Popular and recent CRRI Rice Varieties for Different Ecologies

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, altogether 946 varieties have been released and for cultivation in different ecosystems; of these CRRI have developed 105 varieties. Proper choice of rice variety is very important to realise high production. Optimum supply of water, nutrient, light, space and temperature are the basic requirement for harvesting high 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 regarding high yielding varieties is highly essential for a good harvest. This compilation describes briefly CRRI bred popular varieties suitable to different ecologies.

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" could be available from CRRI, Cuttack.

Upland Ecology

Vandana (RR 167-982): It is an early maturing (90-95 days) variety, released and notified (1992 & 2002 & 2002) for upland situation of Odisha and Chhotanagpur plateau. It is a short statured (95-110 cm) genotype has tolerance to drought and soil acidity. It has long bold grain quality with moderate resistance to blast and brown spot. It has an average productivity of 3.5 t/ha. v

Kamesh (CR Dhan 40): It is an early duration (110 days) and short statured (100-110 cm) popular variety suitable for bunded upland and rainfed upland. It is released and notified (2008) for cultivation in drought affected area of Jharkhand and Maharashtra state. It has 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 upland.

Shabhagidhan (IR 74371-70-1-1-CRR-1): It is an early duration (100 days) dwarf statured (85-90 cm) highly drought tolerance popular variety suitable for upland, rainfed direct seeded as well as transplanted conditions. It is released and notified (2008 and 2011, respectively) for cultivation in state of Jharkhand and Odisha. It bears golden husked long bold grains and has average productivity of 3.8 -4.5 t/ha. It is resistant to leaf blast and moderate resistant to brown spot, sheath rot, stem borer, and leaf folder etc.

Satyabhama (CR 2340-11): It is an early duration (105-110 days) variety, recently released (2012) for cultivation in drought prone area of state Odisha. It has medium slender grains and tolerance to glume discoloration. It has an average productivity of 2.8 t/ha under drought and 4.7 t/ha under favorable conditions. It shows

resistance to major pests viz., yellow stem borer, leaf folder, whorl maggot and moderate resistant to leaf blast, rice tungro virus, white backed plant hopper, brown plant hopper, gall midge, hispa and thrips.It could be taken up in place of Khandagiri.

Aerobic rice:

Pyari (CR Dhan 200): It is a mid early duration (115-120 days) variety suitable for water limiting/ aerobic conditions and released (2011) for cultivation in Odisha. It has short bold grains and matures with average productivity of 4.0 t/ha. It is moderately resistant to leaf blast, neck blast, brown spot, blast, yellow stem borer and leaf folder.

CR Dhan 201(CR2721-81-3-IR83380-B-B-124-1): It is a mid early duration (110-115 days) variety suitable for water limiting/ aerobic conditions and released (2012) for cultivation in Bihar and Chhattisgarh. It possesses long slender grain with average productivity of 3.8 t/ha. The genotype is non-lodging type, high panicles per m2 (280), long and dense panicle with 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 202 (CR2715-13-IR84899-B-154): It is a mid early duration (110days) variety suitable for water limiting/ aerobic conditions and released (2012) for cultivation in Jharkhand and Odisha. It possesses short bold grain with a average productivity of 3.7 t/ha. It has high panicles per m2 (285), normal tillering (7-10), medium and dense panicle 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.

Irrigated ecology

Satabdi (CR 146-7027-224): It is a mid-early duration (120 days) variety suitable for irrigated ecosystem and released and notified (2000) for cultivation in state 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 etc. It has vast seasonal adoptability, can grow under all rice growing season of the year. It has quick maturing ability so that could be harvested before pre-monsoon rain; therefore, it is most popular for cultivation during dry season. It could be taken up in place of local boro/dry season varieties.

Naveen (CR 749-20-2): It is a mid-early duration (115-120 days) semi-dwarf (105cm) variety suitable for upland and irrigated ecosystem. It is released and notified (2005 and 2006) 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 capability against stem borer, blast and brown spot. It could be cultivated in place of Lalat variety.

