

## Patterns of durum wheat response to favorable environments

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Responsiveness is an important part of durum wheat adaptation taking that the crop is usually sown after good preceding crop supplied with major nutrients and moisture. For the period 1985–2018 the yield in competitive yield trails of spring durum wheat in Ob' forest-steppe of Altai territory sown after fallow field made up 0.1...5.1 t/ha. In 2018 durum wheat produced the highest yield for the time being – 5.6 t/ha. In previous four years the yield of the same set of genotypes made up 3.3 t/ha. The rise of yield was accompanied with the increase of the number of spikes per plant (+55 %), above-ground plant weight (+85 %), grain weight of main spike (+52 %), grain weight of side spikes (+135.3 %), grain weight per plant (+120 %). Number of kernels per spike and 1000 kernel weight increased less +17.6 % and +27.2 % respectively. Parameters of crop density either were similar (spikes/1 m<sup>2</sup>) or lower (plants/1 m<sup>2</sup>) than in previous years. A mid-ripening line Hordeiforme 881 and a mid-late line Hordeiforme 748 were top-yielders with grain yield 6.90 and 6.47 t/ha that was 1.22 and 0.81 t/ha higher that corresponding checks had. They have advantage in above-ground plant weight, grain weight of main and side spikes and plant as a whole and a number of kernels per spike. Hordeiforme 881 produced kernels 4.5 g larger than check variety. Low-yielding genotypes in favorable environments did not reach mean yield because of the lower level of a complex of related traits with largest impact of plant weight and grain weight of side spikes. Old local varieties made the majority of the group.