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**Public Authority:** Indian Institute of Rice Research (ICAR)**Role :** Nodal Officer**User :** Dr. B. Sailaja**SEARCH RESULT**

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Registration No.	Name	AA Concerned	Current Status	Date of Action	Received Date	Closing Date	Print
DORRE/A/E/20/00001	Khageswara Bhoi	Dr. R.M. Sundaram	APPEAL DISPOSE OF	23/11/2020	29/09/2020	23/11/2020	

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**ACTION HISTORY OF RTI FIRST APPEAL No.DORRE/A/E/20/00001**

**Applicant Name** Khageswara Bhoi

**Text of Appeal** Give me the information about the step by step details procedure of rice farming in India with photos and and brief explanation of each step for the following 4 methods of rice farming 1-Broadcasting method 2-Drilling method 3-Transplantation method 4-Japanese method Give the yield details for above 4 method of each method and suitable condition,climate.

**Reply of Appeal** Dear Khageswara Bhoi, Sub:RTI-Information about the appeal about the step by step details procedure of rice farming in India -Regarding. With reference to RTI Appeal [DORRE/A/E/20/00001] request dated 29th Sep, 2020 on the above subject, Please find enclosed the required information

SN.	Action Taken	Date of Action	Action Taken By	Remarks
1	FIRST APPEAL RECEIVED	29/09/2020		
2	APPEAL FORWARDED TO CONCERNED FIRST APPELLATE AUTHORITY	23/11/2020	Nodal Officer	Online
3	APPEAL DISPOSED OF	23/11/2020	FAA - Dr. R.M. Sundaram	

Print



# भाकृअनुप - भारतीय चावल अनुसंधान संस्थान

राजेन्द्रनगर, हैदराबाद - ५०० ०३०. तेलंगाना राज्य

**ICAR - INDIAN INSTITUTE OF RICE RESEARCH**

(Formerly Directorate of Rice Research)

RAJENDRANAGAR, HYDERABAD - 500 030. TELANGANA STATE, INDIA.



**Dr S.R.Voleti**

Director (Acting)

DO/PD/ CA 1/RTI Appeal/2020

19<sup>th</sup> Nov, 2020.

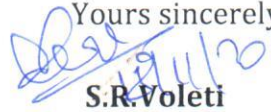
Dear K hageswara Bhoi,

**Sub: "RTI-Information about the appeal about the step by step details procedure of rice farming in India" -Regarding.**

\* \* \*

With reference to RTI Appeal [DORRE/A/E/20/00001] request dated 29<sup>th</sup> Sep, 2020 on the above subject, Please find enclosed the required information.

Yours sincerely

  
S.R.Voleti

## 1. Broadcasting methods

### 1.1 *Dry direct-seeded rice on unpuddled soil (Broadcasting)*

Broadcasting dry (primed) seeds under dry soil conditions

- ❖ **Land preparation:** Plough, harrow and level the land to prepare a smooth seedbed; strip-tilling for reduced till fields, with or without residues on surface
- ❖ **Optimum sowing time:** sowing on the same day as nursery sowing for transplanting; complete the sowing **before the onset of heavy rains; early to mid-June** for Indo-Gangetic Plain
- ❖ **Seed preparation and sowing:** Treat the seeds with water or 1% KCl solution (priming) to induce drought tolerance, dry the seeds in shade, sow by broadcasting on fully tilled field and strip-tilled field
- ❖ **Water management:** For the first 10-15 days after sowing (DAS), flush irrigate the field to keep the soil saturated but not flooded to enhance seedling emergence, root development & anchorage; follow AWD irrigation during vegetative phase (15-60 DAS); maintain 4-5 cm water level during reproductive phase (60-90 DAS); drain the field after physiological maturity (90-105 DAS); 30-40% water saving from reduced deep drainage, seepage & runoff in dry DSR
- ❖ **Integrated weed management:** Cultural, mechanical and herbicides; high seed rates → 41-48% less weeds
- ❖ **Fertilizer management:** Incorporate all organic matter or manure into the soil during plowing; apply 14-18 kg/ha P and the first dose of 20 kg/ha K before last harrowing & leveling; apply 90-100 kg/ha N in 3 equal splits, 1/3<sup>rd</sup> at 10-15, 1/3<sup>rd</sup> at 25-30, & 1/3<sup>rd</sup> at 45-50 DAS or LCC-based N management
- ❖ **Pest and disease control:** Follow IPM

