



Plantix

Sowing a seed of change

 **ICRISAT**
INTERNATIONAL CROPS RESEARCH
INSTITUTE FOR THE SEMI-ARID TROPICS


CGIAR

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Journey of transformation

In a quiet corner of an Indian farm, a humble seed - an idea, a call for change - was planted and nurtured by the collaborative spirit of Plantix and ICRISAT, blossoming into a transformative force for agriculture and small-scale farmers.

This collaboration between Plantix and ICRISAT is more than just a success story; it's a commitment to empower agriculture and small-scale farmers.

Welcome to our journey of transformation!



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**A commitment
to empower
agriculture and
small-scale
farmers**

Joint Letter

In an era defined by technological advancement and the urgent need for sustainable agricultural practices, the partnership between Plantix and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) reaffirms the power of partnership in achieving sustainable development.

Our collaboration, seeded in 2015, sought to leverage the strengths of both organizations to tackle agricultural challenges using technology. Almost a decade later, we can proudly report that the Plantix app's AI-driven diagnostics, powered by ICRISAT's research and data, have significantly improved crop health management in the semi-arid regions of the world and beyond.

Together, we have achieved over 30 million downloads of the Plantix app and analyzed more than 100 million images, providing critical agricultural insights to millions of farmers worldwide.

Collaborating for Success

The success of this initiative would not have been possible without the dedicated efforts of our partners, collaborators, and the farming community. This collaborative spirit continues to enhance productivity and contribute to sustainable farming practices across diverse geographies.

We express our heartfelt gratitude to all partners for embracing the vision. Your trust drives us to continue our work, aiming for a future where technology fully supports sustainable agriculture.

Towards the Future

As we move forward, we are committed to enhancing our technology, broadening our impact, and steadfastly serving the farming community. Our aim is to refine disease and pest prediction models and to broaden our network of collaboration, sparking further advancements in agricultural technology.

We, therefore, invite like-minded entities to join us in this mission to transform agriculture through science and technology. There is more ground to cover, and our experience has reinforced the belief that partnership is the key to advancing sustainable and economically viable farming practices for smallholder farmers around the world.



Dr. Jacqueline Hughes,
Director General, ICRISAT



Simone Strey,
CEO, Plantix

A decade of impactful partnership

2015

Seed of unity

In Mali, Plantix and ICRISAT plant the seed of collaboration, laying the foundation for farmer empowerment.

2016

Fertile ground

Plantix takes root in India, partnering with ICRISAT's Digital Agriculture Unit and iHub platform. An MoU in September 2016 sets the stage for growth.

2017

A pivotal moment!

The Plantix app blossoms in Vijayawada, marking a commitment to joint research. MoUs signed with Andhra Pradesh Government, Agriculture/Horticulture Department, ANGRAU, and PJTSAU. Launched in Telugu by the Chief Minister of AP.

2018

National recognition

Plantix gains national recognition at *Krishi Unnati Mela*, New Delhi. Collaboration with CABI and ICRISAT introduces a groundbreaking tracking tool for Fall Armyworm.

2019

Meteoric rise

Plantix becomes the world's #1 farming app, winning prestigious awards for impactful contributions.

2020

Expanding horizons

Plantix Agritech India Pvt. Ltd. is founded, establishing itself as the #1 retailer network in India.

2021

Community empowerment

ICRISAT trains over 850 FPOs/NGOs on the Plantix app, reaching 48,000+ farmers, and amplifying knowledge dissemination.

2022

Vietnam project and beyond

Embarking on a project in Vietnam on rice, Plantix and ICRISAT achieve over 93% accuracy in direct detection of pests and diseases through farmer field performance testing.

2023

Pest-disease forecasting model

Collaborating with ICRISAT and partners on developing pest-disease forecasting models.

2024

Future cultivation

Disease modeling workshop, led by brilliant minds from ICRISAT, Plantix, ICAR-IIRR, National Institute of Plant Health Management, and AgHub-Agri-Innovation Hub of PJTSAU.



A powerful duo

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Plantix is gaining popularity exponentially, and we expect to have 12.5 million active farmers by the end of 2024.

ICRISAT and Plantix

A powerful duo

In the agricultural realm, where pests and diseases claim a one-third toll on farmers' income each harvest, and US \$80 billion is spent every second on ineffective remedies, a powerful duo - ICRISAT and Plantix - emerges.

Driven by a shared passion to support small-scale farmers and promote a sustainable agricultural future, our combined efforts empower farmers to improve their harvests.

About ICRISAT

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a pioneering international organization committed to developing and improving dryland farming and agri-food systems to address the challenges of hunger, malnutrition, poverty, and environmental degradation that affect the 2.1 billion people residing in the drylands of Asia, sub-Saharan Africa, and beyond.

