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Product Testing Trial



Effect of Agrosil Organic Silicon Fertilizer on yield of rice in lateritic soils of Konkan

**Submitted to,
VEDANT AGRO-TECH
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**Submitted by,
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Title : Effect of Agrosil Organic Silicon Fertilizer on yield of rice in lateritic soils of Konkan

Objective :

- 1) To study the effect of Agrosil Organic Silicon Fertilizer on yield attributing characters of rice
- 2) To study the effect of Agrosil Organic Silicon Fertilizer on yield of rice

General Details :

Crop & Variety : Rice & Karjat -8
Season : Kharif, 2014
Plot size : 4m x 3 m
Spacing : 25 cm x 15 cm
Treatment : 13
Replication : 3
Design : R.B.D.

Seedling preparation :

With Agrosil Organic Silicon Fertilizer	Without Agrosil Organic Silicon Fertilizer
1) Agrosil Organic Silicon Fertilizer @ 3 kg guntha ⁻¹ to be applied at nursery stage for the seedling to be transplanted	2) General seedling i.e. without Agrosil Organic Silicon Fertilizer

Treatment Details :

- T₁ : Absolute control
T₂ : Agrosil @ 0 kg ha⁻¹ without Agrosil applied seedlings
T₃ : Agrosil @ 0 kg ha⁻¹ with Agrosil applied seedlings
T₄ : Agrosil @ 200 kg ha⁻¹ without Agrosil applied seedlings
T₅ : Agrosil @ 200 kg ha⁻¹ with Agrosil applied seedlings
T₆ : Agrosil @ 250 kg ha⁻¹ without Agrosil applied seedlings
T₇ : Agrosil @ 250 kg ha⁻¹ with Agrosil applied seedlings
T₈ : Agrosil @ 300 kg ha⁻¹ without Agrosil applied seedlings
T₉ : Agrosil @ 300 kg ha⁻¹ with Agrosil applied seedlings
T₁₀ : Agrosil @ 350 kg ha⁻¹ without Agrosil applied seedlings
T₁₁ : Agrosil @ 350 kg ha⁻¹ with Agrosil applied seedlings
T₁₂ : Agrosil @ 400 kg ha⁻¹ without Agrosil applied seedlings
T₁₃ : Agrosil @ 400 kg ha⁻¹ with Agrosil applied seedlings

Note : RDF and FYM @ 10 t ha⁻¹ was applied to all treatments

Table 1. Effect of Agrosil Organic Silicon Fertilizer on yield of rice in lateritic soils of Konkan

Treatment	Plant height (cm)			No. of Tillers	1000 Grain wt.(g)	Yield	
	45 Days	90 Days	135 Days			Grain(t ha ⁻¹)	Straw (q ha ⁻¹)
T ₁	54.33	84.00	105.67	12.33	11.57	3.53	40.00
T ₂	56.00	82.00	109.33	11.33	11.55	3.40	39.67
T ₃	57.67	82.67	111.33	12.00	11.38	3.43	41.67
T ₄	61.33	78.33	109.33	12.00	11.47	3.47	42.00
T ₅	60.33	83.67	115.33	13.00	11.76	3.40	40.67
T ₆	60.33	84.67	107.33	13.00	11.76	3.53	40.33
T ₇	60.00	87.33	117.00	12.67	11.82	3.90	40.33
T ₈	59.33	87.67	112.67	12.67	11.60	3.70	43.33
T ₉	60.67	90.67	115.33	13.67	11.77	4.00	42.00
T ₁₀	61.00	92.67	118.33	13.67	11.67	3.90	43.67
T ₁₁	62.33	95.00	118.67	15.67	11.79	4.13	48.33
T ₁₂	62.33	95.33	118.33	13.67	11.72	4.07	46.67
T ₁₃	70.00	97.33	119.33	15.33	11.91	4.17	51.00
SE±	2.034	1.525	1.603	0.722	0.137	0.066	1.635
CD (5%)	5.938	4.450	4.678	2.108	N.S.	0.192	4.773

Result and Discussion :

Application of Agrosil Organic Silicon Fertilizer significantly affected the yield attributing characters and yield of rice (Table 1). The highest plant height (119.33 cm) at harvest (135 days) was observed in treatment T₁₃ i.e. application of Agrosil @ 400 kg ha⁻¹ with Agrosil applied seedlings, which was at par with T₅, T₇, T₉, T₁₀, T₁₁ and T₁₂. The highest number of tiller per plant (15.33) was observed in treatment T₁₁ i.e. application of Agrosil @ 350 kg ha⁻¹ with Agrosil applied seedlings, which was at par with T₉, T₁₀, T₁₂ and T₁₃. Thousand grain weights could not reach the level of significance due to application of Agrosil.

