

# Effect of application of “Amino Sil” on Growth and Yield of Rice (2<sup>nd</sup> Year).

**Objective:** Confirm the best liquid formulation to enhance the growth & yield of rice crop.



**Introduction:** Rice is the principal food grain crop in India and the single most important source of employment and income for the rural people. Rice is more important to the economy and people at lower income levels, and hence is an important intervention point for promotion of agricultural development and alleviation of poverty. More than 100 countries grow rice with the third highest worldwide production of 740 million tons (Mt) of rough rice, after sugarcane and maize. It accounts for 35-75% of the calories for more than 3 billion Asians. Globally, it provides 27% of dietary energy, 20% of dietary protein and 3% of dietary fat. In India, rice plays a major role in diet, economy, employment, culture and history. It is the staple food for more than 65% of Indian population contributing approximately 40% to the total food grain production, thereby, occupying a pivotal role in the food and livelihood security of people. The country has the world's largest area under rice i.e., about 43 million hectare (Mha) and the second highest production i.e., about 110 Mt of milled rice at productivity of 2.56 t ha<sup>-1</sup> as per 2016-17 statistics.

## Experimental Details:

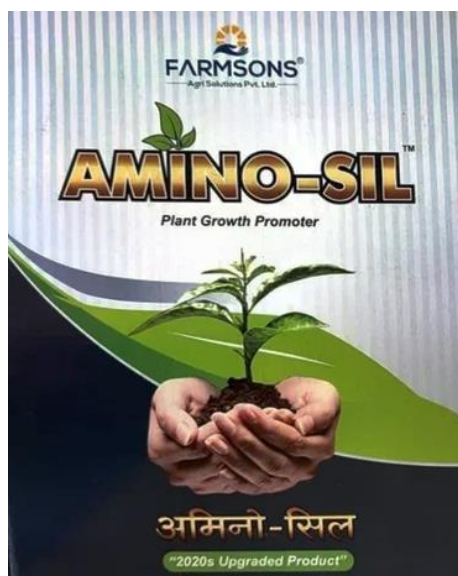
|                     |                 |
|---------------------|-----------------|
| Crop                | : Rice          |
| Variety             | : GR-11         |
| Experiment Layout   | : RBD           |
| No. of Replications | : Four          |
| Spacing             | : 20 cm x 15 cm |
| Plot size           | : 3.30 m X 3 m  |
| Date of TP          | : 12/07/2022    |

## Treatment Details:

| Treat. No. | Treatment Details                |
|------------|----------------------------------|
| T0         | Control                          |
| T1         | Amino Sil 1 gm per litre water   |
| T2         | Amino Sil 1.5 gm per litre water |
| T3         | Amino Sil 2 gm per litre water   |
| T4         | Amino Sil 2.5 gm per litre water |

## Methodology:

In the year 2022 same experiment were repeated at ASPEE Agricultural Research and Development Foundation Farm, Village- Nare, Tauka- Wada, district- Palghar in *kharif* season with Randomized Block Design (RBD) having four replications (r=4). Five treatments comprising different levels of Amino Sil such as T<sub>0</sub> - Control, T<sub>1</sub> - Amino Sil @ 1 gm, T<sub>2</sub> - 1.5 gm, T<sub>3</sub> - 2 gm and T<sub>4</sub> - 2.5 gm per liter water were again tested in rice grains/crop production. Treatments also given twice by spraying over standing crop. As per the schedule first spray conduct at 40 days after transplanting while second at 75 days after transplanting.



