grains with an average productivity of 3.0 t/ha. It shows resistance against rice tungro disease; moderate resistance to leaf blast and sheath rot. It is suitable for close planting and recommended for organic farming.

**Nua Dhusara (IET 18395):** It is a late maturing (145 days), tall (142cm) and photosensitive popular variety, released and notified (2008) for cultivation in low land areas of Odisha. It has short bold grains with average productivity of 3.0 t/ha. It is resistant to sheath rot, neck blast and rice tungro disease; moderately resistant to gall midge. It can also withstand short period (3-4 days) of submergence.

**Geetanjali (CRM 2007-1):** It is a medium duration (130 days) aromatic variety with intermediate height (115cm), released and notified in 2005 and 2006, respectively for cultivation in medium land and irrigated areas of Odisha. It has long slender grains with average productivity of 4.0-4.5 t/ha. It is resistant to neck blast and moderately resistant to brown spot and gall midge. It is tolerant to excess water up to 20 cm at tillering stage.

---

Rice is grown under varying eco-systems and hydrological conditions ranging from waterlogged and poorly drained to well drained irrigated and rain fed upland situations. In India, more than 1020 rice varieties have been released for cultivation in different ecosystems. (Directorate of Rice Research, Hyderabad, Tech. Bulletin No.83/2014). Out of these, CRRI has developed 114 varieties. Proper choice of rice variety for a particular ecology, is very important to realise high production. Optimum supply of water, nutrient, light, space and temperature are the basic requirements for harvesting higher yield from these varieties, adapted to various eco-geographic situations. Moreover, grain yield of any rice cultivar depends on its optimum time of sowing/planting and harvesting. In this context, the knowledge about high yielding varieties is essential for reaping a good harvest. This compilation describes briefly the CRRI bred popular varieties suitable to different ecologies which were developed earlier and have become popular with the farmers. Recently released varieties with improved traits are also included for benefit of the farmers.

**The Breeder seed and Truthfully Labeled (TL) seeds** will be available from CRRI. For “Breeder seed” indent should be sent in advance to Department of Agriculture and Cooperation (DAC), Govt. of India, whereas, a small quantity of “TL Seed” will be available from CRRI, Cuttack.

---

**CRRI Technology Bulletin - 115**

©All Rights Reserved, CRRI, ICAR, January, 2015

**Editing and layout:** B. N. Sarangi, G.A.K. Kumar, S.K. Sinha & R. Gayatri Kumari

**Photography:** P. Kar and B. Behera

---

Laser typeset at the Central Rice Research Institute, Indian Council of Agricultural Research, Cuttack (Odisha) 753 006, India and printed at Printech offset, BBSR. Published by The Director, for the Central Rice Research Institute, Cuttack (Odisha) 753 006.
Upland Ecology

Unbunded Upland

**Anjali (RR 347-166):** It is a very early maturing (90 days) variety released and notified in 2002 for upland ecosystems of Bihar, Jharkhand, Odisha, Assam and Tripura. This variety is intermediate in stature (85-100 cm) and possesses tolerance to drought. It is suitable for direct seeded condition. This cultivar is endowed with very good grain filling. The grains are of short bold (SB) type and having good cooking quality. It has resistance against brown spot and stem borer, leaf blast, sheath rot, leaf folder and white backed plant hopper. The average productivity of this variety ranges from 3.0-4.0 t/ha.

**Vandana (RR 167-982):** It is a very early maturing (90-95 days) variety, released for uplands of Chota Nagpur plateau in Jharkhand (1992) and upland areas of Odisha (2002) and notified in 2002. It is a semi-dwarf (95-110 cm) genotype having tolerance to drought and soil acidity. It has long and bold grain type. Vandana possesses moderate resistance to blast and brown spot diseases. It has an average productivity of 3.5 t/ha.

**Heera (CR 544-1-2):** It is an extra early maturing variety (70-75 days), released for Odisha in 1988 and notified in 1989. It is a semi-dwarf (75-85 cm) genotype useful for rainfed uplands areas. It is suitable for contingency planning after flood loss because of its extra earliness. It has long and bold grain type and is tolerant to blast and gall midge. This variety has a special quality i.e., it is rich in protein (about 12%) therefore, ideal for Nuti-farming and could potentially fight the protein malnutrition among the rice eaters of the country. The average productivity of this variety ranges from 3.0 - 4.0 t/ha.

