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Determination of the Effectiveness of Some Methods Used in Greater Wax Moth (Galleria mellonella L.) in Honeycombs

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Abstract : A greater wax moth (Galleria mellonella L.), which is one of the most important pests after Varroa, plays a role in the transportation of many pathogens into the hive as well as damage to the honeycombs, and beekeepers suffer economically. Due to the risk that some of the methods against this pest may cause residue in bee products, and it can be harmful to the health of people who consume these products. Therefore, the most appropriate, most economical, and effective method should be applied in the moth control. For this purpose, in the first phase of the project (2017-2018), planned to be 2-stage in the Aegean Agricultural Research Institute in 2017-2020, the honeycombs, certified with good agricultural practice, were kept in a favorable condition for moths. Later, applications (Sulfur - B401 - Walnut (Leaf & Smoker) - lavender essential oil (1cc & 2cc & 3cc & 4cc) - laurel essential oil (1cc & 2cc & 3cc & 4cc) - control) were applied to the honeycombs with moths. In 2017, the B401 group had the highest wax moth damage area, and the group with the lowest wax moth damage area was determined as lavender 1cc; In 2018, the highest wax moth damage area was found in the walnut smoker group, while the lowest wax moth damage area was found in sulfur, walnut leaves, laurel 1cc - 2cc - 4cc, lavender 1cc - 2cc - 3cc - 4cc and control groups. In addition, sulfur residue amount (mean 128,18 mg/kg) in honeycomb was measured in the sulfur-treated group. Phase 1 of the project was completed, and the most important sub-groups among walnut (leaf) - lavender (1cc) and laurel (4cc) groups were identified. Accordingly, it is planned to carry out these treatments ((sulfur - B401 - walnut (leaf) - lavender (1cc) and laurel (4cc)) on honeycombs with do not contain moths, and later, it is planned to examine the effects of the treatment on the offspring area and honey yield by giving these honeycombs to the hives, in the 2nd stage of the project (2019-2020).

Keywords : honey bee, lavender essential oil, laurel essential oil, walnut, wax moth
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