Wheat – India – Apna Khet Bagan Foundation – Dr. Alok Kumar – 2025

Overview

- Researcher: Dr. Alok Kumar
- Institute: Apna Khet Bagan Foundation
- This report details a trial conducted in northern India to verify the effects of Kyminasi® Crop Booster™ (KCB) on the growth and yield of wheat.
- Data collected and organized by: Anand Prakash, AgBoost Tech Consultancy, Uttar Pradesh, India
- Report Date: April 2025

Time

- Start Date: December 28, 2024
- Harvest Date: April 7, 2025

Location

- Place: Bathanaha Pashchimi, Bihar
- Country: India
- Elevation: 217 ft (66 m)
- Treated Area: 0.6 acre
- Control Area: 0.7 acre
- KCB plot Coordinates: 26°37'19.7"N 85°34'57.4"E
- Control plot Coordinates: 26°37'17.9"N 85°35'10.4"E

Species

- Crop: Wheat
- Variety: DWW 187

Irrigation

- Type: Flood

Trial Details

- Rice was planted in two separate plots of similar soil and irrigated separately, one with KCB-treated water and the other with untreated water.

Results

Refer to the attached report for photographic and satellite evidence.

- Observation: Using satellite imaging and historical data, NDVI values of this season (2025) were compared with 2024 values. It was found that KCB-treated rice had significantly higher values despite heat stress in the month of March.
- Observation: Root zone in KCB plot was significantly more developed than Control.
- Observation: Near harvest, KPCB panicles looked heavier and more developed than Control (the data below confirms 45% more grain per panicle, and 46% heavier grain content per panicle.
- The developmental and yield data provided in the table below show significant gains, especially in **tillering, yield**, and **chlorophyll content,** indicating enhanced physiological and productivity traits in the **KCB Plot**.

Parameter	KCB Plot	Control Plot	Improvement (%)
Spike Length (cm)	13.2	10.4	+27%
No. of Tillers	6	3	+100%
Grain Count per Spike	55	38	+45%
1000 Grain Weight (g)	**42**	**32**	**+31%**
Chlorophyll Content (SPAD)	47.5	34.6	+37%
Plant Height (cm)	92	80	+15%
Grain Yield per Plant (g)	**38**	**25**	**+52%**
Spike Count Sampled	6 spikes	6 spikes	--
Total Grain Count	**472**	**358**	**+32%**
Avg. Grains per Spike	78.6	59.6	+32%
Grain Weight Estimate per Spike	~1.9 g	~1.3 g	+46%
Field Yield (Quintal/acre)	**18**	**16**	**+12.5%**

Conclusions

Grain Uniformity & Health

- The seeds of KCB wheat plants show better size, color uniformity, and plumpness
- This aspect indicates stronger photosynthetic performance and nutrient absorption.

KCB Impact on Wheat

- KCB enhanced micro-climate response, as well as water-nutrient synergy
- It boosted overall plant vigor, chlorophyll levels, and spike density.
- **KCB boosted overall yield per acre by 12.5%**, without any known change in inputs.
- Harvest Harmonics recommends performing our POPS (Profitability Optimization Protocol for Sustainability) program to boost yield even further and measure how much water can be saved.

