

MAURITIUS SUGAR INDUSTRY RESEARCH INSTITUTE

Ref A 1/2011

6 June 2011

SUGAR CANE CROP 2011

Status: End May 2011

1. CLIMATE

1.1 Rainfall (Tables 1a and 1b, Figure 1)

The island's average rainfall of 120 mm over the sugar cane areas for the month of May 2011 represented 72% of the long-term mean (168 mm) for that month. Below normal rainfall was recorded in sectors North, East, South and Centre with 88 mm, 164 mm, 116 mm and 114 mm, which represented 82%, 91%, 55% and 54% of the long-term mean respectively. In the West, the 91 mm of rain recorded was above the long-term mean for May by 63%.

Rainfall for the period October 2010 to May 2011 cumulated to 1427 mm for the island. This amount was 11% below the island long-term mean of 1600 mm for that period. For that same period, 1066 mm were recorded in the North, 1942 mm in the East, 1408 mm in the South, 781 mm in the West and 1455 mm in the Centre. These amounts represented 98%, 119%, 73%, 96%, and 68% of their respective long-term mean.

Table 1a. Rainfall (mm) of May for crops 2010, 2011 and the long term mean (LTM)

	North	East	South	West	Centre	Island
2010	79 (74)	206 (114)	139 (66)	19 (34)	155 (74)	135 (80)
2011	88 (82)	164 (91)	116 (55)	91 (163)	114 (54)	120 (72)
LTM	107	180	212	56	210	168

* Figures in brackets are % of LTM

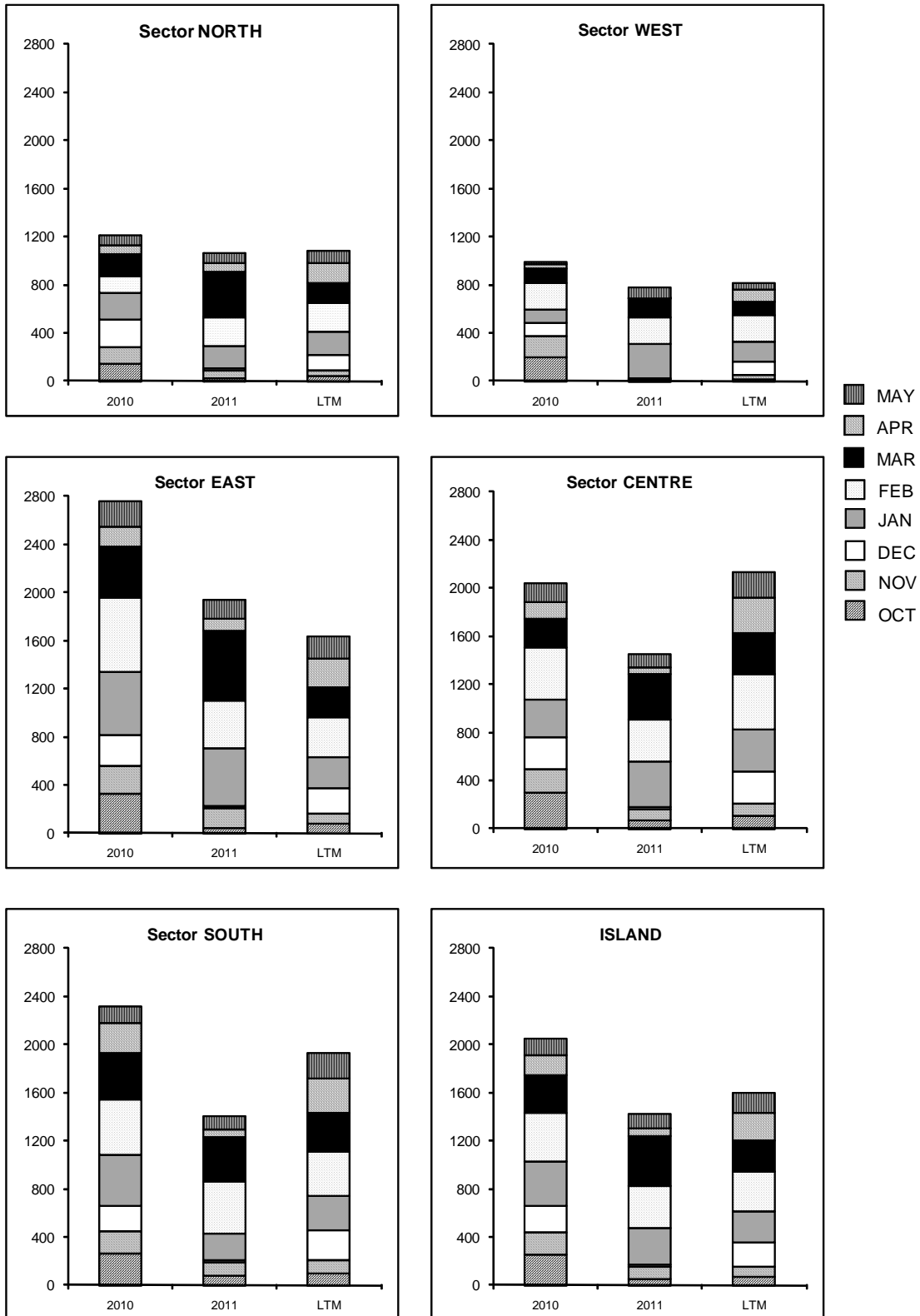
Table 1b. Cumulative rainfall (mm) from October 2010 to May 2011 for crop 2011 compared to that of crop 2010 and the long term mean (LTM)

