

# Improving irrigated mungbean yields

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What we did:

- 30 irrigated mungbean growers were surveyed across the northern grains region to assess current management practices
- Mungbean yield and water use when irrigation is applied at a range of soil water deficits was simulated using APSIM

## Survey findings for the northern grains zone

### 1. Irrigation schedules are highly variable

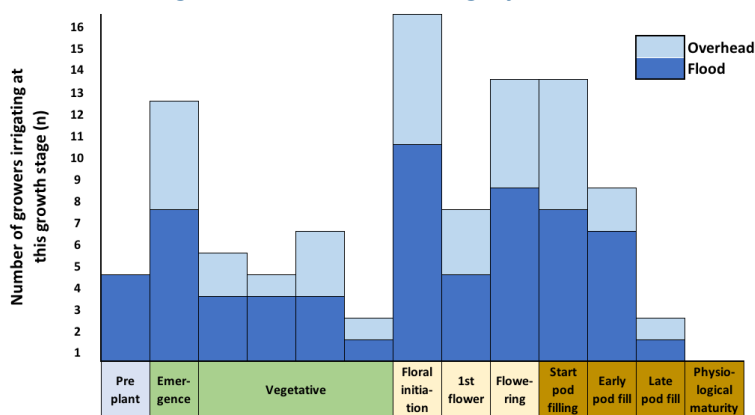


Figure 1. The number of growers irrigating mungbeans at each growth stage for mungbeans grown under flood irrigation (dark blue, n=18 growers) and overhead irrigation (light blue, n=10 growers).

### 2. Total water applied ranges from 0.3-9MI/ha

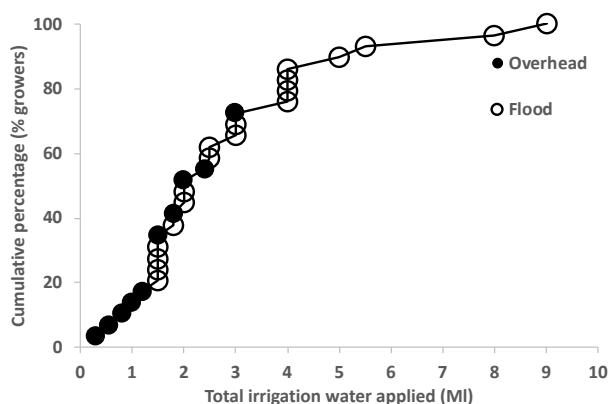


Figure 2. Cumulative percentage for total irrigation water applied to mungbeans in overhead (n=11 growers) and flood irrigation (n=18 growers) systems. Each data point represents an individual grower.

## APSIM simulation findings for Pampas (Darling Downs)

### 3. Pampas – little yield response above 2 MI/ha

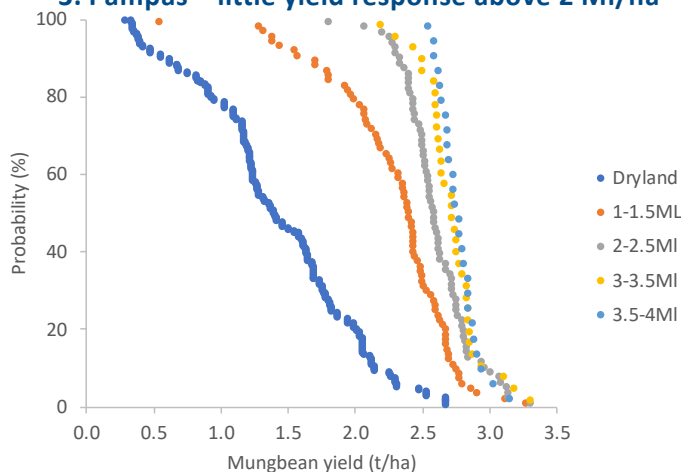


Figure 3. Cumulative yield probability distribution for Pampas in response to different amounts of irrigation water.

### 4. Pampas - daily ET peaks at 6-8mm/day

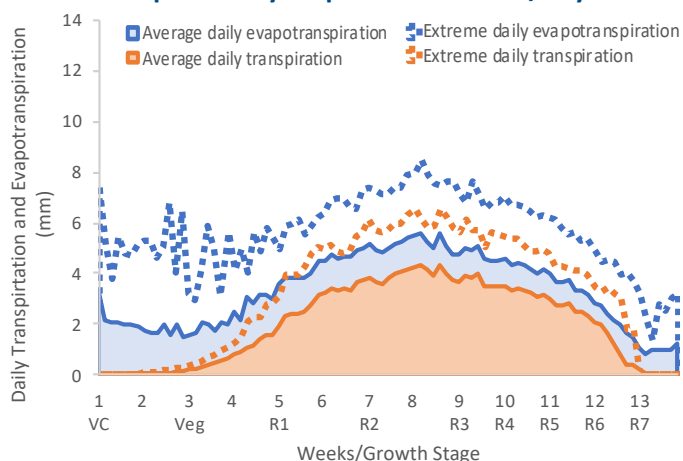


Figure 4. Pampas daily transpiration and evapotranspiration (mm) when irrigation water is applied at 80mm soil water deficit. Extreme; 90<sup>th</sup> percentile

**5. Pampas total crop water use (evapotranspiration) was 279 mm when irrigation was applied at an 80mm soil water deficit (1.6MI total applied) & 450 mm for irrigation applied at a 5mm deficit (3.7MI total applied)**

FOR FURTHER INFORMATION

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