About Plantix

Plantix is dedicated to helping and supporting small-scale farmers and agri-retailers around the world. Using AI technology, data analytics, and scientific research, Plantix's goal is to provide the right solutions, promote sustainable practices and enhance farming productivity. Renowned as the leading farming app for crop diagnosis and treatments, Plantix offers unparalleled pest detection solutions, solidifying its position as the number one farming app worldwide.

A wealth of knowledge at farmers' fingertips

In just seconds, farmers can diagnose pests and diseases with Plantix, turning their Android phone into a mobile crop doctor. With Plantix, farmers can treat crop problems, boost productivity, and learn farming tips. Its online library encompasses more than 11,000 entries that address 850 crop issues in 18 languages.

A farmer can use this knowledge at every stage:

Symptoms:

Identify the telltale signs of pests, diseases, and nutrient deficiencies with detailed descriptions.

Prevention:

Learn proactive measures to safeguard crops, including cultural practices, resistant varieties, and natural barriers.

Chemical Control:

If necessary, access information on responsible pesticide use, ensuring effectiveness while prioritizing safety and sustainability.

Causes:

Understand the root of the problem, whether it's an insect infestation, a fungal attack, or a lack of essential nutrients.

Organic Control:

Discover eco-friendly solutions to manage pests and diseases, minimizing environmental impact and promoting long-term soil health.

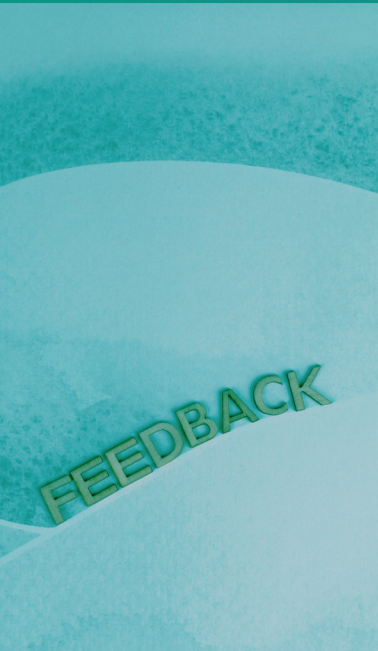
Our collaborative approach

Now, let's discuss ICRISAT, the agriculture experts who are integral to our story. ICRISAT proactively contributes to sourcing plant damage image datasets, collaborating with partners to enrich the annotation and classification of training datasets crucial for testing AI algorithms developed by Plantix. This collaborative effort challenges our models, driving us to new heights.

ICRISAT goes beyond just providing images; they actively challenge the Plantix application in real fields and offer valuable feedback on its performance. This process is crucial, as it gives insights into how our model handles different crops, diverse issues, and real-world scenarios. This evaluation by ICRISAT experts further refines the effectiveness of Plantix.

Together, we're constantly improving, ensuring Plantix remains a reliable companion for farmers.

Offering valuable feedback

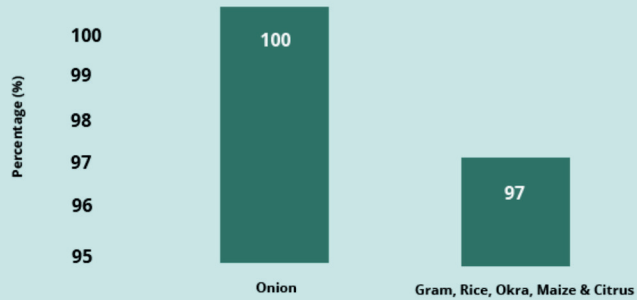


|| We're constantly improving, ensuring Plantix remains a reliable companion for farmers.

AI performance by crop

We stepped into the realm of precision agriculture as ICRISAT rigorously tested Plantix in 2022/2023. This challenge involved scrutinizing 8,500 images spanning 25 crops, each presenting 250 different problems. Plantix surpassed expectations with an outstanding average accuracy exceeding 90%.

Best AI performance by crop - Kharif & Rabi



	Onion	Gram	Rice	Okra	Maize	Citrus
Total tests	130	294	734	524	483	267
Directly identified	130	285	711	506	470	259
#diseases covered	6	14	23	23	19	10

Plantix's influence on farmers' yields

Q. Has the amount of crops that die decreased because of Plantix?

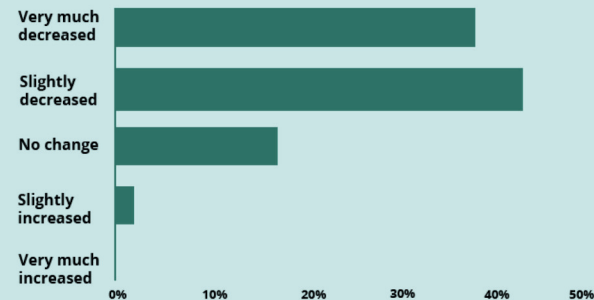
38% Very much decreased

17% No change

43% Slightly decreased

2% Slightly increased

Question: Has the amount of crop(s) that dies decreased because of Plantix?



