

Technical Data Report

Multicolor Ecological Agriculture Group Inc.

Effects of Multicolor Crop on Rice Production

(Philippines)

Objective

The objective of this study was to determine the effects of Multicolor Crop on rice.

Materials and Methods

Field trials were conducted on rice (*Oryza sativa* L.) during wet and dry seasons in Philippines. Treatments consisted of 1) Full recommended NPK rate, 2) Full recommended NPK rate and Multicolor Crop at 500 ml/ha, 3) 75% recommended NPK, and 4) 75% recommended NPK rate and Multicolor Crop at 500 ml/ha. The rice varieties used during wet season were C-4 for Bayombong, Nueva Vizcaya, IR-64 for Plaridel, Bulacan and Guiwan, Zamboanga City, IR-62 for Koronadal, South Cotabato, IR-60 for Panabo, Davao del Norte and Kabacan, North Cotabato. During dry season, rice varieties used in these trials were IR-64 for Zarraga, Iloilo and IR-66 for Catungan, Sibalom, Antique and for Pangpang, Sibalom, Antique. The plot size was 4 meter wide by 6 meter long. Based on DA recommendations, the full rate of fertilizer was 60 kg N/ha, 30 kg P₂O₅/ha and 30 kg K₂O/ha for wet season, and 90 kg N/ha, 30 kg P₂O₅/ha and 30 kg K₂O/ha for dry season. Phosphorus, potassium, and 2/3 rate of nitrogen were applied prior planting, and remaining nitrogen was applied one week before panicle initiation. Multicolor Crop at 500 ml/ha was sprayed at 1:500 dilution based on manufacture's recommendations. The study design was randomized complete block design (RCBD) with 8 replications. Cultural practices followed the procedures of the BSWM's Soil Fertility Division and were the same for treated and untreated plots.

Results

At full recommended fertilizer rate for wet season, Multicolor Crop at 500 ml/ha produced significantly higher yields of 0.38 ton/ha at Bayombong, Nueva Vizcaya, 0.61 ton/ha at Plaridel, Bulacan, 0.55 ton/ha at Guiwan, Zamboanga City, 0.99 ton/ha at Koronadal, South Cotabato, 0.71 ton/ha at Panabo, Davao del Norte and 0.75 ton/ha at Kabacan, North Cotabato (Table 1). At 75% recommended NPK rate, Multicolor Crop significantly improved yields by 1.03 ton/ha at Plaridel, Bulacan, 0.62 ton/ha at Guiwan, Zamboanga City, 0.76 ton/ha at Koronadal, South Cotabato, 0.88 ton/ha at Panabo, Davao del Norte and 0.41 ton/ha at Kabacan, North Cotabato. On average for wet season, Multicolor Crop increased rice yields by 0.66 ton/ha at full rate and 75% recommended rate of NPK over untreated control.

For dry season and full recommended NPK rate, rice yields significantly increased with Multicolor Crop application by 0.69 ton/ha in Zarraga, Iloilo, 0.50 ton/ha in Catungan, Sibalom, Antique and 0.44 ton/ha at Pangpang, Sibalom, Antique (Table 2). At 75% recommended rate of NPK for dry season Multicolor Crop significantly increased rice yields by 0.76 ton/ha in Zarraga, Iloilo, 0.50 ton/ha in Catungan, Sibalom, Antique and 0.71 ton/ha at Pangpang, Sibalom, Antique. On average, Multicolor Crop significantly improved rice yields by 0.55 ton/ha at full recommended rate of NPK and by 0.65 ton/ha at 75% recommended rate of NPK compared to untreated control.

Table 1. Influence of Multicolor Crop on rice yields during wet season at different locations in Philippines.

Location	Full recommended rate of NPK		Difference	75% recommended rate of NPK		Difference
	Untreated Control	Multicolor Crop		Untreated Control	Multicolor Crop	
	Yield (ton/ha)			Yield (ton/ha)		
Bayombong, Nueva Vizcaya	5.44 b*	5.82 a	0.38 ton/ha 7.0%	5.61 a	5.88 a	0.27 ton/ha 4.8%
Plaridel, Bulacan	3.07 b	3.68 a	0.61 ton/ha 19.9%	2.75 c	3.78 a	1.03 ton/ha 37.5%
Guiwan, Zamboanga City	4.14 b	4.69 a	0.55 ton/ha 13.3%	4.10 c	4.72 a	0.62 ton/ha 15.1%
Koronadal, South Cotabato	4.90 b	5.89 a	0.99 ton/ha 20.2%	4.25 c	5.01 a	0.76 ton/ha 17.9%
Panabo, Davao del Norte	4.32 b	5.03 a	0.71 ton/ha 16.4%	4.00 c	4.88 a	0.88 ton/ha 22.0%
Kabacan, North Cotabato	5.05 b	5.80 a	0.75 ton/ha 14.9%	4.62 c	5.03 b	0.41 ton/ha 8.9%
Average	4.49 b	5.15 a	0.66 ton/ha 14.7%	4.22 c	4.88 a	0.66 ton/ha 15.6%

* Means followed by the same letter within a row are not significantly different at 5% level.

Table 2. Influence of Multicolor Crop on rice yields during dry season at different locations in Philippines.

Location	Full recommended rate of NPK		Difference	75% recommended rate of NPK		Difference
	Untreated Control	Multicolor Crop		Untreated Control	Multicolor Crop	
	Yield (ton/ha)			Yield (ton/ha)		
Zarraga, Iloilo	5.15 b*	5.84 a	0.69 ton/ha 13.4%	4.35 c	5.11 b	0.76 ton/ha 17.5%
Catungan, Sibalom, Antique	4.22 b	4.72 a	0.50 ton/ha 11.8%	3.63 c	4.13 b	0.50 ton/ha 13.8%
Pangpang, Sibalom, Antique	3.93 b	4.37 a	0.44 ton/ha 11.2%	3.29 c	4.00 b	0.71 ton/ha 21.6%
Average	4.43 b	4.98 a	0.55 ton/ha 12.4%	3.76 c	4.41 b	0.65 ton/ha 17.3%

* Means followed by the same letter within a row are not significantly different at 5% level.

Conclusions

Compared to untreated control, on average across six locations during wet season Multicolor Crop at 500 ml/ha improved rice yields by 14.7% at full recommended NPK rate and 15.6% at 75% recommended rate of NPK. During dry season, application of Multicolor Crop at 500 ml/ha increased yields averaged across three locations by 12.4% at full recommended rate of NPK and by 17.3% at 75% recommended NPK rate over untreated control.