

# The Plant Height of Idon Nursery Vareities of Durum Wheat

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## Abstract:

In the article, field experiments conducted in 2019-2021 at the experimental field of irrigated fields of Scientific Research Institute of Rainfed Agriculture, the results of plant height of 181 variety of 43-43 IDON nurseries from ICARDA studied in the Observation nursery of durum wheat are presented.

**Keywords:** Durum wheat, variety, IDON, plant hight.

**Introduction.** Durum wheat is one of the most important grain crops, with 38.1 million tons of durum wheat grown on more than 17 million hectares in the world. Canada (5.2 million/t), Italy (4.3 million/t), Turkey (3.7 million/t), USA (2.3 million/t), Kazakhstan (2.2 million/t), Syria (2.2 million/t), Algeria (2.2 million/t), France (1.9 million/t), Morocco (1.8 million/t), Greece (1.1 million/t), Spain (1.0 million/t), Tunisia (1.0 million/t) [1]. Durum wheat grain has a number of technological properties, from which high-quality cereal, pasta and a number of confectionery products are made [2]. The many amount of protein in the grain and the excellent quality of gluten ensure that products made from durum wheat flour are of high quality and nutritious [3]. In the direction of durum wheat selection, it is important to create new varieties of durum wheat by selecting initial sources with high grain quality, valuable economic traits, resistant to unfavorable factors of the external environment and involving them in the selection process attention is being paid.

**Material and methods.** Field experiments 2019-2021 were conducted in the experimental field of irrigated fields of the central experimental farm of Scientific Research Institute of Rainfed Agriculture. 181 samples of the IDON sample nursery were planted in 2 replication on 1 meter

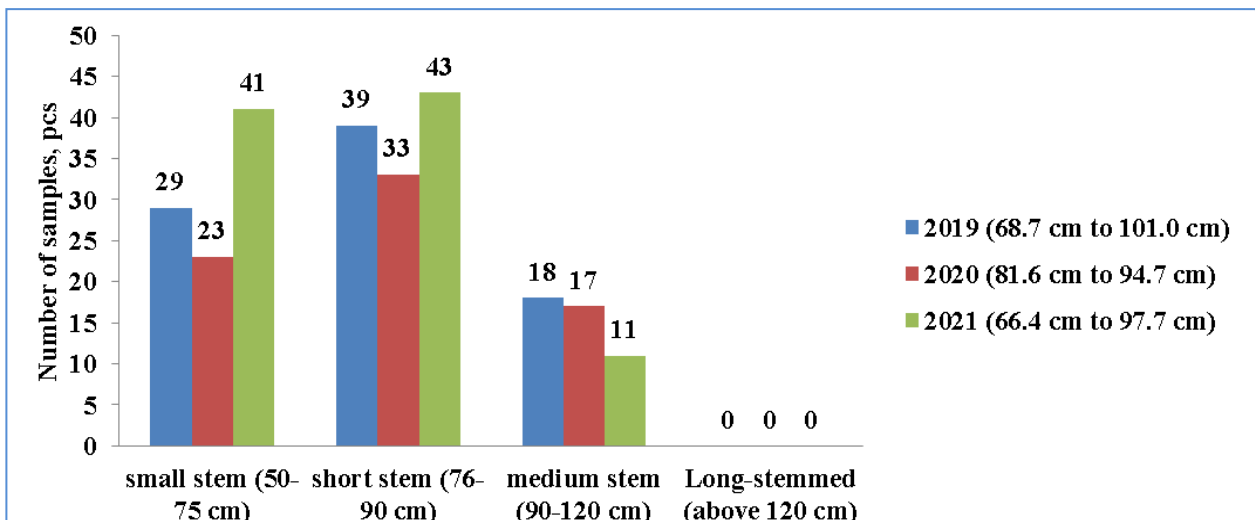
square plots in autumn. The plant height of the samples were determined and selected according by the scale of R.A.Udachin and I.SH.Shakhmedov (1984).

**Results of analysis.** Short-stemmed forms are often used as the starting material for the creation of new varieties of durum wheat. This allows to grow grain that does not lie down, is fertile and of high quality.

According to research, the height of a durum wheat crop is short or too tall, which has a significant negative effect on its yield. At this time, even under the influence of a weak wind, it is observed that they lie down [4].

Plant height of 86 variety samples of 42nd IDON nursery of durum wheat from ICARDA studied in 2019 was 68.7-101.0 cm. Plant height of cultivar samples was divided into 4 groups (small stem (50-75 cm), short stem (76-90 cm), medium stem (90-120 cm) and long stem (over 120 cm)). According to this, it was found that there are 29 samples with small stem, 39 with short stem, 18 with medium stem, and no samples with long stem were observed. The plant height was 87.3 cm in the "Makuz-3" variety.

