MIRSA-3 EXPERIMENT **IN INDONESIA**

Indonesian Agricultural Environment Research Institute (IAERI) Team

2019



Ministry of Agriculture Indonesian Agency for Agricultural Research and Development - IAARD



Specific objective and tasks

To develop rice cultivation technologies that realize both yield maintenance and GHG emission reduction in Indonesia.





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Lay out of Preliminary Experiment



12 m

- Date of direct seeding **Rice variety** Plot size Fertilizer Water management Sampling
- : 31 October 2018
- : Conventional (Inpari 32)
- : (12 x 12) m²
- : 120 kg N/ha, 60 kg P_2O_5 /ha and 90 kg K_2O /ha
- : Continuous Flooding
- : Soil properties (CN%) before sowing
- Rice growth (plant height and tiller number)
- Yield (2 x 3)m²
- GHG (CH₄ and N₂O) (Weekly)



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To know the variability of soil among replication*



Experiment



EXPERIMENTAL FACTORS (S_{1-6})

AWD-15cm Water management: Safe AWD vs. CF **Organic amendment:** FYM with vs. without **Rice cultivar: INPARI 32** popular one vs. IR64



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RICE CULTIVARS

No	Description	INPARI 32	IR64
1	Release date	2013	17 July 1986
2	Origin	Ciherang and IRBB64	IR5657 and IR2061
3	Growth period	120 days	115 days
4	Plant height	97 cm	85 cm
5	Weight per 1000 grains	27.1 grams	27 grams
6	Productivity	6.30 t/ha	5.0 t/ha
7	Amylosa content	21.8 %	24.1 %
8	Resistance/susceptible to plant pest and disease	BLB strain III, strain IV, <i>blast</i> disease Ras 033, and Tungro, susceptible to <i>Nilaparvata lugens</i> biotipe 1, 2, dan 3.	Resistence to <i>Nilaparvata lugens</i> biotipe 1, 2 and <i>Nephotettix virescens,</i> <i>Xanthomonas oryzae,</i> rice grassy stunt virus



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LAY OUT of MIRSA-3



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SUMMARY

- The GHG emission and grain yield at preliminary experiment were higher than season 1.
- The grain yield of Inpari 32 rice cultivar was higher than IR64.
- The AWD treatment increased grain yield, reduce GWP and water use compared to CF significantly.





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