

## Effect of Different Flours on the Physical and Sensorial Characteristics of Meatballs

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**Abstract :** Stale breads and rusk flour are used traditionally in meatballs produced in Turkey as a structure enhancer. This study researches the possibilities of using retrograded wheat flour in the meatball production and compares the physical and sensorial characteristics of these meatballs with stale bread (traditional) and rusk (commercial) used meatballs. The cooking loss of meatballs produced with using retrograded flour was similar to that of commercial meatballs. These meatballs have an advantage with respect to cooking loss compared to traditional meatballs. Doses of retrograded flour from 5% to 20% led to a significant decrease in cooking loss, from 21.95% to 6.19%, and in the diameter of meatballs, from 18.60% to 12.74%, but to an increase in the thickness of meatballs, from 28.82% to 41.39%, respectively, compared to the control (0%). The springiness of the traditional meatballs was significantly higher than that of the other meatballs. This might have been due to the bread crumbs having a naturally springy structure. Moreover, the addition of retrograded flour in the meatballs significantly ( $P < 0.05$ ) affected the hardness, springiness and cohesiveness of the meatballs with respect to textural properties. In conclusion, it is considered that the use of 10% retrograded flour is ideal to improve the sensorial values of meatballs and the properties of their structure.

**Keywords :** cooking loss, flour, hardness, meatball, sensorial characteristics

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