### 1.2 *Wet direct-seeded rice by broadcasting*

- ❖ **Rice varieties:** with early seedling vigor, rapid growth, weed suppressive ability –
- ❖ **Seed quality and seed rate:** High yielding fine grain variety 30-40 kg/ha & coarse grain 45-60 kg/ha of clean, quality seed to ensure uniform germination & good crop stand (150-200 plants m<sup>-2</sup>); high seed rates reduced weeds by 41-48%
- ❖ **Land preparation:** Plow, harrow, puddle, and level the land; construct canals at regular intervals to facilitate easy drainage
- ❖ **Optimum sowing time:** sowing on the same day as nursery sowing for TPR; complete the sowing before the onset of heavy rains; early to mid-June for IGP
- ❖ **Seed preparation & sowing:** pre-germinate the seeds by soaking for 24 h in water or 1% KCl solution and incubating for 24-36 h and then broadcast or drum-seed
- ❖ **Use drum seeder for line seeding or planting**
- ❖ **Water management:** For the first 10-15 DAS, **flush irrigate the field** to keep the soil saturated but not flooded to enhance seedling emergence, root development & anchorage; follow Alternate wetting and drying (AWD) **irrigation during vegetative phase** (15-60 DAS); maintain **3-5 cm water level during reproductive phase** (60-90 DAS); drain the field after physiological maturity (90-105 DAS); 30-

40% water saving from reduced deep drainage, seepage and runoff in Direct seeded rice (DSR)

- ❖ **Integrated Weed mgt:** cultural, mechanical & herbicides; high seed rates reduced weeds by 41-48%
- ❖ **Fertilizer mgt:** Incorporate all organic matter or manure into the soil during plowing; apply 14-18 kg/ha P and first dose of 20 kg/ha K before last harrowing & leveling; apply 90-120 kg/ha N in 3 equal splits 1/3<sup>rd</sup> at 10-15, 1/3<sup>rd</sup> at 25-30, & 1/3<sup>rd</sup> at 45-50 DAS
- ❖ **Pest and disease control:** Follow Integrated Pest Management (IPM)

### **Protocol for effective weed management through IPM**

#### ***Nursery***

- ❖ Maintain water level to avoid weeds
- ❖ In weed intense areas, apply Butachlor @25ml/250 m<sup>2</sup> nursery area or Pretilachlor + safener @ 60ml/250 m<sup>2</sup> nursery area application at 8-10 days after sowing seed in nursery beds
- ❖ Raising nursery in strips of 1 m wide and leaving water canal of 0.25 m in between will help in intercultural operations

#### ***Main field***

Immediately after transplanting within a week

- ❖ Liquid formulation of new herbicides can be applied by mixing with sand or by foliar spray, respectively, within first week after transplanting by following the procedure outlined hereunder.
- ❖ Required quantity of herbicide (Pretilachlor @1250-1500 ml/ha or Anilophos 1250-1500 ml/ha or Metsulfuron methyl + chlorimuronethyl (Almix) @20g/ha) mixed with fine sand (50kg/ha) and broad casted. Or mixed in 500 liters water/ha and spray by flat Z type nozzle uniformly within 3 to 7 days after transplanting. It is necessary to maintain standing water (2-3 cm water) in the field
- ❖ Do not remove water at least 48 hours after application of herbicide.
- ❖ Note that under thorough land preparation and proper water management conditions this step may not be required. Take a decision on 2nd day after transplanting based on land leveling and water supply status.
- ❖ Post-emergence application: Broad spectrum weed control – Bispyribasodium @ 250ml/ha at 2-3 leaf stage of weeds- spot application or Chlorimuron + Metsulfuron-methyl (Grasses, Sedges and Annual BLW) at 20-25 DAT @ 20 gm/ha. If Broad leaf weeds predominate, apply 2, 4-D Na salt @ 1250-1500 g/ha at 20-25 DAT. If grasses predominate, apply Cyhalofbutyl @1000 m/ha at 15-20 DAT or Fenoxaprop p ethyl @ 800-1000ml/ ha at 25-30 DAT.
- ❖ Fertilizer management: Apply top dressing nitrogen based on Leaf Color Chart (modified IRR -LCC) supplied by IRR. The instructions to use LCC are given on backside of LCC.

