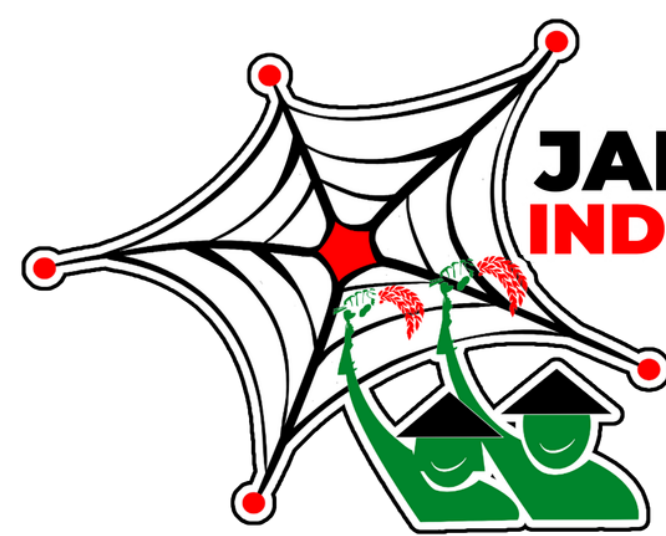




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JAMTANI
INDONESIA



Integrating Azolla, Pruning, and Ratoon Systems in Regenerative Circular Low Emission Climate-Adaptive Rice Farming to Enhance Soil and Food Security

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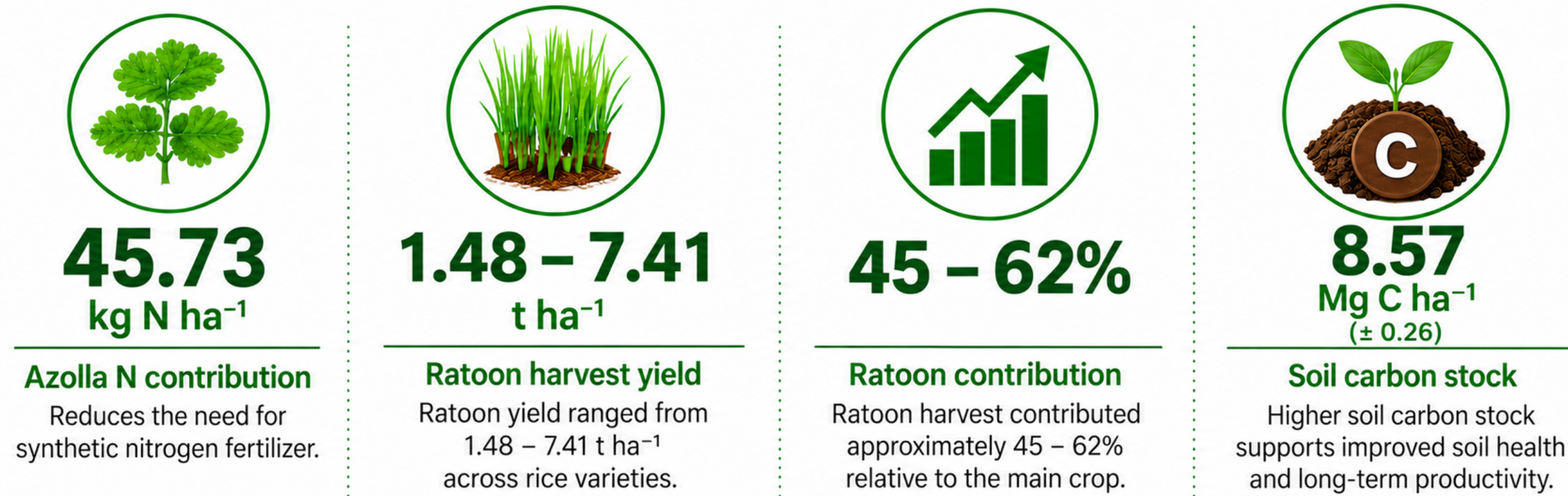
INTRODUCTION

KEY FINDINGS

PADDY HARVESTED AREA AND RICE PRODUCTION IN INDONESIA



Source: Badan Pusat Statistik (BPS), 2025. BPS - Paddy Harvested Area and Production in 2025

