Novelgro Plant Growth Enhancer and Terra Soil Conditioner Trial on Tea Plant *(Cammellia Sinensis)*

ABSTRAK

The objective of this trial is to increase the productivity of the tea estate.

The productivity increase is achieved by increasing the emergence number of the actively growing shoots.

The materials used in this trial are Novelgro Alpha, Novelgro TERRA dan Novelgro Organic NPK.

Treatment:

Blok-2; area = 3800 m^2

Red label Novelgro Organic NPK = 400 kg/ha for the first application, and the following application is subject to the plant development.

Novelgro TERRA = 1000 cc /ha/ 6 months

Novelgro Alpha$^+$ = 1320 cc /ha/ 2 weeks

The TREATMENT has successfully increase the number of actively growing shoots into Peco Shoots by 2-2.5 times.

INTRODUCTION

Tea plant productivity directly related to numbers of harvestable Pecco shoots on every harvest period (40-45 days).

Pecco shoot

Usually there are 7 growing points at the leaves arm-pit for 7 leaved pecco shoots, which are potentials for new pecco shoots.

When the pecco shoots is picked at 3 leaves level, there left 4 leaves with 4 growing points at their arm-pits.

And after the picking, the remaining growing points on the pecco shoots shall grow into new pecco shoots. So if a 7 leaved pecco shoots was being picked at 3 leaves level, should give growth to 4 new shoots on the remaining 4 leaves arm-pit shoots into new pecco shoots

However, on the weak and old plants, there are only 2 arm-pit shoots that grow into new pecco shoots. And left behind the remaining arm-pit shoots dormant (not active).

Bird shoot, where the remaining growing points in the leaves arm-pit did not grow into new pecco shoots

If we stimulate every shoots growing point on the pecco shoot to grow into new pecco shoots, then the productivity of the plant will be increased.

As an illustration, from the 7 leaved pecco shoot, after the picking at 3 leaves level, there remain 4 leaves with 4 growing points at their arm-pit.

For the time being, the average numbers of the actively growing shoots are only 2 shoots. And if we can stimulate the development of all shoots growing points, which are 4 shoots growing points, then the productivity will be doubled.

PRESENT TECHNIQUE

At present, the tea plant (*camellia sinensis*) cultivation technique in Taiwan is rely on high Nitrogen and NPK in-organic fertilizer and compost to stimulate the growth of pecco shoots. And the fertilizer application are scheduled for every 50 days or every after harvest.

The **present** fertilizer's dosage is**:**

- NPK 15-15-15 = 40 g/plant every 100 days
- Urea = 30 g/plant every 100 days

Present fertilizer application schedule:

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     50 days        50 days      50 days
 |---------------|---------------|---------------|------>so on
NPK            urea            NPK            urea
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Present fertilizer practice:

$$\text{NPK 15-15-15 /annum} = \frac{365 \text{ days}}{100 \text{ days}} \times 40 \text{ g/plant} = \mathbf{146,0} \text{ g/plant/annum}$$

$$\text{Urea per annum} = \frac{365 \text{ days}}{100 \text{ days}} \times 30 \text{ g/plant} = \mathbf{109,5} \text{ g/plant/annum}$$

Total inorganic fertilizer = **255,5** g/plant/annum

= 3750 kg/ha/annum

NOVELGRO TECHNIQUE

The target of NOVELGRO treatment is to increase the number of actively growing arm-pit shoots into pecco shoots using:

- Novelgro Organic NPK which has Release-On-Demand properties, which will not induce any stress to the plant.
- Novelgro TERRA Soil Conditioner, which has soil healing properties to help worn out soil due to over fertilization by in-organic fertilizer soil, to regain back its fertility. The dosage is 1 liter/ha/6 months.
- Novelgro ALPHA Plant Growth Enhancer which will rejuvenate the exhausted and weakened tea plant's cells, into fresh, healthy and productive cells. The dosage is 1320 cc/ha/ 2 weeks.

