

A Note on Potassium Schoenite as a Source of Potash to Banana

Potassium schoenite is an indigenous potassic fertilizer, originally developed at the Central Salt and Marine Chemicals Research Institute, Bhavanagar as a by-product of the salt industry. It is now available at the Marine Transport Company, Tuticorin. Its chemical formula is $K_2SO_4 \cdot MgSO_4 \cdot 6H_2O$ and analyses 22 to 24 % K_2O , 8-10% MgO , 2.5% chlorides and 2.0% sodium. It is a white crystalline substance, completely soluble in water and non-hygroscopic. Banana, a potash loving plant, may be benefitted by the application of schoenite. A field trial was conducted to test its suitability.

Govinda Iyer *et al.* (1970) and Natarajan *et al.* (1973) concluded that schoenite could be safely used as a source of potassium for groundnut crop without any adverse effect on the yield and quality of pods and kernels and also on the soil characteristics. Mathan *et al.* (1974) concluded that schsenite can be substituted for potassium sulphate in Nanjanad mixture without any adverse effect on the yield of potato and on the soil chemical properties.

A field trial with *poovan* banana was laid out in randomised block design with the following five treatments replicated four times in a plot size of two cents.

Treatments

1. Control (No. N, P and K)
2. Potash control (No K but with N and P)

3. Potash as muriate of potash
4. Potash as schoenite
5. $\frac{1}{2}K$ as muriate and $\frac{1}{2}K$ as schoenite.

The fertilizer dose adopted was 110:35:330 per acre. Nitrogen was applied as ammonium sulphate in three equal doses, on the third, fourth and fifth month of planting. Entire P was applied as superphosphate in a single dose on the third month. Potash fertilizers were applied in three split doses on third, fourth and fifth month after planting. Twenty seven suckers were planted in each plot of 2 cents with a spacing of 5'x5' between plants and 6'x6' between rows. The yield of central seven plants was taken for the purpose of statistical analysis.

The results of the yield of banana fruits is given below :

Average yield of seven bunches in kg

Treat- ment No.	Treatments	Mean
1.	Control (absolute)	5.5
2.	Control (No potash)	8.0
3.	Muriate of potash	8.9
4.	Schoenite	10.1
5.	$\frac{1}{2}$ Muriate + $\frac{1}{2}$ Schoenite	9.0

S. E. 0.65 C. D. = 2.00

The results reveal that the treatment received potassium through schoenite recorded the maximum yield of banana bunches than other treatments and the control plot recorded the minimum yield. There

is also indication of response for application of potash through schoenite for banana. Even though maximum yield was recorded by schoenite it is on par with muriate of potash on equal potash basis. So schoenite is considered as a good substitute for banana in place of muriate of potash.

Even though the unit value of potash (K_2O) through schoenite was higher than that of muriate of potash,

there was an actual profit of Rs. 470/- per acre through its application over and above muriate of potash. Hence schoenite can be used as a profitable potassic fertiliser to banana crop under wetland condition (Table 1.)

In the soil analysis it was found that the available nutrients viz., N, P and K, exchangeable Ca and Mg, EC, pH and chloride content of the soil did not differ among treatments. It can be inferred that eventhough

TABLE 1. Economics of use of Schoenite for Banana

Fertilizer	K_2O content	Cost/ton Rs.	Unit value of K_2O Rs.	Fertilizer applied per plant & cost	Yield of fruit per plant & cost	Profit per plant Rs.	Excess Profit per acre by Schoenite Rs.
Potassium schoenite	22%	350/-	1.60	1.1 kg 0.38 ps.	10.1 kg Rs. 4.04	3 66	470 00
Muriate of potash	60%	540/-	0.90	0.41 kg 0.22 ps.	8.8 kg 3.52	1 3 30	
						Excess	0 36

schoenite contains high percentage of magnesium and chloride it will not affect the soil properties. Thus potassium schoenite increases the yield of banana fruits under wetland conditions.

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