Aromatic Rice

**CR Sugandh Dhan 907 (CR 2616-3-3-3-1):** It is a late maturing (150 days) and dwarf aromatic (non-basmati) rice variety, recently released and notified (2012 and 2013, respectively) for cultivation in irrigated situation of Chhattisgarh, Odisha, Andhra Pradesh and Gujarat. It has medium slender grains with average productivity of 4.5-5.0 t/ha. It is resistant to neck blast and gall midge; moderately resistant to sheath rot and yellow stem borer.

**CR Sugandh Dhan 902 (Purnabhog) (CRM 2203-4):** It is a late maturing (140-145 days), aromatic (non-basmati) variety, recently released (2012) for cultivation in irrigated and shallow lowland areas of Odisha. The grain type is long slender with an average productivity is 4.5-5.0 t/ha. It is resistant to neck blast and gall midge; moderately resistant to sheath rot and yellow stem borer.

**Nua Chinikamini (IET 18394):** It is a late maturing (145-150 days), tall (140cm) and photosensitive aromatic (non-basmati) variety, released and notified (2010 and 2011, respectively) for cultivation in lowland and rainfed low land areas of Odisha. It has short bold grains with average productivity of 3.5 t/ha. It is resistant to sheath rot, neck blast, rice tungro disease and gall midge; moderately resistant to stem borer. It is recommended for close planting.

**Nua Kalajeera (IET 18393):** It is a late maturing (145 days), tall (140 cm) and photosensitive variety, released and notified (2008) for cultivation in low land areas of Odisha. It has short, bold and black husked scented (non-basmati type)
**Hybrid Rice**

**CR Dhan 701 (CRHR 32):** It is the first late duration (142-145 days) hybrid variety in India, released and notified (2010 and 2012, respectively) for cultivation in shallow lowland areas of Bihar and Gujarat. It has medium slender grains with average productivity of 6.0-6.5 t/ha. It can withstand water logging and low light conditions. It shows moderate resistance to rice tungro, bacterial leaf blight, green leaf hopper and leaf blast. It can also be cultivated during dry season if sown in December.

**Rajalaxmi (CRHR-5):** It is a medium duration (125-135 days), semi-dwarf (105-110 cm) popular hybrid variety. It possesses seedling stage cold tolerance and suitable for irrigated and boro ecosystems. It is released (2005 SVRC; 2010 CVRC) and notified (2006) for cultivation in Odisha and Assam. It has good quality long slender grains with an average productivity of 7.0-7.5 t/ha. It has capability to tolerate stem borer, brown plant hopper, white backed plant hopper, gall midge, leaf blast and bacterial leaf blight. This hybrid can tolerate water stagnation (7-10 days) at tillering stage.

**Ajay (CRHR-7):** It is a medium duration (125-135 days), semi-dwarf (105-110 cm) popular hybrid variety released and notified (2005 and 2006, respectively) for cultivation under irrigated and shallow lowland areas of Odisha. It has good quality long slender grains with an average yield of 7.0-7.5 t/ha. It is resistant to blast and moderately resistant to rice tungro virus. It also shows field tolerance against bacterial leaf blight, stem borer and brown plant hopper. It can tolerate water stagnation (7-10 days) at tillering stage.

---

**Bunded upland**

**CR Dhan 100 (Satyabhamha) (CR 2340-11):** It is an early maturing (105-110 days), semi-dwarf (95-105cm) variety, recently released and notified (2012 and 2013 respectively) for cultivation in drought prone areas of Odisha. It bears medium slender grains and has got tolerance to glume discoloration. It has an average productivity of 2.8 t/ha under drought and 4.7 t/ha under favourable conditions. It possesses moderate resistance against leaf folder, whorl maggot, white backed plant hopper, brown plant hopper, gall midge, hispa, thrips, leaf blast and rice tungro virus.

