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Sherpa$^{\Phi}$ growing guide

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Sherpa$^{\Phi}$ is a semi-dwarf medium grain variety with good cold stress tolerance.

Yield potential: the yield potential of Sherpa$^{\Phi}$ is an average of 9% higher than Reiziq$^{\Phi}$ (Table 1).

Table 1. Average grain yield of Sherpa$^{\Phi}$ and Reiziq$^{\Phi}$ from experiments and commercial fields over 5 seasons.

5 year average yield (t/ha)	Sherpa$^{\Phi}$	Reiziq$^{\Phi}$
Experiment average	13.1	12.0
Grower average	10.9	10.6

Establishment vigour: experiments have shown Sherpa$^{\Phi}$ to have moderate establishment vigour.

Sowing method and date: all sowing methods, i.e. aerial, dry broadcast, drill and delayed permanent water (DPW), are suitable for growing Sherpa$^{\Phi}$ and have the same grain yield potential when managed appropriately.

The recommended sowing and first flush windows for Sherpa$^{\Phi}$ are listed in Table 2.

Table 2. Target sowing and first flush dates for Sherpa$^{\Phi}$ using different sowing methods and regions.

MIA/CIA			Murray Valley		
Aerial/dry broadcast	Drill	Delayed permanent water	Aerial/dry broadcast	Drill	Delayed permanent water
25 October–10 November	20 October–5 November	10–25 October	20 October–5 November	15–31 October	5–20 October

MIA: Murrumbidgee Irrigation Area. CIA: Coleambally Irrigation Area.

Sowing date recommendations for Sherpa$^{\Phi}$ aim to ensure that the critical microspore (MS) and flowering periods align with the least risk of low temperatures (Table 3).

Sowing earlier or later than recommended increases the risk of exposure to low temperatures during MS and flowering, which can reduce grain yield.

Table 3. Recommended sowing and first flush dates for Sherpa(Φ) and the subsequent panicle initiation (PI), microspore (MS) and flowering timing when sown in the recommended period for each district and sowing method. The hatched area shows the time of least risk of low temperatures.

MIA – Murrumbidgee Irrigation Area, CIA – Coleambally Irrigation Area, DPW – delayed permanent water.

Sowing rate: Sherpa(Φ) should be sown at 130 kg/ha for all sowing methods, aiming to establish between 100 plants/m² and 200 plants/m². Sowing rates can be reduced by 10–20% when drill sowing if the seed is placed at a consistent depth and in good establishment conditions.

Sow a compound fertiliser containing phosphorus and zinc with the seed when drill sowing.

Cold tolerance: Sherpa(Φ) has a high tolerance to cold stress during the early pollen MS and flowering periods.

Plant height: Sherpa(Φ) is, on average, 840 mm tall, 30 mm taller than Reiziq(Φ).

Lodging potential: Sherpa(Φ) is moderately resistant to lodging, which can be induced by applying excessive nitrogen (N) pre-permanent water (PW). The effect of pre-PW N application rates on the lodging of Sherpa(Φ) is shown in Figure 1.

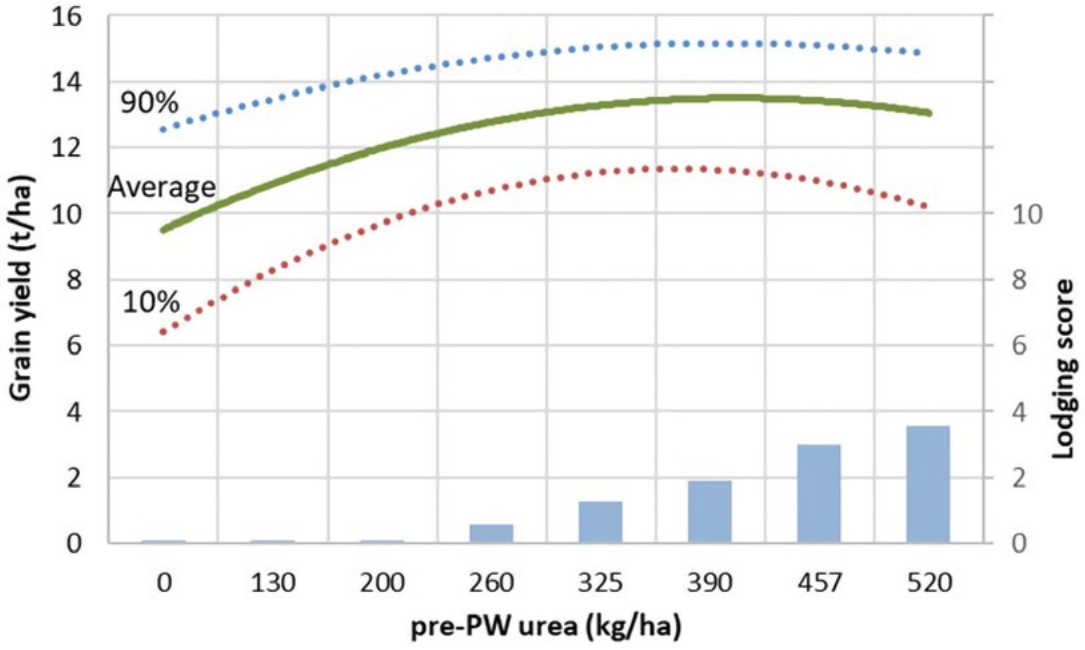

Figure 1. Sherpa(Φ) grain yield (average, 10 and 90 percentile) and average lodging score (0=standing, 10=flat) results for pre-permanent water (PW) nitrogen (N) rates (no panicle initiation (PI) applied nitrogen). Results are from 373 plots in 29 experiments conducted over 7 seasons with a range of soil types, fertility levels and sowing methods.

