

BANDA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
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A Report on

Effect of Silagreen on growth, yield and economics of Rice (Paddy)

Submitted by
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The field experiment was conducted at the Research farm of Banda University of Agriculture and Technology, Banda (U.P.) to evaluate the Effect of Silagreen (Nano Kremniy Silagreen) on growth, yield and economics of Rice (Paddy).

Methodology:

Experiment was conducted in silty clay type of soil during kharif season of year 2022. The details of the experiment are as under-

1	Crop:	Rice (Paddy)
2	Variety:	IR 36
3	Date of Sowing:	21.07.2022
4	Date of Harvesting:	19.11.2022
5	Crop Duration:	121 days
6	Design:	RBD
7	No. of treatments:	5
8	Replications:	3
9	Gross plot size:	50 sqm (10m x 5m)
10	Spacing:	Row to row- 20 cm; Plant to plant: 10 cm (approx..)
11	Method of sowing:	Hand driling
12	Experimental site:	Researc Farm, BUAT, Banda

Treatment details:

T1	University recommendations + Seed treatment with Nano Kremniy @ 300 g in 15 liter of water (for every 1 ton of seeds) + Nano Kremniy spray @ 50 g per acre in 200 liter water at phase 1-2 leaves and at the tillering and at the phase (paniculation) or in the flowering phase
T2	University recommendations + Seed treatment with Nano Kremniy @ 400 g in 15 liter of water (for every 1 ton of seeds) + Nano Kremniy spray @ 60 g per acre in 200 liter water at the tillering and at the phase (paniculation) or in the flowering phase
T3	University recommendations + Seed treatment with Nano Kremniy @ 500 g in 15 liter of water (for every 1 ton of seeds) + Nano Kremniy spray @ 70 g per acre in 200 liter water at the tillering and at the phase (paniculation) or in the flowering phase
T4	University recommendations
T5	Absolute control (without plant protection measures & nutrition)

* University recommendation: 150:50:50 NPK kg/ha

Experimental Results:

1. Effect on Growth and yield attributing characters:

Effect of various treatments on growth and yield attributing characters of paddy is given in Table 1. All the observed characters are found significantly affected with application of nano kremniy with different doses over the control and the University recommended RDF. Seed treatment of nano kremniy @ 500 g/ton of the seed along with two foliar sprays @ 70 g/acre and University recommended RDF (T3) significantly produced taller plants as compared to the rest of treatments; except the seed treatment @ 400g/ton and two foliar applications @60g/acre + university recommendations (T2). T2 was at par with T1 (University recommendations + Seed treatment @ 300 g/ton seed + Two foliar spray @ 50g/ acre); which was further at par with T4 (University recommendations). Similar trend was found in case of total dry matter, number of effective tillers at harvest and grain weight per panical. Highest 1000 grain weight was observed in treatment T3; which was found to be at par with treatments T2 and T1.

2. Effect on yield:

It is observed that highest grain and straw yield recorded in treatment T3; which was at par with treatment T2 (table 2). Treatment T2 was further at par with T1; which was statistically similar to T4. Treatment T3 recorded 9.5, 5.0, 23.4 and 101.3 percent higher gran yield over treatments T1, T2, T4 and T5; respectively.

3. Effect on economics:

Numerically higher cost of cultivation, gross monetary return, net monetary return and BC ratios are observed in treatment T3; which was followed by treatment T2, T1, T4 and T5. Treatment T3 recorded 11.9, 6.5, 26.2 and 129.2 percent higher net return above the treatments T1, T2, T4 and T5; respectively.

Conclusion:

On the basis of one season experiment, it is concluded that seed treatment of Nano Kremniy @ 500 g in 15 liter of water (for every 1 ton of seeds) + Nano Kremniy spray @ 70 g per acre in 200 liter water at the tillering and at flowering and University recommendations of NPK application produces superior growth and yield attributing characters along with higher grain yield and economic return in paddy.



Table 1: Effect of various treatments on growth and yield attributing characters of paddy

Treatment	Details	Plant Height at harvest (cm)	Total dry matter at harvest (g/m ²)	No. of Effective tillers/ m ²	Grain weight per panicle (g)	1000 seed weight (g)
T1	University recommendations + Seed treatment @ 300 g/ton seed + Two foliar spray @ 50g/acre	67.91	1170	270.55	1.77	22.19
T2	University recommendations + Seed treatment @ 400 g/ton seed + Two foliar spray @ 60g/acre	70.78	1191	284.81	1.76	22.11
T3	University recommendations + Seed treatment @ 500 g/ton seed + Two foliar spray @ 70g/acre	72.21	1221	297.38	1.77	22.31
T4	University recommendations	64.67	1064	264.71	1.61	21.96
T5	control	42.24	687	186.30	1.40	19.57
	SE±	2.03	44.28	5.73	0.04	0.32
	CD (P= 0.05)	6.10	133.08	17.18	0.12	0.98

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Table 2: Effect of various treatments on Yield and economics of paddy

Treatment	Details	Grain yield (q/ha)	Straw yield (q/ha)	Cost of cultivation (Rs./ha)	Gross monitory return (Rs./ha)	Net monitory return (Rs./ha)	BC ratio
T1	UR + ST @ 300 + Two spray @ 50g	39.98	57.53	43792	98818	55026	1.26
T2	UR + ST @ 400 + Two spray @ 60g	41.67	57.54	44464	102269	57805	1.30
T3	UR + ST @ 500 + Two spray @ 70g	43.77	58.02	45136	106697	61561	1.36
T4	UR	35.48	53.22	39576	88345	48769	1.23
T5	control	21.74	35.47	28140	54991	26851	0.95
	SE±	1.50	2.19	-	-	-	-
	CD (P=0.05)	4.53	6.56	-	-	-	-

Experiment conducted and report prepared by-

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