	North	East	South	West	Centre	Island
2010	1209 (111)	2757 (169)	2315 (120)	994 (122)	2021 (95)	2045 (128)
2011	1066 (98)	1942 (119)	1408 (73)	781 (96)	1455 (68)	1427 (89)
LTM	1083	1633	1928	814	2128	1600

* Figures in brackets are % of LTM

[Source: raw provisional data from Meteorological Services]

Figure 1. Monthly rainfall (mm) for the period Oct 2010 to May 2011 for the 2011 crop compared to the corresponding period of the 2010 crop and to the long term mean (LTM)



1.2 Temperature (Table 2)

Data on maximum and minimum temperatures recorded during the month of May 2011 on MSIRI agro-meteorological stations are given below.

The mean monthly maximum temperature exceeded the normal at all stations, the difference ranging from 1.0 °C at Pamplémousses to 2.2 °C at Union Park. Above normal mean monthly minimum temperature was also recorded at Union Park (+0.6 °C) and Belle Rive (+0.7 °C) whereas it was below the normal by 0.4 °C at both Réduit and Pamplémousses. The resulting mean amplitude was above normal at all four stations.

Table 2. Maximum and minimum air temperatures recorded on MSIRI agro-meteorological stations in May 2011

Station	Maximum (°C)	Minimum (°C)	Amplitude (°C)
Pamplémousses	29.1 (28.1) *	18.4 (18.8)	10.7 (9.3)
Réduit	26.7 (25.1)	17.6 (18.0)	9.1 (7.1)
Belle Rive	26.2 (24.8)	17.3 (16.6)	8.9 (8.2)
Union Park	26.5 (24.3)	18.5 (17.9)	8.0 (6.4)

* figures in brackets are the Normal (1981-2010)

1.3 Sunshine (Table 3)

Data from the MSIRI agro-meteorological stations showed that sunshine hours during May 2011 were above normal at all stations. Recorded bright sunshine as a percentage of the normal amounted to 105 at Pamplémousses, 103 at Réduit, 112 at Belle Rive and 123 at Union Park.

Table 3 Sunshine duration (hrs) recorded on MSIRI agro-meteorological stations in May 2011

Station	May 2011	Normal	% of Normal
Pamplémousses	250	238	105
Réduit	223	217	103
Belle Rive	229	204	112
Union Park	200	162	123

2. STALK HEIGHT

Measurements of stalk height had been carried out during the last week of May 2011 at 60 sites in the five sugar cane growing sectors of the island. These sites are representative of the various agro-climatic zones, varieties, and crop categories. Data collected were compared to those at the corresponding period in May 2010 and with the mean of the five best cane yielding crops of the last ten years in each sector (referred to as normal).

