

**CASE STUDY
APPLICATION OF ECO OK
TO OM 18 RICE PLANTS IN CA MAU**

SUMMER- AUTUMN HARVEST SEASON 2022

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Field Information

Farmer : Trương Thị Thiên Triều

Site: Hamlet 8, Khanh Binh Dong Commune,
Tran Van Thoi District, Ca Mau Province

Sowing date: 22/4/2022, Harvest date:
29/7/2022.

Area: with ECO OK 7.776 m² (6 Công tầm cấy)
with 2 experiments; Control 7.776 m² (6 Công
tầm cấy).

Amount of ECO OK used: 1106 ml/ha (1st Exp.)
and 1723 ml/ha (2nd Exp.)

OBJECTIVES

- Evaluate the effects of ECO OK on the growth and development of rice.
- Evaluate the effects of ECO OK on Rice pests and diseases.
- Evaluate Economic efficiency.

FARMING PROCESS WITH ECO OK

No	Stage	Process
1	Before sowing	Soak ECO OK in a solution of 20 ml ECO OK + 20 liters of water for 60 kg of grains
2	9 DAS	Spray solution of 20 ml ECO OK + 20 liters of water for 1.296 m ²
3	25 DAS	Spray solution of 40 ml ECO OK + 20 liters of water for 1.296 m ²
4	45 DAS	Spray solution of 40 ml ECO OK + 20 liters of water for 1.296 m ²
5	79 DAS	Spray solution of 40 ml ECO OK + 20 liters of water for 1.296 m ²

(*) DAS: days after sowing

FARMING PROCESS

on 1.296 m² (1 công fầm cấy), for all 3 fields

No	Stage	Process
1	Before sowing	7 kg organic fertilizers
2	8 days after sowing (DAS)	5 kg phosphate & nito fertilizer for ECO OK fields (1 st , 2 nd ones) and 7 kg phosphate & nito fertilizer for Control field (3 rd one)
3	18 DAS	5 kg Urea + 6 kg organic fertilizers
4	42 DAS	4 kg Urea + 5 kg Kali fertilizers

(*) DAS: days after sowing

TEST RESULTS

Germination
development

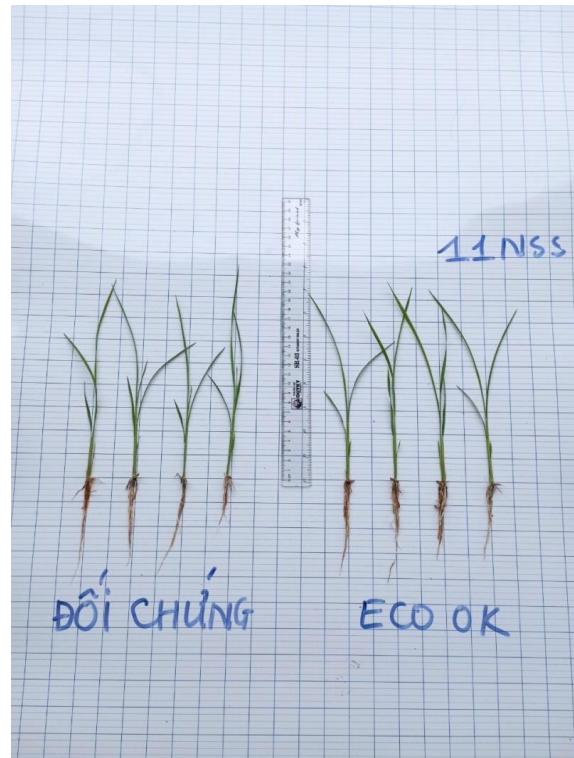
In the field with ECO OK treatment, at 2 DAS, the sprouts grew faster and thicker compared to that in control field.

VITALITY OF YOUNG PLANTS

Properties	ECO OK EXP1	ECO OK EXP2	CONTROL
Number of seeds germinated/m ² at 1 DAS	220	220	220
Number of plants/m ² at 11 DAS	216	210	198
Survival rate (%)	98.2	95.5	90.0

(*) DAS: days after sowing

ROOT DEVELOPMENT AND CHARACTERISTICS



ROOT DEVELOPMENT AND CHARACTERISTICS (CONT.)

For fields with ECO
OK treatment, from
1 to 36 DAS, rice
plants had more
young roots than
the control.



TIMING AND DURATION OF TILLERING



For fields with ECO OK treatment, rice at 15 DAS started tillering and plants tillered till 36 DAS.



At 20 NSS, the rice in the field with ECO OK treatment had better active tillering ability than the rice in the control field.