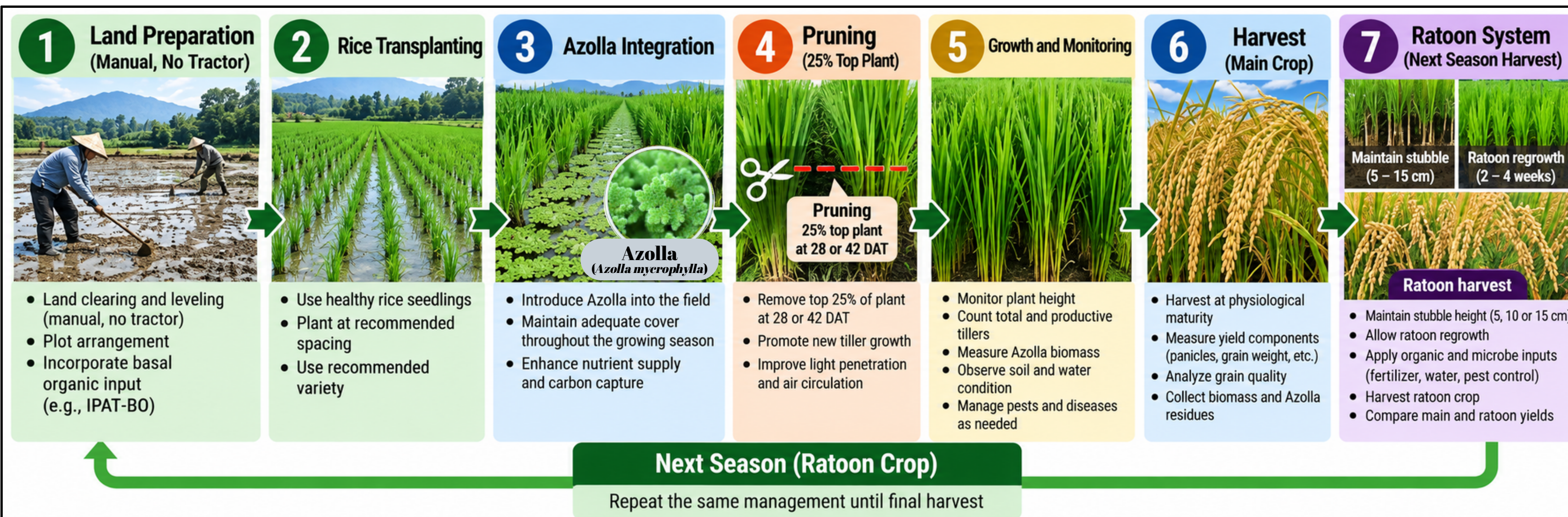


METHODOLOGY

1 EXPERIMENTAL SITE, INDONESIA

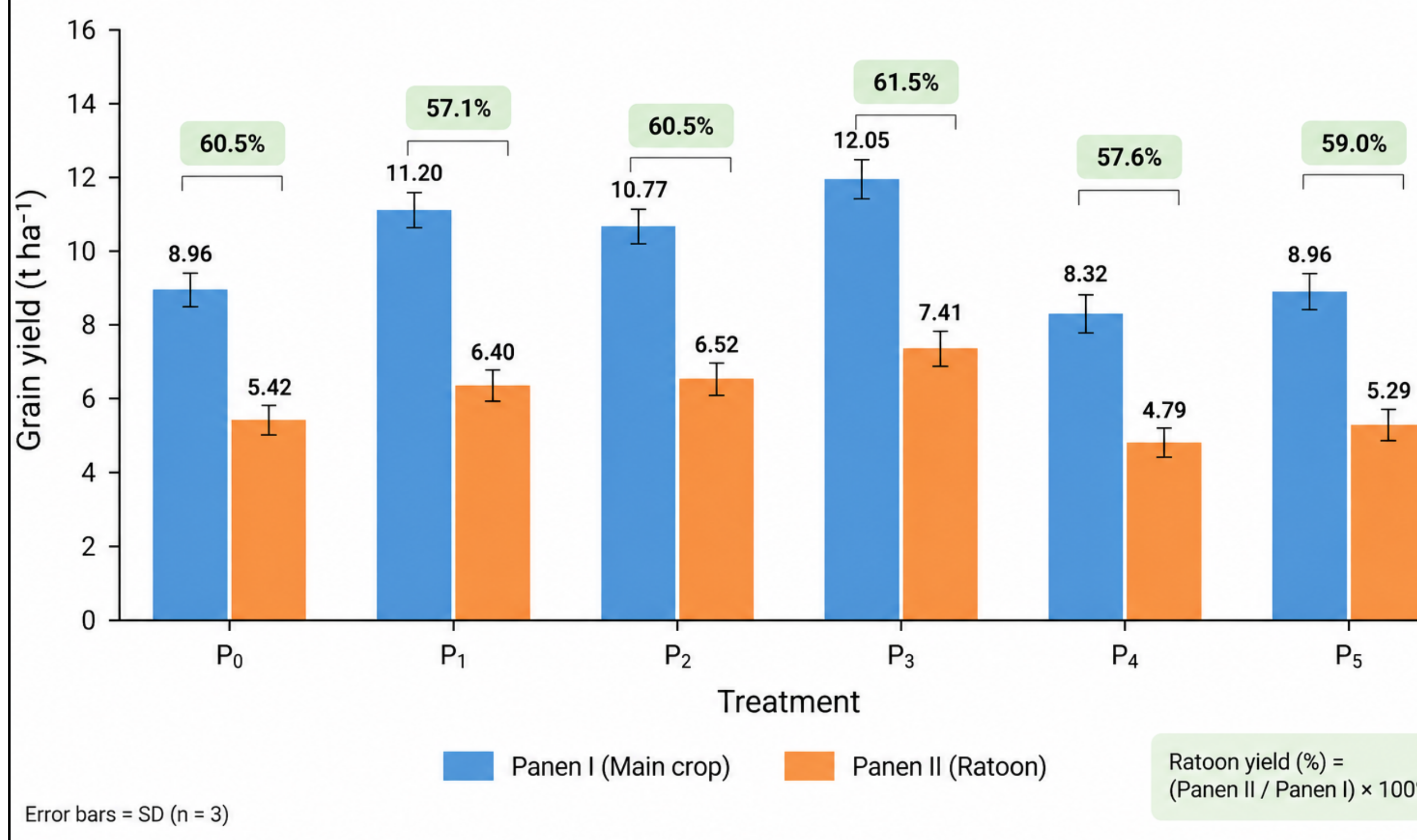