2.1 Stalk elongation (Table 4a)

Stalk elongation during the month of May was 24.7 cm in the North, 23.5 cm in the East, 15.6 cm in the South, 23.5 cm in the West and 8.1 cm in the Centre. Stalk elongation during the month of May 2011 was higher than for the corresponding month in 2010 in all sectors, the advantage being 8.2 cm in the North, 6.5 cm in the East, 3.4 cm in the South, 9.4 cm in the West and 0.3 cm in the Centre. Compared to the normal for the same period, elongation was higher by 9.0 cm in the North, 8.5 cm in the East, 0.9 cm in the South and 6.4 cm in the West. It lagged behind the normal in the Centre by 2.6 cm. The island average elongation of 19.7 cm was higher than that of May 2010 (14.2 cm) by 38.9% and the normal (14.9 cm) by 32.3%.

Table 4a. Stalk elongation during the month of May

Sectors	Stalk elongation (cm) during May			May 2011 as % of	
	2011	2010	Normal	2010	Normal
North	24.7	16.5	15.7	149.7	156.9
East	23.5	17.0	15.0	138.2	156.5
South	15.6	12.2	14.7	127.9	106.3
West	23.5	14.1	17.1	166.7	137.7
Centre	8.1	7.8	10.7	103.8	75.7
Island	19.7	14.2	14.9	138.9	132.3

2.2 Cumulative Elongation (Table 4b)

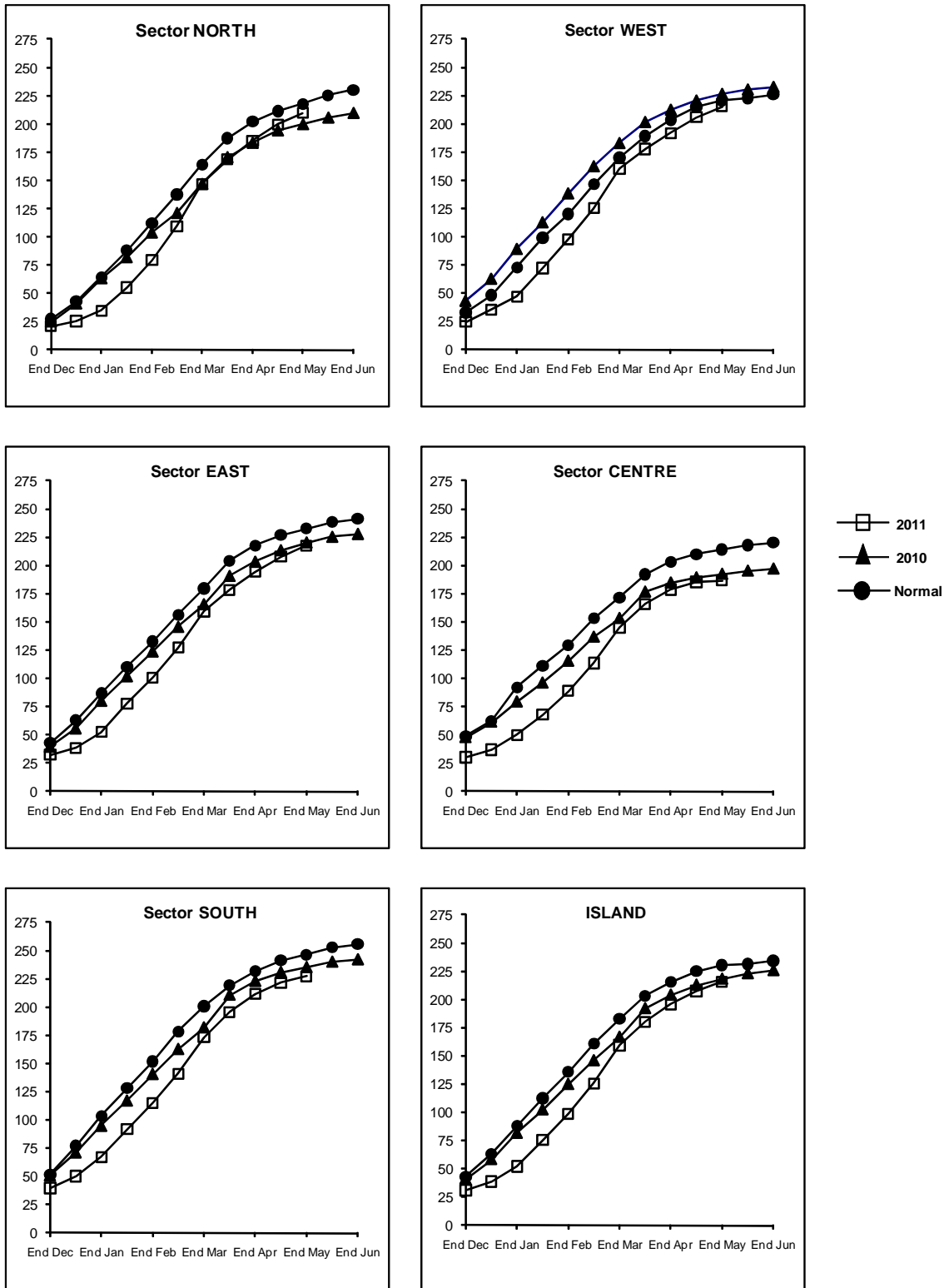
Cumulative growth from end-December 2010 to end-May 2011 was above that of the corresponding period for the 2010 crop in all sectors. Growth for that period stood at 188.8 cm in the North, 185.2 cm in the East, 187.3 cm in the South, 190.5 cm in the West and 156.7 cm in the Centre. However, these figures were below their respective normal by 1.5 cm in the North, 4.5 cm in the East, 7.0 cm in the South and 8.3 cm in the Centre. In the West, cumulative growth exceeded the normal by 2.8 cm.

