

229th Experiments & Extension Forum

Keynote Address

I Sarath B Abeysinghe
Director, Tea Research Institute



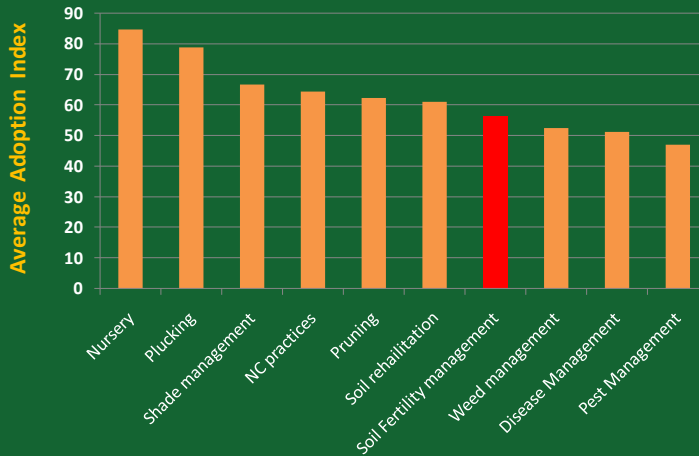
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"Year of Adoption of TRI Recommendations"
2015 - Soil Fertility Management Practices



Diagnostic Survey Results

Adoption Level of Major Cultural Practices



Source: Diagnostic Survey in RPC tea Plantations; 2008/9
Advisory & Extension division, TRI



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Soil Fertility Management

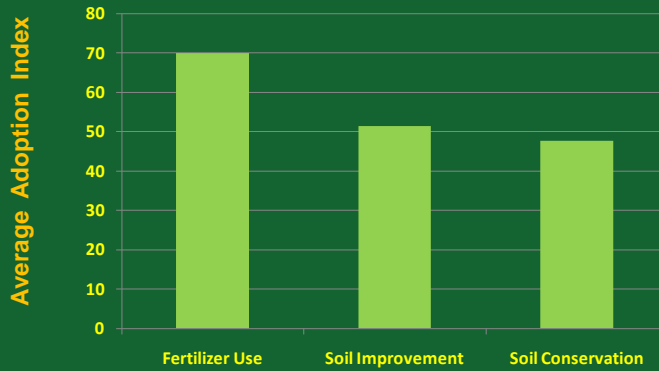
Soil Conservation	Fertilizer Use	Soil Improvement
Condition of Drains	Mature Tea	Green Manure Crops
Condition of Terraces	Foliar Fertilizer Mixtures	Burying of Prunings
SALT	Dolomite Use	
	Compost Use	



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Soil Fertility Management contd;



Source: Diagnostic Survey in RPC tea Plantations; 2008/9
Advisory & Extension division, TRI



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Extension Activities related to the "Year of Adoption of TRI Recommendations"

**Conduct a sample survey in the RPC sector and SH sector
(from mid August 2014)**

- ✓ To identify the current status of the adoption of soil fertility management practices in RPC estates/SH
- ✓ To identify the information and training needs related to soil fertility management
- ✓ Select the best young and mature tea fields where the soil fertility management practices are adopted to the optimum level



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Preparatory work program for "Year of Adoption of TRI Recommendations": 2015 - Soil Fertility Management Practices

- Validate "Soil Quality Index" for land selection /soil rehabilitation
- Produce two video programs in three languages
 - ✓ Soil Conservation and Fertility Management
 - ✓ Green Manure Crops & other Subjects
- Print materials
 - ✓ Monographs on soil Fertility Management
 - ✓ 02 Booklets and 04 leaflets
 - ✓ Newspaper articles
 - ✓ 02 Knowledge base CDs: Soil fertility management and fertilizer use
 - ✓ An Interactive CD
- ✓ 05 Digital posters and 02 Banners for awareness and publicity



Tentative work program for "Year of Adoption of TRI Recommendations": 2015 - Soil Fertility Management Practices

