



RICE CASE STUDY 2022

Growtech Services (Pvt.) Ltd IN PARTNERSHIP WITH BANK OF PUNJAB

Increase in BOP Farmer Disposable Income

Farmers/ Farm size	Rice Variety	Reduction in irrigation cost per acre (PKR)	Yield Increase Per Acre (monds)	Increase in Farmer's income based on YIELD (PKR per Acre) <i>*If average rate of Rice per 40 kg was Rs. 3000</i>	Reduction in Fertilizer use (Kg per acre)		Saving on fertilizer Cost (PKR. per Acre)	Add. Income per Acre (PKR)*	Total Add. Income (PKR)*
					Nitroge n	Phosphor us			
Ihsan Ullah 15.52 acres	515	PKR 4,000	15	PKR 45,000			Farmer has not provided information to GT support team	PKR 49,000	PKR 760,480
Ihsan Ullah 3.14 Acres	586	PKR 4,000	15	PKR 45,000			Same as above	PKR 49,000	PKR 760,480
Ihsan Ullah 3.68 Acres	1509	PKR 4,000	15	PKR 45,000			Same as above	PKR 49,000	PKR 760,480
Khaqan Babar 20.19 Acres	PK-386	6,000/- (at 2 different stages)	10	PKR 30,000	13.5	0	PKR 1,526	PKR 37,526	PKR 375,260
Zaheer 14.18 Acres	Super Basmati	3,000/-	10	PKR 30,000			Farmer has not provided information to GT support team	PKR 36,000	PKR 360,000
Khalid Mehmood 9.12 Acres	Super Basmati	3,000/-	Farmer is not picking our call				Same as above		
Muhammad Bilal 6.08 Acres	Super Basmati		Farmer is not picking our call				Same as above		
Saif zulfiqar 6.57 Acres	Super Basmati / PK-386	3,000/-	6	PKR 18,000	16	11.5	PKR 7,808	PKR 28,808	PKR 172,848

* Some of the farmers did not opt to share complete details, so all the calculation are made based on the collected information

Increase in Farmer Disposable Income for Rice Season

GROWTECH DIRECT FARMERS



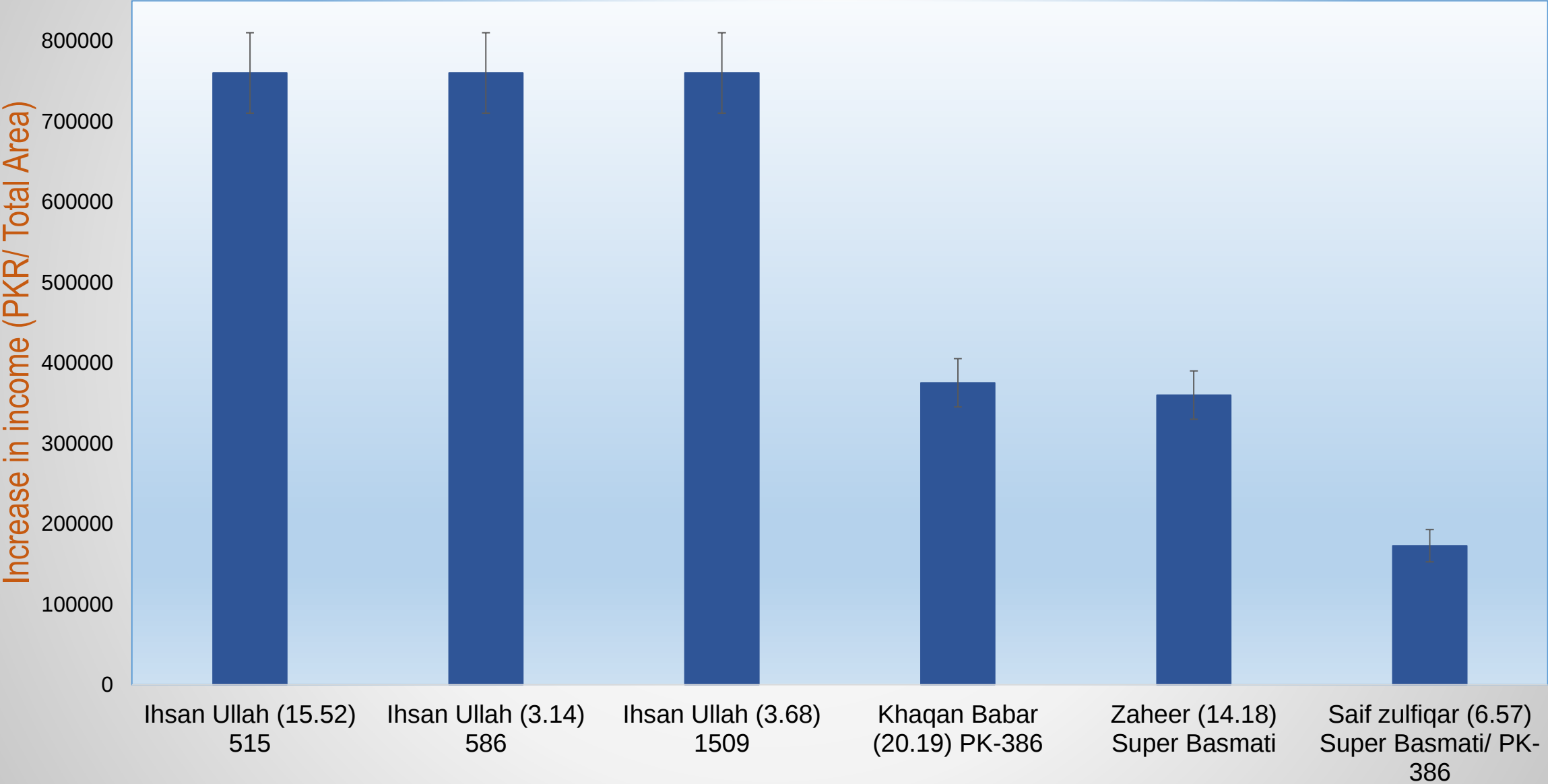
GROW MORE FROM LESS
Happy Farmers
Prosperous Pakistan