Island-wise the cumulative elongation of 184.4 cm exceeded that of the 2010 crop (177.0 cm) by 4.2% but lagged behind the normal (187.0 cm) by 1.4%.

Table 4b. Cumulative elongation at end-May

Sectors	Cumulative elongation (cm) at end- May			May 2011 as % of	
	2011	2010	Normal	2010	Normal
North	188.8	175.0	190.3	107.9	99.2
East	185.2	180.7	189.7	102.5	97.6
South	187.3	183.7	194.3	102.0	96.4
West	190.5	183.5	187.7	103.8	101.5
Centre	156.7	144.9	165.0	108.1	95.0
Island	184.4	177.0	187.0	104.2	98.6

Figure 2. Stalk height at end-May 2011



2.3 Total cane height (Table 4c and Figure 2)

Total stalk height at end-May 2011 stood at 209.8 cm in the North, 217.7 cm in the East, 227.2 cm in the South, 215.3 cm in the West and 186.8 cm in the Centre. Compared to end-May 2010, cane height was taller by 10.1 cm in the North but shorter in the other sectors, the difference being 2.6 cm in the East, 7.8 cm in the South, 11.4 cm in the West and 5.7 cm in the Centre. Total cane height at the end of May 2011 was also lagging behind the normal in all sectors, the difference being 7.8 cm (3.6 %) in the North, 15.1 cm (6.5%) in the East, 19.1 cm (7.8%) in the South, 5.3 cm (2.4%) in the West and 27.3 cm (12.8%) in the Centre.

Island-wide the total cane height of 215.6 cm at end-May 2011 was lagging behind that of end-May 2010 by 2.4 cm (1.1%) and the normal by 14.7 cm (6.4%).

Table 4c. Stalk height at end-May

Sectors	Stalk height (cm) at end-May			End-May 2011 as % of	
	2011	2010	Normal	2010	Normal
North	209.8	199.7	217.6	105.1	96.4
East	217.7	220.3	232.8	98.8	93.5
South	227.2	235.0	246.3	96.7	92.2
West	215.3	226.7	220.6	95.0	97.6
Centre	186.8	192.5	214.1	97.0	87.2
Island	215.6	218.0	230.3	98.9	93.6

3. SUCROSE ACCUMULATION (Tables 5a and 5b)

Cane samples from miller-planters' land in all factory areas and covering the main cultivated varieties were analyzed for sucrose content at end May 2011. The average pol % cane (*richesse*) was calculated on the basis of area under cultivation of each variety in the different factory areas of each sector. The results are compared with those of the last two years.