- ✓ Conduct mini Crop Clinics related to soil fertility management practices in RPC level (15-20 programs)
- ✓ Factory-based or TDS-based mini Crop Clinics with TSHDA
- ✓ Awareness/Training programs:
 - Field Supervisory level
 - Management level
 - Selected groups of school children
 - Extension Officers of TSHDA
 - Tea Smallholder society members (with TSHDA)
 - Private Extension Groups





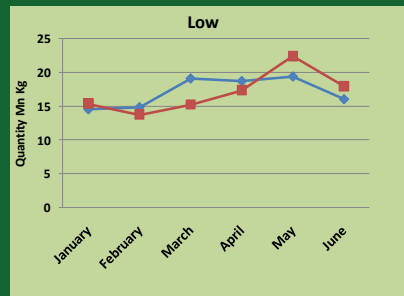
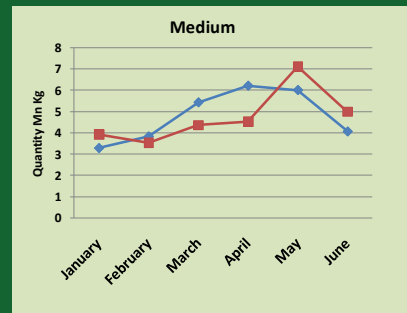
Tea Production in 2012 and 2013 (Mn Kg)

Country	2012	2013	Change	% Change
China	1789.75	1850	60.25	3.37
India	1126.33	1200.04	73.71	6.54
Kenya	369.56	432.453	62.89	17.02
Sri Lanka	328.40	340.229	11.83	3.60
Vietnam	174.03	170.325	-3.70	(2.13)
Turkey	147.00	149	2.00	1.36
Indonesia	137.25	134	-3.25	(2.36)
Argentina	84.00	84.7	0.70	0.83
Japan	85.90	84.7	-1.20	(1.40)
Bangladesh	62.16	63.159	1.00	1.62
Malawi	42.49	46.463	3.97	9.35
Uganda	57.94	58.295	0.36	0.61
Tanzania	32.28	32.123	-0.16	(0.49)
Others	171.23	173.6	2.37	1.38
Total	4608.31	4819.087	210.77	4.57



Sri Lanka Tea Production (January-June)

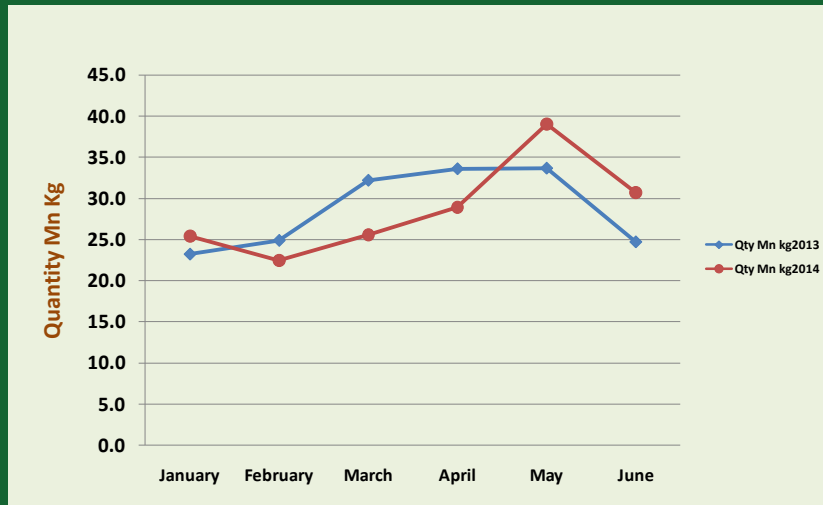
Elevation	2014 Qty (Mn kg)	2013 Qty (Mn kg)	Difference (%)
High	41.5	40.62	2.17
Medium	28.4	28.83	(1.49)
Low	102.1	102.8	(0.68)
Total	172	172.8	(0.46)



