

BAO VARIETIES OF RICE



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Bao varieties of rice roll of india in developing rice varieties against waterlogged stress



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INTRODUCTION

Bao dhaan an organic and indigenous rice paddy of Assam, popularly known as red-rice or Deep water paddy , as it is cultivated on low, swampy lands and flood prone areas,

Bao(deep water rice) grown during April/ May/ December/ January. These are mainly grown during broadcast occasionally transplanted in the low-lying areas. Adapted to deep water situations enduring water depth more than 100cm. These are sown at the time when Sail rice is harvested to take about 270 – 300 days to harvest.

Bao rice is rice in iron, protein, vitamins and other nutrients. There are several varieties of Bao rice in Assam such as Neghari-Bao, Dal-Bao, Dal-bao, Sabita, Rangji-Bao, Badal, etc.



DISCUSSION SUMMARY:

Entire discussion into five phases.

- Geographical distribution
- Traits
- Botany and adaptation
- Cultivation
- Marketing and commercial scale

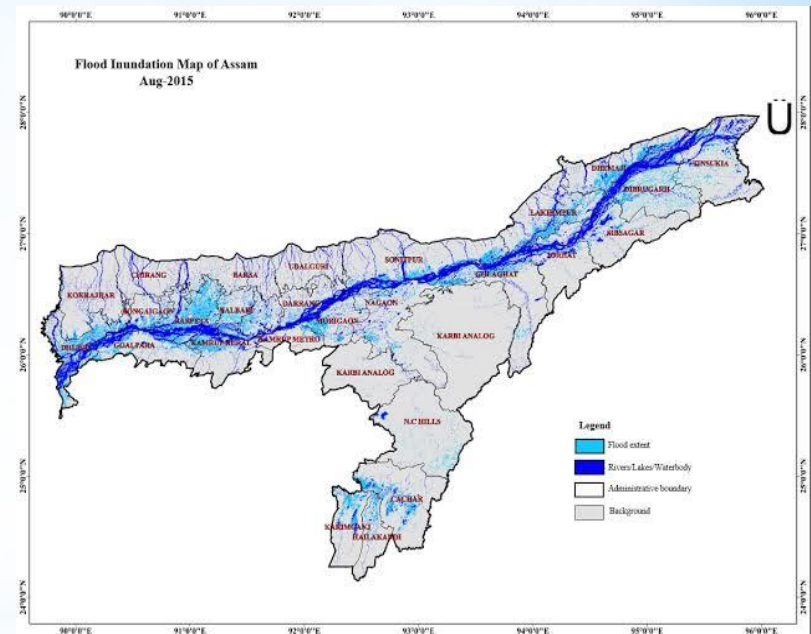


1) Geographical distribution

Apart from Assam, DWR is also cultivated in Bihar, West Bengal, Uttar Pradesh and Odisha.

Most of the areas are in Dhemaji, Lakhimpur, Sibsagar, Majuli districts of Upper Assam, but some areas are also found in certain pockets of Middle and Lower Assam district, such as Kamrup, Nalbari, Barpeta, Goalpara and Morigaon.

Over the years, these areas have been experiencing an increasing number of precipitations-driven flash floods and longduration floods.



2) Traits

- Bao Dhan being organic in nature has high nutritional value in comparison to other improved rice varieties.
- Although DWR is tolerant to most types of biotic stress, Ufra diseases caused by a rice stem nematode (*Ditylenchus angustus*) is prominent.
- Another important trait of DWR is the weedy competitiveness.