TIMING AND DURATION OF TILLERING



43 DAS



51 DAS

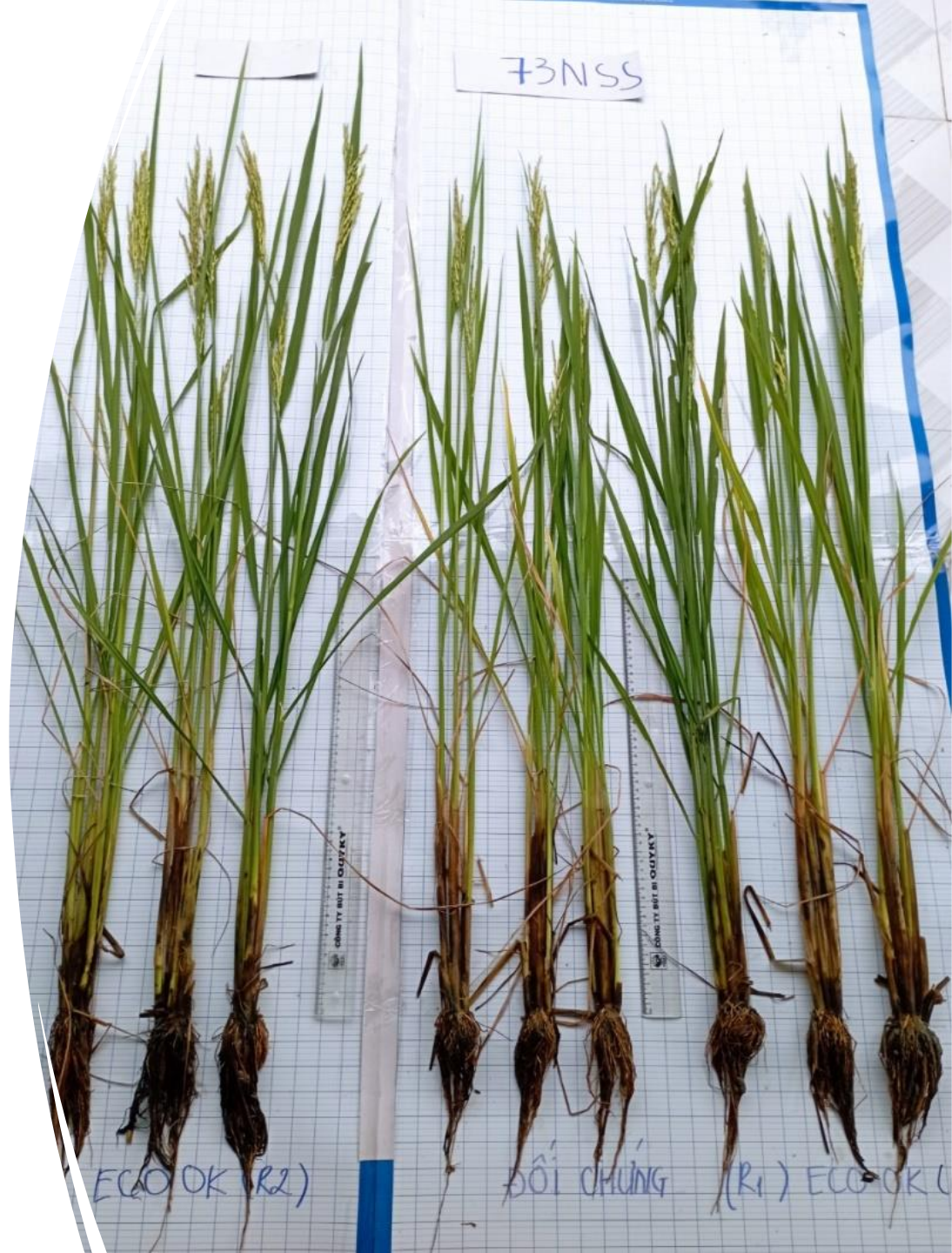
TIMING AND DURATION OF TILLERING

Stage/ Number of Buds	ECO OK EXP1	ECO OK EXP2	CONTROL
After sowing (1 DAS)	220	220	220
Young plant (11 DAS)	216	210	198
Tillering (20 DAS)	256	244	213
Tillering (28 DAS)	465	457	360
Tillering (36 DAS)	552	538	410
Panicle initiation (43 DAS)	560	552	471
Heading to flowering (65 DAS)	437	451	326