— Qty Mn kg2013
— Qty Mn kg2014



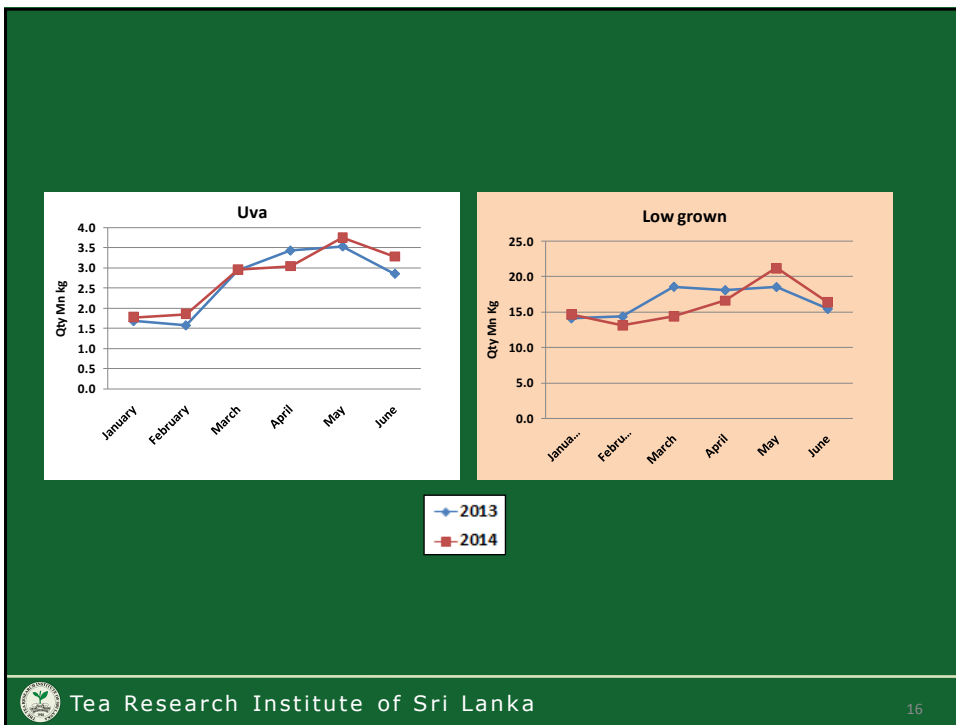
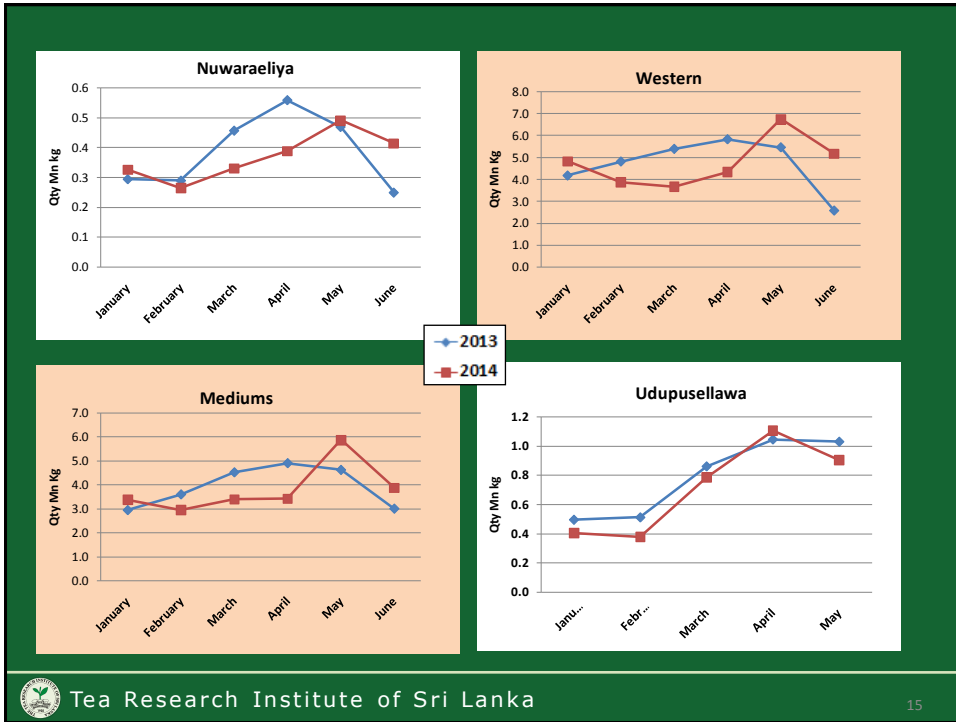
Total Tea Production (Jan - June 2014)