Wheat Crop

KCB PLOT

CONTROL PLOT

Coordinate : Long 85.5824, Lat 26.6225

Coordinate : Long: :85 35 10, Lat :26 37 17

Season-3

HH-Science Division-India-Trials : Apna Khet Baga Foundation, Farm at Bihar

Start Date : 28/12/2024
Harvest Date :07/04/2025.
Variety Crop : DWW 187

IN ASSOCIATION WITH AGBOOST TECH CONSULTANCY

WHEAT CROP PROGRESS STATUS : 15th Jan 2025

KCB PLOT

Photo Date : 15 Jan 2025

Yield : 18 Quintals Per acre

CONTROL PLOT

Photo Date : 15 Jan 2025

Yield : 16 Quintals Per acre

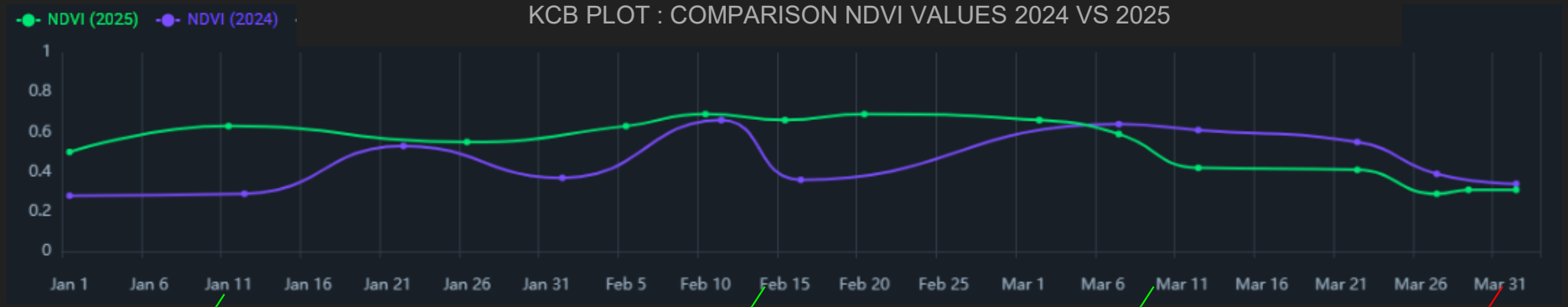
Season-3

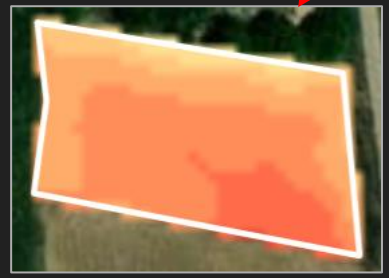
HH-Science Division-India-Trials : Apna Khet Baga Foundation, Farm at Bihar

Rice Growth from Days: 46

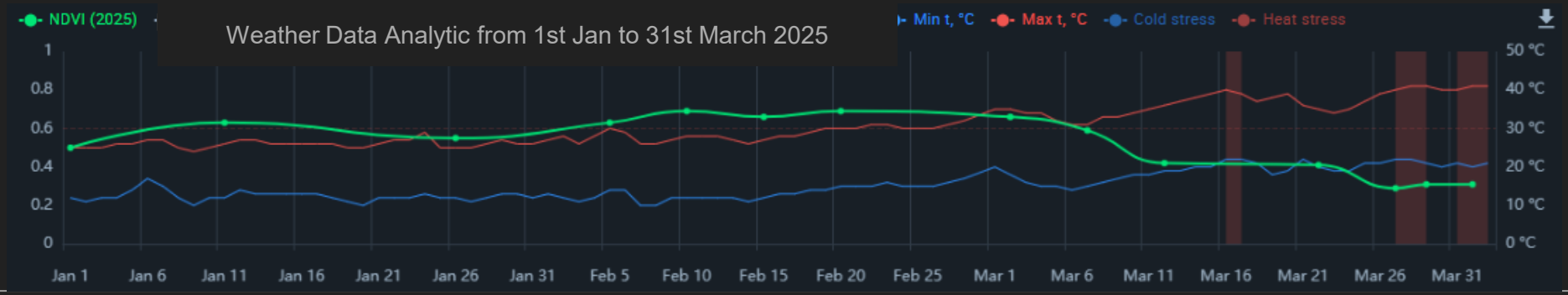
IN ASSOCIATION WITH AGBOOST TECH CONSULTANCY

KCB PLOT : COMPARISON NDVI VALUES 2024 VS 2025





Weather Data Analytic from 1st Jan to 31st March 2025




CONTROL PLOT : COMPARISON NDVI VALUES 2024 VS 2025
NDVI (2025)
NDVI (2024)
1
0.8
0.6
0.4
0.2
0
Jan 1
Jan 6
Jan 11
Jan 16
Jan 21
Jan 26
Jan 31
Feb 5
Feb 10
Feb 15
Feb 20
Feb 25
Mar 1
Mar 6
Mar 11
Mar 16
Mar 21
Mar 26
Mar 31
Weather Data Analytic from 1st Jan to 31st March 2025
NDVI (2025)
Cold stress
Heat stress
50 °C
40 °C
30 °C
20 °C
10 °C
0 °C

A Comparative analysis of both fields based on NDVI values and recommendations, Satellite Sentinel 2

KCB PLOT :26/01/2025

CONTROL PLOT; 26/01/2025

1.Comparative NDVI Analysis & Recommendations

Parameter	Farm 1 (0.26 ha, Higher NDVI - Jan 26, 2025)	Farm 2 (0.12 ha, Lower NDVI - Jan 26, 2025)	Recommendations
NDVI Range (Max)	0.600	0.472	Farm 1 has better vegetation health. Maintain balanced nutrition in Farm 1 and enhance NPK supply in Farm 2.
NDVI Range (Min)	0.412	0.279	Field 2 has weak vegetation areas requiring immediate attention.
High Vegetation Area (NDVI > 0.5)	0.24 ha (92%)	0 ha	Increase nitrogen (N) application in Field 2 to boost crop growth.
Moderate Vegetation Area (NDVI 0.4 - 0.5)	0.02 ha (8%)	0.06 ha (50%)	Phosphorus (P) application needed in Farm 2 to support root development.
Low Vegetation Area (NDVI < 0.4)	0 ha	0.06 ha (50%)	Apply potassium (K) and micronutrients to improve crop resilience in Farm 2.
Total Healthy Crop Coverage	95%	50%	Farm 2 needs improved irrigation, fertilization, and stress management.
Bare Soil or Poor Vegetation	0%	20%	Add organic matter or soil conditioners in Farm 2 to improve fertility.