The plant height of 73 durum wheat variety samples selected from the 42nd IDON nursery in 2020 ranged from 81.6 to 94.7 cm. When the plant height of the variety samples was divided into groups, 23 varieties with small stems (50-75 cm), 33 varieties with short stems (76-90 cm), and 17 varieties with medium stems (90-120 cm) were divided into samples. There were no specimens of the variety with a long stem (above 120 cm). The plant height was 86.2 cm in the "Makuz-3" variety.

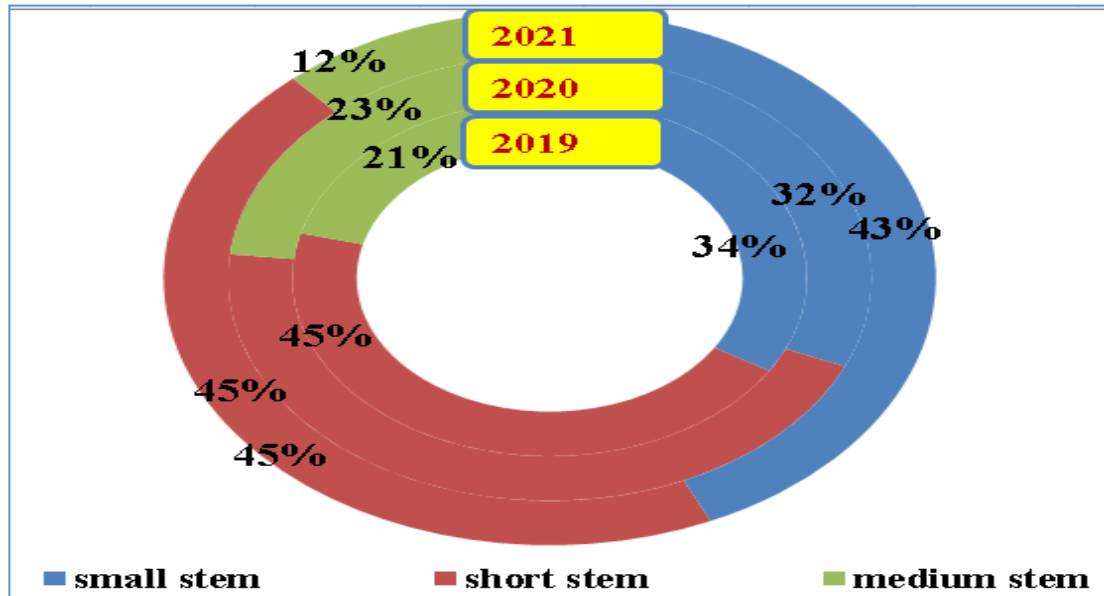


**Chart number 1. Plant height of IDON nursery specimens varieties.**

The plant height of 95 samples of durum wheat from the 43rd IDON nursery from ICARDA ranged from 66.4 to 97.7 cm. in 2021. The varieties were divided into groups according to the plant height of the samples, 41 varieties with small stems (50-75 cm), 43 varieties with short stems (76-90 cm), and 22 varieties with medium stems (90-120 cm) were divided into samples. The standard plant height was 70.4 cm in the "Makuz-3" variety (Chart number 1).

The effect of rainfall on plant height characteristics of IDON nursery varieties was studied. In 2019, when the amount of precipitation was +121.4 mm higher than the average for many years, samples of the small-stemmed variety accounted for 34%, short-stemmed samples 45%, and medium-stemmed samples 21%. In 2020, when the amount of annual precipitation increased by +29.0 mm compared to the perennial average, small-stemmed samples made 32%, short-stemmed samples 45%, and medium-stemmed samples made 23%. The amount of annual precipitation in 2021 was -174.6 mm less than the annual average and compared to the other years of the study. In this year of

the study, it was observed that 43% of small-stemmed samples, 45% of short-stemmed samples and 12% of medium-stemmed samples were observed.



**Chart number 2. Plant height ratio of varieties, percent.**

According to the results of the conducted research, it was found that there is an effect of annual rainfall on the plant height of durum wheat samples for planting in irrigated fields. In the year of the study, when the amount of annual rainfall was relatively low, it was observed that the proportion of the samples with small stems throughout the plant was high (Chart number 2).

**Conclusion.** According to the results of the biometric analysis of durum wheat samples, the average plant height in 2019-2020, when the spring months are cool and with a lot of precipitation, is 88.3-89.5 cm, and in 2021, when the spring months are relatively warm and with little precipitation, the average plant height is 79.0 cm was be observed.

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