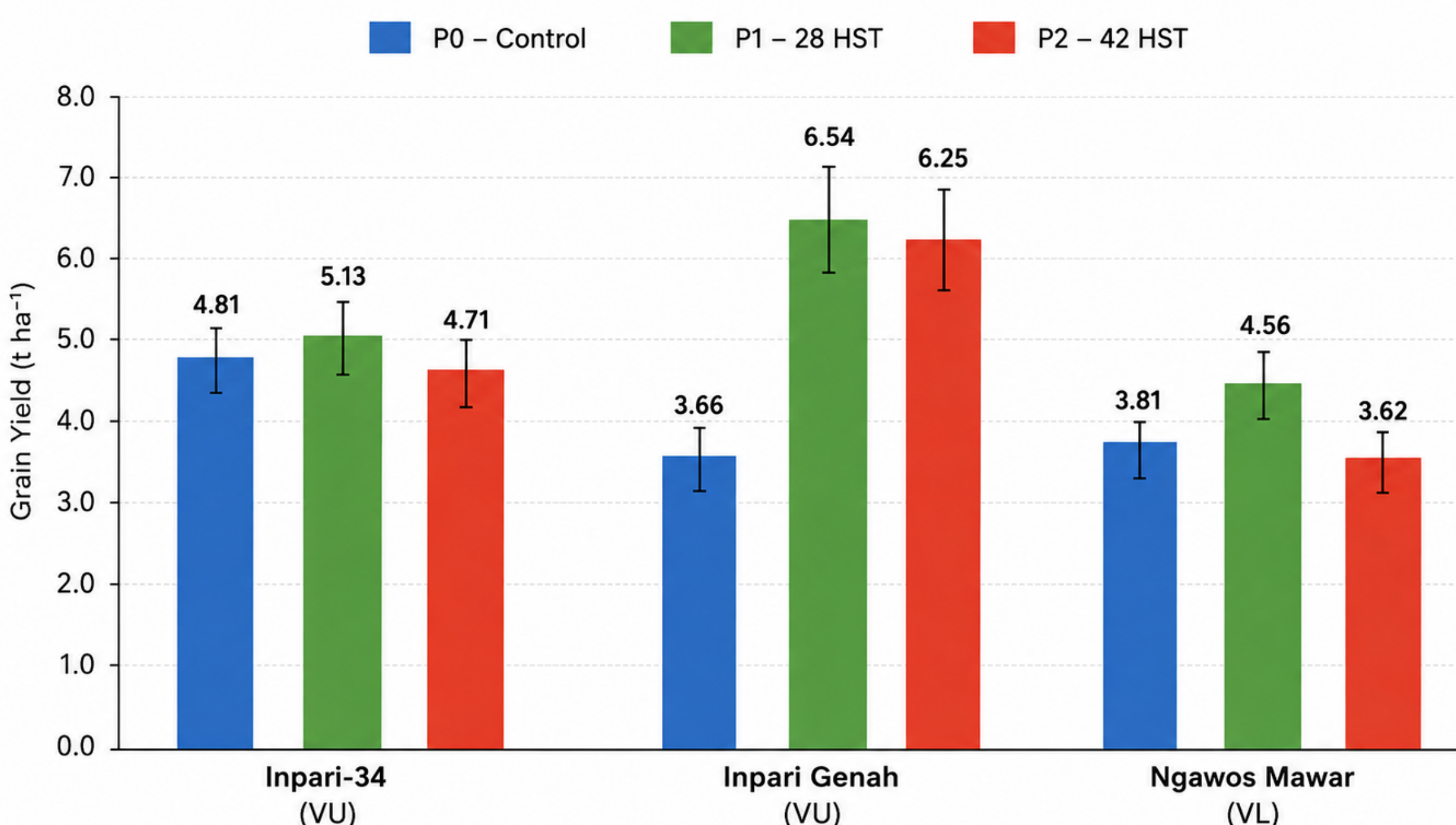
Bandung, West Java: 6°55'20"S, 107°36'25"E
Pangandaran, West Java: 7°41'07"S, 108°39'00"E