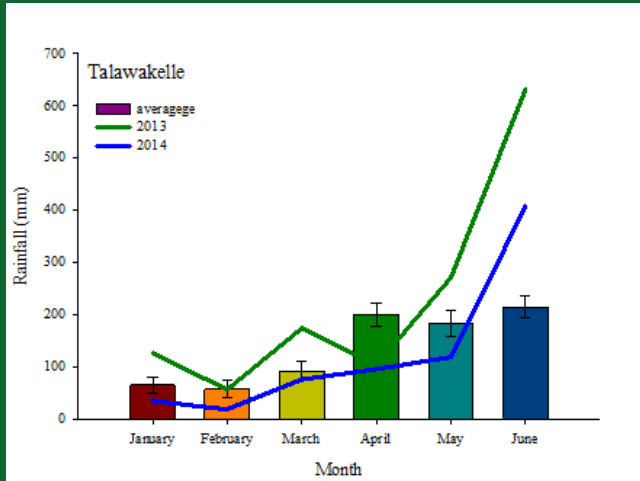
Sri Lanka Tea Production January-June Agro Climatic Regions

	Qty (Mn kg) 2014	Qty (Mn kg) 2013	Change %
Nuwara Eliya	2.22	2.32	(4.39)
Westerns	28.67	28.23	1.57
Mediums	22.97	23.67	(2.97)
Uda Pussallawa	4.43	4.64	(4.58)
Uvas	16.71	16.03	4.22
Low Grown	96.52	99.17	(2.68)





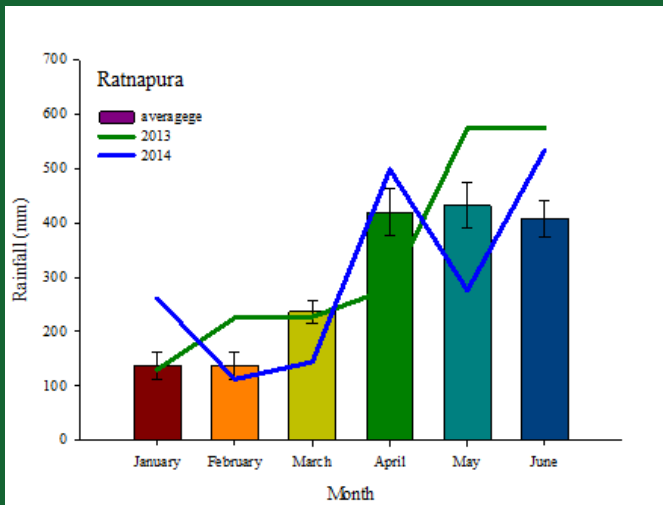
Rainfall (January – June) Talawakelle



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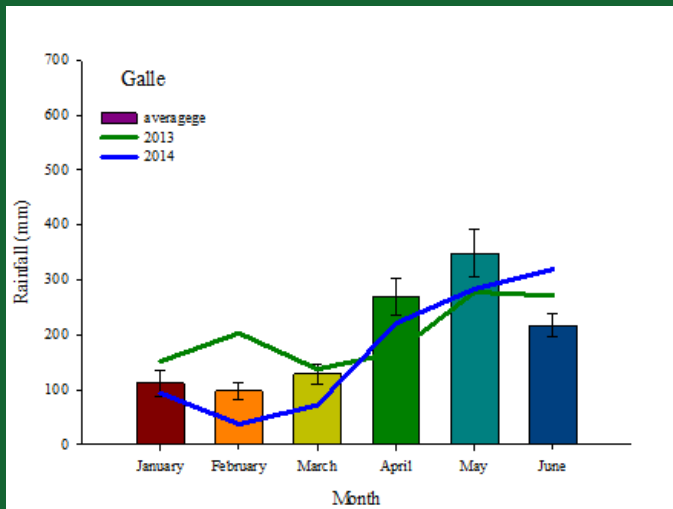
Rainfall (January – June) Ratnapura