Growtech is focused on improving the efficiency and utilization rate of fertilizer, rather than simply increasing soil's nutrient level. Our innovative digital solution, remote monitoring & data analytics help to determine the nutrients and identifying deficiencies in plants & soil. Our aim is to help farmer increasing the ability to produce more food using fewer resources.

This Cost effective solution helped Rice farmers (season 2022) in;

- 1. On Average 30% reduction in Urea use - Investment & Environmental impact*
- 2. On Average 40% reduction in DAP use - Investment & Environmental impact*
- 3. 30% reduction in use of water was achieved by monitoring plant stress level and rain patterns - CONSERVING WATER*
- 4. 15% increase on average in Yield - SMART FARMING & Food security*
- 5. 43% increase in farmers' income*

43% Increase in BOP Farmer Disposable Income



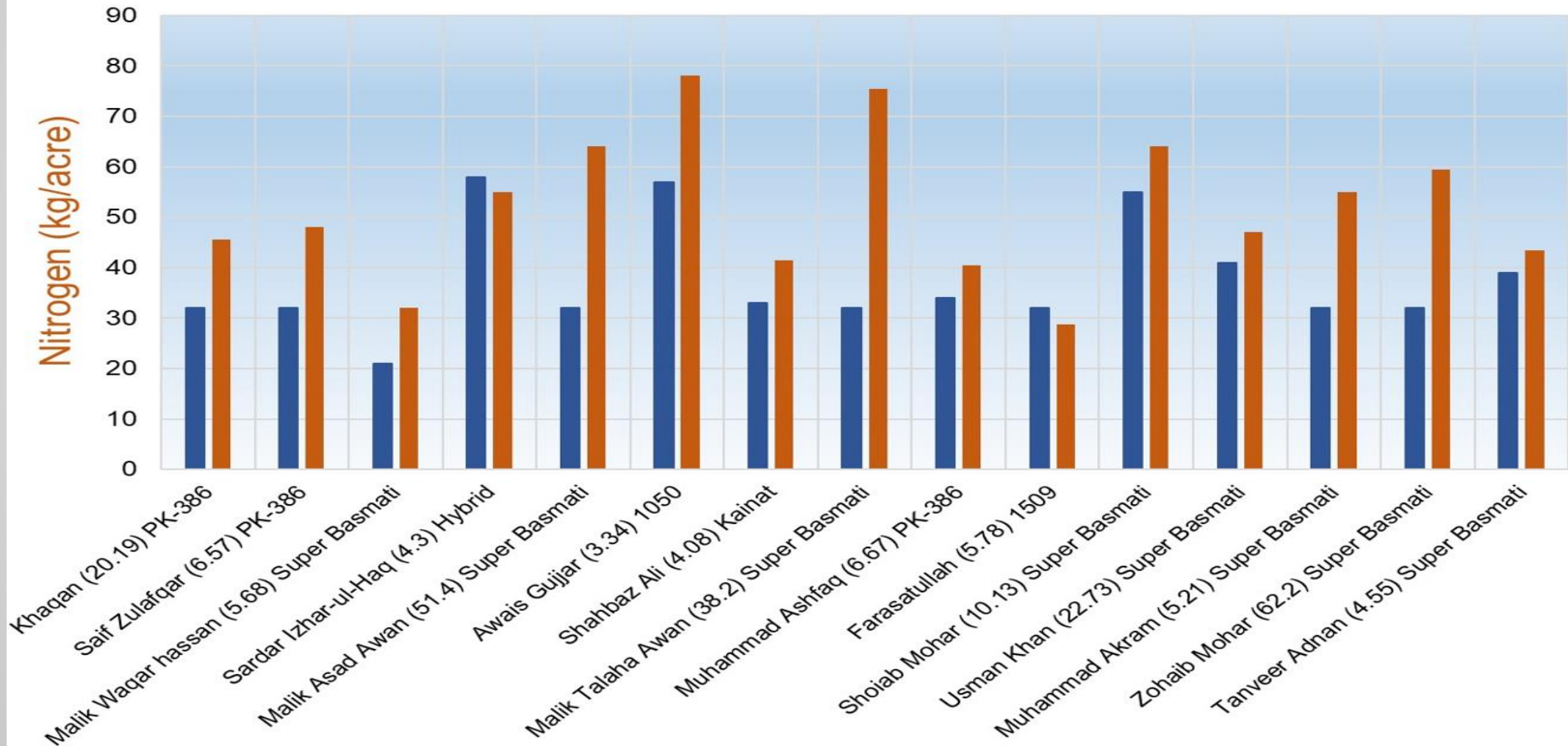
Reduction in Nitrogen Use (Kg/acre)

