

MAURITIUS CANE INDUSTRY AUTHORITY

MAURITIUS SUGARCANE INDUSTRY RESEARCH INSTITUTE

Ref A 1/2023

17 July 2023

SUGAR CANE CROP 2023

Status: June 2023

1. CLIMATE

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

The island's average rainfall of 92 mm for the month of June 2023 represented 72% of the long-term mean (LTM). Sector-wise, rainfall for the month of June was below the long-term mean in all sectors with 49 mm in the North, 82 mm in the East, 148 mm in the South, 16 mm in the west and 103 mm in the Centre.

Cumulative rainfall from October 2022 to June 2023 was at 1667 mm for the island, i.e. 93% of the LTM. During that period, 900 mm were recorded in the North, 2017 mm in the East, 1868 mm in the South, 1154 mm in the West and 2285 mm in the Centre. These figures were lower than their respective LTM in the North, East and South sectors but higher than the LTM in the other two sectors.

Table 1a. Rainfall (mm) for the month of June for crop 2022, 2023 and the long term mean (LTM)

	North	East	South	West	Centre	Island
2022	60 (90)	192 (119)	207 (130)	16 (59)	196 (114)	153 (118)
2023	49 (73)	82 (51)	148 (93)	16 (59)	103 (60)	92 (72)
LTM	67	161	159	27	172	129

figures in brackets are % of LTM (1991-2020)

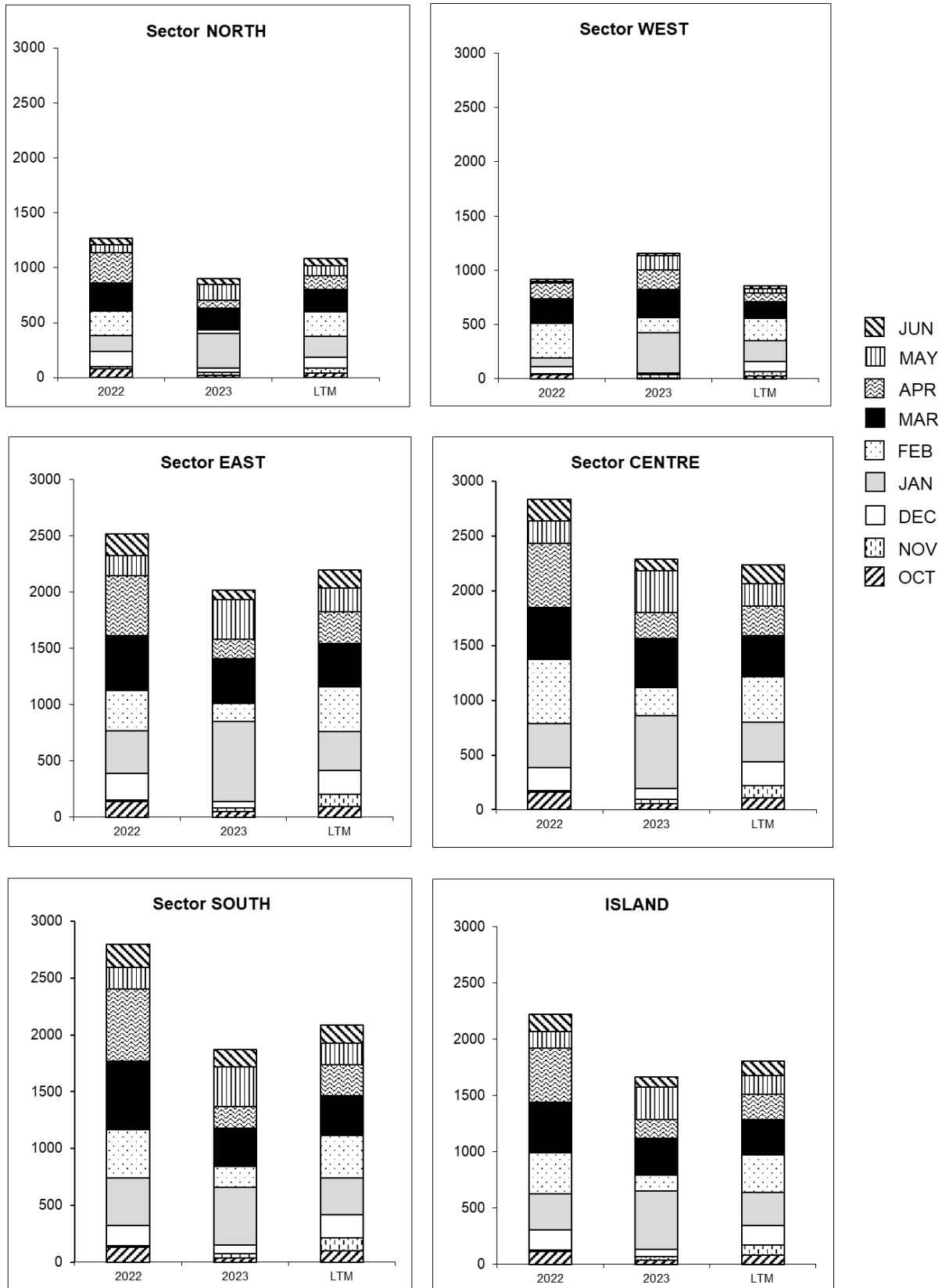
Table 1b. Cumulative rainfall (mm) from October 2022 to June 2023 for crop 2023 compared to that of crop 2022 and the LTM