**Sahabhagi Dhan (IR 74371-70-1-1-CRR-1):** It is an early maturing (100 days) semi-dwarf statured (85-90 cm) variety, released and notified during 2008 and 2011, respectively for cultivation in the states of Jharkhand and Odisha. This is a variety with tolerance to drought stress and responsive to favourable conditions. It is suitable for upland, rainfed direct seeded as well as transplanted conditions. It bears golden husked long bold grains. Its average productivity ranges from 3.8 t/ha to 4.5 t/ha. A yield advantage of 0.5 t/ha under moderate drought stress and 1.0 t/ha under severe drought conditions, over IR 64 and IR 36, has been recorded by this variety. It is resistant to leaf blast and moderately resistant to brown spot, sheath rot, stem borer and leaf folder.

**CR Dhan 40 (Kamesh) (CRR 383-22):** It is an early maturing (110 days) and semi dwarf statured (100-110 cm) popular variety suitable for bunded uplands and rainfed uplands. It has been released and notified (2008) for cultivation in drought affected area of Jharkhand and Maharashtra states. The variety possesses short bold grains with an average productivity of 3.0 to 3.5t/ha. It is moderately resistant to brown spot, blast, gall midge, white backed plant hopper, stem borer and leaf folder. It is suitable for direct seeded cultivation in rainfed uplands.
Annada (CR 222-MW 10): It is an early maturing (110) variety, released and notified in 1987 for cultivation in upland areas of Orissa and in 1988 for WB, MP, Assam and Goa. It is a semi-dwarf (65-90cm) non-lodging variety with moderate drought tolerance. It bears short bold grains and has average productivity ranges from 4.0 -5.0 t/ha. It is moderately resistant to blast and sheath blight.

Aerobic Rice

CR Dhan 204 (CR 2715-13-IR 84899-B-154): It is a semi-dwarf statured non-lodging variety with mid early maturity duration (110 days). It is suitable for water limited/ aerobic conditions and released and notified (2012 and 2014 respectively) for cultivation in Jharkhand and Tamil Nadu. It possesses medium slender grains, higher number of panicles per m² (285) with average yield of 3.9 t/ha. It is moderately resistant to leaf blast, neck blast, brown spot, sheath rot, stem borer (both dead heart and white ear heads), leaf folder, whorl maggot, case worm and rice thrips.

CR Dhan 202 (CR 2715-13-IR 84899-B-154): It is a semi-dwarf statured mid early duration (110 days) variety, suitable for water limited/ aerobic conditions and released and notified (2012 and 2014, respectively) for cultivation in Jharkhand and Odisha. It possesses short bold grains with an average productivity of 3.7 t/ha. It has higher number of panicles per m² (285), normal tillering (7-10), medium and dense panicles with moderate test weight. It is moderately resistant to leaf blast, brown spot, sheath rot, stem borer (both dead heart and white ear heads), leaf folder, whorl maggot and rice thrips.

CR Dhan 405 (Luna Shankhi) (CR 2577-1): It is an early duration (110 days) variety, recently released and notified (2012 and 2013, respectively) for cultivation in irrigated situation in coastal saline areas of Odisha. It has medium slender grains with average productivity of 4.6 t/ha. It is tolerant to blast and moderately tolerant to sheath blight. This variety is suitable for dry season cultivation in salt affected areas.

CR Dhan 403 (Luna Suvarna) (CR 2096-71-2): It is a tall (135 cm) and late maturing (150 days) salt tolerant (5.0 to 8.0 dsM⁻¹) variety, recently released and notified (2010 and 2011, respectively) for cultivation in coastal saline areas of Odisha. It has medium slender grains with an average productivity of 3.5 to 4.0 t/ha. It can also withstand water stagnation up to 45 cm. It is recommended for early transplanting (before July 15th) with 40 days old seedlings. It has resistance to blast and tolerance to yellow stem borer, brown plant hopper and leaf folder.

CR Dhan 402 (Luna Sampad)(CR LC2095-181-1): It is a medium late maturing (140 days), tall (130 cm) and saline tolerant (5.0 to 8.0 dsM⁻¹) variety, recently released and notified (2010 and 2011, respectively) for cultivation in coastal saline/ rainfed saline situation of Odisha. It has medium bold grains with an average productivity of 3.6-4.2 t/ha. It shows resistance against blast; moderate resistance to rice tungro virus, sheath blight and stem borer.
cultivation in semi deep water/coastal areas of Odisha. It has medium slender grains with seed dormancy. The average productivity of this variety ranges from 4.5 - 5.0 t/ha. It is highly popular among the farmers because of very good grain quality. Aged seedlings of this variety (up to 50 days old) can be transplanted without any yield loss. It can tolerate water logging situation up to 50 cm.