Data Driven Agriculture - GROWTECH Intervention



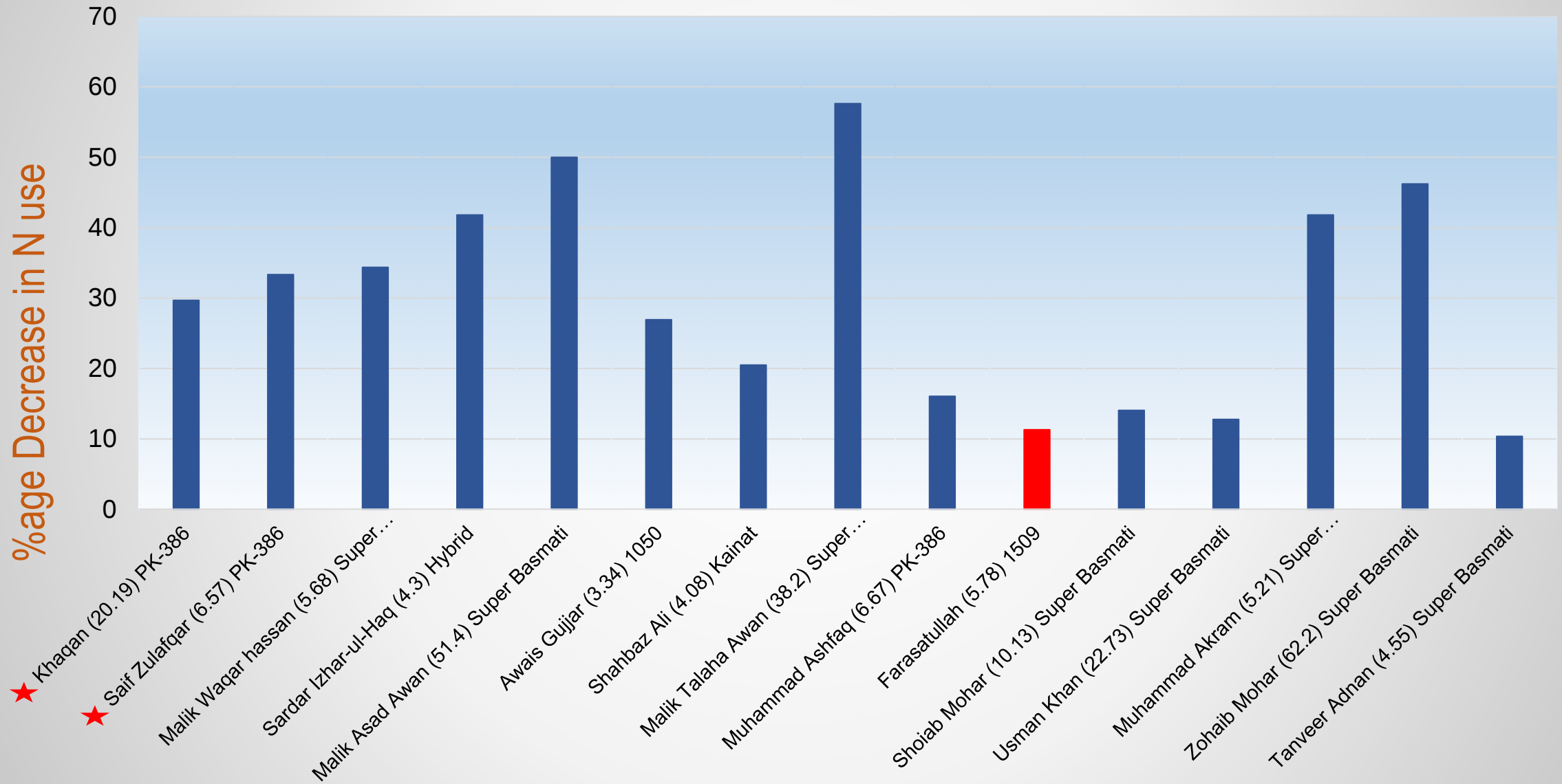
Nitrogen (Fertilizer) Use

■ 2022 ■ 2021



30% (Ave.) Reduction in Nitrogen Use