	North	East	South	West	Centre	Island
2022	1271 (117)	2514 (115)	2798 (134)	913 (107)	2833 (127)	2220 (123)
2023	900 (83)	2017 (92)	1868 (89)	1154 (135)	2285 (102)	1667 (93)
LTM	1087	2195	2089	857	2238	1801

figures in brackets are % of LTM

[Source: Mauritius Meteorological Services]

Figure 1. Monthly rainfall (mm) for the period October 2022 to June 2023 for the 2023 crop compared to the corresponding period of the 2022 crop and to the long term mean (LTM).



1.2 Air Temperature (Table 2)

Air temperature recorded during the month of June 2023 on the four MSIRI agro-meteorological stations are given in Table 2.

Table 2. Air temperature recorded on MSIRI agro-meteorological stations in June 2023

Stations	Maximum (°C)		Minimum (°C)		Amplitude (°C)	
	June 2023	+ / -	June 2023	+ / -	June 2023	+ / -
Ferret	27.0	+0.7	17.9	+0.7	9.1	0.0
Réduit	24.6	+1.1	16.6	+0.5	8.0	+0.6
Union Park	24.2	+1.3	17.6	+1.0	6.6	+0.3
Belle Rive	24.2	+1.0	16.0	+0.7	8.2	+0.3

+ / - Deviation from the Normal (1991-2020)

The mean maximum temperature exceeded the normal at all stations, the difference ranging from 0.7°C at Ferret to 1.3°C at Union Park. all stations. Moreover, the mean minimum temperature was above the normal at all stations. The resulting mean temperature amplitude was equal to the normal at Ferret and above the normal at the other three stations.

1.3 Sunshine (Table 3)

Data from the MSIRI agro-meteorological stations showed that sunshine hours during the month of June 2023 were below normal at all stations except at Union Park. Recorded bright sunshine compared to the normal was 96% at Ferret, 93% at Réduit, 120% at Union Park and 78% at Belle Rive.

Table 3. Sunshine duration (h) recorded on MSIRI agro-meteorological stations in June 2023.

