



MAURITIUS SUGAR INDUSTRY RESEARCH INSTITUTE

Recommendation Sheet No. 7
(February, 1981)

FERTILIZER RECOMMENDATIONS

1. Plant Cane

Before planting

The amounts of phosphorus and potassium to be applied depend on the results of soil analysis.

Phosphorus

Fertilizer	Soil P optimum		Soil P deficient	
	kg/ha	kg/arp	kg/ha	kg/arp
<u>EITHER</u>				
Insoluble phosphate	475-590	200-250	590-710	250-300
+				
Triple super phosphate	240	100	295	125
<u>OR</u>				
Triple super phosphate	475-590	200-250	590-710	250-300

For soils of pH greater than 6.5, triple super phosphate should be applied alone

Insoluble phosphate should be applied to the sides and the bottom of the furrow, while triple super phosphate should be applied to the bottom of the furrow only.

Recommendations for phosphate fertilization are based on the following assumptions :

- (i) That 240 kg P_2O_5 /ha (100 kg/arp) are removed over a 7 year cycle by an average crop of 85 tonnes cane/ha (35 TCA), provided that half the mass of the cane tops is left in the field after each crop. Adjustments are needed for fields yielding more.
- (ii) That severe deficiency of P does not exist, owing to application of massive doses of phosphate in the past. On newly cultivated land however, high levels of phosphate (700 - 750 kg P_2O_5 /ha or 300 - 350 kg/arp) would be required.

Potassium

	K optimum		K deficient	
	kg/ha	kg/arp	kg/ha	kg/arp
Muriate of potash	240-300	100-125	300-360	125-150

Application should be done to the sides and bottom of the furrow.

6-8 weeks after planting

Nitrogen should be applied as follows :

Type of Fertilizer	Short season cane		Long season cane	
	kg/ha	kg/arp	kg/ha	kg/arp
Sulphate of ammonia	550-600	230-250	625-710	260-295
<u>OR</u>				
Calcium ammonium nitrate	450-500	190-210	500-550	210-230

2. Ratoons

Application of fertilizer in ratoons should be carried out soon after harvest. Where foliar diagnosis shows a P deficiency, 17-8-25 should be used in preference to 17-2-27.

Soil Type	17-2-27 or 17-8-25	
	kg/ha	kg/arp
Low response Soils (HFL, LBF, MSC)	525-600	225-250
High response Soils (LRP, LHL, HL, DMC)	675-725	285-300

It should be noted that recommendations are given as a range of levels, the lower limit being chosen for fields of low potential and the higher limit for those of high potential.

3. Soil amendments

Liming

Liming should be envisaged only if the soil pH is well below 5.0.

The following quantities of sand or lime should be thoroughly mixed with the soil :

Soil type	Sand		Lime	
	Tonnes/ha	Tonnes/arp	Tonnes/ha	Tonnes/arp
Latosol	8.4	3.5	4.8	2.0
Latosolic	12.0	5.0	6.7	2.8

Silicon application

Calcium silicate should be applied to Si-deficient soils according to the soil Si-level. Recommended rates are as follows :

Soil content (ppm Si)	Calcium silicate	
	Tonnes/ha	Tonnes/arp
Less than 30	4.8 - 7.0	2 - 3
30 - 60	2.4 - 4.8	1 - 2
60 - 90	1.2 - 2.4	0.5 - 1

Broadcasting the silicate and mixing it with the soil before planting gives better results than applying it in the furrow as split doses annually.