Data Driven Agriculture - GROWTECH Intervention



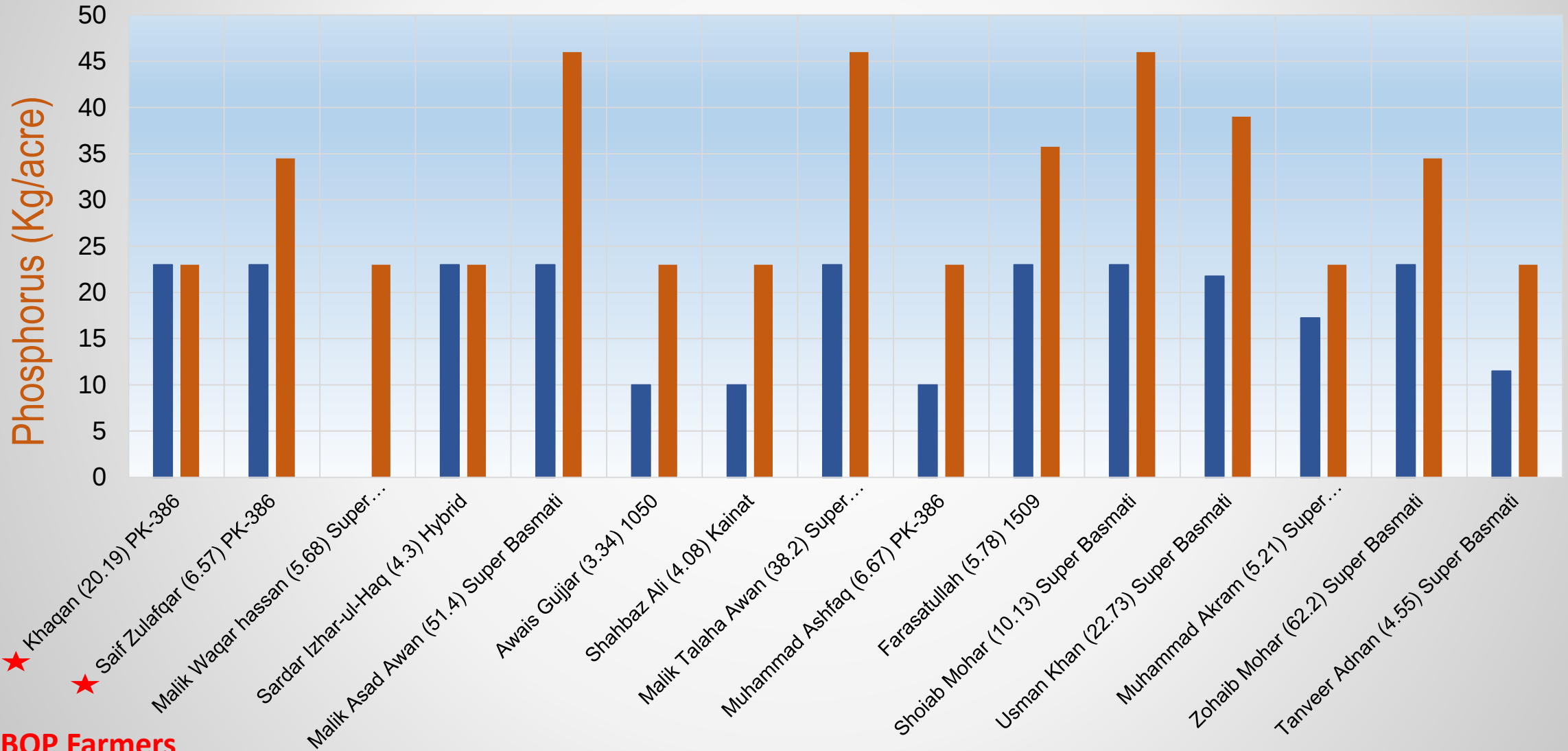
★ BOP Farmers

Reduction in Phosphorus Use (Kg/acre)

