

Segregation of four M₄ male-sterile lines. IRRI, 1978.

| Designated male-sterile line | Pedigree | Fertile (no.) | Sterile (no.) | Total (no.) | (X ²) ^a 3:1 |
|------------------------------|-----------|---------------|---------------|-------------|------------------------------------|
| ms-a | E2-3-10 | 209 | 80 | 289 | 1.00 |
| | E2-3-10 | 207 | 75 | 282 | 0.38 |
| | E2-3-11 | 214 | 83 | 357 | 0.58 |
| | E2-3-11 | 349 | 108 | 457 | 0.45 |
| Total | | 1039 | 346 | 1385 | 0.00 |
| ms-b | E2-538-6 | 199 | 69 | 268 | 0.08 |
| ms-c | E6-953-10 | 196 | 58 | 254 | 0.64 |
| ms-d | E6-1335-5 | 217 | 64 | 281 | 0.74 |

^a X² = table value for a df (5%) = 3.84.

was controlled, the F₁ plants were completely fertile. That indicates the

recessive nature of male sterility, which was also confirmed in the M₄, as all the

Isolation of tall and dwarf seedlings of rice

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In the segregating populations of dwarf-tall crosses, isolation of the dwarf seedlings from the tall in the nursery offers certain testing advantages. Failure to separate the dwarfs from the tall may ultimately result in extinction of the dwarf types or suppression of their performance. Therefore, preliminary tests were conducted to determine the association of certain morphological characters to aid in the selection of the dwarf types in the nursery. Eighty pure line rice varieties of diverse sources were

tested during boro (summer).

The number of leaves at 25 days after sowing (X₂) and at 35 days (X₃), and seedling length at 25 days after sowing (Y₁) and at 35 days (Y₂) were recorded. X₂ and X₃ were correlated with mature plant height (X₁). A significant positive association between X₁ and seedling characters X₂, X₃, Y₁, Y₂ was found (see table). X₂ and X₃ were also highly significant and positively correlated with Y₁ and Y₂. In 1970, W. L. Chang reported that seedling length was positively correlated with plant height, especially during early growth.

The results indicated that the dwarf types will have shorter seedlings that produce fewer leaves. Therefore, the

four male-sterile lines segregated in a 3-1 ratio (see table).

Incomplete panicle exertion was observed for lines ms-a, ms-b, and ms-d, but ms-c showed normal panicle exertion. That indicates that spikelets of line ms-c have a greater chance than the three other male-sterile lines of receiving pollen from the neighboring fertile plants. A single panicle per male-sterile plant was harvested to study the amount of outcrossing in male-sterile lines. Outcrossing was maximum for ms-c (33.6%), followed by ms-d (32.5%), ms-b (29.8%), and ms-a (14.8%). ■

number of leaves and elongation rate of the seedlings should be considered when separating the dwarfs from the tall in the nursery.

Correlation (r) values between mature plant height (X₁) and number of seedling leaves (X₂ and X₃) and seedling length (Y₁ and Y₂). Chinsurah, West Bengal, India.

| Characters | r value |
|-------------------------------|----------|
| X ₁ X ₂ | 0.9730** |
| X ₁ X ₃ | 0.9637** |
| X ₁ Y ₁ | 0.9792** |
| X ₁ Y ₂ | 0.9700** |
| X ₂ Y ₁ | 0.9891** |
| X ₂ Y ₂ | 0.9658** |
| X ₃ Y ₁ | 0.9531** |
| X ₃ Y ₂ | 0.9818** |

**Significant at 1% level of probability.

Four new rice varieties released in Nepal

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After intensive research on promising genotypes in Nepalese research stations and in farmers' fields for more than 4 years, the national seed committee has released 4 varieties for the tarai, inner tarai, and equivalent climatic regions of Nepal.

For the chaite dhan season (early crop, Mar-Jun)

1. *Laxami*, formerly IR206 1-628-1-6-4-3, from the cross IR833-6-2-1-1//IR1561-149-1/IR1737. The line was introduced into Nepal through the

International Rice Yield Nursery-Early (IRYN-E) in 1975. It matures in 111 days – one of the earliest cultivars released.

2. *Durga*, formerly IET2938 (Jaya//IR8/2*Latisail). Bred in India, the line was introduced into Nepal through the IRYN-Medium duration nursery in 1974.

For the barkhe dhan season (normal monsoon)

3. *Janaki*, formerly BG90-2 (Peta*3/TNI/Remadja) was developed in Sri Lanka and introduced into Nepal through the IRYN-M in 1975.

4. *Subitri*, formerly IR2071-124-6-4 (IR1561-228-1/IR1737//CR94-13), was introduced into Nepal through India's initial evaluation trial in 1975.

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