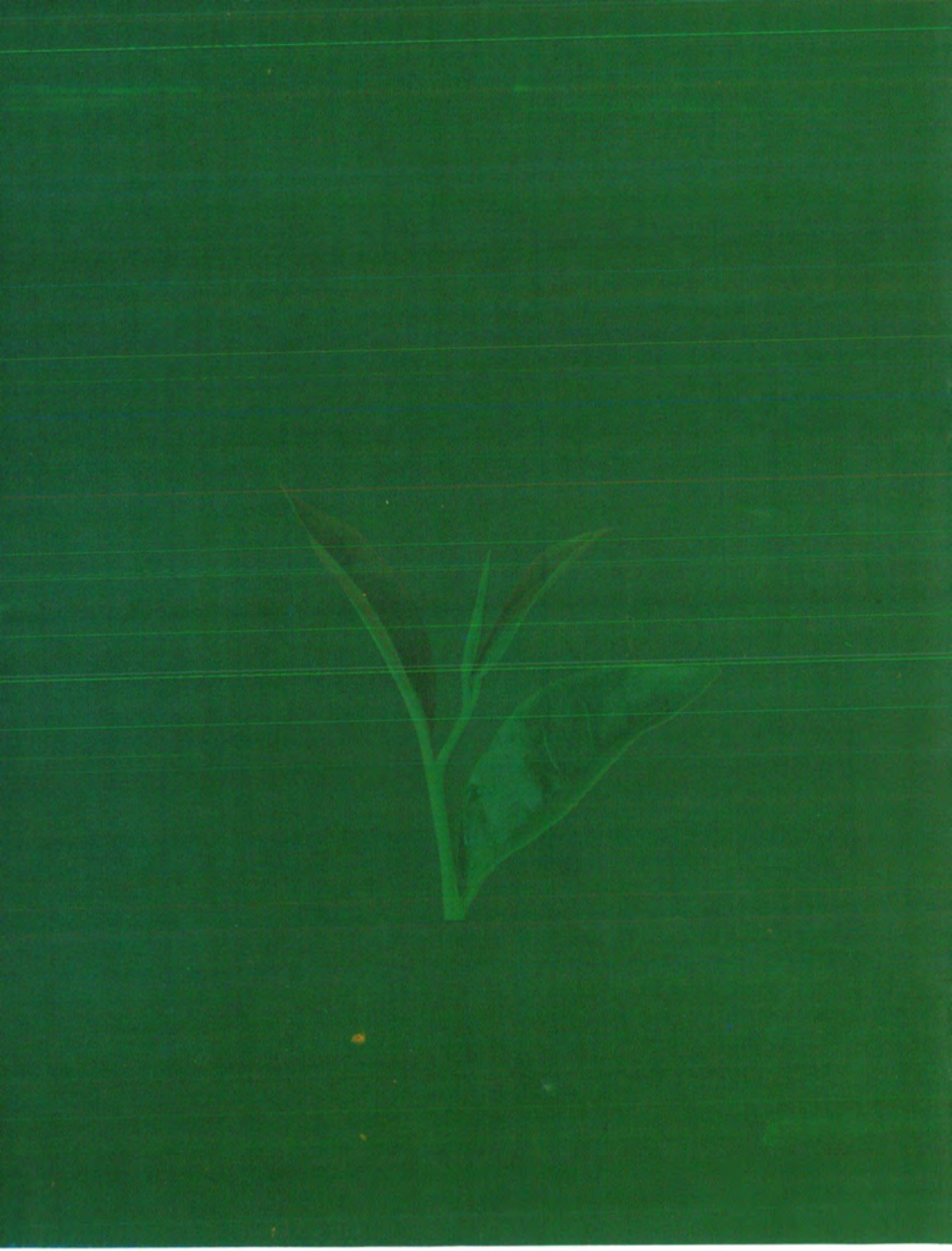
Donor	: IFAD/USAFD
Total Project cost	: USD 40.27 mn.
Date of Commencement	: 06.11.2007
Date of Completion	: December 2014

Plantations Managed by the Ministry of Plantation Industries

Chilaw Plantations
Elkaduwa Plantations
Kurunegala Plantations

Regional Plantation Companies (RPCs)

Agrapatana Plantations	Kotagala Plantations
Agalawatte Plantations	Madulsima Plantations
Balangoda Plantations	Malwatte Valley Plantations
Bogawantalawa Tea Estates	Maskeliya Plantations
Elpitiya Plantations	Maturata Plantations
Hapugastenne Plantations	Namunukula Plantations
Horana Plantations	Pussellwa Plantations
Kahawatte Plantations	Talawakelle Tea Estates
Kegalle Plantations	Udapussellawa Plantations
Kelani Valley Plantations	Watawala Plantations



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