Data Driven Agriculture - GROWTECH Intervention



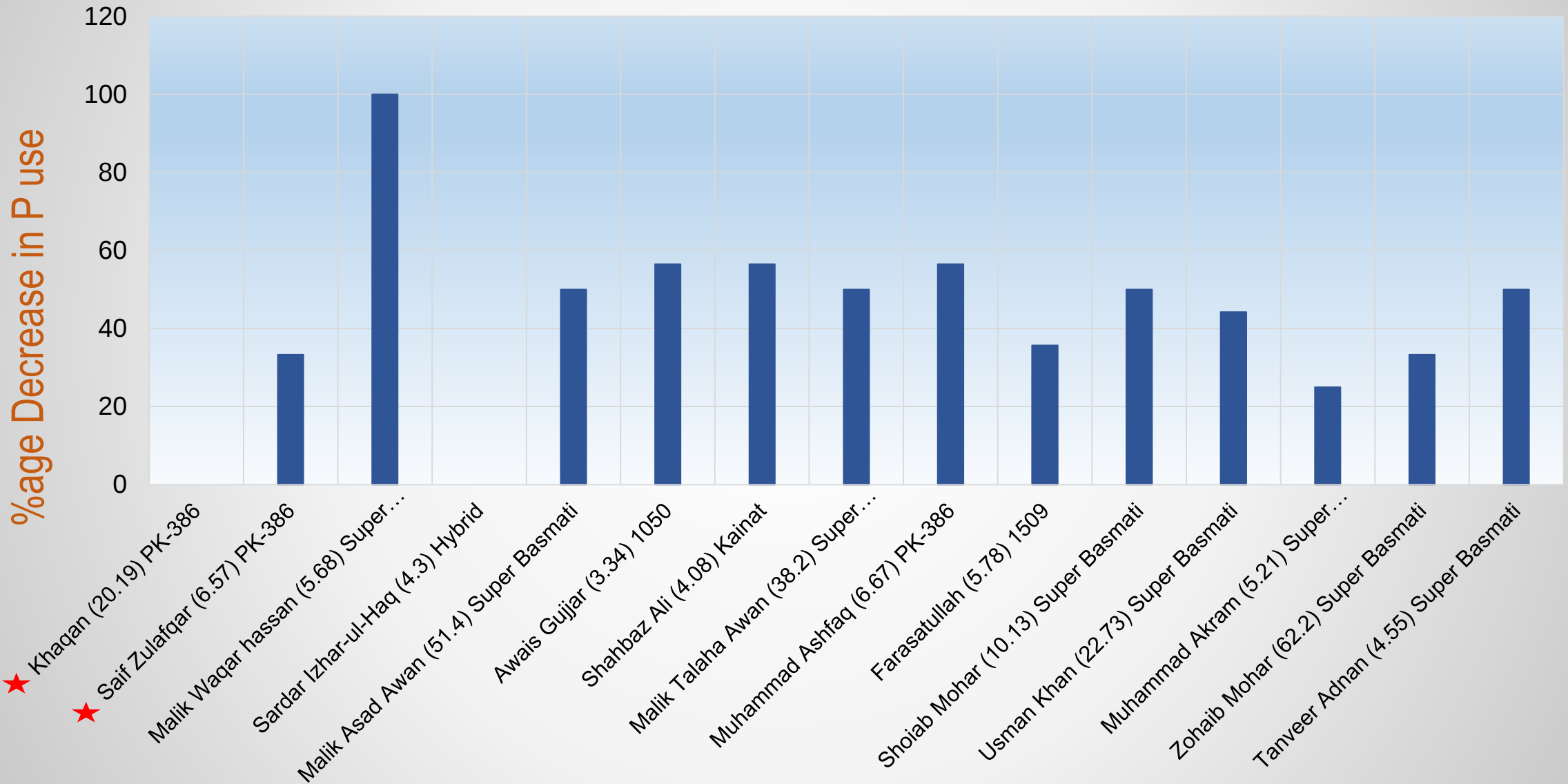
■ 2022 ■ 2021



★ BOP Farmers