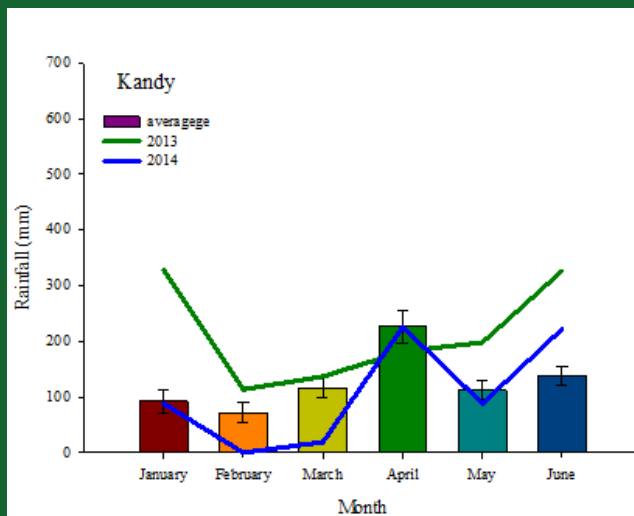
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Rainfall (January – June) Galle



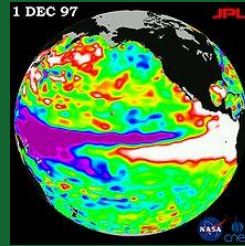
Rainfall (January – June) Kandy



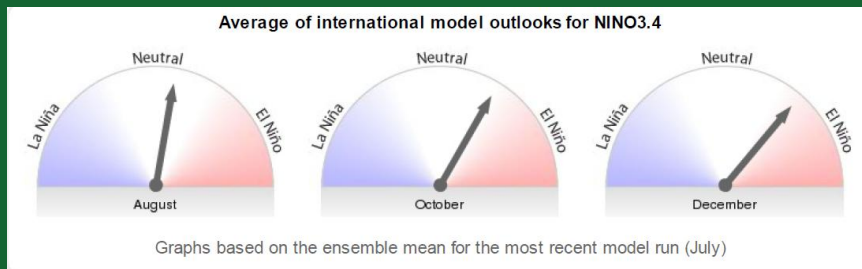
Factors Affecting Rainfall

El Nino condition

El Nino condition is associated with high sea surface temperature of Pacific Ocean.
Usually El Nino condition is related with dry condition, but not always.



Present Prediction of El Nino



Impact on Sri Lanka

Most affected areas -Matale, Badulla, Matara and Galle districts.

Tea estates with low average rainfall for August – January period, need to be cautious.

Young plants and the fields without shade would be most affected.

Also fields with low soil depth, drought susceptible cultivars has to be watched for minimizing the impacts.



Mitigating the Drought

Mulching – To prevent soil moisture loss (nearly 0.5-1mm/day soil evaporation)

Shade Management –
Some estates thin out shade trees to reduce blister infection, during October. To be cautious, If El Nino condition improves

Anti transpirants -
Pottasium sulphate – chemical stomata control
Kaolin – To reflect radiation

Plucking methods -



Update on MRL Issue



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Tea MRLs (ppm)

Chemical	EU	Japan	USA	China	Canada	Australia
Bitertanol	0.10	0.10				
Copper Hydroxide	40	Exempted				
Copper oxide	40	Exempted				
Copper Oxychloride	40	Exempted				
Hexaconazole	0.05	0.05				
Propiconazole	0.10	0.10			4	
Tebuconazole	0.05	50				
2,4-D	0.10	0.01				
Diuron	0.10	1.0				
Glufosinate Ammonium	0.10	0.30		0.5		20(T)
Glyphosate	2	1.0	1.0	1.0		2
MCPA	0.10	-				
Oxyfluorfen	0.05	0.01				
Paraquat	0.05	0.30				0.5(T)
Carbofuran	0.05	0.20				
<i>Chlorfluazuron</i>	0.01	10				
Diazinon	0.02	0.10				
Dazomet	0.02	0.10				
Imidachloprid	0.05	10		0.5		
Fipronil	0.005	0.002				
Metam Sodium	0.02	0.10				
Sulphur	Exempted	Exempted				



