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# STUDY OF THE EFFECT OF GROWTH PROMOTION AND PEST CONTROL OF ETOGROWTH-T™235 IN TEA PLANTATION

The objective of this experiment is to study the effect of growth promotion and pest control *(Tea jassid – Jacobiasca formosama Paoli)* of ETOGROWTH-T™235 in tea plantation.

## 1. Experimental Design

The efficacy of 5 different treatment are determined:

| | |
|---|---|
| Treatment 1 | ETOGROWTH-T™235 (1:100) |
| Treatment 2 | ETOGROWTH-T™235 (1:200) |
| Treatment 3 | ETOGROWTH-T™235 (1:300) |
| Treatment 4 | ETOGROWTH-T™235 (1:400) |
| Treatment 5 | Control (Water) |

ETOGROWTH-T™235 is supplied by OKADA ECOTECH PTE LTD (Singapore).

The experimental plot selected for the study is the tea plantation at Guang Dong Meizhou Agricultural University. The size of each treatment plot is 1 m x 24 m, each treatment for each plot, without any replicate. Each treatment plot would have an area of 24 $m^2$. The spray volume for each treatment plot is 5 kg.

As for material consumption:

| | |
|---|---|
| Treatment 1 (T1) | 50 g of ETOGROWTH-T™235 |
| Treatment 2 (T2) | 25 g of ETOGROWTH-T™235 |
| Treatment 3 (T3) | 17 g of ETOGROWTH-T™235 |
| Treatment 4 (T4) | 13 g of ETOGROWTH-T™235 |
| Treatment 5 (T5) | 0 g of ETOGROWTH-T™235 (Control) |

Fertilizer is treated for every treatment plot.

Test Duration: 30/3/98 ~ 6/5/98. Spray every 7 days.

## 2. Test Results and Discussions

### 2.1 Yields

**Table 1 : Wet and dry weight**

Increase in yield compared to control 19.5 ~102.9 kg / 667 $m^2$. Tea dry weight compared to control increased 6.2~ 28.1 / 667 $m^2$.

Total Yield: T2 > T3 > T4 > T1 > Control. Treatment 2 with ETOGROWTH-T™235 (1:200) has the highest fresh and dry weight, with Treatment 3, ETOGROWTH-T™235 (1:300) as the second highest. Both treatments have significant difference in the growth promotion.

**Table 1 : Effect of ETOGROWTH-T™235 on yield of tea leaves.**

| | Fresh Weight | | Dry Weight | | |
|---|---|---|---|---|---|
| | kg / 667 $m^2$ | Increase kg / 667 $m^2$ | kg / 667 $m^2$ | Increase kg / 667 $m^2$ | Increase (%) |
| T1 | 61.2 | 19.5 | 15.8 | 6.2 | 46 |
| T2 | 144.6 | 102.9 | 38.9 | 128.1 | 258 |
| T3 | 97.3 | 55.6 | 25.3 | 14.5 | 133 |
| T4 | 72.3 | 30.6 | 18.3 | 7.5 | 69 |
| T5 | 41.7 | - | 10.8 | - | - |

## 2.2 Pest Control

During the experiment, for all the treatments, other than the tea jassid (*Jacobiasca formosama Paoli*), no other pests are found. Treatment sprayed with ETOGROWTH-T™235 has significant control of the pest, tea jassid population.

| | Infestation (%) | % Reduction in Infestation |
|---|---|---|
| T1 | 26 | 31 |
| T2 | 18 | 39 |
| T3 | 13 | 44 |
| T4 | 20 | 37 |
| T5 | 57 | - |

Rate of Infestation: Control > T1 > T4 > T2 > T3. Treatment 2 with ETOGROWTH-T™235 (1:200) has the highest efficacy in controlling the tea jassid population, and Treatment 3, ETOGROWTH-T™235 (1:300) as the second highest.

## 3. Conclusion:

From the yields and pest control of treatments with ETOGROWTH-T™235, the yield with Treatment 2, ETOGROWTH-T™235 (1:200) is the highest, with Treatment 3 ETOGROWTH-T™235 (1:200) as the second highest. Treatment 2, ETOGROWTH-T™235 (1:200) has the highest efficacy in controlling the tea jassid population, and Treatment 3, ETOGROWTH-T™235 (1:300) as the second highest. The growth promotion and pest control is thus very significant using ETOGROWTH-T™235 at 1:200~300. The quality of the tea leaves must be analysed.