2.Final Recommendations for Variable Rate Fertilization (VRA)

Recommended NPK Application (kg/ha) Based on NDVI Analysis

Field	Nitrogen (N) kg/ha	Phosphorus (P) kg/ha	Potassium (K) kg/ha	Additional Inputs
Farm 1 (0.26 ha, Good NDVI)	80-100	40-50	30-40	Maintain current irrigation & monitor for pest/disease issues.
Farm 2 (0.12 ha, Low NDVI)	100-120	50-60	40-50	Increase irrigation, add organic matter, and apply foliar sprays to boost plant health.

Key Action Points for Rice Crop Management

1. **Farm 1 (Higher NDVI, 0.26 ha)**
    - **Action:** Maintain nutrient balance and irrigation schedule.
    - **Focus:** Pest & disease monitoring, avoid over-fertilization.
2. **Farm 2 (Lower NDVI, 0.12 ha)**
    - **Action:** Increase **nitrogen (N) and potassium (K)** application.
    - **Focus:** Improve soil health, apply micronutrients (Zinc, Iron) to boost crop growth.
    - **Irrigation:** Increase frequency to prevent water stress.

Season-3

HH-Science Division-India-Trials : Apna Khet Baga Foundation, Farm at Bihar

IN ASSOCIATION WITH AGBOOST TECH CONSULTANCY

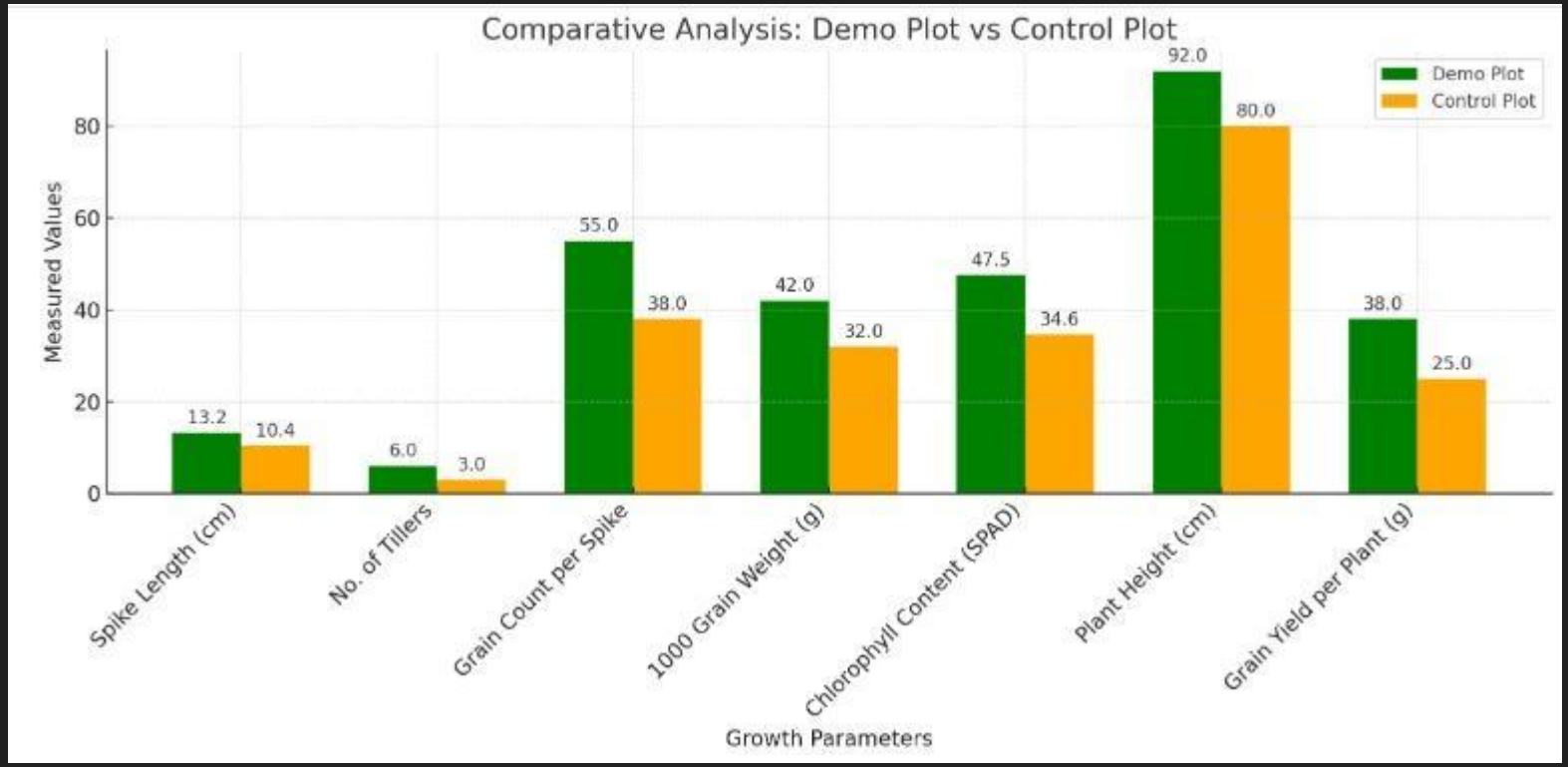
ROOT ZONE DEVELOPMENT

KCB PLOT

CONTROL PLOT


KCB PLOT


CONTROL PLOT



Comparative graph showing the difference in key growth and yield parameters between the KCB Plot and the Control Plot. Each parameter clearly shows improved performance in the KCB plot, highlighting the impact of the applied treatment or technology.