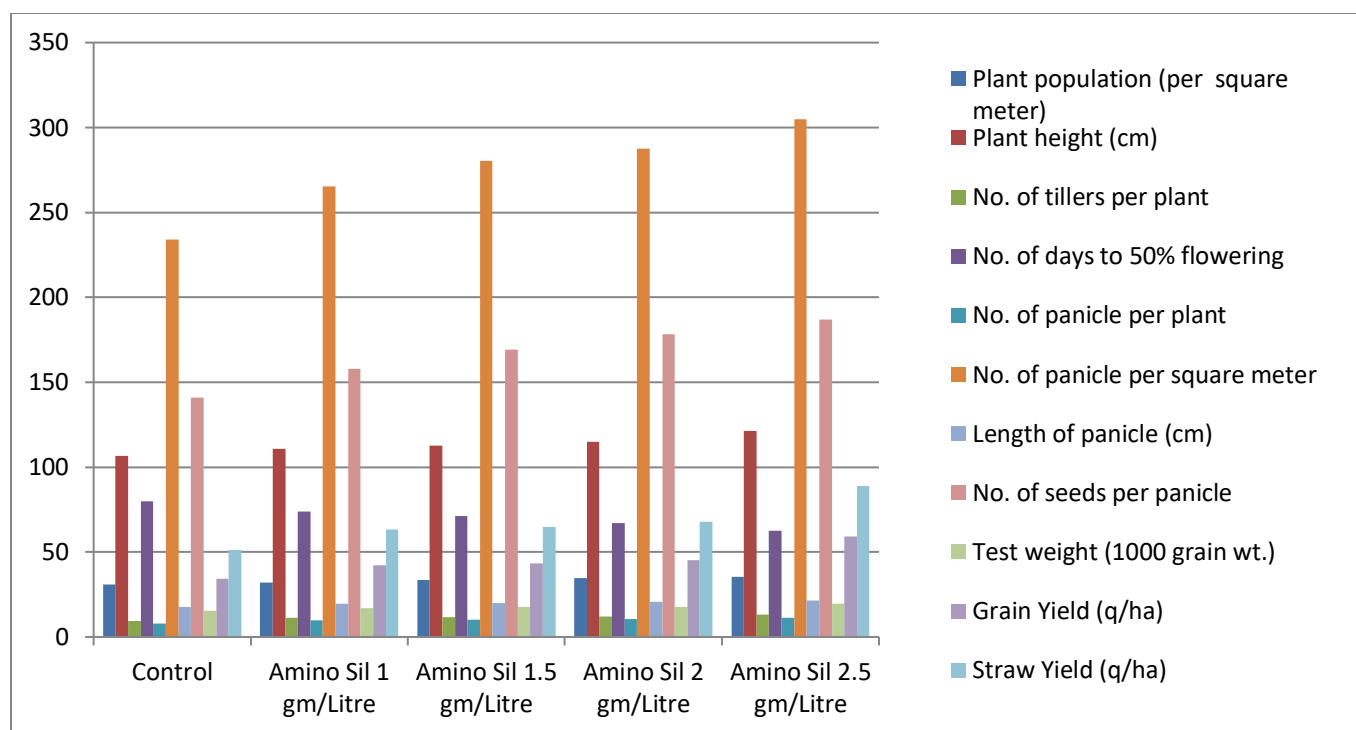
During 2022 in first fortnight of June rice variety 'GR-11' was sown after seed treatment with the fungicide thiram @ 3 g kg<sup>-1</sup> seeds. Twenty five days old seedlings were transplanted at spacing of 20 cm x 15 cm. The bed size was 3.30 m x 3.0 m. Randomly five plants (n=5) were selected from each plot for recorded regular biometric observations from 30 days after transplanting to till harvest. Data were compiled and analyzed using appropriate statistical methods. Keeping in view the above facts, the present study was designed with the objective to study the effect of amino acids and silicon on growth and yield attributes of transplanted rice crop.

### Layout:



### Results:

The higher number of panicles per plant (11.45), number of panicles per square meter (304.9), length of panicle (21.3 cm), seeds per panicle (186.8), test weight (19.74 g), grain (59.15 q/ha) and straw (88.75 q/ha) yields were recorded in treatment T4 *i.e.* application of Amino Sil @ 2.5 gm/liter water.



## Conclusion:

In the second year of study also the data clearly revealed that, the yield obtained with treatment T4 i.e. Amino Sil @ 2.5 gm per liter water was significantly higher than all other treatments and also for growth parameters.