

RECOMMENDED PRACTICES FOR RICE PRODUCTION FOR WET SUBTROPICAL ZONES (LOW ALTITUDES)

These recommendations are made for the low altitude (150-600 m) southern belt that include Sarpang, Samtse and Samdrupjonkhar for irrigated rice culture.

VARIETIES

BR 153

- BR 153 is a high yielding, tropical semi-dwarf variety bred in Bangladesh.
- It is 100-110 cm tall and matures in 140-150 days.
- It has good resistance to diseases and pests and is tolerant of poor soils and management.
- It has slender white grains.
- Yields of 2-3 t/acre can be obtained under average management conditions.

BW 293

- BW 293 is a tropical, high yielding variety developed in Sri Lanka.
- It is 75-85 cm tall and matures in 140-150 days from sowing
- It has slender white grains with intermediate to high amylose content.
- It has higher yield potential than BR 153 under similar input levels.

CROP ESTABLISHMENT

Nursery sowing

- Optimum sowing date: June .
- Seed rate: 50-60 kg/ha.
- Use clean and healthy seeds.
- Seedlings can be raised using wet or semi-dry bed methods (see rice seedling production leaflet).

PREPARATION OF FIELD

Land preparation is one of the important factors that influences rice yield. It provides good physical, chemical, and biological

conditions of the soil for optimum plant growth.

- Two or three ploughings are needed, followed by puddling and levelling.
- Irrigate the field before ploughing, if dry.
- Plough thoroughly and then flood.
- Drain the water slightly and plough, rotovate or harrow as needed to break clods, bury weeds and to puddle and level the field.
- A final puddling and levelling may be required just before transplanting.

Repair and maintenance of bunds and the incorporation of chemical fertilizers, if any, should be done before the final puddling.

MANURES AND FERTILIZERS

FYM contributes significantly to crop nutrition and soil condition. It is desirable to encourage the use of FYM.

Our recommendation is to apply about 5-8 t/ha FYM basally, and topdress with 35 kg N/ha 35-40 days after transplanting.

If adequate FYM is not available, apply 80:40:30 NPK kg/ha. Half the N and all the P should be applied as the basal dose. Topdress the remaining N 35-40 days after transplanting. For local varieties, limit N to 50 kg/ha to prevent lodging.

Sesbania aculeata (Dhaincha) can be grown for 6-8 weeks then incorporated as green manure during land preparation. Sow Dhaincha at a rate of 50-60 kg/ha in May. Topdress 35 kg N/ha at PI for higher yields.

TRANSPLANTING

Transplanting time: July.

Traditional random method can be used if:

- Weed pressure is expected to be low.

- Butachlor will be used.
- The terraces are narrow and small.

Line planting should be done if weeding will be carried out with a rotary weeder.

- Use a rope to give a row spacing of 20 cm and within-row spacing of 15-20 cm. A plant density of 25-35 per square metre is optimum.

WEED CONTROL

Weeds are serious competitors of rice. They compete for water, nutrients and sunlight, and reduce grain yields.

Where weed pressure is low or moderate, 2 hand weeding 20 and 40 days after transplanting are sufficient. If hand weeding is to be done, plants should be closely spaced and the first weeding performed no later than 30 days after transplanting.

For weeds other than shochum, Butachlor is very effective. It is applied 3-6 days after transplanting at the rate of 30-40 kg/ha of 5% "Punch" granules.

As weeding is laborious, and the use of herbicides is undesirable, there must be emphasis on indirect complementary weed control methods like good land preparation, proper water management, and use of weed-free seedbeds and seeds.

WATER MANAGEMENT

After transplanting keep the water level low for 4-7 days until the seedlings recover. Water level should then be increased as the crop grows ensuring adequate water from tillering to flowering.

If the supply of water is limited, continuous flooding is not possible. In this case irrigate at short intervals but do not let the field become excessively dry and crack. Flowering is the most critical stage when rice should not be exposed to moisture stress.

Drain water from the field 10-15 days before harvest to enhance ripening.

PLANT PROTECTION

Insect pests and diseases are a major concern due to high temperature and humidity. Integrated pest management approach is recommended which involves varietal resistance, cultural and biological control methods, and use of pesticides at a need based level.

HARVEST

Under normal conditions harvesting begins from the first week of October. Harvest the crop when at least 85% of the upper portion of panicles turns straw coloured. Some leaves and stems may still be green at grain maturity, particularly of improved varieties.

Local varieties shatter very easily, and timely harvest will minimize grain losses.