40% (Ave.) Reduction in Phosphorus Use

Data Driven Agriculture - GROWTECH Intervention

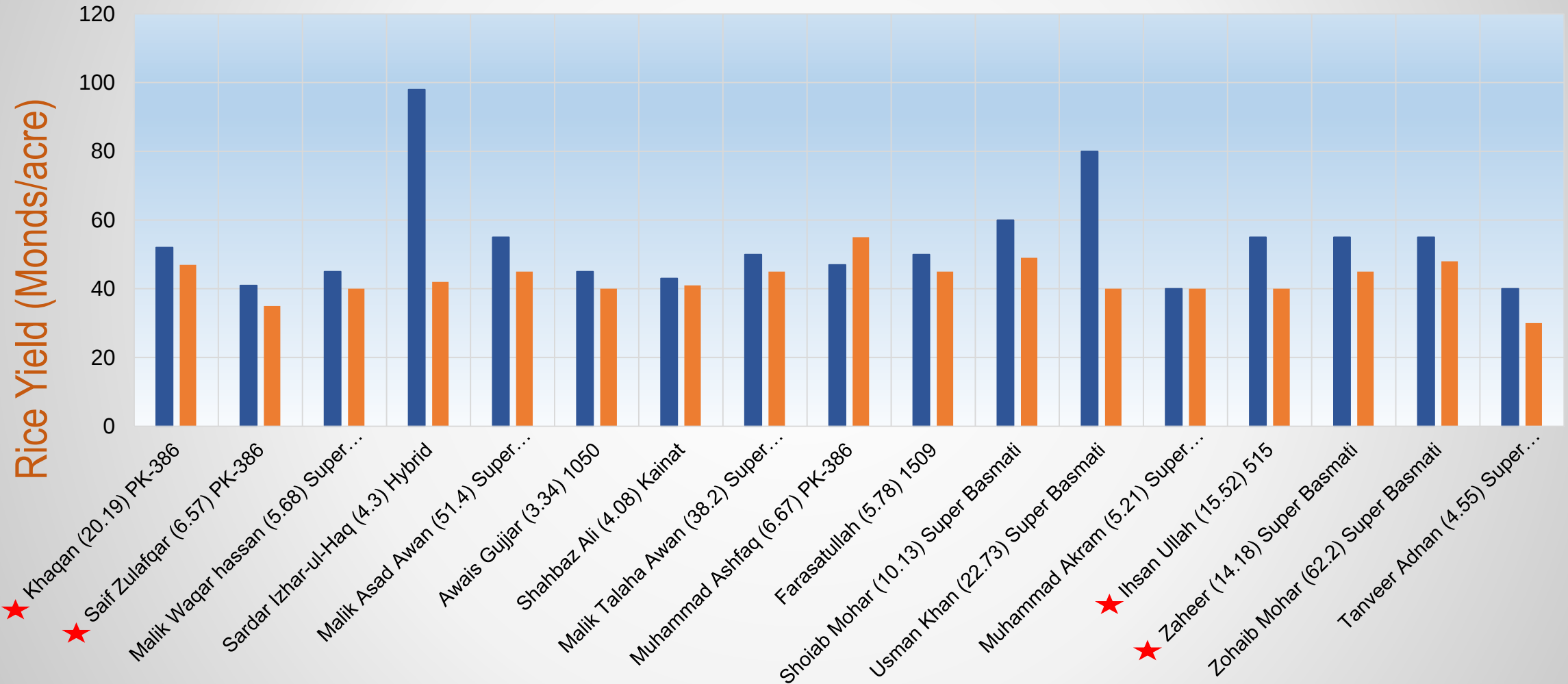


Increase in Yield (Monds/acre)

