



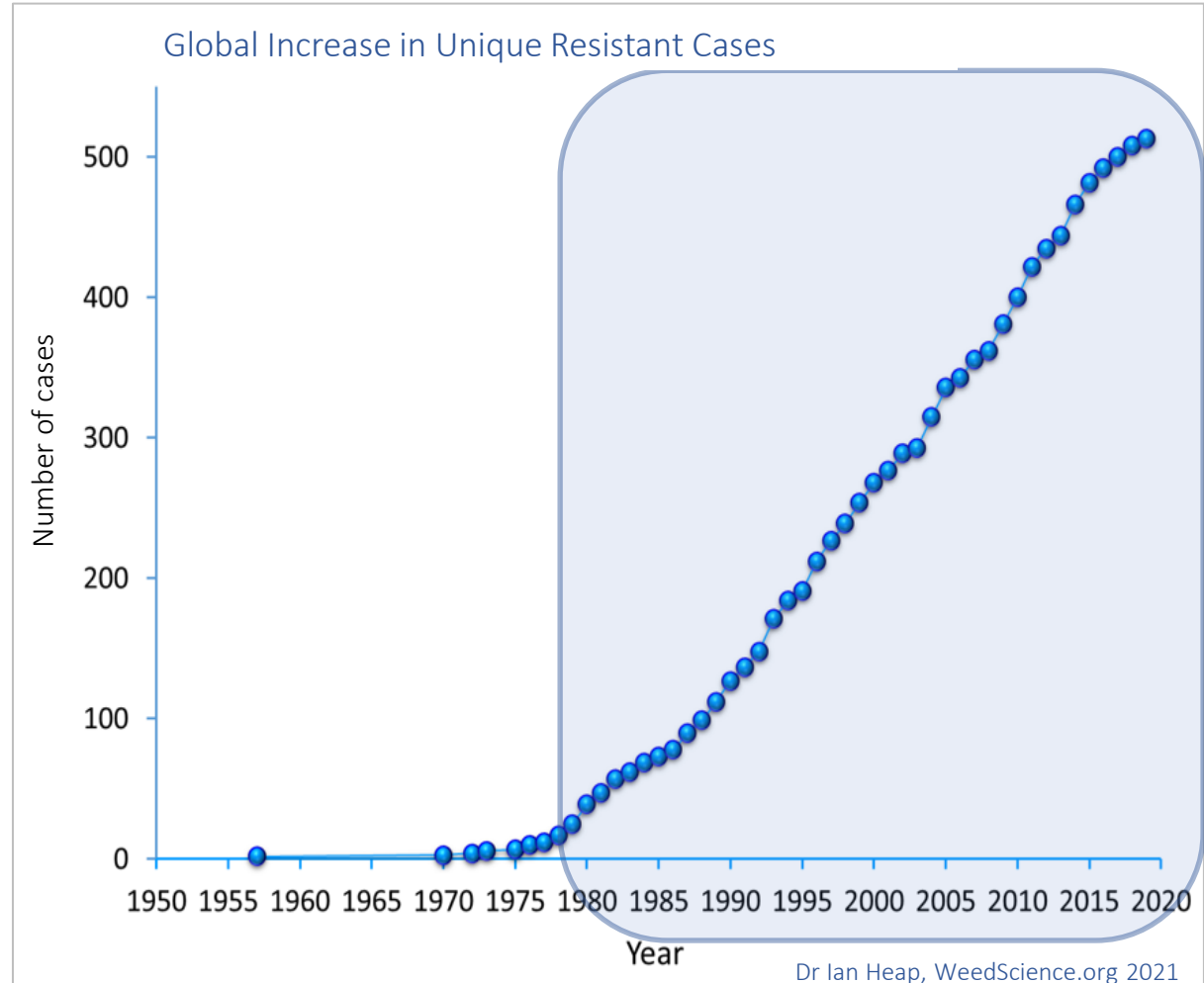
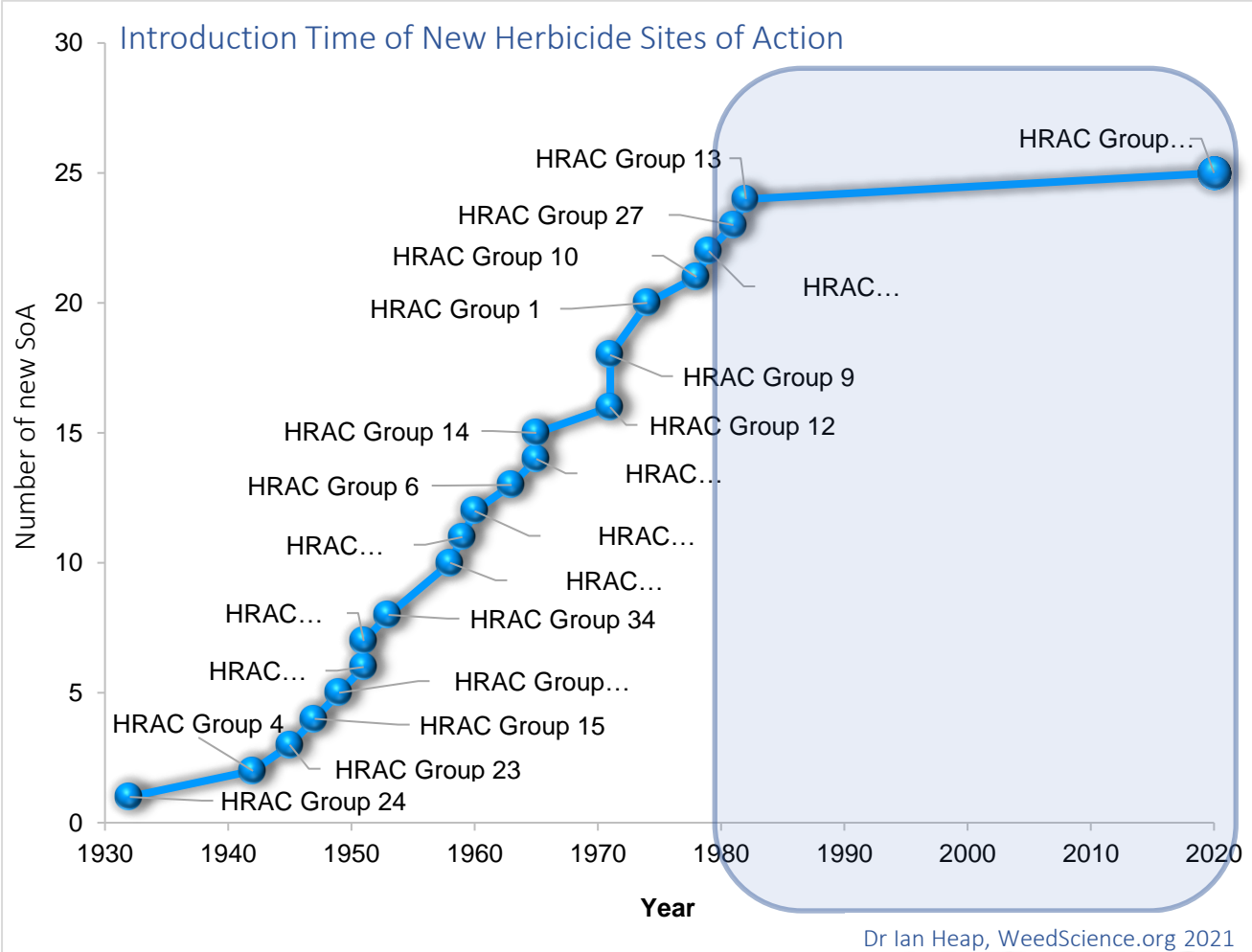
Innovations in production systems and new technologies to produce more and better

