

ABSTRACT

DETERMINATION OF PROTEIN, AMINOACID DISTRIBUTION AND ANTIOXIDANT ACTIVITY OF WIDELY GROWN BREAD WHEAT (*Triticum aestivum* L.) VARIETIES IN TURKEY

Ali YİĞİT

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Supervisor: Prof. Dr. Osman EREKUL

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This study was conducted in order to investigate the contribution of different physical and chemical properties, health and nutrition physiology of Turkish bread wheat varieties which are grown under different ecological conditions in Turkey and 4 German bread wheat varieties in different quality groups. In order to determine physical and quality properties of the investigated varieties thousand grain weight, crude ash, oil, fibre, starch and protein content of grain and in terms of contribution to health total phenol content and total antioxidant activity and also in terms of nutrition physiology 17 different aminoacid content were evaluated.

When the results were summarized there were statistically significant differences in all evaluated parameters. Average protein values of varieties are 14.05% in the NIRS method and 14.81% in the Dumas method. Total phenol content of the varieties ranged from 102.46-211.85 μg GAE/g while antioxidant activity varied between 11.89-26.33%. Essential, semi-essential and non-essential aminoacid amounts of varieties have also been identified. In generally, it can be expressed that Selimiye, Kutluk, İzgi, Tosunbey and Müfitbey varieties gave better results in all evaluated parameters. In correlation analyses among the parameters investigated it is precipitated that there is high positive correlation between total phenol content and total antioxidant activity and also there is high positive correlation among aminoacids. It is expected that the data attained from the study performed are gained to literature, are evaluated in terms of product quality and are regarded in breeding programs.

Key words: Bread wheat, quality, phenol, antioxidant, aminoacid