Rajalaxmi (CRHR-5): It is a medium duration (125-135 days) semidwarf statured (105-110 cm) popular hybrid variety posses seedling stage cold tolerance and suitable for irrigated and Boro ecosystem. It is released and notified (2005 SVRC; 2010 CVRC and 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, leaf blast, bacterial leaf blight, white backed plant hopper and gall midge etc.; and 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) for cultivation under irrigated and shallow lowland area in state of Odisha. It has good quality long slender grains with an average yield capacity of 7.0-7.5 t/ha. It is resistant to blast and moderate resistant to rice tungro virus. It also exerted field tolerant against bacterial blight, stem borer and brown plant hopper. It can tolerate water stagnation (7-10 days) at tillering stage.

Satyakrishna (CR AC 2221-43): It is a medium duration (135 days) short statured (105 cm) doubled haploid variety, released and notified (2008 and 2011) for cultivation under irrigated and shallow lowland area in state of Odisha. It has long slender grains with an average productivity of 5.0-6.0 t/ha. It shows resistance to neck blast, sheath blight and moderately resistant to yellow stem borer and gall midge. This variety has lower number of tillers therefore recommended for close transplanting (> 50 hills/m2). It could be successfully grown in place of Lalat.

Phalguni (CR Dhan 801): It is a mid-early duration (115-120 days) semidwarf, doubled haploid variety released and notified (2010, 2011) for irrigated area 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 moderately resistant to sheath rot, tungro virus, brown spot, sheath blight, yellow stem borer, brown plant hopper, white backed plant hopper and grassy leaf hopper etc.

Improved Lalat (CRMAS 2621-7-1): It is a medium duration (130 days), semidwarf variety recently released (2012) for cultivation under bacterial leaf blight prone areas of Odisha. It has good quality long slender grains with higher HRR (head rice recovery) with an average productivity of 4.5-5.0 t/ha. It has additional resistance against bacterial leaf blight therefore it is a plausible substitute of old 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 variety, recently released (2012) for cultivation under bacterial leaf blight prone area of Odisha. It has additional resistance against bacterial leaf blight(BLB), therefore, it is a plausible substitute of old high yielding variety "Tapaswini" otherwisely susceptible to BLB. It has short bold grains with higher HRR (head rice recovery) 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 and white backed plant hopper and moderately resistant to stem borer.

Boro/ dry season rice

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

Shallow lowland ecology

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

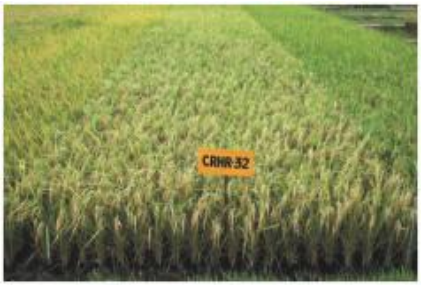
Swarna Sub-1 (CR AC 2539-1): It is a late duration (143 days) semi dwarf (100 cm) variety, released and notified (2009) for cultivation in low land area of Odisha. It can tolerate complete submergence for two weeks, because of incorporation of Sub-1 gene (submergence tolerance gene) in the genetic background 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 than Swarna and bears medium slender grains with an average productivity of 5.0-5.5 t/ha. It has field tolerance against all major diseases and pests.

Reeta (CR AC 780-1937-1-3): It is a late duration (145-150 days), semidwarf (plant height 110 cm) variety, released and notified (2010 & 2011) for cultivation in shallow lowland area of states 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.

CR Dhan 300 (CR 2301-5): It is a medium late duration (140 days) variety recently released for cultivation irrigated/shallow lowland area of state Odisha, Bihar, Gujrat and Maharashtra. It has long slender grains with average productivity of 5.0-5.5 t/ha. It is resistant to stem borer, leaf folder and rice whorl maggot; moderately tolerant to white backed plant hopper, gall midge, rice hispa, thrips, leaf and neck blast, sheath rot and rice tungro diseases etc.

CR Dhan 701 (CRHR 32): It is the first late duration (142-145 days) hybrid in the country, released and notified (2010 and 2012) for cultivation in shallow lowland area of Bihar and Gujrat. It has medium slender grains and with 6.0-6.5 t/ha average yield capacity; it can be effectively cultivated in place of popular variety "Swarna" in hybrid rice category. It can withstand water logging and low light conditions. It exerts moderate resistance to rice tungro, blight, GLH and leaf blast.



