



गावन्द बल्लभ पत कृषि एवं प्रौद्योगिक विश्वविद्यालय
Govind Ballabh Pant University of Agriculture & Technology
कृषि विज्ञान केन्द्र, ढकरानी - 248142, देहरादून (उत्तराखण्ड)
Krishi Vigyan Kendra, Dhakrani - 248142

Dehradun (Uttarakhand) Phone/Fax 01360-224378, E-mail: kvkdehradun@gmail.com

Letter No.: 734
Dated: 18.12.2010

To
M/s Suraj Shree Chemicals Limited
Biotech Division
69/5A, Najafgarh Road Industrial Area
New Delhi-110015

Sub: Evaluation report of Sanjivni and Agrovita tested at KVK, Dhakrani, Dehradun in rice during Kharif-2010

Dear Sir,

I am herewith sending the evaluation report of Sanjivni and Agrovita which have been investigated in rice during Kharif-2010 at Krishi Vigyan Kendra, Dhakrani, Dehradun. The studies carried out revealed that both the micro nutrients are quite effective in improving the yield and yield attributing characters of rice. Hence, same may be incorporated in the integrated nutrient management of rice for getting higher yield.

Thanking you,

Yours sincerely,

(S. S. Singh)

Programme Coordinator/ Officer Incharge

Officer Incharge
G.B.Pant Univ. of Ag. & Tech.
Krishi Vigyan Kendra, Dhakrani-248142
(Herbertpur) Dehradun, Uttarakhand

EFFECT OF SANJIVNI AND AGROVITA ON YIELD ATTRIBUTES AND YIELD OF RICE (*Oryza sativa* L.)

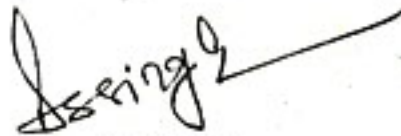
INTRODUCTION

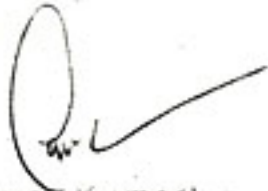
Rice is one of the most important cereal crop occupies 43.77 million ha area with the total production of 96.43 million tones in the country. The average productivity of rice in India is 22.03 q/ha. Rice is also commercially important commodity of Uttarakhand which is grown in 278411 ha area while the total production is 563583 metric tones. The average productivity of rice in Uttarakhand is 20.24 q/ha which is low as compared to national average productivity. The studies conducted by various agencies revealed that there are many constraints in low productivity of rice in Uttarakhand. Among them integrated nutrient management during critical growth period of the crop and incidence of pests and diseases are one of the major factor. The demonstrations conducted by Krishi Vigyan Kendra, Dhakrani in various parts of Dehradun district indicated that balance use of chemical fertilizers and integration of micro nutrients during vegetative growth of the crop increases the productivity and quality of rice up to 20-22 per cent. It is found that micro nutrients enhance the photosynthetic capacity of the plants that promote their proper growth and development and make them tolerant against adverse biotic stresses.

Keeping these points in view Suraj Shree Chemicals Limited, New Delhi has developed Agrovita (Organic growth promoter with crop protectant) and Sanjivni (compost fertilizer) for use in agricultural and horticultural crops. In this context, the organization has identified Krishi Vigyan Kendra, Dhakrani to find out the impact of these micro nutrients in yield of rice crop. Accordingly, an investigation was carried out at KVK, Dhakrani from July to November, 2010.

MATERIALS AND METHODS

A field experiment was conducted at G. B. Pant University of Agriculture and Technology, Krishi Vigyan Kendra, Dhakrani, Dehradun (Uttarakhand) during Kharif season of 2010-11. The experiments were laid out in three rice varieties namely Pusa Rice Hybrid-10 (PRH-10), Pant Shanker Dhan-3 and Type-3 (Basmati). The 25 days old seedlings were uprooted and transplanted at 20 x 10 cm spacing under puddled condition during IInd week of July, 2010. All the recommended improved cultural practices were


Officer Incharge
G.B.Pant Univ.of Ag. & Tech.
Krishi Vigyan Kendra, Dhakrani-248142
(Herbertpur) Dehradun, Uttarakhand


(Sanjay Kumar)
Asstt. Prof. Agronomy
KVK, Dhakrani

done to raise the good crop. During transplantation, half dose of Nitrogen (120 kg/ha), full dose of P_2O_5 (60 kg/ha), K_2O (40 kg/ha) and Zn (20 kg/ha). The Sanjivni was applied as basal application @10 kg/ha. Fifteen days before application, Sanjivni was mixed in FYM. The Agrovita was used at 30, 45 and 60 days after transplantation @ 2 ml/litre of water. Remaining dose of nitrogen was applied as top dressing during vegetative growth and tillering stage of the crop. The observations were recorded on yield attributing characters like number of tiller/ m^2 , number of panicles/ m^2 , number of grains/panicle. The grain yield was also recorded during harvesting of the crop.

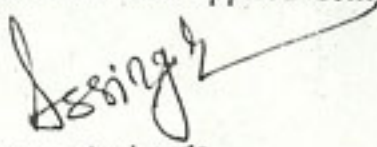
RESULTS

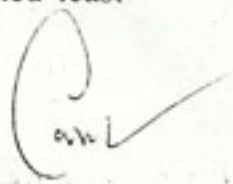
Data presented in the table showed that application of Agrovita and Sanjivni with recommended dose of NPK & Zn i.e. 120:60:40 and 20 kg per hectare, gave maximum yield in all the varieties taken under study at KVK, Dhakrani during kharif-2010.

