

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

LEVELS OF PHOSPHATE TRIAL

Catalogue No: 86  
This crop: P 1R  
Site: 118 Valleys Sputu  
Altitude: 400'  
Soil series: Dwyka  
Design: Random block, 4 reps.  
Variety: N.50/211  
Fertilizer: See below  
Water regime: Dryland

Soil Analysis:

|    | pH     | OM%  | Clay%    |
|----|--------|------|----------|
| 1R | 4.75   | 4.65 | 32%      |
|    | p.p.m. |      |          |
|    | P      | K    | Ca Mg    |
| 1R | 19     | 232  | 4105 238 |

Age: P 13th April, '63 - Aug. '64  
 1R 14th Aug. '64 - Nov. '65

Rainfall: P = 33.83"  
 1R = 38.80"

Object: To compare five levels of P with a control in a plant crop and first ratoon.

Fertilizer:

|       | <u>Plant</u>                 | <u>1st Ratoon</u>                 |
|-------|------------------------------|-----------------------------------|
| (SP)  | P <sub>0</sub> Nil           | (SP) P <sub>0</sub> Nil           |
|       | P <sub>1</sub> 16.6 lb P/ac. | P <sub>1</sub> 16.6 lb P/ac.      |
|       | P <sub>2</sub> 33.2 "        | P <sub>2</sub> 33.2 "             |
|       | P <sub>3</sub> 49.8 "        | P <sub>3</sub> 49.8 "             |
|       | P <sub>4</sub> 67.4 "        | P <sub>4</sub> 67.4 "             |
|       | P <sub>5</sub> 83.0 "        | P <sub>5</sub> 83.0 "             |
| (MP)  | 100 lb K/ac.                 | (MP) 100 lb K/ac.                 |
| (LAN) | 220 lb N/ac.                 | (LAN) N <sub>1</sub> 100 lb N/ac. |
|       |                              | N <sub>2</sub> 200 "              |

Treatment:

1b P/acre

|  | <u>Plant</u>        | <u>1st Ratoon</u>   |
|--|---------------------|---------------------|
|  | P <sub>0</sub> Nil  | P <sub>0</sub> Nil  |
|  | P <sub>1</sub> 16.6 | P <sub>1</sub> 16.6 |
|  | P <sub>2</sub> 33.2 | P <sub>2</sub> 33.2 |
|  | P <sub>3</sub> 49.8 | P <sub>3</sub> 49.8 |
|  | P <sub>4</sub> 67.4 | P <sub>4</sub> 67.4 |
|  | P <sub>5</sub> 83.0 | P <sub>5</sub> 83.0 |

Results:

|            | Treatment      | T.C.A. | Suc. % | T.S.A. |
|------------|----------------|--------|--------|--------|
| Plant      | P <sub>0</sub> | 23.8   | 13.95  | 3.32   |
|            | P <sub>1</sub> | 25.7   | 14.62  | 3.76   |
|            | P <sub>2</sub> | 26.6   | 14.28  | 3.80   |
|            | P <sub>3</sub> | 26.1   | 14.53  | 3.79   |
|            | P <sub>4</sub> | 28.8   | 14.35  | 4.13   |
|            | P <sub>5</sub> | 31.4   | 14.04  | 4.41   |
| 1st Ratoon | P <sub>0</sub> | 21.9   | 13.05  | 2.86   |
|            | P <sub>1</sub> | 22.1   | 12.60  | 2.78   |
|            | P <sub>2</sub> | 21.8   | 12.96  | 2.83   |
|            | P <sub>3</sub> | 22.3   | 12.90  | 2.88   |
|            | P <sub>4</sub> | 24.8   | 13.14  | 3.26   |
|            |                |        |        |        |