The highest grain yield (4.17 t ha^{-1}) and straw yield (51 q ha^{-1}) of rice was observed in treatment T_{13} i.e. application of Agrosil @ 400 kg/ha with Agrosil applied seedlings, which was at par with T_9 , T_{11} and T_{12} in case of grain yield and at par with T_{11} and T_{12} in case of straw yield.

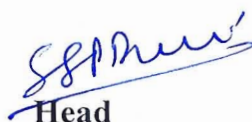
Conclusion :

The application of Agrosil Organic Silicon Fertilizer @ 400 kg ha^{-1} with Agrosil applied seedlings showed significant results with respect to yield attributing characters and yield of rice.

However, application of Agrosil Organic Silicon Fertilizer @ 350 kg ha^{-1} with Agrosil applied seedlings (3 kg guntha^{-1}) and Agrosil Organic Silicon Fertilizer @ 400 kg ha^{-1} without Agrosil applied seedlings was at par with the earlier treatment, where application of Agrosil Organic Silicon Fertilizer @ 350 kg ha^{-1} with Agrosil applied seedlings (3 kg guntha^{-1}) can be substituted by reducing the dose of Agrosil Organic Silicon Fertilizer in the lateritic soil of Konkan.



Principal Investigator (PI)



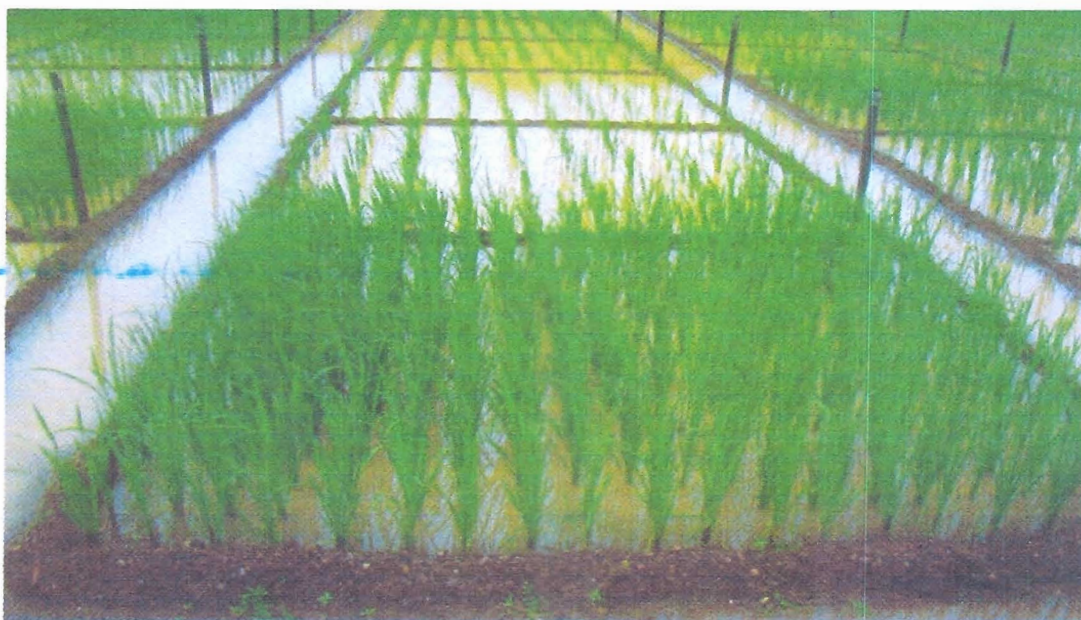
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Experimental view of rice plot



Rice seedling nursery