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# REPORT OF PRODUCT TESTING TRIAL 2019-20

## Effect of RCM-HARIT SANJIVANI on Growth, Yield and Nutrient Uptake of paddy


***SUBMITTED BY***

**ASSOCIATE DIRECTOR OF RESEARCH**
**ZONAL AGRICULTURAL RESEARCH STATION**
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|---|---|---|
| **Title of the Project** | : | **Effect of RCM-HARIT SANJIVANI on growth, yield, nutrient uptake of paddy** |
| **1.) Name and address of Research Institute** | : | Zonal Agricultural Research Station, Igatpuri, Dist. Nasik – 422 403 |
| **2.) A.) Name of Implementing officer** | : | Dr. Y. J. Patil, Assistant Professor (Soil Sci. & Agril. Chemistry), ZARS, Igatpuri, Dist. Nasik) |
| **B.) Name of staff Associated** | : | Dr. D. V. Kusalkar, Associate Director of Research, ZARS, Igatpuri, Dist. Nasik<br>Dr. H. M. Patil, Associate Professor (Agronomy), ZARS, Igatpuri, Dist. Nasik<br>Dr. S. D. Patil, Asstt. Professor (Agril. Entomology) ZARS, Igatpuri, Dist. Nasik |
| **3.) Name of Company** | : | M/S. Vyenkatesh Agrotrade Pvt. Ltd., D-13, Silver Heights, Opp. Hotel Sandeep, Gurudvara Road, Mumbai Naka, Nasik- 422 009 |
| **4.) Product** | : | RCM-HARIT SANJIVANI |
| **5.) Crop and Season** | : | **Crop:-** Paddy<br>**Season :-** *Kharif* 2019 |
| **6.) Type of study** | : | Growth, yield, chlorophyll and uptake of nutrients |
| **7.) Pest/disease/weed/testing of seed etc.** | : | Testing of the product (RCM-HARIT SANJIVANI) |
| **8.) Amount Received (DD no.)** | : | Rs. 70,000/-, DD No. 271894 dated-25 /07/2019 |
| **9.) 10 % institutional charges remitted DD no.& date** | : | Rs. 7,000/-, Cheque No.627325 dated-13/09/2019 |
| **10.) Acceptance letter of DOR Office** | : | DOR/ADR/DDR-III/T-3/TEST/953/2019, dated- 4 July 2019 |

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**A). Experimental Details :**

**a.) Crop** : Paddy
**Variety** : *Indrayani*
**Year** : 2019-20
**Season** : *Kharif* 2019
**Soil Type** : Entisol
**Plot size** : Gross:- 4.80 m x 2.40 m
Net:- 4.40 m x 2.00 m
**Design** : RBD
**No. of treatment** : Six
**No. of replication** : Four
**Spacing** : 15 - 25 cm x 15 - 25 cm.

**General Recommended dose of nutrients** : Uniform dose of 56 kg N: 30 kg $P_2O_5$ through Urea- DAP briquettes (@ 170 kg $ha^{-1}$) + 10 t FYM $ha^{-1}$ and 50 kg $K_2O$ through MOP per $ha^{-1}$ was given to all the treatments after transplanting.

**Date of transplanting** : 15/07/2019

**Observations recorded :**

1. Yield
2. Total Chlorophyll content
3. Vegetative and growth of the plant
4. Soil Chemical properties (Initial & at harvest)
5. Uptake of nutrients.

**B.) Treatment details:**

**Application of RCM-Harit-Sanjivani (grams per acre)**

| Treatments | | Stage (I) (soil application after transplanting) | Stage (II) ( foliar spray at 30 DAT) | Stage (II) (foliar spray at 45 DAT) | Stage (II) (foliar spray at 60 DAT) |
|---|---|---|---|---|---|
| T1 | (No application) | 0 | 0 | 0 | 0 |
| T2 | Soil and foliar application of RCM-Harit-Sanjivani (grams per acre) | 150 | 75 | 125 | 150 |
| T3 | Soil and foliar application of RCM-Harit-Sanjivani (grams per acre) | 200 | 100 | 150 | 200 |
| T4 | Soil and foliar application of RCM-Harit-Sanjivani (grams per acre) | 250 | 125 | 175 | 250 |
| T5 | Soil and foliar application of RCM-Harit-Sanjivani (grams per acre) | 300 | 150 | 200 | 300 |
| T6 | Soil and foliar application of RCM-Harit-Sanjivani (grams per acre) | 350 | 200 | 250 | 350 |

**Note:-**
Uniform dose of 56 kg N:30 kg $P_2O_5$ through Urea- DAP briquettes(@ 170 kg $ha^{-1}$) and 50 kg $K_2O$ through MOP per $ha^{-1}$ + 10 t FYM $ha^{-1}$ was given to all the treatments

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**Table1. Initial Soil Analysis**

| Sr. No. | Parameters | Value |
|---|---|---|
| 1 | pH (1:2.5) | 6.81 |
| 2 | EC ($dSm^{-1}$) | 0.11 |
| 3 | Organic carbon (%) | 0.39 |
| 4 | Available Nitrogen (kg $ha^{-1}$) | 164.0 |
| 5 | Available P (kg $ha^{-1}$) | 18.4 |
| 6 | Available K (kg $ha^{-1}$) | 144.0 |
| 8 | DTPA extractable micronutrients | |
| | i.) Fe (ppm) | 22.12 |
| | ii.) Mn (ppm) | 17.19 |
| | iii.) Zn (ppm) | 0.62 |
| | iv.) Cu (ppm) | 2.10 |
| 9 | Soil Texture (%) | |
| | i.) Sand | 22 |
| | ii.) Silt | 52 |
| | iii.) Clay | 26 |
| | iv.) Textural class | Silty loam |

The initial soil status presented in Table 1. The soil belongs to Entisol, which is neutral in reaction with low in available nitrogen, potassium and moderate in available phosphorus content. The DTPA extractable micronutrients were sufficient.

**Methodology:**

**Application of RCM-Harit-Sanjivani to paddy crop**

RCM-Harit -Sanjivani is in a powder form and its application is given below

**Stage I :-** Soil application immediate after transplanting

**Stage II :-** Three Foliar spray at 30, 45 and 60 days after transplanting

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