

**Determination of Pesticide Residues on Anise Seed (*Pimpinella anisum* L.)**Nilda ERSOY<sup>1</sup>, Deniz HAZAR<sup>2</sup>, Ramazan S. GÖKTÜRK<sup>3</sup>, İbrahim BAKTİR<sup>4</sup><sup>1</sup>Department of Organic Agriculture, Akdeniz University, Turkey<sup>2</sup>Department of Horticulture, Akdeniz University, Turkey<sup>3</sup>Department of Biology, Akdeniz University, Turkey<sup>4</sup>Department of Plant Science and Technology, International Cyprus University, K.K.T.C.  
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**Aim of the study:** Anise is a cultivated plant which has been grown in our country for many years and also one of the most important plants that are exported besides domestic consumption. Almost all of the anise production is made in the transition region between the Göller Basin and Central Anatolia Region. According to the data of 2015, our annual anise production is 9,050 tons (TÜİK, 2016) and our export value is about 3-4 thousand tons on average. In this study, the pesticide residues on seeds of anise (*Pimpinella anisum* L.), grown in Tefenni / Burdur Province was examined.

**Material and Methods:** In the study, seeds obtained from anises (Göhlisar variety) cultivated by a producer during the production season of 2012-2013 in Tefenni district of Burdur province were used as material. The samples were taken after about 1 month from the harvest of the plants. For this purpose, seed samples were taken from 10 different sacks choosing randomly from producer's storehouse as one-kilogram and they were mixed. For extractions, 15 grams seed samples were studied three times repetitively. Pesticide standards were prepared with a purity of at least 90%. Extraction and cleaning process of the samples were carried out according to the International Official Methods of Analysis (Lehotay, 2007).

**Results:** Residue quantities obtained from the research were evaluated as average of 3 repetition in each sample according to Turkish Food Codex (TFC) Regulation on Maximum Residue Limits of Pesticides (Official Gazette No 21.01.2011-27822; Notification No: 2011/2). The TFC residue limits of each pesticide sample are indicated separately in the tables presented. In residue limits determined by using high-precision analytical instruments such as GC-MS and LC-MS/MS, in anise seed samples analyses of total 100 pesticide active ingredients were made in LC-MS/MS instrument and 103 pesticide active ingredients in GC-MS instrument. In this research carried out between 2012 and 2013, detectable levels of the residues were not found in the samples of these two years.

**Keywords:** Anise, pesticides, residues