Hernán Ghiglione

BASF Corporation



Innovation, a key factor for sustainability





BASF Agricultural Innovation

€ 944 million
 spent on R&D for agricultural solutions in 2022

> €7.5 billion
 contribution from innovative products launched by 2032

> 7 million*
 users of xarvio® digital farming tools to support sustainable resource management
 *as of Q1 2023

8
 active ingredients to be launched until 2029

100's
 lifecycle management and formulation innovations as well as continuous improvement of seed genetics and trait innovations

> 3,000
 people in agricultural research & development

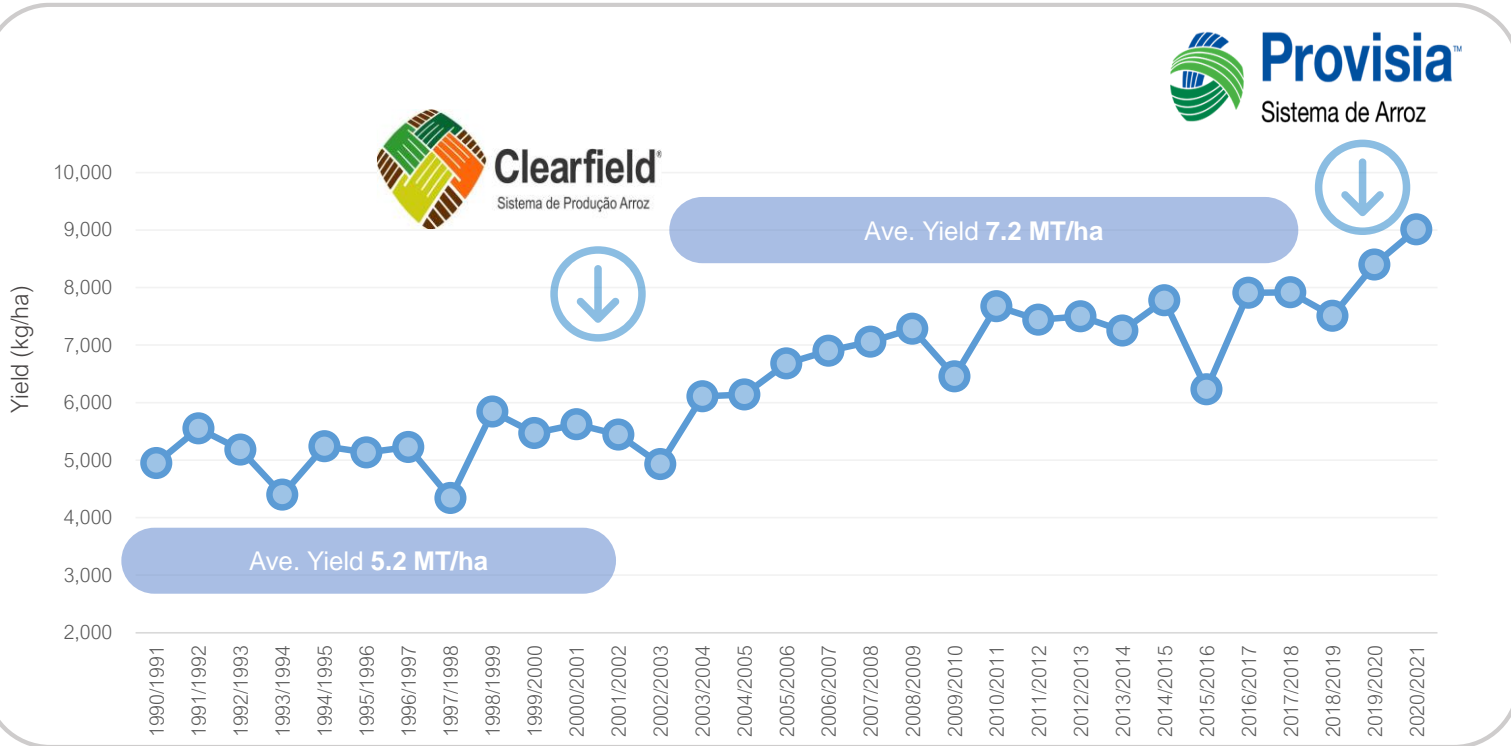
> 200
 regional seed production and breeding facilities

4
 major R&D hubs and >25 R&D sites





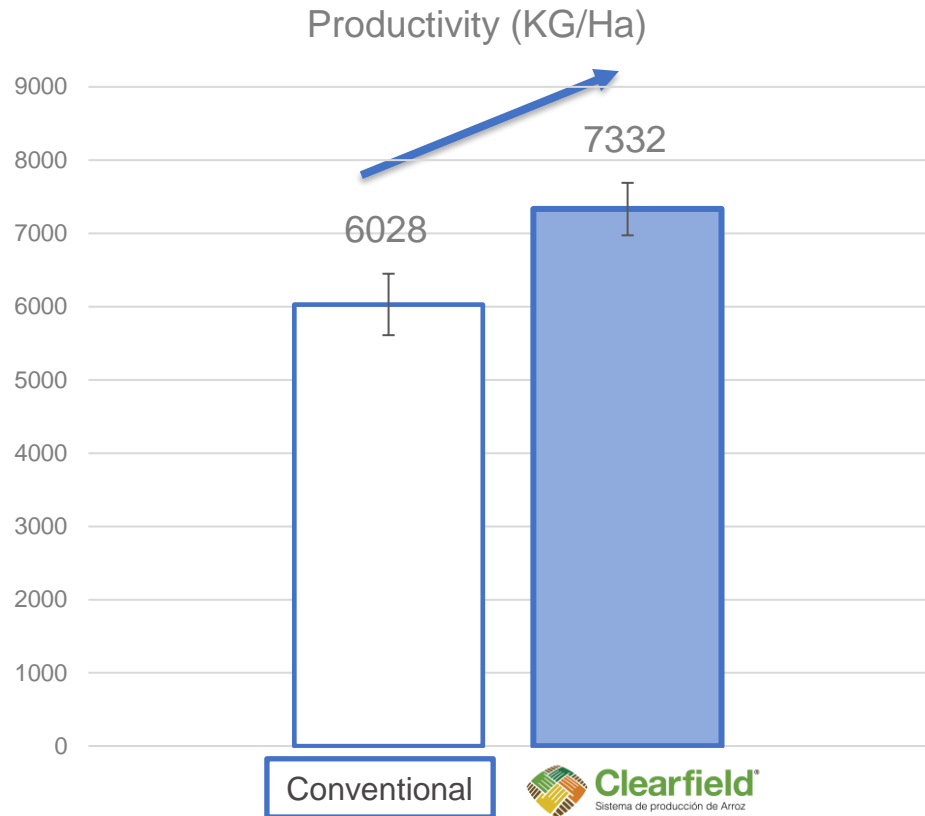
Clearfield® technology impacts.