**Durga (CR 683-123):** It is a late maturing (155 days) and tall statured (125-135 cm) photosensitive variety, released and notified (2000) for cultivation in low land areas of Odisha. It has medium slender grains with average productivity of 4.5 t/ha. It possesses resistance against bacterial leaf blight, sheath rot and brown plant hopper. It is having elongation ability. As the level of water increases, the stem elongation takes place as a consequence to the extent that this variety can tolerate water logging situation up to 100 cm.

**Gayatri (CR 210-1018):** It is a late maturing (160 days), semi tall (110 cm) and photosensitive popular variety, released and notified (1988) for cultivation in lowlands of Odisha, West Bengal and Bihar. It has short bold grains with an average productivity of 5.0 t/ha. It has field tolerance against major diseases and pests. It has significant level of grain dormancy. It can tolerate water stagnation up to 50 cm and is suitable for delayed transplanting.

**Coastal Saline Ecology**

**CR Dhan 406 (Luna Barial) (CR 2092-158-3):** It is a late duration (150-155 days), saline tolerant (5.0 to 8.0 ds M³) variety, recently released and notified (2012 and 2013, respectively) for cultivation in coastal saline areas of Odisha. It has short bold grains with an

**CR Dhan 201 (CR 2721-81-3-IR 83380-B-B-124-1):** It is a mid early duration (110-115 days), semi-dwarf, non-lodging variety suitable for water limited/aerobic conditions, released and notified (2012 and 2014, respectively) for cultivation in Bihar and Chhattisgarh. It possesses long slender grains with average productivity of 3.8 t/ha. The genotype is having more panicles per m² (280) with long and dense panicles and moderate test weight. It is moderately resistant to leaf blast, sheath rot, stem borer (both dead heart and white ear heads), leaf folder, whorl maggot and rice thrips.

**CR Dhan 200 (Pyari) (CR 2624-IR 55423-01):** It is a mid early duration (115-120 days) variety suitable for water limited/aerobic conditions and released and notified (2012 and 2013, respectively) for cultivation in Odisha. It has semi-dwarf stature and short bold grains. The average productivity of this variety is 4.0 t/ha. It is moderately resistant to leaf blast, neck blast, brown spot, yellow stem borer and leaffolder.

**Irrigated Ecology**

**CR Dhan 305 (CR 2706):** This is a medium duration (125-130 days) semi-dwarf, non-lodging type of variety. It is released and notified in 2013 and 2014, respectively for irrigated (transplanted) mid early ecologies of Jharkhand, Maharashtra and Andhra Pradesh. It has long slender grains and has an average productivity of 4.8 t/ha. It produces long and dense panicle with moderate resistance to leaf blast, neck blast, brown spot, sheath rot, white backed plant hopper(WBPH), leaf folder, whorl maggot and green leaf hopper(GLH).
**CR Dhan 304 (CR 2644-2-6-4-3-2):** It is a medium duration (125-130 days) semi-dwarf (110 cm) variety suitable for irrigated ecosystem. It is released and notified in 2013 and 2014, respectively for cultivation in irrigated areas of Odisha and West Bengal. It has short bold grains with average productivity of 5.0-5.5 t/ha. This variety is resistant to gall midge biotype 1.

**CR Dhan 303 (CR 2649-7):** It is a medium duration (125-130 days) semi-dwarf (110 cm) variety suitable for irrigated ecosystem. It is released and notified in 2012 and 2014, respectively for cultivation in irrigated areas of Madhya Pradesh, Uttar Pradesh and Odisha. It has short bold grains with average productivity of 5.0-5.5 t/ha. This variety is moderately resistant to leaf blast, neck blast, sheath rot and rice tungro disease.

**CR Dhan 300 (CR 2301-5):** It is a medium late duration (140 days), semi-dwarf (110-115 cm) variety, released and notified (2011 and 2014, respectively) for cultivation in irrigated/shallow lowland areas of Odisha, Bihar, Gujarat and Maharashtra. It has long slender grains with average productivity of 5.0-5.5 t/ha. It is resistant to leaf folder and rice whorl maggot; moderately tolerant to white backed plant hopper, gall midge, rice hispa, thrips, stem borer, leaf and neck blast, sheath rot and rice tungro disease.