More than
100M
analyzed images

For
700
diseases

On
60
crops

More than
30M
downloads

10M
Annual users

In
20
languages

Power of Plantix community

In our journey, we are never alone; our community of farmers stands by us. These farmers understand local farming, and alongside experienced ICRISAT experts, they navigate through challenges, from pesky pests to nutrient imbalances, with unwavering determination.

With nearly 1000 questions raised per day, responses are provided within a couple of hours (typically less than 6 hours).

Whether a farmer seeks a swift diagnosis from a snapshot or a detailed solution to a complex issue, our community steps up.

Even students in agriculture and horticulture disciplines benefit, gaining invaluable practical insights into farmers' challenges and the importance of interaction.



Power of community

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In our community, every question, regardless of its magnitude, is met with mutual understanding and support.

Acknowledgement

We would like to express our deepest gratitude to the remarkable individuals whose dedication and expertise have propelled our journey forward.

Dr. Mangi Lal Jat,
Global Research
Program Director
for Resilient Farm
and Food Systems
ICRISAT

**Dr. David
Bergvinson and
Dr. Peter Carberry,**
former Directors
General of ICRISAT

**Dr. Rajan Sharma
and Dr. Harikishan
Sudini,** Cluster
Leaders at ICRISAT

**and Dr. Anthony
Whitbread,** Former
Global Research
Program Director,
Innovation Systems
for the Drylands (ISD)
ICRISAT

for their guidance and contributions.

Dr. Srikanth Rupavatharam,
Senior Scientist in Digital
Agriculture and Head of the
Innovations Hub
ICRISAT

*whose visionary leadership
has driven innovation and
excellence.*

**Sai Rekha Kadirimangalam,
Srinivasa Rao Rajaboena,
and Narasimha Rao Pattipati**
ICRISAT

*are dedicated Scientific Officers
whose expertise has been
pivotal in our journey.*



Ram Dhulipala,
Former Head of Digital Agriculture
ICRISAT

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Former Dean of Agriculture at Professor
Jayashankar Telangana State Agricultural
University

for their invaluable insights and support.



Chandrababu Naidu,
Former Chief Minister of
Andhra Pradesh

*for his pivotal role in launching
our app and supporting
agricultural innovation.*



From Plantix:
Charlotte Schumann, Pierre Munzel,
Bianca Kummer, Alex Förster, Korbinian
Hartberger, Lindsay Graham, Svjetlana
Tunguz, Andjela Komnenc,
and Anita Popovic

*whose dedication and expertise have
been integral to the success of our
collaborative endeavors.*



Harvesting success – our positive impact on farmers' lives

Through dedicated efforts and a shared vision, Plantix and ICRISAT have become a catalyst for positive change, fostering improvements that resonate in the daily lives of those working in agriculture.



Impact

Over 4 in 5 farmers report improvements in their quality of life and way of farming, reduced crop damage, and higher crop production because of Plantix.

2 in 3 report reduced household expenditure on crops and over 3 in 4 report higher earnings from crops.



Kuldeep Singh

A 22-year-old farmer from Badnawar district



Kuldeep's Testimonial

"I didn't have any farming knowledge, but the Plantix app gave me the courage to do farming."



Ghanshyam Solanki

A family farmer from Agarmalwa district



Ghanshyam's Testimonial

"Plantix app helps farmers even when they are sitting at home. You can find all about the crop diseases and what medicine to use. Plantix is a very good app for farmers".

57%

have improved knowledge on farming

20%

observe higher crop production

17%

speak about an increase in income

37%

'very much improved' way of farming

Quality of life

Over three-quarters of farmers report higher earnings from crops because of Plantix. Of these, most attribute the improved earnings to a higher volume of crops sold.

36%

'very much improved' quality of life

Over 8 in 10 farmers

report quality of life improvements because of Plantix.



**Madhupal
Lakshmi**

A farmer from
Lakshmi



Madhupal's Testimonial

"If farmers download and install the Plantix app, they will reap many benefits."



**Satyawan Biru
Shinde**

Taluka Shirur District,
Pune



Satyawan's Testimonial

"Plantix app has a great community feature. I can share my crop problem and get the solution from the Plantix experts."

68%

Spoke about improved knowledge about farming

24%

Mentioned higher crop production

20%

Spoke about increased income

Plantix – Farmer insights, study by 60 Decibels, India, 2021.

