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Nizami (BR20) and Niamat (BR21): Two Modern Upland Rice Varieties in Bangladesh

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ABSTRACT

Nizami and Niamat were released in Bangladesh in 1986 as short duration upland rice varieties. These are characterized by their intermediate plant height and translucent and medium bold grains as compared to local upland varieties. Dharial and Hashikalmi. Both have high yielding ability: the average yield was 3.1 t/ha and 2.8 t/ha, respectively, which were at least two times more than the existing local upland varieties. Both are moderately resistant to bacterial leaf blight, bacterial leaf streak and rice tungro virus diseases, and are resistant to loading and moderately resistant to drought.

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Determination of a Suitable Crop-cut Method For Estimating Deep Water Rice Yield

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ABSTRACT

Two crop-cut methods, namely base-cut and top-cut were compared for estimating the yield of deepwater rice (DWR). Under base-cut, panicles of the rice plants whose bases (roots) were within the selected area were harvested, whereas in the top-cut method, panicles inside the selected area regardless of their bases (roots) were harvested. The study was conducted in three consecutive years: 1984, 1985 and 1986 under shallow, deep and medium flood situation, respectively. In all flood situations, top-cut method was found superior to base-cut for estimation of grain yield of deep-water rice in terms of accuracy, easiness and time saving.

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Wet Seeding of Boro Rice: An Agronomic Means for Increasing Yield and Decreasing Production Cost

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ABSTRACT

The agronomic and economic advantages of wet seeding as an alternative to the transplanting method of rice cultivation was evaluated with BR14 and BRRI dhan28 in the Boro season, respectively, in 1993 and 1994. Data have proved the superiority of wet seeding than the traditional transplanting in terms of grain yield and net return. Wet seeding of BR14 saved 16-18 days over transplanting on the day of seeding and 40 days after seeding, respectively. In case of BRRI dhan28 the corresponding figures were 9 and 11 days, respectively.

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Establishment of Green Manure Intercropping with Rice and Nitrogen Rates on Yield of Rainfet T. Aus-T. Aman Cropping Patterns

A J Mridha, M A Mazid, G J U Ahmed, M B Rahman and A B S Sarker

ABSTRACT

Supply of N, either from urea or from Sesbania rostrata as green manure (GM) intercropped with rice, increased grain yield over control both in pair row (Pr) 10-x 20-x 30-cm) and single row (SR) (20-x 20-cm) planting method under rainfed condition. Pair row planting or rice gave better grain yield than the recommended single row rice planting method. The response of N fertilizer applied from urea in PR was quadratc in nature the optimum N rate that maximized rice yield in T. Aus and T. Aman 1994 was 68.3 and 83.3 kg/ha, respectively. During T. Aman 1995, the response of N fertilizer applied from urea in PR was quadratic in nature for the grain yield but for the straw yield was linear in nature. The optimum N rate was 93.4 kg/ha that maximized rice yield in T. Aman 1995.

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Effect of Seedling and Soil Treatments with Carbofuran on Ufra Disease Infestation and Yield of Irrigated Rice

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ABSTRACT

Field trials on ufra disease control in rice CV. BR3 using Furadan 5G were conducted in Bhola and Pirojpur districts of Bangladesh during the Boro season 1995. The treatments were : (a) seeding root dipping in 1% Furadan 5G solution; (b) soil treatment at 20 kg Furadan 5G/ha; (c) seeding root dipping plus soil treatment; and (d) control (no Furadan 5G). The trials were laid out in RCB design with three replications. In both the trials, the highest grain yields (of about 4.97 and 6.73 t/ha) were obtained from seeedling root dip plus soil treatment. This treatment increased grain yield by about 50% over control via reducing the number of urfa infected tillers. Grain yield was strongly correlated with the number of infected tillers or panicles/m^2 (r = -0.89).

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Effect of Sowing Techniques on the Growth, Yield and Yield Contributing Characters of Rice

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ABSTRACT

An experiment was conducted at BRRI farm, Gazipur in the transplanted Aman (T. Aman) season 1995 to determine the suitable sowing technique of rice. The varieties BR22 and BR23 were used in the trial. The planting techniques were : i) no steeping + no hatching + sown in irrigated puddled soil, ii) 12 hours steeping + 12 hours hatching + sown in unpuddled flood irrigated ploughed soil, and iii) 24 hours steeping + 24 hours hatching (sprouted seed) + sown in nonirrigated ploughed soil. Between the varieties, BR22 produced the higher number of grain per panicle (109.44) and higher

grain yield (5.00 t/ha) over BR23. Among the three methods, 12 hours steeping + 12 hours hatching + sown in unpuddled flood irrigated ploughed soil showed superior performances, producing highest plant height (122.39 cm), tiller numbers per hill (6.93), and grain yield (4.86 t/ha). The interaction effect of this sowing technique was also found better with BR22 (5.18 t/ha^{-1}) than the others.

