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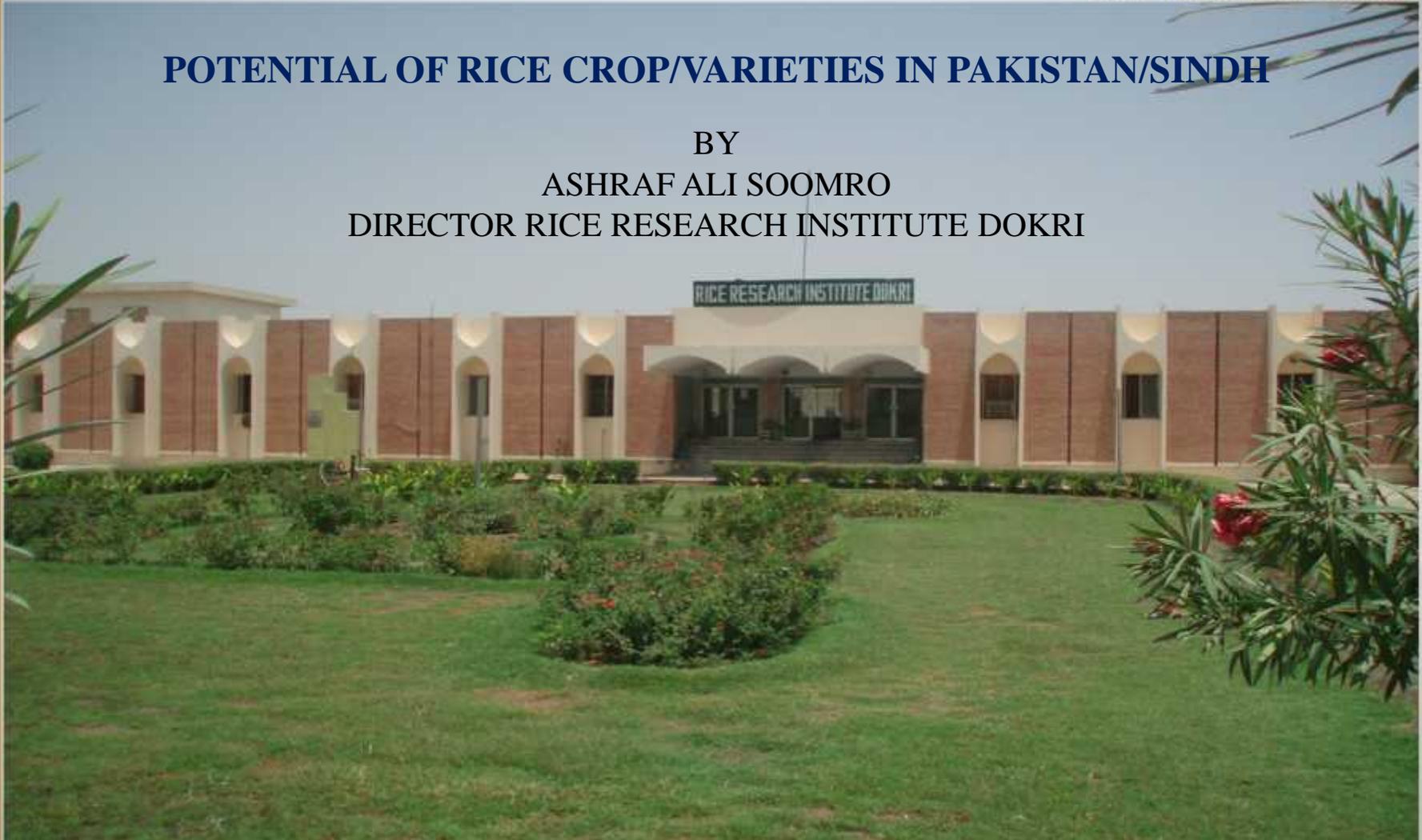
Exhibition & Seminar

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POTENTIAL OF RICE CROP/VARIETIES IN PAKISTAN/SINDH

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INTRODUCTION

- Rice is life for major populations of the world and is deeply embedded in the cultural heritage of societies. Rice is the staple food of nearly one-half of the world's population.
- It contributes over 20% of the total calorie intake of the human population. There is a growing concern that current levels of rice production will not meet future demands.
- The challenge of overcoming hunger, poverty and malnutrition in rice-consuming countries while maintaining productivity and protecting the environment will require a coordinated efforts.

INTRODUCTION

- Increased awareness as well as national, regional and global efforts to secure sustainable rice production is essential.
- In addition rice research will play a major role in the efficient utilization of cultivated area, improved rice varieties, and the minimization of loss during milling.
- The major focus of rice research in the next decade must be the development of high-yielding and early-maturing varieties in order to ensure the conservation and efficient use of natural resources.

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IMPORTANCE

- Rice crop sown on 2.7 million hectares in Pakistan (2016-17)
- The national Rice accounts for 3% in the value added in agriculture sector.
- production stood at 6.8 million tons and achieved the targeted production.
- The country earned 1.8 billion U.S dollars through exports from 1.77 billion tones of rice. (2016-17)
- Potential for export of aromatic and non-aromatic varieties can be increased with the maintenance of original quality of Pakistani Rice.

Rice crop in Sindh

- Rice crop in Sindh has been grown since centuries as its cultivation dates back even before the civilization of Moen-jodaro.
- In Sindh rice is cultivated in two different geographical areas i.e. Northern or upper Sindh (Comprising Larkana, Kambar-Shahdadkot, Shikarpur, Jacobabad, Kashmore and Dadu Districts) and southern or lower Sindh (Comprising Thatta, Sijawal, Tando Muhammad Khan and Badin Districts).