Station	June 2023	Normal	% of Normal
Ferret	209	224	96
Réduit	204	212	93
Union Park	170	142	120
Belle Rive	146	186	78

2. STALK HEIGHT (*Table 4a, 4b and Figure 2*)

During the last week of June 2023, stalk height was assessed at the 55 sites earmarked in the five sugar cane growing areas of the island. These selected sites are representative of the various agro-climatic zones, varieties and crop categories. Data collected were compared with those of the corresponding period in June 2022 and to the normal, referred to as the mean of the five best cane yielding crops during the period 2013 to 2022.

2.1 *Stalk elongation (Table 4a)*

Stalk elongation during the month of June 2023 was superior to that of the same period in 2022 in all sectors.

Table 4a. Stalk elongation during the month of June 2023

Sectors	Stalk elongation (cm)			June 2023 as % of	
	June 2023	June 2022	Normal	2022	Normal
North	13.6	9.3	9.0	146.2	150.8
East	11.4	6.1	5.1	186.9	223.5
South	11.0	7.6	9.8	144.7	112.7
West	9.0	6.2	8.8	145.2	101.8
Centre	6.7	4.7	2.5	142.6	268.0
Island	11.2	6.6	7.3	169.7	152.7

During the month of June 2023, the North sector recorded the highest stalk growth of 13.6 cm followed by the East (11.4 cm), the South (11.0 cm), the West (9.0 cm) and the Centre (6.7 cm). These figures exceeded the normal by 4.6 cm in the North, 6.3 cm in the East, 1.2 cm in the South, 0.2 cm in the West and 4.2 cm in the Centre. The island stalk elongation of 11.2 cm in June 2023 exceeded those of June 2022 and the normal by 5.4 cm and 3.9 cm, respectively.

2.2 *Cumulative Elongation (Table 4b)*

Cumulative stalk growth from end-December 2022 to end-June 2023 reached 183.1 cm in the North, 205.1 cm in the East, 218.2 cm in the South, 185.5 cm in the West and 156.4 cm in the Centre. Compared to the same period last year, these cumulative growths were higher in all sectors. For the same period, cumulative growth was higher than the normal in the East by 16.9 cm, the South by 25.1 cm and 5.4 cm in the Centre. It lagged behind the normal in the North by 15.1 cm and the West by 5.0 cm. Island-wise the cumulative elongation of 198.0 cm in June 2023 was higher than that of the 2022 crop by 21.7 cm and the normal by 9.3 cm.

Table 4b. Cumulative elongation at end-June 2023.

Sectors	Cumulative elongation (cm) at end- June			End-June 2023 as % of	
	2023	2022	Normal	2022	Normal
North	183.1	176.0	198.2	104.0	92.4
East	205.1	185.5	188.2	110.6	109.0
South	218.2	185.1	193.1	117.9	113.0
West	185.5	165.7	190.5	111.9	97.4
Centre	156.4	128.4	151.0	121.8	103.6
Island	198.0	176.3	188.7	112.3	104.9

