

## PREDICTION OF ANNUAL NATIONAL COCONUT PRODUCTION (ANCP) IN 2006

**Predicted yield for 2005 was 2710 million nuts.**

**Predicted yield for 2006 is 2866 million nuts**

**Predicted yield for Jan/Feb, Mar/Apr, May/Jun, Jul/Aug, Sep/Oct and Nov/Dec in 2006 are 474, 624, 526, 364, 462 and 416 million nuts respectively .**

### Methodology in brief

The national coconut production in a given year will be decided by the number of factors such as bearing extent of coconut, age of bearing palms, use of fertilizer and other agronomic practices, pest and disease damage, and distribution of rainfall in the previous year. However, non-availability of all those statistics on annual basis other than rainfall makes difficult in forecasting ANCP using exploratory variables. The prediction of the breakdown of annual yield on bi-monthly scale has been more difficult. Assuming that the above factors can be grouped into two main factors namely climate and technology, a model had been developed by the CRI to predict ANCP. The rainfall during quarterly seasonal periods (Jan-Mar, Apr-Jun, Jul-Sep & Oct-Dec) in seven principal coconut growing agro-ecological regions was taken for climate effect. Technology effect was computed assuming that the technology effect improves slowly with time in response to price fluctuation based on the availability of new technologies.

Using the model the predicted value for 2006 is 2866 million nuts.

### Observed yield (nuts/palm/year) pattern in different district

In order to predict pattern of ANCP on bi-monthly intervals (Jan/Feb to Nov/Dec) a crop cutting survey was initiated by the Biometry Division of the CRISL during 2005 in **collaborating with the Coconut Development Officers (CDOO)** of the Coconut Cultivation Board.

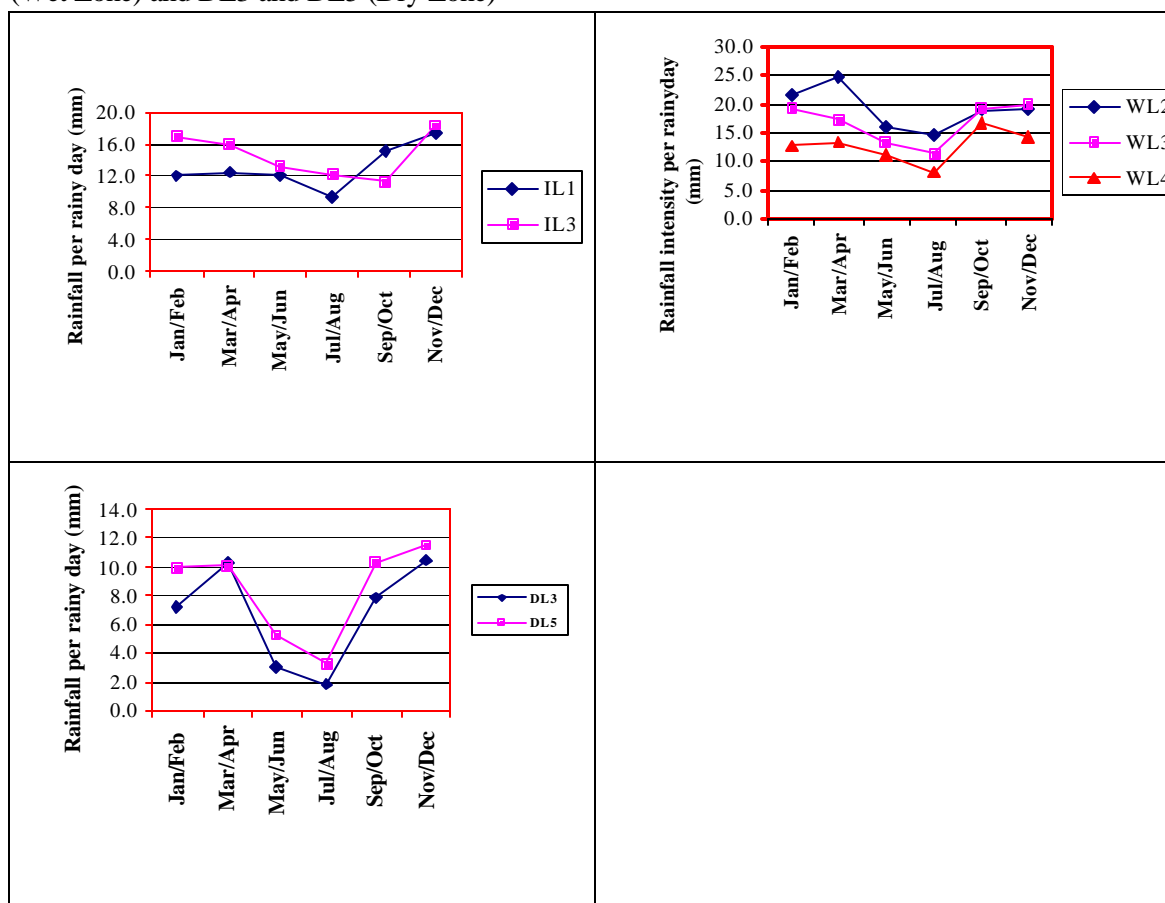
#### **Observed yield variability in 2005 by district x pick**