**RICE VARIETIES DEVELOPED /RELEASED BY
RESEARCH INSTITUTE, DOKRI**



Old Rice Varieties

Name of Variety	Year of Release	Yield (kg ha-1)	Yeild (Mds/ acre)
Kangni (27)	1932	1800-2200	18-22
Jajjai	1934	2110	21.34
Bengalo	1942	2580	26.10
Sonhari Sugdasi	1952	2570	26.10
Sada Gulab	1955	2570	26.10
Ratria	1956	2110	21.34
Dokri Basmati	1963	2535	25.64

RICE VARIETIES DEVELOPED /RELEASED BY RESEARCH INSTITUTE, DOKRI



s#	Variety	Year of release	Maturity (DAT)	Yield Potential Kgs /hec	Main character
1	<u>Non Scented</u> IR-8 (IRRI-Pak)	1968	105-108	8000 (80.94)	High yielding. Lodging resistant fertilizer responsive.
2	IR-6 (Mehran-69)	1969	112-118	7000 (70)	High yielding better grain than IR-8.
3	DR-82 (IET-4094)	1982	105-108	7000-7500 (70.75)	High yield, free from chalky spot, Suitable for July transplanting.
4	DR-83 (IR-2053)	1983	85-90	5500 (55)	High yield in late transplanting, Better grain than all other non- Scented varieties.

RICE VARIETIES DEVELOPED /RELEASED



s#	Variety	Year of release	Maturity (DAT)	Yield Potential Kgs /hec	Main character
5	Sada Hayat (IR-15323-78)	1988	118-120	6500 (65.76)	Resistant to WBPH.
6	DR-92 IR8XIET-1039)	1992	105-108	7000-7500 (70.75)	High yield, earlier than IR-6, Free from chalky spot.
7	Kanwal-95 (CN-540)	1998	145-155	5000-5500 (50-55)	Suitable for deep water, better Yield than IR-6 under 30-100 cm Water depth.
8	Shahkar (IR71023-152-3)	2006	105-108	7500 (75)	High milling recovery(58%) than IR-6 (52%), translucent grain, Tolerant to WBPH, higher yield In late transplanting (After July 15). Suitable for tail end areas.

RICE VARIETIES DEVELOPED /RELEASED

s#	Variety	Year of release	Maturity (DAT)	Yield Potential Kgs /hec	Main character
	<u>Scented</u>				High yield, early maturity,
9	Lateefy (IR-760 X Bas-370)	1983	92-98	4000 (40)	Comparatively resistant to rice Stem borers, fertilizer responsive.

IMPROVED RICE PRODUCTION TECHNOLOGY TO OPTIMIZE PRODUCTION

Soil Selection :

Clay to Clay Loam

Preparation of Land

Preparation of the soil with deep ploughing so that nitrogen in air is absorbed in the soil and improve the soil fertility. Further it is added that causing to increase soil moisture retain

Seed

Pure seed is more meaningful in this hungry world in comparison of rocked which carries main to moon so pure seed may be used to enhance the production.

Seed rate

16-20 Kg/acre.

Age of nursery

4 weeks nursery may be transplanted.

Spacing

20 cm between row to row and plant to plant may be maintained.

IMPROVED RICE PRODUCTION TECHNOLOGY TO OPTIMIZE PRODUCTION



Fertilizer

- Basal dose of fertilizer 1 bag of DAP + 1/2 bag of urea / acre.
- 1st application (split) of nitrogen fertilizer 3/4 bag of urea per acre may be applied on 25-30 days after transplanting.
- 2nd application (split) of nitrogen fertilizer 3/4 bag of Urea / acre may be applied 45-50 days after transplanting.

IMPROVED RICE PRODUCTION TECHNOLOGY TO OPTIMIZE PRODUCTION



Weed control.

➤ Weed through manual labour may be removed to keep pure seed and enhance the productivity

Pest control

➤ Borer and other pests may be controlled through chemical and biological steps looking on the kind of pest.

Diseases

➤ Control measures may be taken to protect the crop from different diseases

Burning issues

- Shortage of irrigation water.
- Late supply of irrigation water.
- Shortage of pure seed.
- Plant protection.
- Zinc, Boron & Potash deficiency.
- Shortage/non-availability of chemical fertilizer at critical time like root formation (7-10 DAT), tillering (25-30 DAT) and Panicle initiation (40-45 DAT).
- Adulteration in pesticides.
- Higher rates of inputs.
- Undesired market rates of paddy.

Solution of Burning Issues

- Use of proper seed rate per-acre
- Suitable time of nursery age seedling
- Proper Time of transplanting of Rice Crop.
- To Maintain the Plant Population
- Use of recommended fertilizer dose and proper time of application.
- Use of Potash at Proper time.
- To maintain the water depth from 4-5 inch.
- Use of pesticides at proper time as per recommended dose.
- To minimize pre and post harvest losses.

FUTURE PROGRAMME

- Evolution of improved and high yielding rice varieties early maturing, tolerant to insect pests & diseases with better grain quality etc.
- Improvement in the cultural practices, such as nursery bed and land preparation, sowing time, spacing, age of seedlings, and transplantation.
- Maintenance of plant population.
- Efficient use of fertilizer in rice.
- Weed control through different measures.
- Role of micronutrients such as Zinc and Boron in rice crop.

FUTURE PROGRAMME

- Effective control of insect pests such as rice stem borers, leaf folder, and WBPH.
- Studies on the varietal tolerance against WBPH.
- Identification of rice diseases such as kernel bunt, brown leaf spot etc and their control measures.
- Post harvest losses studies.
- Popularization of mechanization in rice such as transplanting with rice translators and threshing with paddy threshers.
- Pure seed multiplication and distribution.

THANKS