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

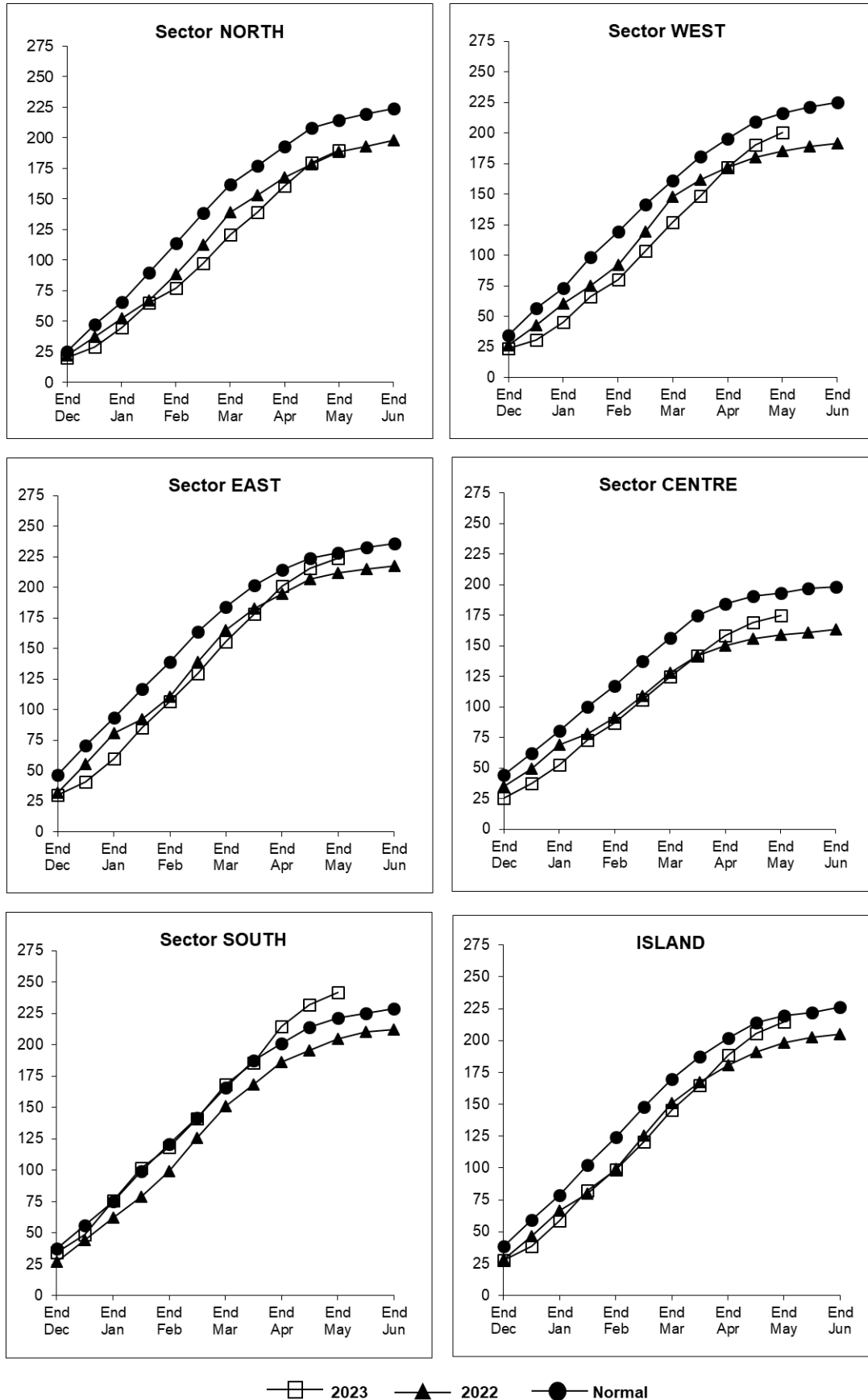
Total stalk height recorded at end-June 2023 was 203.5 cm in the North, 234.9 cm in the East, 252.6 cm in the South, 209.5 cm in the West and 181.6 cm in the Centre giving an island average of 225.9 cm. When compared to corresponding period of last year, stalk height to-date was higher in all sectors. Total stalk height at end-June 2023 was comparable to the normal in the East but higher than the normal in the South by 21.7 cm. In the other sectors it lagged behind the normal, the difference ranging from 13.9 cm in the Centre to 20.2 cm in the North.

At island level, the total stalk height at end of June 2023 exceeded that of last year by 20.6 cm (10.1 %) but was slightly below the normal by 1.3 cm.

Table 4c. Total stalk height at end-June 2023

Sectors	Stalk height (cm) at end-June			End-June 2023 as % of	
	2023	2022	Normal	2022	Normal
North	203.5	197.9	223.7	102.8	91.0
East	234.9	217.6	233.5	108.0	100.6
South	252.6	212.4	230.9	118.9	109.4
West	209.5	191.7	225.1	109.3	93.1
Centre	181.6	163.5	195.5	111.1	92.9
Island	225.9	205.3	227.2	110.1	99.4

Figure 2. Stalk height at end-June 2023



3.0 SUCROSE ACCUMULATION (Tables 5a and 5b)

Cane samples from miller-planters' land in all factory areas and covering the main cultivated varieties were analysed for sucrose content during the last week of June 2023. 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 were compared with those of the past two years.