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Effectiveness of Ronstar 12L-A new Formulation of Herbicide Ronstar 25EC (Oxidization) to Control Weeds in Lowland and Irrigated Rice

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ABSTRACT

A study was conducted to observe the effectiveness of Ronstar 12L, a new formulation of Ronstar 25EC (Oxidization), to control weeds in lowland and irrigated rice. Two experiments were conducted in BRRI farm, Gazipur during T. Aman and Boro, 1993 and 1994, respectively. Four treatments: (1) Ronstar 12L 3 L/ha; (ii) Ronstar 25EC 1 L/ha; (iii) Ronstar 25EC 2 l/ha and; (iv)2 hand weedings; and (v) Unweeded (control) were laid out in RCB design with four replications. Ronstar 12L controlled weeds effectively during T. Aman 1993 and gave similar grain yield as hand weeding treatment. Similar results were obtained in experiments during Boro 1994. Ronstar 12L also gave comparable plant growth and yield components to hand weeding in both T. Aman and Boro. This chemical had no phytotoxic effect on crops. Ronstar 25EC1 l/ha was as effective as Ronstar 2 l/ha in controlling weeds. Ronstar EC application needs sprayer and it is not readily available. On the other hand, Ronstar 12L can be applied directly to the field from the container which is specially made for this purpose and costs similar to Ronstar EC (1 l/ha) application. Two hand weedings cost Tk 2180.00 and Tk 2240.00 in T. Aman and Boro especially which are considerably more expensive than Ronstar 12L which cost Tk 1250.00 /ha. Hence Ronstar 12L can be used profitably to control weeds in lowland rice.

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Identification of Wide Compatibility Genes in Rice (Oryza sativa L.)

A W Julfiqur and S S Virmani

ABSTRACT

Twelve wide compatibility verities (WCVs) from four different varietal groups (1 Indica, 3 Aus, 6 Japonica and 2 tropical Japonica) identified at IRRI and in Japan were evaluated to study their inheritance on fertility trait along with the allelic relationship of known WCVs possessing identified genes. WE-trait of BPI 76 (P), Norin PL9, Calotoc, Fossa HV, Moroberekan, Palawan, IR47686-5-10-B, IR47699-29-6-B, N22 and Lambayeque was controlled by a single dominant gene. WC-gene of Dular to be non-allelic to S_5^n possessed by Norin PL9, another known WCV. Incorporation of the identified WC-gene from Norin PL9 and Dular in the genetically diverse Indica and Tropical Japonica parental lines can result in developing Indica/Tropical hybrids.

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Comparative Cultivation Cost of Power Tiller and Country Plough in Bangladesh

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ABSTRACT

A study was conducted to determine the cost of cultivation using power tiller and country plough during transplanted Aman (T. Aman), 1993 in the BRRI farm, Gazipur and BRRI Regional Station farm, Rajshahi. In Rajshahi, the soil was sandy loam with soil bulk density 1.29-1.42 g/cm^3, weed density 0.34-0.55 kg/m2 and soil penetration strength 5.10-5.37 kg/m^2 at 100 mm depth, before land preparation. In Gazipur, the soil was clay loam and the soil parameters, eg soil bulk density, weed density, and soil penetration strength at 200 mm depth before land preparation were 1.27-1.35 g/cm2. 0.06-0.12kg/m^2 and 4.88-5.00 kgf/m^2, respectively. T. Aman rice crop of BR11 variety was transplanted in the cultivated fields. The tests showed that in both the sites power tiller cultivation was faster than that of the country plough. The tests showed that there is no difference in yield due to different methods

of cultivation by country plough or by power tiller. At Rajshshi, the cost of cultivation per ha for one pass was Tk 594/- for country plough and Tk 494/- for power tiller, respectivelly. The corresponding figures in Gazipur were Tk 1,116/- and Tk 519/-.

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Performance of Eight Transplant Aman Rice Varieties Under Irrigated Conditions

M R Ahmed, M A Rashid, Md Shafiqul Alam, K A Billah and F Jameel