Table 5a Average Pol % Cane (richesse) at end May 2011.

Sectors	M 52/78	M 703/89	R 573	M 695/69	R 575	M 387/85	M 1246/84	M 2256/88	M 2593/92	M 1400/86	M 1176/77	M 1861/89	R 579	M 1394/86	M 3035/66	M 1672/90	R 570
North			11.8	7.6			5.8	9.9	8.4	6.3	8.7		7.8			7.1	6.1
East	13.1	12.0	11.1	10.3	13.2	10.0	7.0	9.7	7.6	8.7	8.4		8.1		10.2		8.2
South	11.7	12.6	10.8	10.7	9.8	11.7			10.1	8.0	9.2	9.1	8.5	8.9		5.5	6.2
West			10.7		10.3				7.2	7.7	9.1		10.4				7.8
Centre	12.9	11.4	10.3	9.8		9.3				8.6	8.0		9.9		8.3		7.9

As expected, the cane analysis data indicate higher sucrose contents in the early maturing varieties M 52/78, M 703/89 and R 573 than in the mid-season ones like M 1176/77 and M 1400/86, and in the late season R 570. However, sucrose content is still below the maximum

possible in all varieties, indicating the potential for significant increases till the end of the crop season if favourable weather conditions are met.

The *richesse* in the end-May samples was 7.6% in the North, 9.2% in both the East and West, 9.3% in the South and 10.2% in the Centre. Compared to the corresponding period in 2010, sucrose content at end-May 2011 was lower in all sectors, the gap being 2.4° in the North, 1.4° in the East, 1.5° in the South, 1.7° in the West and 0.9° in the Centre. Sucrose content at the end of May for the present crop was also lagging behind that of 2009 in all sectors except in the South where it was similar.

Table 5b Comparison of Pol % Cane (*richesse*) of April and May 2009, 2010 and 2011.

Sectors	APRIL			MAY		
	2009	2010	2011	2009	2010	2011
North	5.6	7.9	5.3	8.7	10.0	7.6
East	7.2	8.5	7.0	10.3	10.6	9.2
South	6.4	8.2	6.9	9.3	10.8	9.3
West	6.3	8.7	6.1	9.6	10.9	9.2
Centre	7.7	8.8	6.9	10.6	11.1	10.2
Island	6.6	8.3	6.5	9.6	10.6	9.0

From end-April 2011 up to end-May 2011, *richesse* improved in all sectors. The highest increment of 3.3° was observed in the Centre followed by 3.1° in the West, 2.4° in the South, 2.3° in the North and 2.2° in the East. For the corresponding period last year, the increments recorded were 2.1° in the North and East sectors, 2.6° in the South, 2.2° in the West and 2.3° in the Centre. On average for the island, the increase in *richesse* was 2.5° in 2011 compared to 2.3° in 2010 for the same period.

Island-wise, the *richesse* of 9.0% recorded at the end of May 2011 is inferior to that at the corresponding period in 2010 and 2009 by 1.6° and 0.6°, respectively.

4. CROP 2011

Despite being below normal in most sectors, rainfall has not been a limiting factor to growth in May. Temperature and solar radiation regimes have also been favourable to growth such that recorded elongation rates during May 2011 exceeded those of May 2010 in all sectors. The same can be said when the comparison is made with the normal except for the Centre sector. However due to the setback in growth cumulated up to December 2010, total stalk height is still lagging behind that of 2010 by 2.4 cm (1.1%) and that of the normal by 14.7 cm (6.4%).

The combined effect of this delay in growth and of the weather being more favourable to growth rather than to ripening during the month of May have resulted in the sucrose content being lower when compared to that of the same period in 2010 and 2009. The potential for rapid sucrose increases however exist in case favourable weather conditions are experienced till the end of the crop season.

The growth and sucrose accumulation data at end-May 2011 thus indicate that the present crop is lagging behind that of last year in both cane productivity and particularly in *richesse*.