(*) DAS: days after sowing

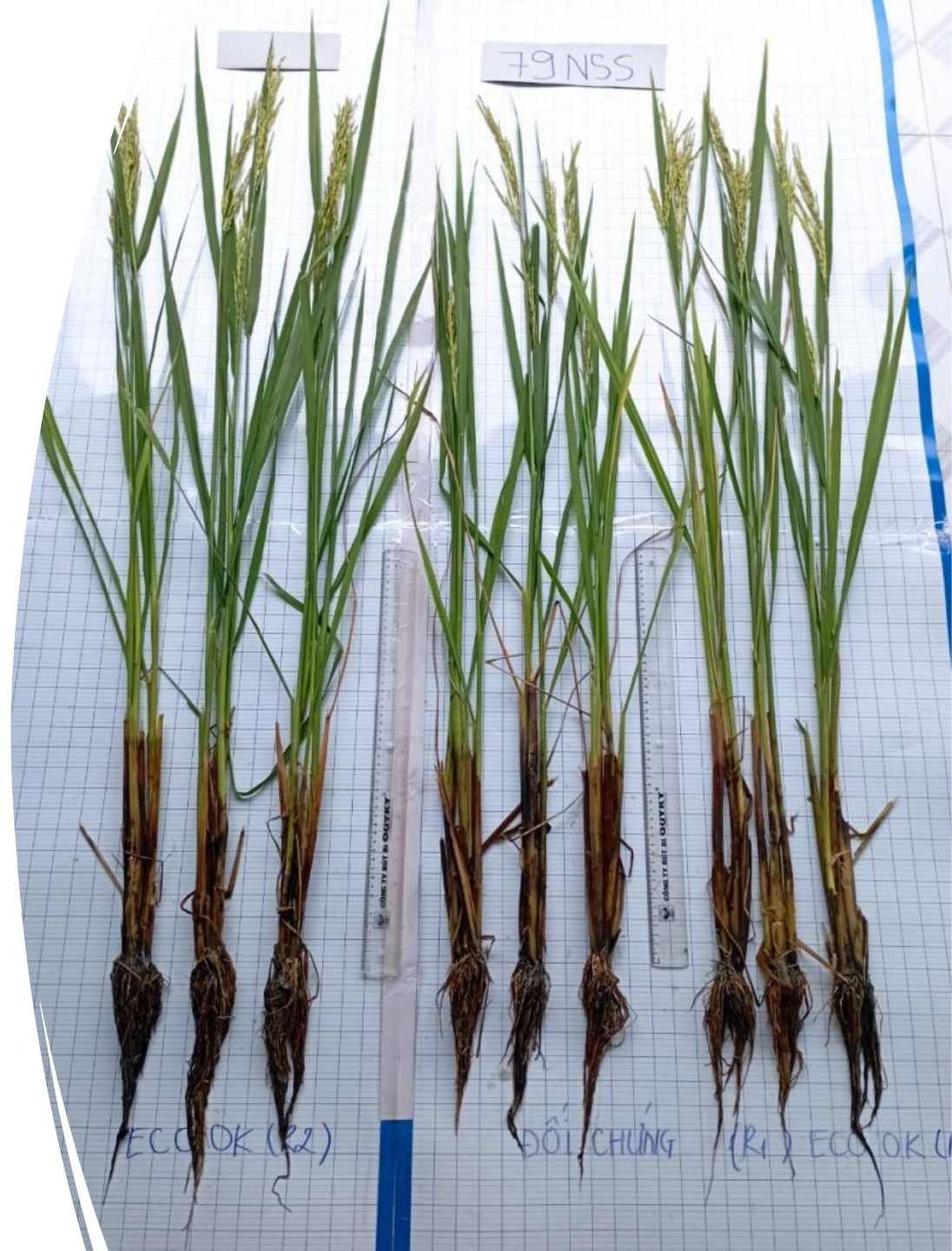
TIMING AND DURATION OF PANICLE

- At 43 DAS, all three fields started Panicle initiation.
- At 65 DAS, plants of all three fields began to bloom.
- At 73 DAS, all plants in three fields had finished flowering (100%).



TIMING AND DURATION OF MILK STAGE

- At 79 DAS, plants in all three fields were in the milk stage (starting forming rice). By 96 DAS the plants in ECO OK treated fields were fully ripe and ready for harvesting.
- Ripening time is 3 days earlier than expected.



PEST SITUATION IN RICE PLANTS

No	Stage	Situaion of rice blast disease	
		Control	ECO OK Field
1	36 DAS	Spot of blast disease: 1%	No disease
3	37 DAS	Treated with Antracol 70WP	No disease
4	45 DAS		Treated with ECO OK

(*) DAS: days after sowing

COLOR AND HARDNESS OF PLANTS

- In the fields with ECO OK treatment, rice plants were hard and had thick leaves, and bloomed at the same time. Milk stage was faster.
- Shiny seeds, less flattened grains, high yield.
- Shortened the cultivation time by 3 days.



RICE PLANT COLOR AT MATURE STAGE

Field with ECO OK



Beautiful yellow

Control Field



Still green

ECONOMIC EFFICIENCIES

No	Content	ECO OK Field		Control Field	
1	Productivity (ton/ha)	6.2	Increase 1.2 (19 %)	5.0	
2	Rice price (VND/kg)	5,5000		5,500	
3	Total Income (VNĐ)		34,100,000		27,500,000
4	Total Cost (VNĐ)		13,926,140		12,311,900
5	Profit (VNĐ)		20,173,860		15,168,100
6	Deviant (VNĐ)	5,005,760 (increase 33 %)			
7	Cost per kg of rice	2,246		2,466	
8	Profit per kg of rice	3,254		3,034	

CONCLUSION

The crop yield in the field treated with ECO OK increased by **1.2 tons/ha** or **19%** and the profit increased by **VND 5,005,760/ha** or **33%** compared to the control field.

CONCLUSION

Compared with the control field, in the field treated with ECO OK, the sprouts were observed to develop better, the seedling was healthier and stronger, the number of young roots was greater, tiller stage was earlier and more evenly.

Rice plants were hard, thick leaves and flowers bloomed at the same time.

The milking stage was faster. The seeds were shiny, less flattened, high yield.

Cultivation time was 3 days shorter than the one of the control field.

For the field treated with ECO OK, no leaf blast disease appeared, while in the control field, blast spots appear at 36 DAS.