

## Identifying of Hybrid Lines for Lpx-B1 Gene in Durum Wheat

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**Abstract :** The basic criteria which determine durum wheat quality is its suitability for pasta processing that is pasta making quality. Bright yellow color is a desired property in pasta products. Durum wheat pasta making quality is affected by grain pigment content and oxidative enzymes which affect adversely bright yellow color. Of the oxidative enzymes, lipoxygenase LOX is the most effective one on oxidative bleaching of yellow pigments in durum wheat products. Thus, wheat cultivars that are high in yellow pigments but low in LOX enzyme activity should be preferred for the production of pasta with high color quality. The aim of this study was to reduce lipoxygenase activities of the backcross durum wheat lines that were previously improved for their protein quality. For this purpose, two advanced lines with different parents (TMB2 and TMB3) were used recurrent parents. Also, Gediz-75 wheat with low LOX enzyme activity was used as the gene source. In all of the generations, backcrossed plants carrying the targeted gene region (Lpx-B1.1) were selected using SSR markers by marker assisted selection method. As a result, the study will be completed in three years instead of six years required in a classical backcross breeding study, leading to the development of high-quality candidate varieties. This research has been financially supported by TÜBİTAK (Project No: 112T910).

**Keywords :** durum wheat, lipoxygenase, LOX, Lpx-B1.1, MAS, Triticum durum

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