TRIAL EXECUTION

The trial was started on 24th January 2009

Blok-2 plants before Treatment; where most of the harvested pecco shoots experience dormancy, and not growing new pecco shoots

Application of Novelgro Organic NPK

Novelgro Organic NPK treatment

Control plant condition (21st Februari 2009)

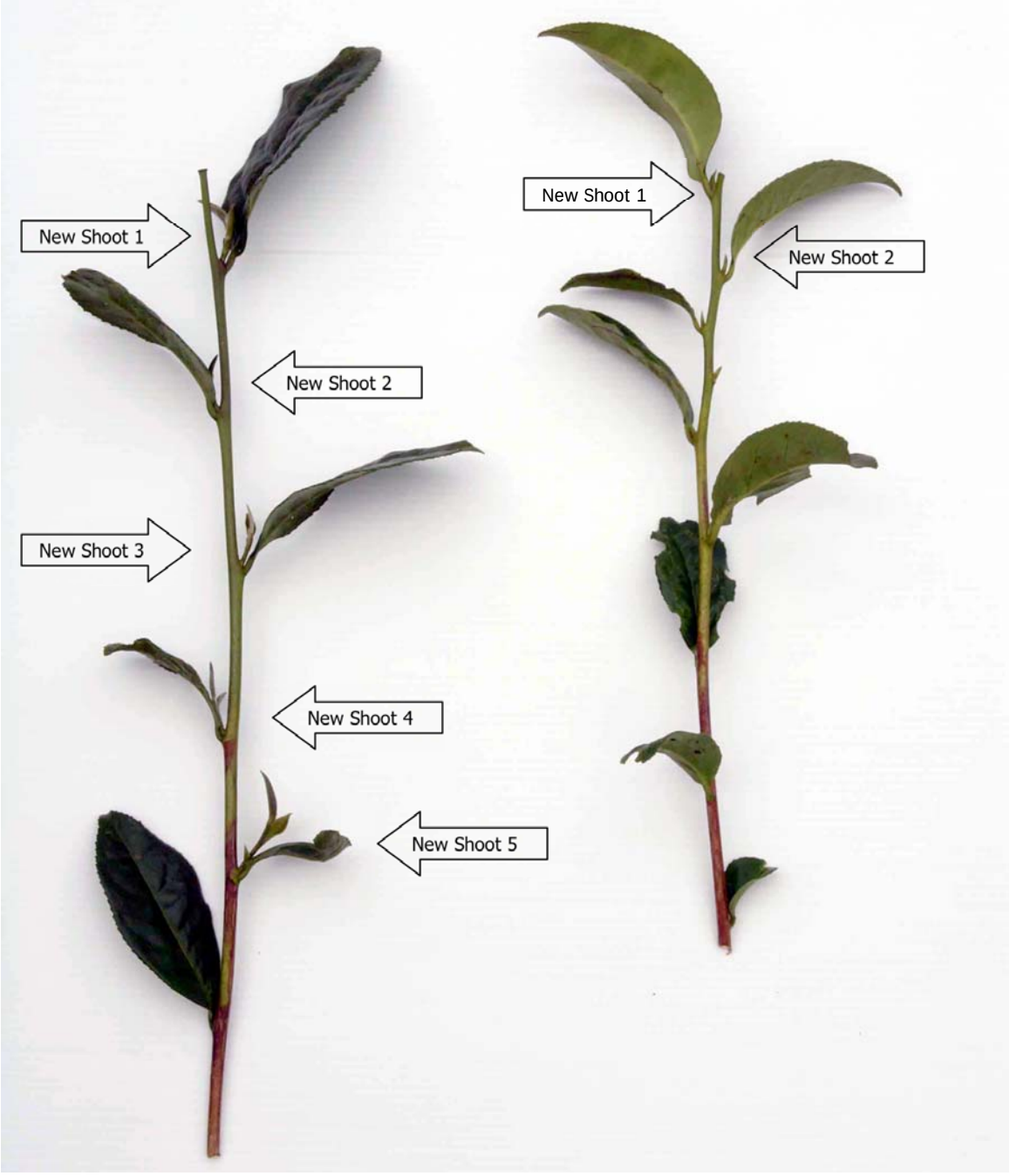
Novelgro Alpha application

OBSERVATION

Plants condition after Treatment of 21st February 2009 (4 weeks after treatment):

Plant condition after Treament, shows the actively growing shoots

Treatment plant condition. Lots of arm-pit shoots grow into pecco shoots (21st Februari 2009)



LEFT Treatment Plant (Novelgro)

RIGHT control plant

CONCLUSION (until 21st February 2009)

From this trial, it is obviously that the dormant (not active) growing points can be stimulated into actively growing points with NOVELGRO treatments.

The average number of the actively growing shoots of the control plants are 2 shoots. However, the average number of the actively growing shoots of the Treatment plants are 5 shoots.

From the statistics presented above, the produtivity increase due to Novelgro Treatment is 2 - 2.5 times.

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Treatment plant pecco shoots (21st Februari 2009)

Same treatment plant pecco shoots on 7th March 2009

The treatment plants condition shown a very promising production increase without any sign of nutritional deficiency.

Obvious flush of pecco shoots on the treatment plants (top) compare to the control plants (bottom)

Pecco shoots flush, ready to be harvest

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