Growth and yield of horse gram (*Macrotyloma uniflorum* L.) varieties under varied sowing windows in North Coastal Andhra Pradesh

P Anil, G Jogi Naidu, A Upendra Rao and P Gurumurthy
Department of Agronomy, Acharya N G Ranga Agricultural University,
Agricultural College, Naira-532185 , Andhra Pradesh, India

ABSTRACT

A field experiment entitled "Performance of horse gram varieties at different sowing windows in North Coastal Andhra Pradesh" was conducted during *rabi*, 2025-2026 at Agricultural College Farm, Naira, Andhra Pradesh. The experiment was laid out in a split plot design with four sowing windows *viz*., second fortnight of September (S_1), first fortnight of October (S_2), second fortnight of October (S_3) and first fortnight of November (S_4) as main plot treatments and four varieties *viz*., ATPHG-11 (V_1), CRHG-19 (V_2), CRHG-22 (V_3) and VZM-1 (V_4) as sub plot treatments with three replications. The results revealed that sowing windows and varieties significantly influenced growth, phenological observations, growing degree days (GDD) and seed yield of horse gram. Among the different sowing windows, sowing during the first fortnight of October recorded superior growth performance with higher plant height (76.00 cm), branches plant^{-1} (16.50), nodules plant $^{-1}$ (1.40), dry matter production (3583 kg ha $^{-1}$) and seed yield (1520 kg ha^{-1}). The crop sown during the first fortnight of October (S_2) recorded the highest seed yield, which was 14.63 and 41.13 per cent higher than that obtained under the second fortnight of October (S_3) and the first fortnight of November (S_4), respectively. Early sowing during the second fortnight of September accumulated higher thermal units and required more days for flowering and maturity. Among the varieties, VZM-1 (V_4) recorded superior growth performance with higher plant height (73.15 cm), branches plant^{-1} (16.19), nodules plant^{-1} (1.318), dry matter production (3738 kg ha^{-1}) and seed yield (1586 kg ha^{-1}). The VZM-1 (V_4) registered the highest seed yield and outperformed CRHG-22 (V_3), CRHG-19 (V_2) and ATPHG-11 (V_1) by 16.19, 25.67 and 32.17 per cent, respectively. The interaction effect between sowing windows and varieties was significant. Sowing horse gram during the first fortnight of October and second fortnight of September with variety VZM-1 was found most suitable for North Coastal Andhra Pradesh conditions.

Key Words: *Fortnight, Growth dynamics, Phenological observation and Sowing windows*