**Improved Lalat (CRMAS 2621-7-1):** It is a medium duration (130 days), semi-dwarf variety recently released (2012 and 2013, respectively) for cultivation in bacterial leaf blight prone areas of Odisha. It has good quality long slender grains with

**Semi Deep/ Water Logged Ecology**

**CR Dhan 503 (Jayantidhan) (CR 2282-1-2-5-1):** It is a late maturing (160 days) variety, recently released (2011 and 2012, respectively) for cultivation in deep water situation of Odisha. It bears medium slender grains with average productivity of 4.6 t/ha. It is moderately tolerant to yellow stem borer, leaf folder, whorl maggot and thrips and moderately resistant to neck blast, leaf blast, sheath blight, sheath rot and tungro virus. It can tolerate water stagnation up to one meter.

**CR Dhan 500 (CR 2285-6-6-31):** It is a late maturing (160 days), tall variety, recently released and notified in 2010 and 2012, respectively for cultivation in deep water situation of Odisha and Uttar Pradesh. It has medium slender grains with average productivity of 3.3 t/ha. It is resistant against thrips, and leaf folder; moderately resistant against leaf and neck blast, gall midge and yellow stem borer.

**Varshadhan (CRLC 899):** It is a late maturing (160 days), tall (150 cm), non-lodging and photosensitive popular variety with stiff straw. It was released and notified (2005 and 2006, respectively) for cultivation in low land areas of Odisha, West Bengal and Assam. It has long bold grains with average productivity of 4.0 t/ha. It is tolerant to neck blast, bacterial leaf blight, sheath rot and white backed plant hopper. It can tolerate prolonged water logging up to a depth of 75 cm.

**Sarala (CR 260-77):** It is a late maturing (160 days), Intermediate (110-120 cm), non-lodging and photo-sensitive variety, released and notified (2000) for
Swarna Sub-1 (CR 2539-1): It is a late maturing (143 days), semi dwarf (100 cm) variety, released and notified (2009) for cultivation in low land areas of Odisha. It can tolerate complete submergence for two weeks, because of incorporation of Sub-1 gene (submergence tolerance gene) in the genetic background of the popular mega variety Swarna. Hence, it is a solution to the problem of inundation due to flash floods in coastal areas. It has brighter panicle colour as compared to Swarna and medium slender grains with an average productivity of 5.0-5.5 t/ha. It has field tolerance against all major diseases and pests.

Pooja (CR-629-256): It is a late maturing (150 days) short statured (90-95cm) popular variety, released and notified (1999) for cultivation in shallow low land areas of Odisha, Assam, Madhya Pradesh and West Bengal. It has medium slender grains with an average yield of 5.0 t/ha. It possesses field tolerance to all major diseases and pests. It tolerates water stagnation (up to 25 cm) and is suitable for late transplanting with aged seedlings.

Savitri / Ponmani (CR 1009) (CR 210-1009): it is a late maturing (150-155 days) popular variety with intermediate height (110-120cm), released and notified in 1982 and 1983, respectively for cultivation in shallow low land areas of Tamil Nadu. It has short bold grains with good milling recovery and acceptable cooking quality. It is highly preferred for traditional south Indian dishes viz., idly and dosa. It possesses high photo-synthetic efficiency under cloudy weather condition. The average productivity of this variety is 5.0 t/ha. It possesses tolerance to blast and sheath blight.

an average productivity of 4.5-5.0 t/ha. Because of its resistance against bacterial leaf blight, it is a substitute for the high yielding and popular variety Lalat. It is also resistant against gall midge and moderately resistant to stem borer, leaf blast, sheath rot and rice tungro virus.

Improved Tapaswini (CRMAS 2622-7-6): It is a medium duration (130 days), short statured (90cm) variety, recently released (2012 and 2013, respectively) for cultivation in bacterial leaf blight prone areas of Odisha. Since “Improved Tapaswini” possesses resistance against bacterial leaf blight, it is a substitute for high yielding variety “Tapaswini”, susceptible to this disease. It has short bold grains with an average productivity of 4.0-5.0 t/ha. It is also resistant to major pests like brown plant hopper, yellow stem borer, white backed plant hopper and moderately resistant to stem borer.