## **2. Drilling method**

Sowing of dry (primed) seeds is done in dry soil conditions with sowing behind the plough or drill seeding by Happy seeder/ Line sowing by hand

**Land preparation:** Plough, harrow, & level the land to prepare a smooth seedbed; no-tilling to strip-tilling for zero-till or reduced till fields, with or without residues on surface

- ❖ **Optimum sowing time:** sowing on the same day as nursery sowing for TPR; complete the sowing **before the onset of heavy rains; early to mid-June** for IGP
- ❖ **Seed preparation & sowing:** Treat the seeds with water or 1% KCl solution (priming) to induce drought tolerance, dry the seeds in shade, sow by broadcasting or line sowing by hand in furrows, or drilling in rows by machine; use zero-till seeder or planter to drill the seeds at optimum depth (3-5 cm) in zero-till or reduced till fields
- ❖ **Water management:** For the first 10-15 DAS, flush irrigate the field to keep the soil saturated but not flooded to enhance seedling emergence, root development & anchorage; follow AWD irrigation during vegetative phase (15-60 DAS); maintain 4-5 cm water level during reproductive phase (60-90 DAS); drain the field after physiological maturity (90-105 DAS); 30-40% water saving from reduced deep drainage, seepage & runoff in dry DSR
- ❖ **Integrated Weed mgt:** cultural, mechanical & herbicides; high seed rates → 41-48% less weeds
- ❖ **Fertilizer mgt:** Incorporate all organic matter or manure into the soil during plowing; apply 14-18 kg/ha P and the first dose of 20 kg/ha K before last harrowing & leveling; apply 90-100 kg/ha N in 3 equal splits, 1/3<sup>rd</sup> at 10-15, 1/3<sup>rd</sup> at 25-30, & 1/3<sup>rd</sup> at 45-50 DAS or LCC-based N management
- ❖ **Pest and disease control:** Follow IPM

### **3. Transplanting method**

#### ***3.1 Manual Transplanting Method***

- ❖ This method is practiced in areas of fertile soil, abundant rainfall and plentiful supply of labour. To begin with, seeds are sown in nursery and seedlings are prepared. After 4-5 weeks (better make it 3-4 weeks, younger seedlings are necessary for high yields) the seedlings are uprooted and planted in the field which has already been prepared for the purpose. The entire process is done by hand. It is, therefore, a **very** difficult method and requires heavy inputs. But at the same time, it gives some of the highest yields.



- ❖ **Land preparation:** Plow, harrow, puddle, and level the land; construct channels at regular intervals to facilitate easy drainage
- ❖ **Optimum sowing time:** For TPR, complete the nursery sowing before the onset of heavy rains; early to mid-June for IGP
- ❖ **Seed preparation & sowing:** pre-germinate the seeds by soaking for 24 h in water or 1% KCl solution and incubating for 24-36 h and then broadcast or drum-seed
- ❖ **Water management:** Keep a water level of 2-3 cm for the first 10 days after transplanting (DAT) to make the transplanted seedlings recover fast from the transplanting shock and establish well. Then, follow **AWD irrigation during the vegetative phase** (10-45 DAT); maintain **3-5 cm water level during the reproductive phase** (45-75 DAT); drain the field after physiological maturity (75-90 DAT); 30-40% water saving from reduced deep drainage, seepage & runoff in transplanted rice.
- ❖ **Integrated Weed mgt:** cultural, mechanical & herbicides; the water level in the field determines the level of weed infestation.
- ❖ **Fertilizer mgt:** Incorporate all organic matter or manure into the soil during plowing; apply 14-18 kg/ha P and first dose of 20 kg/ha K before last harrowing & leveling; apply 90-120 kg/ha N in 3 splits – 33% basal just before transplanting, 33% at tillering, and 33% at Panicle Initiation (PI).
- ❖ **Pest and disease control:** Follow IPM

### 3.2 Mechanised transplanting

#### Methodology: Raising seedling for Transplanter

Trays (60cm x 28 cm) are filled with sieved soil (2.5 cm soil depth). Seeds are uniformly placed (100 g/tray) on soil, covered with thin soil layer and water through rose cans. Use 15-day old seedlings. Foliar spray of 2% nitrofoska (19:19:19) may be given.

{OR}

Prepare a 10 cm raised bed. Level it. Place a thick polythene sheet on the bed. Make small holes on the sheet. Spread 2.5 cm soil on the polythene sheet. Place or sow seeds uniformly on the soil without overlapping. Cover the seeds with a thin soil layer. Cover the soil with straw mulch. Water the beds with rose can for 3 days. Remove the straw mulch after 3days. Open a channel around the beds and let in water into a channel to keep seedbed moistened. Use 15-day old seedlings.





#### **4. Japanese rice cultivation method**

The main features of the Japanese method of rice cultivation are:

- ❖ Use of better quality seeds. ( High Yielding Varieties)
- ❖ Sowing of seeds in raised nursery beds.
- ❖ Transplanting of seedlings in rows especially by high speed mechanical transplanters and also increased use of irrigation.