Data Driven Agriculture - GROWTECH Intervention



■ 2022 ■ 2021

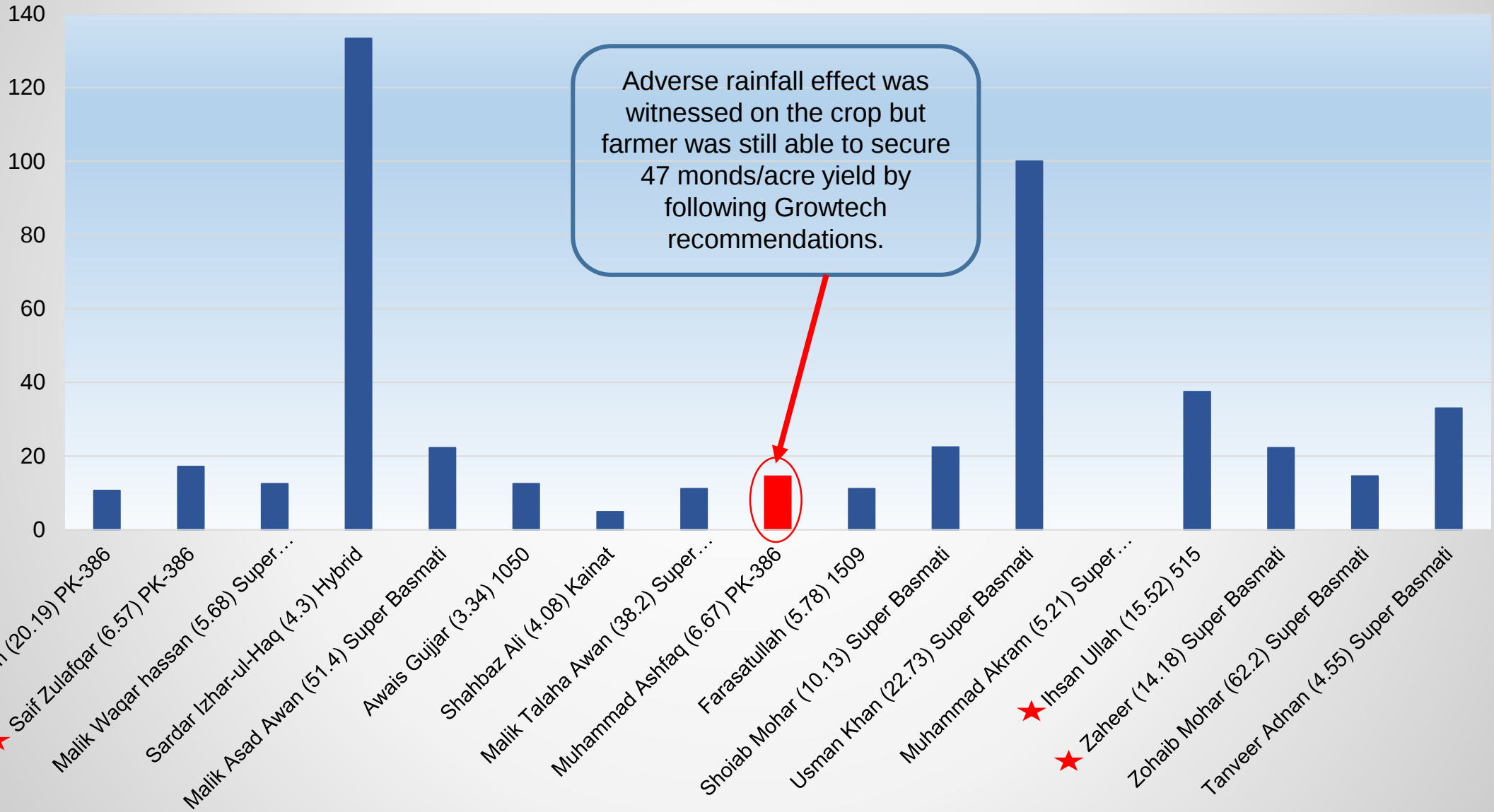


15% (Ave.) Increase in Yield

Data Driven Agriculture - GROWTECH Intervention



2022 Yield Increase/Decrease compared to 2021

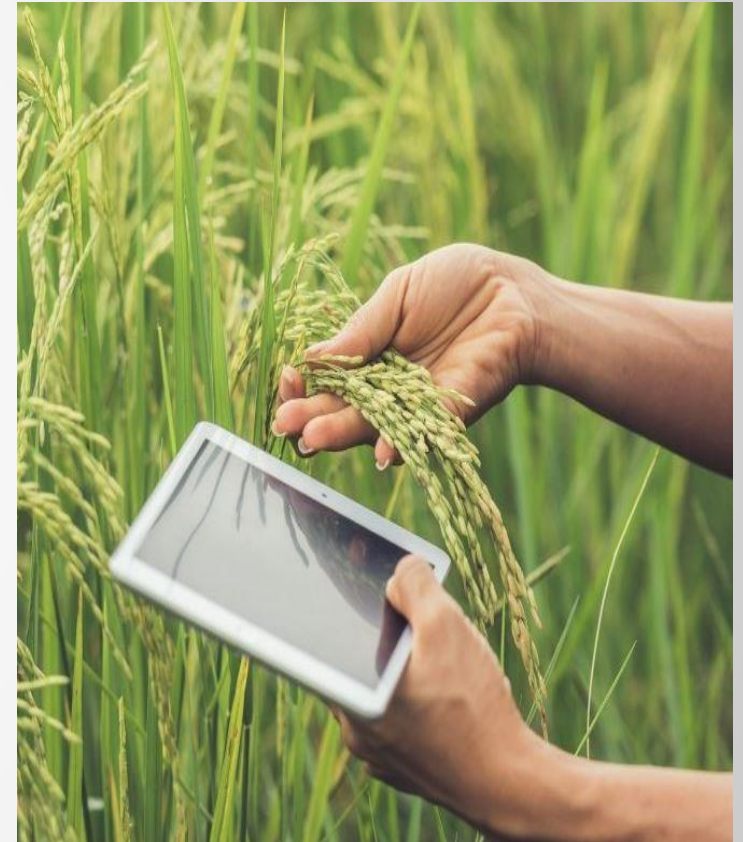


★ BOP Farmers

Surveillance and Early detection



- *Early detection of nutrient stress, water stress and related issues with the crop helped farmers in solving the problems much easier and faster.*
- *Growtech technology is helping farmers, to detect crop anomalies well in time to solve them quickly and well before the economic loss to occur thus well informed decisions were made by the farmers with the help of GROWTECH advisory and recommendations.*
- *Growtech analytics and advisory is linked to the smartphones of the farmers allowing them to take necessary care of their crop plants even they were not physically present on their farms.*
- *Accurate and precise plant health detection can assist to determine and reduce on the amount of chemical products being used, by only applying in the stressed areas (reducing environmental pollution).*



Reduction in Water Use by Farmers



Rice farmers observed around 30% reduction in water use through early detection of crop water stress and by only applying water when and where it was needed.



Besides, real-time weather forecasting helps farmers with day-to-day decisions on when and how much to irrigate, fertilize or apply pesticides.



This digital model education is helping farmers in decision making and building their confidence on agri-based technologies and apply all inputs based on the collected data rather than using 3rd parties advice only.

