Bw.288-1-3 A PROVEN REPLACEMENT FOR Bg.34-6 IN THE LOW COUNTRY WET ZONE

Paul Peiris, A.O.Rice Breeding,
C.Wanigasuriya, Research Officer,
Rice Breeding,
E.Rajapaksa, Experimental Officer,
Regional Agricultural Research Centre,
BOMBUWELA.

The Low country Wet Zone of Sri Lanka which receives an annual rainfall of over 2,200 mm. includes the districts of Gampaha, Colombo, Kalutara, Galle, and part of Ratnapura. The farmers in these districts prefer to grow red pericarped rice varieties to cater for the consumer preference. Due to this reason nearly 26,000 hactares are annually cultivated with the 3½ month red pericarped variety Bg 34-6 even though the white pericarped Bg 94-1 of the same age group yields better. Galle and Kalutara districts alone account for half of this extent. Even though Bg 34-6 is popular at the moment, the cultivators undoubtedly would prefer a 3½ month red pericarped rice variety with a higher yield potential. Unfortunately there has not been such a variety available to them.

Bombuwela Varietal Improvement Division after several years of work has finally found a suitable replacement for Bg 34-6. This new line which is derived from a cross between Bg 90-2 and Bg 400-1 has been designated Bw 288-1-3. It possesses all the desirable traits of Bg 34-6 (See table 2 and 3), and in addition the yield potential of Bg 94-1. Furthermore, its moderate resistance to iron toxicity and Sheath blight makes it all the more suitable for the low country wet zone.

In a yield evaluation trial conducted in a farmer's field at Remuna in Yala 1983, Bw 288-1-3 has given a convincing yield of 4294.48 kg/ha against 2795.52 kg/ha for Bg 34-6 (see table 4). In the same season in a nitrogen response trial carried out at Bombuwela station, Bw 288-1-3 has recorded a significantly superior yield over Bg 34-6 at input levels of 50 N and 72 N kg/ha (See table 3 giving a clear

---

Approved by D.D.R., Bombuwela for publication in 'KRUSHI'.

indication of its response to higher levels of added nitogen. In the National Coordinated Rice Varietal Trials conducted in Maha 1982/83 and Yala 1983 in the major agro-climatic zones, the overall performance of Bw 288-1-3 has been either similar or slightly better than the control variety Bg 94-1.

According to the yield obtained in the nitrogen response trila (See table 3 the difference in the mean yield of Bg 34-6 and Bw 288-1-3 is 855 kg/ha. Therefore, by using Bw 288-1-3 instead of Bg 34-6 if farmers realize 50% or half the yield difference between the two varieties i.e. 425 kg/ha, then the total extent presently under Bg 34-6 would yield an extra 11,021,100 kgs, or (537,614 bushels of paddy). In monetary terms this would amount to approximately Rs.33,000,000 which in our estimation is a substantial added annual income for the farmers. Considering the above facts, it is evident therefore, that the new rice variety Bw 288-1-3 could be recommended as a suitable replacement for Bg 34-6 in the low country wet zone.

Finally we thank Mr. G.A. Gunatilake, D.D.R Bombuwela for the encouragement and guidance given to us in our work.

Table 02 A comparison of agronomic and plant characters of Bw 288-1-3 and Bg 34-6.

Characters	Bg 34-6	Bw 288-1-3
1. Sowing to 50% flowering duration	Broadcast 70 Transplant 76	Broadcast 69 Transplant 79
2. Reaction to photoperiod	Not sensitive	Not sensitive
3. Culm length	64.8 cm	56.6 cm
4. length of panicle	25.2 cm	26.6 cm
5. Weight of panicle	4.1 gm	3.8 gm
6. Sterility	9.0 %	14 %

7. Shattering	9.0 %	2.9 %
8. 1000 grain weight	25 gms	28 gms
9. Grain size	8.11-3.11 mm	6.11-2.49 mm.
10. Grain dormancy	3 wks.	3 wks.
11. Seedling vigour	Good	Good
12. Lodging	Resistant	Resistant

Table 3.

Nitorgen Response Trial

Variety	28^{N} Kg/Ha	50^{N} Kg/Ha	72^{N} Kg/Ha	Mean kg/ha
V_1 Bg 34-6	4048	4542	4785	4460
V_2 LD 170-41	2808	3907	4094	3591
V_3 Bw 288-1-3	4481	5483	5976	5315

L.S.D. 5% 573.83 kg/ha

L.S.D. 1% 795.12 kg/ha

Table 04

YIELD DATA

	Bg 34-6 kg/ha.	Bw 288-1-3 kg/ha	% increase over Bg 34-6
A.			
83 Yala Farmers field	2795	4294	54%
83 Yala Fertilizer response trial	4460	5315	19%
83/84 Maha Farmers field	2872	3608	25%
Mean	3375	4405	30%
B.	Bg 94-1	Bw 288-1-3	% increase over Bg 94-1.
80/81 Maha (MYT)	3947	4574	16%
81/82 Maha (MYT)	2896	3331	15%
82 Yala (MYT)	3426	3700	8%
82/83 Maha (MYT)	4231	4961	17%
Mean	3625	4141	14%