



Photo of *Oryza Sativa*/Serayuvaryety in eighty days planted, Yellow paddy readyto Harvest.

In this reasearch, D.I grow enhancer as organic fertilizer was used for increased the rice production in Serayu, Indonesia. D.I Grow enhancer stimulates the vegetative growth of plants. It is used on all plants both flowering and non flowering, fruits and non fruits trees. It makes the plants have very many flowers and fruits, it reduces the dropping of flowers and fruits, enhances and strengthens plant immune system, improves quality and quantity of fruits and flowers⁽¹²⁾Dynapharm. This study was aimed to assess the effect of D.I grows enhancer on the paddy production in Serayu.

Material and Methods

The materials used in this research isSerayu variety seed in 48 respondents plantation. And the treatment of fertilizers “grow enhancer technology”. The research was conducted in January to March 2013 in the Field of Wetland paddy of 48 respondents in KecamatanLangowanMinahasa Sulawesi Utara, Indonesias. The fertilizers data taken from the 48 respondents had their total using and the average using, also the comparison using the Organic fertilizer, Grow Technology Enhancer, and not using the grow technology enhancer”. For statistics Analysed were 48 respondents.To know the significance effect from grow enhancer, statistical analysis using independent-sample T test was performed (Supplementary 1).



Photo of *Oryza Sativa*/Serayu finish harvest

D.I grow enhancer

D.I Grow is a foliar fertilizer formulated from rich macro and micro nutrients, trace ingredients and humic acid. It helps the growth of various vegetables, fruits and flowers while improving the quality of soil. It is safe, effective, and environment friendly. Application of D.I grow enhancer in rice with dose 4 cc in one liter of water and spread on the rice plant once in 20 days. Component of D.I grow enhancer are C 8.46%, N 1.49%, P₂O₅ 2.13%, K₂O 2.41%, MgO 0.36%, CaO 17.10 ppm, Cl 0.07%, Fe 271 ppm, Cu 13.81 ppm, Zn 10.29 ppm, Mn 1.68 ppm, B 20.30 ppm, MO 3.80 ppm, humic acid 0.15%, and H₂SO₄0.03%⁽¹²⁾Dynapharm, 2015. The treatment and doses for paddy were 1. Spraying once in aten days with mixing one Liter and 4 ml / per ml the same as one tea spoon tabular as follows :

Table 1.The Treatments and Doses of D.I. Grow Application to Paddy

Time of Spray	Doses : Mix 4 ml D.I. Grow Enhancer with a liter of water	1 st Month	2 nd Month	3 rd Month
1 st x	Once for 7-10 days	First, 10 days	First, 15 days	First, 15 days
2 nd x	Once for 15 to 20 days	Second, 10 days	Second, 16 to 30 days end the 2 nd month	Second, 16 to 30 days end the third month.
3 rd x	Once for 15 to 20 days	Third, 10 days end the 1 st month		

The capability of D.I. Grow enhancer for :

1. Leaf, to enhance the leaves grow more than before, harder, bigger and shining with nature color and not easy to fall.
2. The trunk, to grow rapidly, bigger and hard.
3. The flower, to rapidly grow and not easy to fall.
4. The fruit, to produce from flower rapidly bigger, delicious and aromatics.
5. The root, to grow rapidly and harder.
6. The bud, to grow rapidly.
7. The bad land structure, to repair and improve.¹²Dynapharm, 2015.

The experience of farmers was although the application of D. I. GrowEnhancer was stopped, but the plantation in sprayed land before, as when the applying D. I. Grow Enhancer time, still produce the same good production.Proofed the bad land structure repaired and improved.

Field experiment

The research was conducted in January to March 2013 in the Field of Wetland paddy of 48 respondents in Serayu variety, LangowanMinahasa Sulawesi Utara, Indonesia. This region has an average temperature (25°-30°C) and has high rainfall with fertile soil for farming activities. Forty one mountains with an average altitude of 1112-1995 m consist of the composition of young volcanic and active, with many rivers in between the region.

Experimental design

Utilization of (Urea, JSP36, KCL) fertilizer and rice production data were collected from 48 respondents in Serayu variety, Indonesia. They used (Urea, JSP36, KCL) fertilizer for first trial and second trial using D.I grow enhancer in farming area to know the the difference effect in rice production⁽¹¹⁾Loing, J., 2013.

Statistical analysis

Data obtained from Fertilizer comparison using in this study were Statistical analysedand were performed using the software package SPSS for Windows (SPSS Inc., Chicago, IL).

Results and Discussion

Based on statistical analysis, the effect of grow enhancer on the rice production is significant. It indicates by p value (0.000). P-value <0.05 means, grow enhancer that used as organic fertilizer can increase the paddy volume production significantly.

The result of the research showed that the farmers or fourty eight respondents using Urea Fertilizer was all 9830 Kg. lap means area using by each farmer in square Meter, JBP means Seed using by each farmer in Kg., and JPU means the used of Urea fertilizer by each farmer. The average showed the used of Urea fertilizer of each farmer was 204 Kg.

The result of the research showed that the farmers or fourty eight respondents using SP36 Fertilizer was all 5258 Kg. lap means area using by each farmer in square Meter, JBP means Seed using by each farmer in Kg., and JPSP36 means the used of SP36 fertilizer by each farmer. The average showed the used of SP 36 per farmer was 109 Kg.

The result of the research showed that the farmers or fourty eight respondents using KCL Fertilizer was all Kg. lap means area using by each farmer in square Meter, JBP means Seed using by each farmer in 4276 Kg., and JPKC means the used of KCL fertilizer by each farmer. The average showed the used of KCL per farmer was 89 Kg.

Fertilizers are necessary to support an affordable and sustainable agriculture. The farmers in Serayuvaryety used Urea, JSP3P and KCL for growing the rice. Average data from 48 farmers as respondents the use of Urea, SP36 and KCl were 204.7 kg (51%), 109.5 kg (27%), 89 kg (22%) respectively. Urea is the most fertilizer used by farmers and due to the assumption that Urea can better help them in growing *Oryza sativa*⁽⁶⁾Triyono et al. Urea consumption in paddy field is significantly going up in every year..

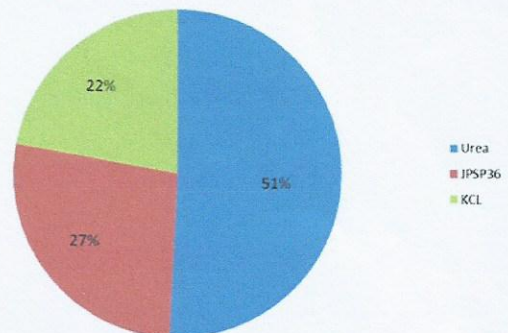


Figure 1. Percentage of Urea JPSP36 and KCl fertilizer utilization in Serayu, Variety Indonesia