District	Yield per palm per pick						Yield per palm per year
	Jan /Feb	Mar/ Apr	May /Jun	Jul/ Aug	Sep /Oct	Nov /Dec	
Puttalam	7.1	9.2	12.0	12.1	9.5	9.1	<b>59.1</b>
Gampaha	4.1	7.1	10.8	10.3	6.6	4.9	<b>43.7</b>
Kurunegela	3.2	5.7	7.3	7.2	6.2	6.0	<b>35.6</b>
Hambantota	7.1	7.8	8.1	7.2	7.1	6.8	<b>44.0</b>
Galle	7.2	9.2	10.5	9.4	7.2	7.1*	<b>50.6</b>
Kalutara	6.7	8.7	10.9	11.3	9.2	7.6*	<b>54.5</b>
Kegalle	5.5	9.6	12.5	11.8	8.8	7.8*	<b>55.9</b>
Matara	6.6	7.4	9.0	8.7	6.3	6.2*	<b>44.1</b>
Ratnapura	7.6	8.2	10.6	9.5	9.7	7.4*	<b>53.1</b>
Mean	<b>6.1</b>	<b>8.1</b>	<b>10.2</b>	<b>9.7</b>	<b>7.8</b>	<b>7.0</b>	<b>48.9</b>

\* estimated as yield data was not yet received

## Rainfall Intensity

Observed rainfall intensity (amount of rainfall/rainy day) on bi-monthly basis based on 2004 and 2005 in the seven agro-ecological regions: IL1 and IL3 (Intermediate zone), WL2, WL3 and WL4 (Wet Zone) and DL3 and DL5 (Dry Zone)



## Predicted values for bi-monthly intervals

Using the rainfall intensity in the above seven region and the bi-monthly yield variability during 2004 and 2005 a composite index was identified to predict the national yield on bi-monthly basis. Based on the index the predicted yield during January & February, March/April, May/June, July/August, September/October and November/December are 474, 624, 526, 364, 462 and 416 million nuts respectively.

## Future work

It is expected to provide such forecast by district wise so that it would be more useful for different stake holders and also more than one year ahead. In order to achieve this, more cooperation from the coconut growers in providing their past yield data on bi-monthly basis is required. A book has been designed to the growers to record the yield and if the growers are willing to provide their past yield data please contact the respective CDO or Dr. T S G Peiris, CRI

Note: Your comments on yield forecasting are welcomed. (Email: [head\\_biometry@cri.lk](mailto:head_biometry@cri.lk)).

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