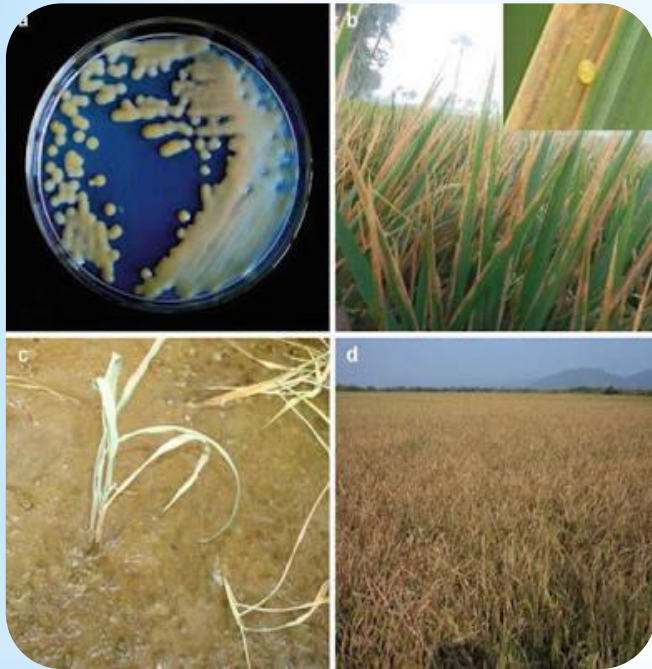


3) BOTANY AND ADAPTATION

- DWR under flooding can grow up to a height of 2 m.
- At early vegetative stage (4–6 weeks after germination), height of the plants increases rapidly with gradual rise in flood-water level.
- The mature seed is visible with a long awn, which is considered to be an introgressed trait from its wild progenitor.
- The maximum elongation per day per plant can be as high as 25 cm, The culm or stem of DWR does not grow entirely erect.
- Interestingly, DWR has a greater number of leaves, longer panicle and a large number of spikelets.



4) CULTIVATION



There are many different methods of sowing in the state. For Ahu areas, seeds of Ahu and Bao rice are mixed in the ratio 4 : 1 and for Bao areas, monoculture of Bao rice is recommended. Seeds are normally sown directly in the soil at 60–130 kg/ha before the rainy season.

Early and medium maturing varieties are usually harvested with the help of boats due to the presence of high level of water

Chemical fertilizers are not used, though some progressive farmers use neem-coated urea @ 30 kg N/ha in limited areas in two equal splits as basal and at maximum tillering stage as pesticides to control Ufra disease.

5) MARKETING AND COMMERCIAL SCALE



Bao Dhan has seen a steady rise in demand in the international market.

The demand in the domestic market of Assam alone for DWR was 3000q in 2012-2013, which has increased to 12,000 q recently (Dhiren Chaudhary, pers. commun).

Major beneficiaries of the increased cultivation of DWR will be the marginal farmers, who will get high returns on their investment as the demand for Bao Dhan in the market is gradually increasing

CONCLUSION

One of the major areas of concern in DWR cultivation is its low yield. This may be attributed to the fact that most varieties lacks high-yielding characters such as broad, erect, dark leaves, photoperiod insensitiveness or multiple productive tillers with heavy panicles. Unfortunately, till today there is no systematic efforts has been made to improve DWR.

Transfer of appropriate traits from high-yielding popular genotypes to traditional DWR genotypes along with the incorporation of biotic stress tolerance genes would be an appropriate option, which can be addressed using markerassisted breeding technique. Advances could lead to enhanced tolerance levels by pyramiding desirable agronomic traits to produce novel genotypes. Novel allele if identified for various traits related to deep-water stress tolerance, will be useful for developing new varieties for flood-prone regions not only for Assam, but for the whole country as well.

SUMMARY

Bao-dhan , a deep water paddy that produces a particular type of iron-rich, is an integral part of Assam's food habits. The rice having a high content of iron, protein, vitamins, magnesium, phosphorus, selenium, thiamine, niacin, manganese and high in fibre.

Bao Dhaan generally grown in low, swampy lands and flood-prone areas with water stagnation beyond 50 cm height that remains for periods of 2–6 months in their growing season,

Due to poor economic conditions of the farmers along with little scope of applying the fertilizers due to water stagnation, cultivation of Bao Dhan is by default organic in nature.

ACKNOWLEDGEMENT

I have immense pleasure in presenting this Report presentation on various varieties of rice roll of India in developing rice varieties against waterlogged stress.

Thank you Dr. Pritam Chattopadhyay sir for giving this dissertation topic .

The subject is an interesting one .It gave me an opportunity to have detailed study on the subject and showed how to thing work in the practical world .

I came to understand and analyze the importance and the role of horticulture industry.

I had a great time working on the report presentation. I have provided information to the fullest of internet ,knowledge and finding own self.

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THANK YOU