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FAO/IGG Working Group on MRL

- Working Group on MRL established in 2005
- Member Countries:
China, India, Sri Lanka, Kenya, Japan, Bangladesh, Argentina
USA, Canada and EU
- In 2005, 24 chemicals were identified for data generation
- In 2012, list was updated and now it includes 62 pesticides
- Objective was to prepare the priority list to remove anomalies and duplication of work
- The data generated to be submitted to CODEX
- ***The intent is to progress submissions through CODEX with a view to achieve global harmonization of MRL for tea***



FAO/IGG Working Group on MRL

Sufficient data available for following compounds:

1. Hexaconazole: 11 trials data available [Scope for submission by Sri Lanka & India]
2. Propiconazole: 11 trials data available [Scope for submission by Sri Lanka & India]
3. Chlorfluazuron: 10 trials data available [Scope for submission by Sri Lanka & Japan]
4. Fipronil : 8 trials data available [Scope for submission by Sri Lanka]
5. Imidacloprid: 12 trials data available [Scope for submission by India, Japan, & Sri Lanka]
6. Aetamiprid: 8 trials data available [Scope for submission by Japan, India & China]
7. Flufenoxuron: 8 trials data [Evaluation 2014]
8. Ethion: 12 trials data [Scope for submission by India]
9. Indoxacarb [8-trial data submitted by China for 2013 JMPR Evaluation]
10. Tolfenpyrad [Registrant/Japan submitted 4-trial data for 2013 JMPR Evaluation
[Scope for submission of 8-trial data by China]

2015 JMPR evaluation schedule ;

Fenazaquin, Pyrifluquinazon, Imidacloprid, Spiromesifen, Lambda-cyhalothrin



FAO/IGG Working Group on MRLs in Tea Brew “Brew Factor”

- Tea leaves is the trade commodity and at present and MRLs are set for tea leaves
- However brew/liquor which is the form consumed
- Therefore residue in tea brew or both in brew and leaves should consider when setting MRLs
- Concept of Brew Factor (BF): Residues in tea brew \div Residues in dry leaves
- At the 44th CCPR in 2012, the committee supported the concept encourage to submit data/information on brewing factors
- At the intersessional meeting (2012) of FAO/IGG decided to prepare a detail methodology and policy document



FAO/IGG Working Group on MRLs in Tea Brew “Brew Factor” contd;

The Approach

- Generation of data on residues in made tea and tea brew
- Determination of Brew Factor
- Risk Assessment based on brew factor (As risk assessment on the basis of solid tea is gross overestimation of risk)
- Propose MRL after risk assessment based on brew factor
- Data submission to regulators for MRL fixation in tea
- This approach will: 1. Ensure Food Safety 2. Realistic MRLs 3. Prevent Elimination of Useful Chemicals



**Computation of MRL for Propiconazole in tea
For an adult of 60g weight - (ADI 0.07mg/kg bw)**

Pesticide	Maximum Residues (HR) ppm	Food Consumption (g)	TMDI Base on HR mg/day	TMDI Base on proposed MRL (5ppm)	ADI mg/kg/day	ADI per person (mg/day)	% of ADI per person based on HR	% of ADI per person based on proposed MRL	Proposed MRL (ppm)
Propiconazole	1.66	10	0.0166	0.05	0.07	4.2	0.40	1.19	5.0
	1.66	10	0.0166	0.05xBF=0.002	0.07	4.2	0.05	0.16	5.0

The MRL of 5ppm for Propiconazole is proposed for dry leaf based on TMDIb which is only 0.16% of ADI per person

Present MRL for Propiconazole is 0.1ppm



Thank you

