

Seminar on the role of plant breeding and plant variety protection in enabling agriculture to mitigate and adapt to climate change

UPOV

International Union for the Protection of New Varieties of Plants

SmartRice[®]: a rice product grown using more sustainable methods to reduce the use of agricultural resources and provide more rice to meet the growing worldwide appetite

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RiceTec USA, United States of America*

Wednesday, October 12, 2022



Our rice breeding journey started about 30 years ago



Transplanted Hybrid Rice



Direct Seeding Hybrid Rice

We focused breeding to increase root biomass

unimproved
hybrid rice

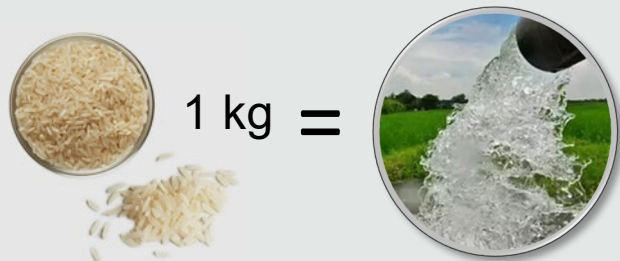


improved hybrid
rice adapted to
direct seeding
and water-
saving
management
practices

We bred disease resistance traits and high grain yield



We bred hybrids with lower environmental footprint

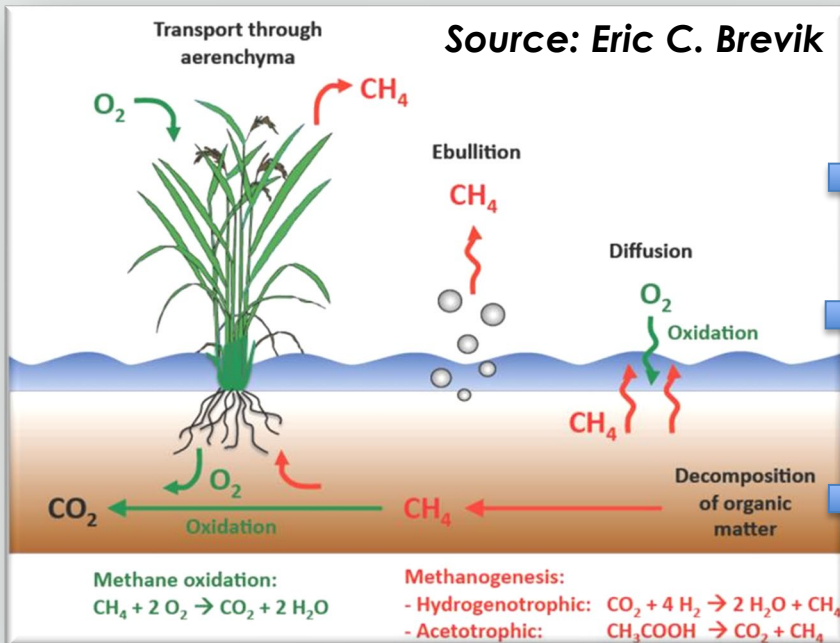


1 kg =

2,500-5,000 liters
Source: IRRI

Traditional way to grow rice

Methane emission from a rice field



Improved hybrids



Improved irrigation management



AWD (Alternate Wetting and Drying), Furrow irrigation, Direct seeding

* Based on average of farm collection data and state-collected data

SmartRice®

AWD can reduce methane emissions in rice cultivation by an average of 48% over continuous flooding Source: IRRI

AWD reduces global warming potential by 43% Sanchis et al. 2012

Improved rice hybrids emit 29% fewer greenhouse gases per unit of output

Nalley et al. 2014



SMART RICE™



**GOOD FOR YOU.
GOOD FOR THE EARTH.**

- The first sustainable rice with strong environmental claims
 - >50% water use reduction
 - >50% GHG reduction
 - 20% more people potential to feed per land unit
 - Third-party verification (SCS)
- Whole farm approach to conservation
 - Wildlife-bird-pollinator refuges; water quality, soil health
- Complete transparency and traceability
 - Consumers can follow from field to store

SCSglobal
SERVICES 
Setting the standard for sustainability™

 RiceTec

SMART RICE™

+

FULL PAGE™

Rice Cropping Solution



Smart Farmer - Convenience and higher profitability



Profitability

Higher Productivity & Cost Reduction



Convenience

Reduce Labor Dependence



Sustainable

Reduction Water, Fuel Usage & GHG



SMART RICE™

+

FULL PAGE™

Rice Cropping Solution

significant incremental value over Transplanted (TPR) and Direct Seeded Rice (DSR)

Benefits of SmartRice® and FullPage® Technology
Figures are examples of potential incremental value



TPR
DSR
FullPage

Intangible Benefits: Peace of Mind



1. Reduce labour dependency
2. Wear and tear of machinery
3. Convenience
4. Time saving

Incremental Value

1. Saving from transplanting cost
2. Effective weed management
3. Save irrigation cost
4. Yield gain

TPR



Higher methane and CO₂ emission

SmartRice® + FullPage®



Reduce ~35% emission,
may lead to carbon credit opportunities



RiceTec

We are a medium-size, privately own, rice breeding company

- We reinvest about 15% of revenue on research, development, innovation, and genetic improvement of rice and we rely 100% on our earnings to continue innovating. ***SOCIAL RESPONSIBILITY***
- Our investors, plant breeders, and product developers must have the opportunity to earn competitive returns on the investments in new seed products which benefit our planet, our health, and our food. ***FAIRNESS***
- Strong IP policies makes this possible. ***ENABLING ENVIRONMENT***
- Currently, there are attempts to weaken UPOV 91 Act by weakening the fundamental EDV concept, that if successful will deeply affect the ability of companies like us to continue bringing innovations to market.