CR Dhan 801 (Phalguni) (CRAC 2224-1041): It is a mid-early duration (115-120 days), semi-dwarf, doubled haploid variety released and notified (2010 and 2011, respectively) for irrigated areas of Odisha. It has long slender grains with average productivity of 5.0-6.0 t/ha. It shows resistance against leaf blast, gall midge, leaf folder and moderate resistance to sheath rot, tungro virus, brown spot, sheath blight, yellow stem borer, brown plant hopper, white backed plant hopper and grassy leaf hopper.

CR Dhan 10 (Satyakrishna) (CRAC 2221-43): It is a medium duration (135 days), semi-dwarf (105 cm) doubled haploid variety, released and notified (2008 and 2011, respectively) for cultivation under irrigated and shallow lowland areas of Odisha. It has long slender grains with an average productivity of 5.0-6.0 t/ha. It shows resistance to neck blast and sheath blight; moderate resistance to yellow stem borer and gall midge. This variety bears lower number of tillers and therefore, recommended for close planting (>50 hills/m²).
Naveen (CR 749-20-2): It is a mid-early duration (115-120 days), semi-dwarf (105cm) variety suitable for upland and irrigated ecosystems. It is released and notified in 2005 and 2006, respectively for cultivation in Odisha, West Bengal, Tripura and Andhra Pradesh. It has medium bold grains with average productivity of 4.0-5.0 t/ha in kharif and 5.0-6.0 t/ha in rabi season. This variety has resistance against blast and brown spot.

Shatabdi (CR 146-7027-224): It is a mid-early duration (120 days) semi-dwarf variety suitable for irrigated ecosystem and released and notified (2000) for cultivation in the state of West Bengal. It bears excellent quality long slender grains and has an average productivity of 4.0-5.0 t/ha. This variety is moderately resistant to bacterial leaf blight, sheath blight and sheath rot. It has wide seasonal adaptability; can grow in all rice growing seasons. Because of its early maturing ability that allows harvesting before pre-monsoon rain, it is most popular for cultivation during dry season. It could be taken up in place of local boro / dry season varieties.

Khitish (CR 156-5021-207): It is a mid-early duration (115-120 days), semi-dwarf(80-100cm) high yielding variety released and notified in 1982 and 1984, respectively for irrigated areas of West Bengal. It has high tillering ability and long slender grains with average productivity of 4.5-5.0 t/ha. It shows moderate resistance against blast and bacterial leaf blight. It is also suitable for cultivation in dry season.

Boro/Dry Season Rice

CR Dhan 601 (CRG 1190-1): It is a variety released for dry season with late maturity (160-165 days) for boro cultivation (under November- December nursery sowing) and early medium maturity (125-130 days) for summer and kharif cultivation. It has semi-dwarf stature (90-100 cm), non-lodging plant type released and notified (2011) for cultivation in boro areas of Assam, Odisha and West Bengal. It is tolerant to cold and bears medium slender grains with white kernel, compact, long and dense panicles along with broad, thick and upright leaves. It has an average productivity of 5.0 t/ha. This variety is resistant to leaf blast and tungro virus and moderately resistant to sheath rot and brown spot. It is moderately tolerant to yellow stem borer, green leaf hopper and leaf folder.

CR Boro Dhan 2 (Chandan) (CR - 898): It is a medium duration (125 days) semi dwarf variety released and notified (2008) for cultivation in boro area of Odisha. It has medium slender grains with an average productivity of 5.5-6.0 t/ha. This variety is tolerant to yellow stem borer, brown plant hopper, blast, bacterial leaf blight and sheath blight.

Shallow Lowland Ecology

CR Dhan 401 (Reeta) (CR 780-1937-1-3): It is a late duration (145-150 days), semi-dwarf (plant height 110 cm) variety, released and notified (2010 & 2011, respectively) for cultivation in shallow lowland areas of Odisha, West Bengal, Tamil Nadu and Andhra Pradesh. It has medium slender grains with an average productivity of 5.5 t/ha. It has field tolerance to leaf blast, neck blast, sheath rot, sheath blight, brown spot, stem borer and leaf folder. It can tolerate submergence for about one week.