

Soil Technologies Corp.
Research and Development Department



Research Report

Title: Microp on Rice Paddy Fields in Taiwan

Location: Erlun Township, Yunlin County, Taiwan

Principal Investigators: Moralburg Enterprise Corp.
Taipei, Taiwan

Crop: Rice

Date: 2013

Abstract:

The purpose of this trial was to evaluate the effect of Microp¹ on the quality of rice production in Taiwan. Five experimental groups were established with treatment protocols. Each experimental plot received three applications of treatment. Grain weight per 1000 grains was calculated October 31 and November 5, 2013. The results showed that where Microp was utilized there was an increase in grain weight compared to the control.

Methods:

Experimental groups were established in 10m² plots with the following treatments: Microp (70g/ha) with Butachlor¹ (30kg/ha) and Urea² (250kg/ha), Microp (70g/ha) and Urea (250kg/ha), Microp (35g/ha) with Butachlor 5% (30kg/ha) and Urea (125kg/ha), Microp (70g/ha) with Butachlor 5% (30kg/ha), Microp (70g/ha), and a control group. Treatments were applied using a hand sprayer, targeting the bottom of the crop on July 20, September 2, and September 26, 2013. Grain weight per 1000 grains was calculated October 31 and November 5, 2013.

Results:

The results showed that where Microp was utilized there was an increase in grain weight compared to the control. The increase ranged from 0.14% ~ 8.9%. Microp (70g/ha) with Butachlor 5% (30kg/ha) had the highest average grain weight while Microp (70g/ha) alone had the second highest average grain weight.

¹Microp is a biofertilizer manufactured by Soil Tech Corporation in Fairfield, Iowa, USA

²Butachlor is a chemical herbicide CAS # 23184-66-9

³Urea is a chemical fertilizer CAS # 57-13-6

Treatment	First Sampling 1000 Grain Weight (g)	Second Sampling 1000 Grain Weight (g)	Average (g)
Control	25.86	27.5	26.68
Microp (70g/ha) with Butachlor ¹ (30kg/ha) and Urea ² (250kg/ha)	27.87	29.13	28.5
Microp (70g/ha) and Urea (250kg/ha)	27.09	27.1	27.1
Microp (35g/ha) with Butachlor 5% (30kg/ha) and Urea (125kg/ha)	27.26	27.65	27.46
Microp (70g/ha) with Butachlor 5% (30kg/ha)	27.81	30.33	29.07
Microp (70g/ha)	28.34	29.47	28.91

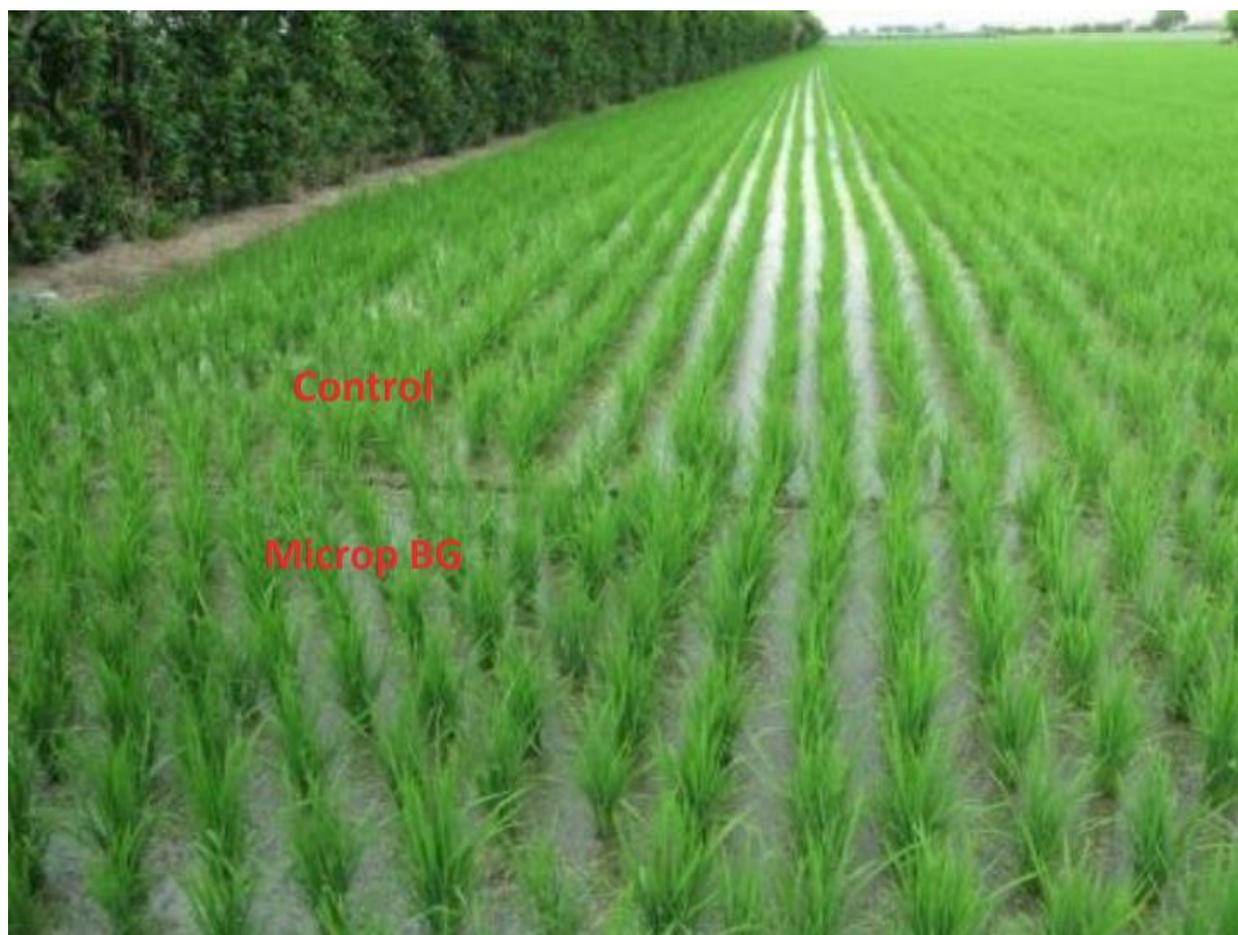


Figure 1: Early stage of rice growth



Figure 2: Lat stage of growth

Conclusions:

The results showed that where Microp was utilized there was an increase in grain weight compared to the control. The increase ranged from 0.14% ~ 8.9%. Microp (70g/ha) with Butachlor 5% (30kg/ha) had the highest average grain weight while Microp (70g/ha) alone had the second highest average grain weight. These findings indicate a potential for Microp as a natural alternative to chemical fertilizers that are conventionally used in rice production in Taiwan.