2 EXPERIMENTAL STAGE



RESULT

Grain Yield (t ha⁻¹) under Different Pruning Times and Rice Varieties



NITROGEN UPTAKE

(kg N ha⁻¹ per season)

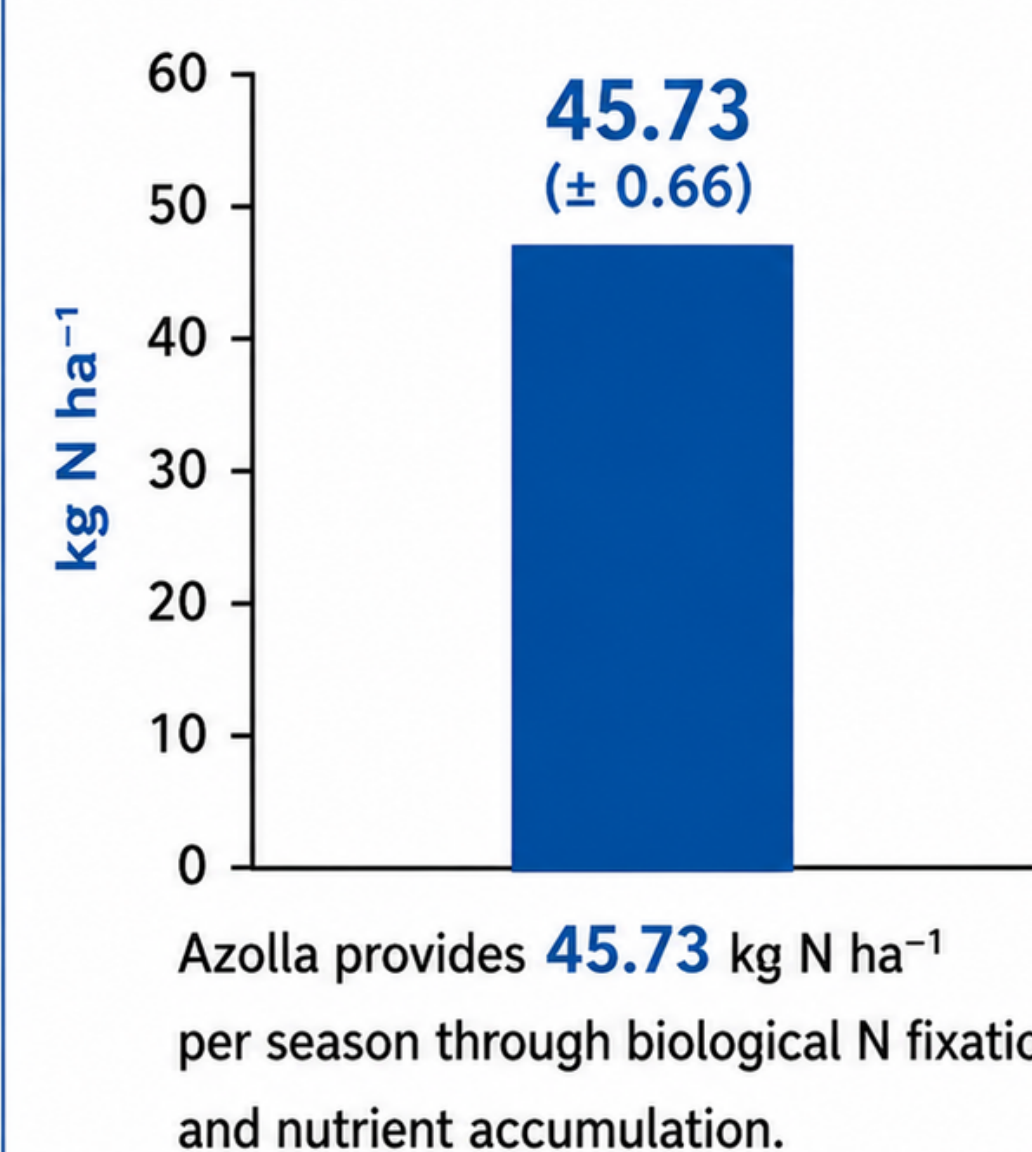
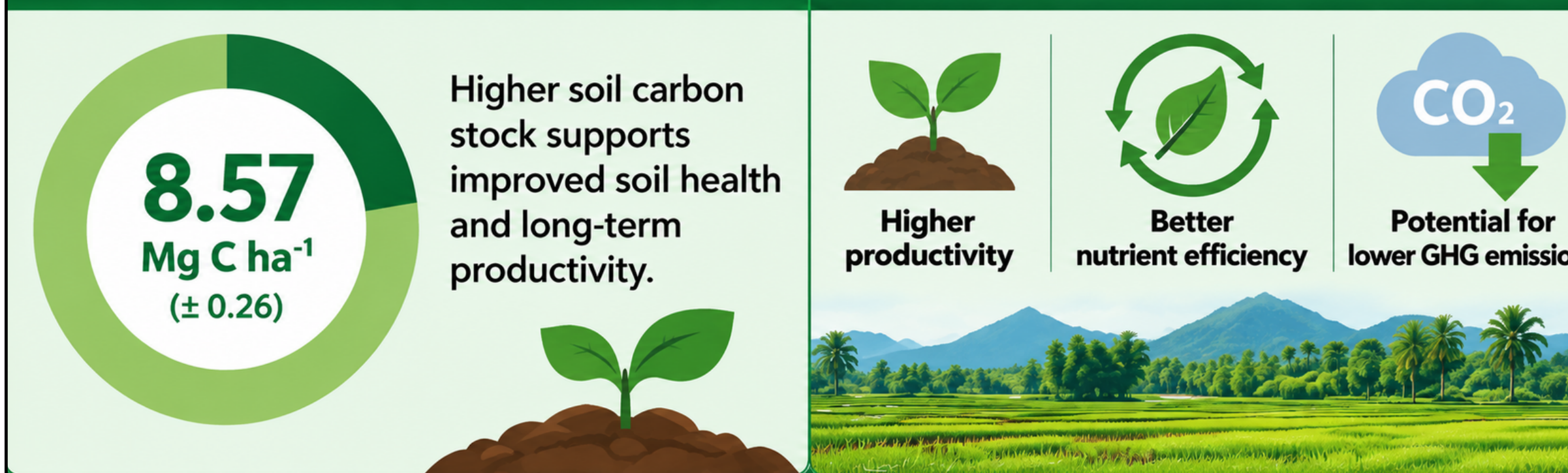


