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RESEARCH PAPER

Response of bread wheat (*Triticum aestivum* L.) and durum wheat (*Triticum durum* Desf.) genotypes to different sowing time on growth, yield attributes and yield in North Gujarat agro-climatic conditions

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Abstract: A field experiment was conducted on loamy sand soil at the Agronomy Instructional Farm, S. D. Agricultural University, Sardarkrushinagar to study the response of bread wheat (Triticum aestivum L.) and durum wheat (Triticum durum Desf.) genotypes to different sowing time in North Gujarat Agro-climatic conditions during Rabi season of the year 2008-09. The treatment consisted of four sowing times *i.e.*, 10th November (early), 25th November (timely), 10th December (late) and 25th December (very late) and four wheat varieties (viz., GW 322, GW 496, GW 173 and GW 1139). The results of experiment revealed that the plant population at initial and harvest, test weight, harvest index were remained unaffected due to different sowing times. Plant height of wheat genotypes increased remarkably higher under10th and 25th November sowing. While, days to 50 per cent heading and days to physiological maturity were noticed significantly higher up from 10th November to 10th December sowing times. The values of number of spikes per meter⁻² (292 to 304), length of spike (7.41 to 7.83 cm) and number of grains per spike (40.86 to 43.88) was noticed higher upto 10th December sowing times. Remarkably, the higher grain yield kg ha⁻¹ was produced when wheat crop sown from 10th and 25th November (4000 to 4200 grain kg ha⁻¹) and in case of straw yield upto 10th December was found ideal. Increase in grain yield (kg ha⁻¹) was 5.00, 6.84 and 25.24 per cent as well as 4.27, 3.82 and 16.16 in straw yield (kg ha⁻¹) higher as compared to early, late and very late (10th November, 10th December and 25th December) sowing times. The result of mean data of varieties indicated that the different growth parameters viz., plant height, days to 50 per cent heading, days to physiological maturity were significantly influenced and maximum values of these parameters were recorded by wheat variety GW 322. However, plant population at initial and harvest, harvest index and protein content were remained unaffected due to different varieties. Significantly higher values of yield attributes viz., number of spikes per meter⁻² (305), length of spike (8.12 cm) and number of grains per spike (42.24) were observed in variety GW 322 while, test weight was recorded significantly higher by variety GW 1139. The wheat variety GW 322 produced significantly higher grain yield 4137 kg ha⁻¹ and straw yield 6338 kg ha⁻¹ which was increased by 4.84, 3.49 and 21.51 per cent higher over varieties GW 496, GW 173 and GW 1139, respectively.

Key Words: Wheat, Durum wheat, Genotypes, Sowing time

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