The observations recorded on various yield attributing characters revealed that application of Agrovita in Pusa Rice Hybrid-10 at 30, 45 and 60 days after transplanting increased the number of tillers per square meter (352), number of panicle per square meter (329), grains per panicle (83) and grain yield (54.6 q/ha). While in control plots i.e. recommended dose of NPK & Zn showed least number of tillers per square meter (328), number of panicle per square meter (312), grains per panicle (76) and grain yield (46.8 q/ha) in comparison to treatment T_2 having Agrovita & Sanjivni. Treatment T_2 gave 16.7 per cent more yield in comparison to treatment T_1 .

Application of Agrovita in Pant Shanker Dhan-3 at 30, 45 and 60 days of transplanting increased number of tillers per square meter (362), number of panicle per square meter (354), grains per panicle (88) and grain yield (63.6 q/ha). The data recorded on various yield attributing characters in control plots (recommended dose of NPK & Zn) showed least number of tillers per square meter (346), number of panicle per square meter (332), grains per panicle (82) and grain yield (55.8 q/ha) as compared to treatment T_2 having Agrovita & Sanjivni. Treatment T_2 gave 14.0 per cent more yield in comparison to treatment T_1 .

Application of Agrovita in Type-3 (Basmati) at 30, 45 and 60 days after transplanting increased number of tillers per square meter (263), number of panicle per square meter (247), grains per panicle (119) and grain yield (31.5 q/ha). While in control plots in which only recommended dose of NPK & Zn was applied demonstrated least


Officer Incharge
G.B.Pant Univ. of Ag. & Tech.
Krishi Vigyan Kendra, Dhakrani-248142
(Herbertpur) Dehradun, Uttarakhand

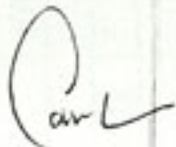

ASST. PRIN. ...
KYK, Dhakrani

number of tillers per square meter (248), number of panicle per square meter (225), grains per panicle (112) and grain yield (26.2 q/ha) in comparison to treatment T₂ having Agrovita & Sanjivni. Treatment T₂ gave 20.2 per cent more yield in comparison to treatment T₁.

Increase in yield and yield attributing traits with different varieties/ hybrids may be due to Sanjivni and Agrovita which provide essential nutrients and micro nutrients to the plants in organic form. It also contains mycorrhiza and humus due to which it improves fertility of the soil which resulted in improving the productivity.

RECOMMENDATION

The investigation carried out on "Efficacy of Sanjivni and Agrovita" at G. B. Pant University of Agriculture and Technology, Krishi Vigyan Kendra, Dhakrani, Dehradun revealed that basal application of Sanjivni and foliar spray of Agrovita at 30, 45 and 60 days of after transplanting increased yield attributing characters and finally grain yield upto 20.2 per cent in commercially important rice hybrids tested under Doon Valley condition. It has been also observed that application of Agrovita also make the plants tolerant against biotic stresses. Hence, Sanjivni and Agrovita can be used commercially in rice for getting optimum yield and quality.


(Sanjay Kumar)
Asstt. Prof. Agronomy
KVK, Dhakrani.

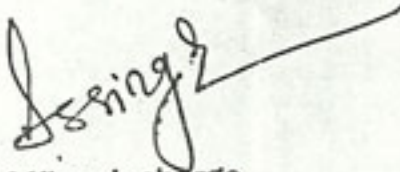


Officer Incharge
G.B.Pant Univ. of Ag. & Tech.
Krishi Vigyan Kendra, Dhakrani-248142
(Herbertpur) Dehradun, Uttarakhand


Table: EFFECT OF SANJIVNI AND AGROVITA ON YIELD ATTRIBUTES AND YIELD OF HYBRID RICE

Treatments	No. of tillers/m ²	No. of panicles/m ²	Grains/ panicle	Grain Yield (q/ha)	Increase in yield %
Pusa rice hybrid-10 (PRH-10)					
T ₁ -Recommended NPK&Zn (Control)	338	312	76	46.8	-
T ₂ -Recommended NPKZn + Application of Agrovita at 30, 45 and 60 DAP*	352	329	83	54.6	16.7
Pant Shanker Dhan-3					
T ₁ -Recommended NPK&Zn (Control)	346	332	82	55.8	-
T ₂ -Recommended NPKZn + Application of Agrovita at 30, 45 and 60 DAP	362	354	88	63.6	14.0
Type-3 (Basmati)[†]					
T ₁ -Recommended NPK&Zn (Control)	248	225	112	26.2	-
T ₂ -Recommended NPKZn + Application of Agrovita at 30, 45 and 60 DAP	263	247	119	31.5	20.2

Note : Recommended dose of N:P:K:Zn are 120:60:40:20 Kg/ha.

*DAP: Days after planting


 Officer Incharge
 G.B.Pant Univ. of Ag. & Tech.
 Kalsi Vigyan Kendra, Dhakrasi-246142
 (Herbertpur) Dehradun, Uttarakhand


 (Sanjay Kumar)
 Asstt. Prof. Agronomy
 KVK, Dhakrasi