Semi Deep/ Water Logged Ecosystem

Sarala (CR 260-77): It is a late duration (160 days) semi tall (110-120 cm) non- lodging, photo-sensitive variety, released and notified (2000) for cultivation in semi deep water/ coastal area of Odisha. It has medium slender grains possesses seed dormancy and has an average productivity of 4.0 t/ha. It is highly popular among the farmers because of grain quality and has got an advantage that aged seedling (up to 50 days old) can be transplanted without any yield loss. It can tolerate a submergence situation up to 50 cm.

Durga (CR 683-123): It is a late duration (155 days) tall statured (125-135 cm) photosenstive variety, released and notified (2000) for cultivation in low land area of state Odisha. It has medium slender grains with average productivity of 4.5 t/ha. It exerts resistance against bacterial leaf blight, sheath rot and brown plant hopper. It is having elongation ability commeasuring with increase in water level and can tolerate up to 100 cm submergence.

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

Varshadhan (CRLC 899): It is a long duration (160 days), tall (150 cm) non-lodging, stiff strewed photosensitive popular variety, released and

notified (2005 and 2006) for cultivation in low land area of the state 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 tolerates prolong water logging up to a depth of 75 cm.

CR Dhan 500 (CR 2285-6-6-31): It is a late duration (160 days), tall variety, recently released and notified (2012 and 2012) 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 etc.

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

Coastal Saline Ecosystem

Luna Suvarna (CR LC2096-71-2): It is a tall (135 cm) late maturing (150 days) salt tolerant (5.0 to 8.0 dsM-1) variety, recently released and notified (2010 and 2011) for cultivation in coastal saline area of Odisha. It has medium slender grains with an average productivity of 3.5 to 4.0 t/ha. It can also withstand with up to 45 cm water stagnation. It is recommended for early transplanting (before July15th) with 40 days old seedlings.

Luna Sampad (CR LC2095-181-1): It is a medium late maturing (140 days), tall (130 cm) saline tolerant(5.0 to 8.0 ds M-1) variety, recently released and notified (2010 and 2011) 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 has resistance ability against blast; moderately resistant to rice tungro virus, sheath blight and stem borer etc.

Luna Barial (58CR 2092-1-3): It is a late duration (150-155 days) saline tolerance (5.0 to 8.0 ds M-1) variety, recently released and notified (2012 and 2012) for cultivation in coastal saline area of Odisha. It has short bold grains with an average productivity of 3.9 t/ha. It is resistant to yellow stem borer and leaf folder; moderately resistant to sheath blight and bacterial leaf blight etc.

Luna Shankhi (CR 2577-1): It is an early duration (110 days) variety, recently released and notified (2012 and 2013) for cultivation in irrigated condition in coastal saline area of Odisha. It has medium

slender grains with average yield capacity of 4.6 t/ha. It is moderately resistant to blast and sheath blight and suitable for dry season cultivation.

Aromatic Rice

Nua Kalajeera : It is a late maturing (145 days) tall (140 cm) photosensitive variety, released and notified (2008) for cultivation in low land area of Odisha. It has short bold black husked scented (non-basmati type) grains with average productivity of 3.0 t/ha. It exerts resistance against rice tungro virus; moderate resistant to leaf blast and sheath rot. it is suitable for close planting and organic farming situation.

Nua Dhusara: It is a late maturing (145 days) tall (142cm) and photosensitive popular variety, released and notified (2008) for cultivation in low land area of Odisha. It has short bold grains with average productivity of 3.0 t/ha. it is resistant against sheath rot, neck blast and RTV; moderately resistant against gall midge. It can also withstand with short period (3-4 days) and suitable for organic system of farming.

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

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 area of Odisha. The grain type is long slender and having average productivity of 4.5-5.0 t/ha. It is resistant to neck blast, gall midge and moderately resistant to sheath rot and yellow stem borer.

CR Sugandh Dhan 907 (CR 2616-3-3-31): It is a late maturing (150 days), first dwarf aromatic (non basmati) rice variety, recently released and notified (2012 and 2013) for cultivation in irrigated late ecology of Chhattisgarh, Odisha, Andhra Pradesh and Gujrat. It has medium slender grains with average productivity of 4.5-5.0 t/ha. It is resistant to neck blast, gall midge and moderately resistant to sheath rot and yellow stem borer.