#	Parameter	KCB Plot	Control Plot	Improvement (%)
1	Spike Length (cm)	13.2	10.4	+27%
2	No. of Tillers	6	3	+100%
3	Grain Count per Spike	55	38	+45%
4	**1000 Grain Weight (g)**	**42**	**32**	**+31%**
5	Chlorophyll Content (SPAD)	47.5	34.6	+37%
6	Plant Height (cm)	92	80	+15%
7	**Grain Yield per Plant (g)**	**38**	**25**	**+52%**

NOTE :The data shows significant gains, especially in **tillering**, **yield**, and **chlorophyll content**, indicating enhanced physiological and productivity traits in the **KCB Plot**.

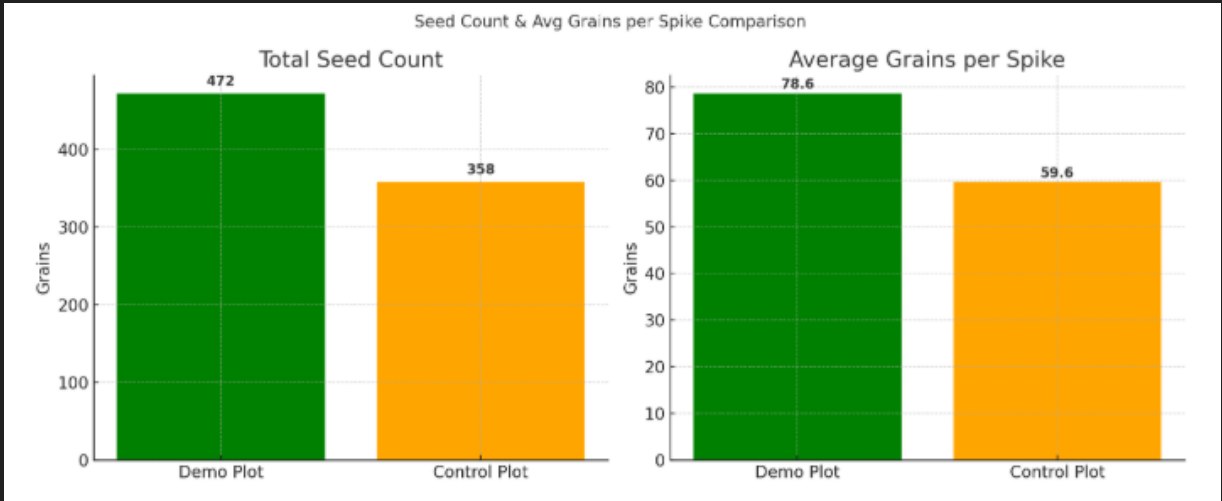
SEED COUNTS

KCB PLOT (472)

CONTROL PLOT (358)

Seed Count & Yield Observations

#	Parameter	KCB Plot	Control Plot	Improvement (%)
1	Spike Count Sampled	6 spikes	6 spikes	--
2	**Total Grain Count**	**472 grains**	**358 grains**	**+32%**
3	Avg. Grains per Spike	78.6	59.6	+32%
4	Grain Weight Estimate per Spike	~1.9 g	~1.3 g	+46%
5	**Field Yield (Quintal/acre)**	**18**	**16**	**+12.5%**



	A) Grain Uniformity & Health:
1.	KCB seeds show better size, color uniformity, and plumpness
2.	Indicates stronger photosynthetic performance and nutrient absorption
	B) KCB Impact:
1.	Crop Booster enhanced micro-climate response, water-nutrient synergy
2.	Boosted overall plant vigor, chlorophyll levels, and spike density