Global spotlight with Plantix!

From international conferences in Australia to awards in India, we shine on the world stage.

Explore the key moments that played a big role in our story.

Awards

Simone Strey, CEO

Top 35 Innovators Under 35
MIT Technology Review, 2016



Plantix

Winner of the World Summit
Award, 2017



Plantix

Best Innovation in Digital
Farming Technology Company
India, 2019



Awards

International conferences

Leveraging the role of ML in smart pests and disease identification and management in rice

Lead speaker:

Andjela Komnenic

*2nd Indian Rice Congress on Transforming Rice Research – Recent Scientific Development and Global Food Crisis
February 11 – 14, 2023, Cuttack, Odisha, India*

Artificial intelligence for diagnosing plant diseases:

A case study on Plantix

Speaker: Srikanth Rupavatharam

Conference on Science, Technology, Engineering & Economics for Digital Agriculture (steeDA), University of Sydney, Sydney, Australia, December 2019

Artificial intelligence for sustainable agriculture

Lead speaker: Srikanth Rupavatharam

*3rd AgriNANO – Challenges and Opportunities in Agrinotechnology
Tirupati, India, June 2019*

Artificial intelligence of pest and disease diagnosis

Speaker: Srikanth Rupavatharam

ICT4D Kampala, Uganda, June 2019

Artificial intelligence for plant disease diagnosis and real-time monitoring of pest and diseases

Guest speaker:

Srikanth Rupavatharam

*Global Forum for Innovations in Agriculture
Abu Dhabi, United Arab Emirates, April 2019*

Android application that uses AI to diagnose disease and monitor them real-time

Speaker: Simone Strey

*XIX International Plant Protection Congress
Hyderabad, India, November 2019*

Farmers and technology as partners in disease management

Session moderator: Srikanth Rupavatharam

*International Congress for Plant Pathologists
Boston, United States, August 2018*

Automated plant disease diagnosis using innovative android app (Plantix) for farmers in the Indian state of Andhra Pradesh

Speaker: Srikanth Rupavatharam

*International Congress for Plant Pathologists
Boston, United States, August 2018*

Android mobile application to detect rice diseases in field

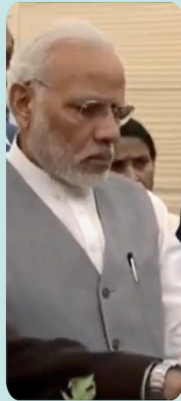
Speaker: Srikanth Rupavatharam

*International Rice Congress, Singapore
October, 2018*

Media highlights

“ —

On March 19, 2018, Plantix took center stage with India's Hon'ble Prime Minister, Narendra Modi, in an exclusive demonstration video at Kissan Unnati Mela, New Delhi.



“ —

As a milestone event for Plantix, Chandrababu Naidu, former Chief Minister of Andhra Pradesh, played a significant role in its launch in Telugu.



“ —

In Nature India's podcast, Episode 31 "Our Mobile World: Enabling Precision Agriculture." Mobile Phones as Essential Tools for Farmers are Explored.

Rob Strey, CTO of Plantix, joins as a guest speaker, providing insights into the transformative role of mobile technology in agriculture.



“ —

Episode 36, "Our Mobile World The Future of Phones."

Anticipates smarter, faster devices powered by transformative technology.



Cultivating tomorrow

1



Our primary goal is to pioneer early disease detection through modeling forecasts, giving farmers valuable time for proactive measures, preventing crop losses, and minimizing input requirements.

2



We aim to deliver site-specific, crop-tailored nutrient advisories, fortifying crops against pests and diseases. This strategic approach is crucial for the judicious use of fertilizers and contributes to the management of sustainable soil health.

3



With ICRISAT's support, we not only strengthen our collaboration but also aim to expand Plantix's impact in Africa and South Asia. Backed by ICRISAT's offices and OneCGIAR institutes, our goal is to reach more farmers and cultivate a sustainable future for agriculture.

4



Continue collaboration with ICRISAT to improve the app by providing enhanced data capabilities.

Invitation for future collaboration



This journey is not just ours; it's an invitation to come together in planting seeds of knowledge, hope, and resilience for future farming generations.

We believe in the power of shared visions, combining science, innovation and technology to create effective solutions that truly benefit farmers.

Plantix is open to partnerships and collaborations worldwide, as we collectively work towards a brighter agricultural future.



**If you share our passion for sustainable agriculture and have ideas or resources to contribute, we want to hear from you.
Connect with us by reaching out to :**

**Rob Strey, CTO, at rob@plantix.net or Simone Strey, CEO, at simone@plantix.net
Srikanth Rupavatharam, at srikanth.rupavatharam@icrisat.org**