Table 5a. Average Pol % cane (richesse) at end-June 2023.

Variety	North	East	South	West	Centre
M 52/78			12.2		12.1
R573	11.1	11.5	10.7	10.6	10.9
M 2256/88	11.6	12.0			
R575			11.2	11.9	
M 387/85			11.2		10.5
M 1989/99	9.1		7.5		
M 2283/98			10.0		
M 1176/77	9.3	9.6	10.5	10.7	10.4
M 1861/89			10.5		
M 2593/92	9.7	9.7	8.8	10.1	
M 1400/86	8.2	9.2		7.7	9.2
M 2502/99		10.0			
R579	8.6	9.2	9.4	10.3	9.9
M 1672/90	8.8		9.5		
R570	8.3	9.2	10.0	6.1	
M 915/05	9.0			9.8	9.5
M 683/99	6.0			7.8	
M 216/02	9.4		11.3		
M 1392/00		10.8	12.0		
M 1002/02	7.8				
M 3779/06			9.9		

Table 5b. Comparison of Pol % cane (richesse) at the end of May and June 2021, 2022 and 2023.

Sectors	May			June		
	2021	2022	2023	2021	2022	2023
North	6.3	7.1	6.9	9.9	10.0	8.7
East	8.5	8.4	8.9	10.3	10.6	9.9
South	8.5	8.1	8.9	10.4	10.3	10.1
West	6.9	9.0	7.0	10.0	10.9	9.3
Centre	9.2	8.6	8.8	9.8	9.8	10.1
Island	7.9	8.1	8.2	10.2	10.4	9.6

At the end of June 2023, the *richesse* was 8.7% in the North, 9.9% in the East, 10.1% in the South, 9.3% in the West and 10.1% in the Centre. Compared to the corresponding period in 2022, sucrose content at end-June 2023 was higher in the Centre by 0.3° but lagged behind by 1.3° in the North, 0.7° in the East, 0.2° in the South and 1.6° in the West. Sucrose content at the end of June 2023 was lower than that of the corresponding period in 2021 in all sectors except in the Centre.

During the month of June 2023, sucrose content has improved in all sectors. The increment ranged from 1.0° in the East to 2.3° in the West. On average for the island, the increase in *richesse* was 1.4° in 2023 and was lower than the increment of 2.3° recorded for the corresponding period in both 2021 and 2022.

Island-wise, the *richesse* of 9.6% obtained at end of June 2023 was lower than that in 2022 (10.4%) and 2021 (10.2%).

4.0 CROP 2023

Climatic conditions that prevailed during the month of June 2023 were characterised by below normal rainfall in all sectors of the island. The monthly mean maximum and minimum temperature recorded at four MSIRI stations exceeded the normal at all stations with the magnitude of increment higher for maximum temperature compared to minimum temperature. This resulted in an above normal temperature amplitude. The sky during the month of June 2023 was cloudy as indicated by the below normal sunshine duration recorded at all stations except at Union Park. Overall, the crop favoured cane growth at the expense of sucrose accumulation. This is reflected in the stalk elongation recorded at island level at the end of June 2023 which was 152% of the normal and total stalk height was close to the normal. However, the sucrose content recorded over the island at the end of June 2023 was lower than that of the past two years. This situation could change provided favourable climatic conditions prevail in terms of dry hot day coupled with cold night temperatures in the coming months with improvement in sucrose accumulation and sugar productivity for the 2023 crop. Based on the excellent cane elongation observed during the last three months, and the potential for the sucrose content to catch up as well, the 2023 crop should be better than that of 2022.