Average yield from Rio Grande do Sul, Brazil (irrigated rice) Clearfield rice as part of Project 10 IRGA.
 For more details: <https://youtu.be/W4pLcHg-c8E>



Clearfield® technology impacts



➤ Better weeds management (Red Rice)

➤ Operational improvements

➤ Cost reduction

➤ Better water management



Season 2023,
Average yield from 15 locations.
Colombia.



BASF focus on innovations to improve rice production



Breeding, innovations in chemistry and digital tools to support main challenges in rice:

- ✓ Water and Land use
GHG emissions
- ✓ Weeds, diseases and pest management
- ✓ Climate-smart and environmentally responsible farming practices



500 million tons of rice are produced annually*

90% of the world's rice is produced in Asia**

*USDA World Agricultural Production, 2023. **FAOSTAT, 2021





Innovations in launch and development through 2029 for rice



New varieties & traits

Provisia[®] Rice System

Crop protection

Luximo[®] & Kixor[®] CS herbicides
 Revysol[®] fungicide
 Insecticide in development

Digital farming





Provisia[®] and Clearfield[®] rice systems to expand weed management tools

- ✓ Technology enables specific herbicides to manage general weeds and weedy rice
- ✓ Innovations allow higher yielding commercial rice plants to thrive
- ✓ Facilitates better use of limited arable land

Availability

- ✓ Currently available in South America and North America.
- ✓ Introduction in Colombia and Asian rice market by 2026
- ✓ Different seed partnerships activated to launch the herbicide tolerant traits in rice globally



*Provisia[®] controls weedy-rice.
BASF field trials, photo from US launch.*



New tools for weeds management in rice

Luximo®

- ✓ Mew tool for grass weed management programs.
- ✓ New herbicide for resistant management
- ✓ New mode of action. Luximo® inhibits cell membrane processes. Germination is disrupted in grass weed seedlings

KIXAC®

- ✓ Innovative encapsulation that is safe on rice plants
- ✓ Effectively controls broadleaf weeds.



Luximo® : grasses control in rice.

Kixac: Broadleaves weeds control in rice.

BASF Internal field trials, Asia.





Revysol® fungicide formulations launching for rice

- ✓ Blockbuster, Revysol® Active will be formulated for applications in rice
- ✓ Launching within the next 2 years as **Cevya®**, **Mibelya®**, and **Revyrize®**.
- ✓ Control for major diseases such as sheath blight, and dirty panicle

Benefits

- ✓ Improves rice quality and yield
- ✓ Additional fungicide tool for resistance management of diseases
- ✓ Sustainable, low use-rates of **Revysol®**



New insecticide for control of resistant rice hopper

Long residual control of devastating rice hopper pests

- ✓ No cross-resistance
- ✓ Favorable environmental profile

Leveraging partnerships: advanced by BASF and industry collaborators

Accelerated development: expected in Asia Pacific mid-decade

New insecticide



Untreated

New insecticide AI shows activity against the rice hopper complex. BASF field trials, China.



Xarvio® FIELD MANAGER for rice

Currently available in Japan, the decision-making quality of xarvio® FIELD MANAGER is continuously improving to optimize sustainable rice production.

More efficient use of technologies:

- ✓ Platform updates for new insect pest models expected to be available by 2025
- ✓ Disease models to be updated to support more precise fungicide timing, dosing and product selection recommendations





A very innovative pipeline with integrated solutions to accelerate agriculture's transformation.