

## ABSTRACT

### GENETIC STRUCTURE OF THE POPULATION OF *Botrytis cinerea* AND MOLECULAR DIAGNOSIS OF THE FUNGAL CONTAMINATION IN STRAWBERRY IN AYDIN PROVINCE

Zeynep ÜN

M.Sc. Thesis, Department of Biology

Supervisors: Doç. Dr. H. Halil BIYIK

2015, 67 pages

Strawberry is a kind of delicious and aromatic fruit which can be consumed as fresh and also is suitable for industry. Besides, it contains A, B, C vitamins, calcium, iron and phosphorus in rich amounts. According to last data, our country is in the third place of strawberry production with 353.173 tons. However, strawberry is exposed to many fungal diseases. These fungal diseases are mainly classified as the diseases over the soil which is affective to parts like leaves and fruits and the diseases under the soil which makes the roots and the neck rots sick. In Aydın province, there isn't a study for molecular identification of fungal contamination in strawberry and for determination of population structure of *Botrytis cinerea*. For this reason, 347 strains are obtained from the sick plants which are collected from five different areas. From these strains, 11 morfologically different kinds are identified. For molecular identification, rDNA ITS gene part of 78 examples are multiplied and as a result of the compare with GENE BANK data, 20 different kind that belong to 11 species are determined. Nine microsatellite area are studied to determine the population structure of *Botrytis cinerea* species. As a result of analysis in five areas, it is determined that there is a genetical structure. As a consequence of this study, both molecular and morfological identification results of the contaminated fungus in strawberry supported each other. It is determined that five *Botrytis cinerea* populations are separated to two groups.

**Keywords:** Strawberry, Molecular Identification, rDNA ITS, *Botrytis cinerea*, Microsatellite, Aydın