Grain shattering: Sherpa(Φ) has moderate susceptibility to shedding grain once the crop is mature. It does not shed grain as easily as Reiziq(Φ).

Nitrogen management: apply between 200 kg/ha urea and 340 kg/ha urea to Sherpa$^{\phi}$ crops pre-PW (Figure 1). Fields with a history of legumes might require less pre-PW N; some continuously cropped fields with heavy clay soils could require more pre-PW N.

Sherpa$^{\phi}$ is a durable variety with a long grain-yield plateau before yield declines due to sterility, or lodging becomes a problem from excess N application (Figure 2).

Any major field variability in N should be amended pre-PW. Red edge imagery of previous rice crops grown in the field is a good resource for identifying soil N variability.

Sherpa$^{\phi}$ has similar N requirements to Reiziq$^{\phi}$ to reach its maximum grain yield potential (Figure 2).

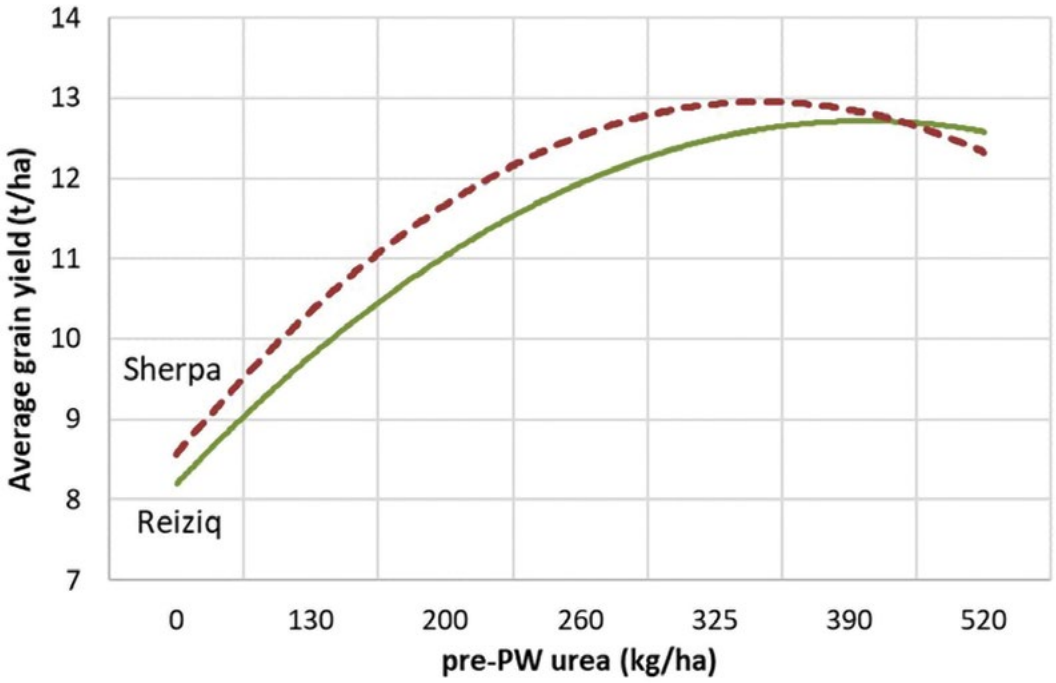

Figure 2. Average grain yield for Sherpa$^{\phi}$ compared with Reiziq$^{\phi}$ for a range of pre-permanent water (PW) nitrogen (N) application rates.

Adequate N must be applied pre-PW to achieve maximum grain yield as PI-applied N is limited in how much it can increase yield. Aim to apply 80–90% of the total required N before PW and then top up at PI if required.

In warm seasons, maximum grain yield can be achieved by applying all the required N pre-PW. However, in seasons with low temperatures during MS or flowering, excess pre-PW N can increase sterility and reduce grain yield.

Panicle initiation nitrogen (PI N): for maximum grain yield with reduced lodging, use red edge imagery and the PI tissue test to determine PI N top-dressing rates. Higher than required N rates applied at PI can increase lodging and reduce profitability.

Extra N applied at PI does not increase a rice crop's susceptibility to cold stress as much as applying higher than required rates of N before PW.

Harvest: be prepared to start harvesting Sherpa$^{\phi}$ as soon as the grain moisture drops to 22%. Delaying harvest will increase the risk of lodging, which can cause difficult harvesting conditions and reduce grain quality.

Acknowledgements

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