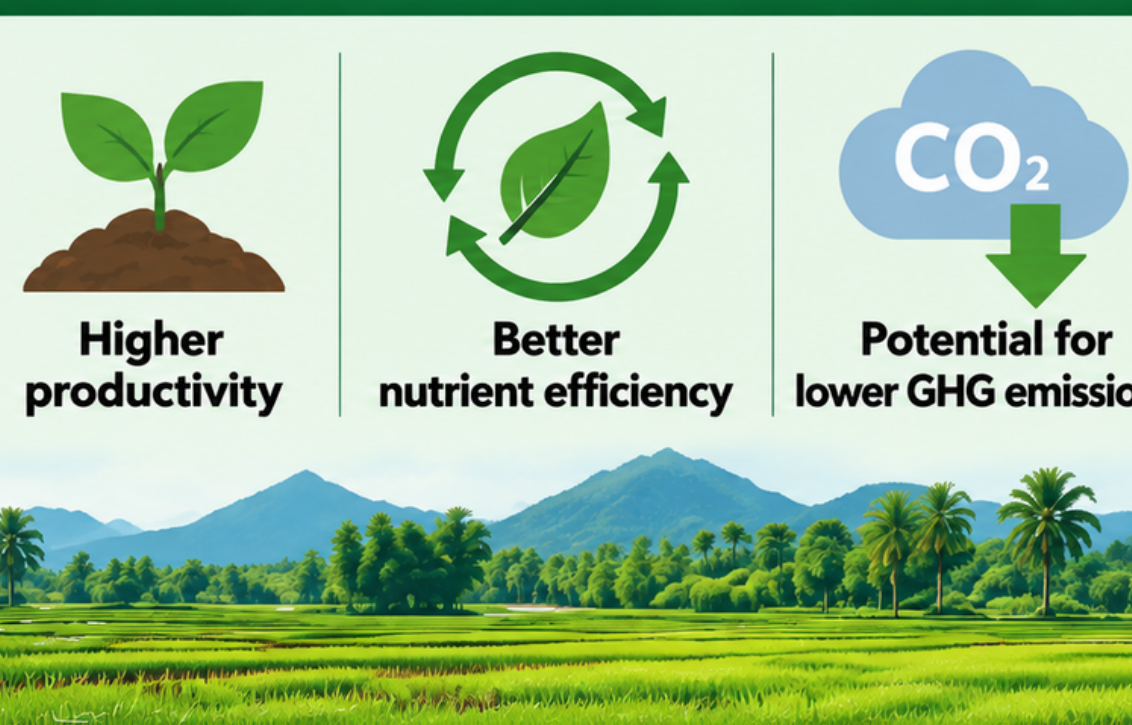
Table 1. Increase in Azolla, Pruning and Ratoon System Productivity (t ha⁻¹)

Rice Variety	Pruning Yield	Ratoon Yield	Harvest Index	Total Yield
Inpari-34	5,13	1,48	45,9%	6,61
Inpari Genah	6,54	1,63	50%	8,17
Ngawos Mawar	4,56	1,78	45%	6,34

SOIL CARBON STOCK



SYSTEM BENEFITS



CONCLUSION & FUTURE RESEARCH

- ✓ Azolla Contribution - Azolla supplied 45.73 kg N ha⁻¹, improving nutrient availability.
 - ✓ Optimized Pruning - 28 DAT performed best in superior varieties, while 42 DAT was more suitable for local varieties.
 - ✓ Ratoon Productivity - Ratoon rice contributed 1.48-7.41 t ha⁻¹, increasing overall productivity by 45-62%.
- Further research should optimize pruning and ratoon management, quantify GHG emissions, assess economic feasibility, and validate the system across varieties, locations, and seasons.

CLIMATE BUSINESS FIELD SCHOOL



Supported by:



FOR MORE INFORMATION

Universitas Padjadjaran: Jalan Ir. Soekarno KM. 21, Jatinangor, Kabupaten Sumedang, Jawa Barat 45363

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based on a decision of the German Bundestag