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P34. HARMFUL EFFECTS OF BIOCIDES ON HONEYBEES

Yasemin GUREL, Ahmet CARHAN, Feride KOC, Yavuz KURSAD DAS

Biocides are chemical substances which are use to fight against harmful insects around residential areas and enviroment. Furthermore, drink water disinfectans, hospital and food industry disinfectants are also included as biocidal products.

Recently, biocidal products are blamed for the honeybee loss and colony collapse disorder (CCD). There are several factors have been determined for CCD in some countries (Fletcher and Barnett, 2003, Rortais and col., 2005; Underwood and vanEngelsdorp ve col, 2010) and in Turkey (Giray and col; Giray and col.2010). These are drugs, illnesses, exposure to pesticide, migratory honeybeekeeping application and stress in modern honeybeeking. Major reasons for honeybee loss are Varroa destructor, Acarapis woodi honeybee pathogens, Nosemosis, honeybee viruses, polluted drink water, uni-way commercial honeybeekeeping, antibiotic usage, pesticide and malnutrition (vanEngelsdorp ve ark., 2009; Bacanddritros ve ark.,2010). Moreover in some researches, the use of cell phone and GMO food consumption have been reported to play a role in honeybee loss (Neumann ve Carreck, 2010).

In honeybeeking, fighting against Varroa, thymol+menthol, flumetrine, kaumafos and amitraz (Aydın and his colleagues., 2007), flumetrin (Uygur and Giriskin, 2008), kaumafos (Portakal and Yarsan, 2010) and for Galleria mellonella, Cybermethrin are used (Sak ve Uçkan, 2009). Thymol and naphthalane are also used although they are forbidden.

In 2007, Pendik Veterinary Control and Research Institute determined diquat, paraquat, naphthaline and diazinon pesticides for the loss in 200 out of 350 hives in Istanbul . In another 6 cases carbaryl was detected in honeybee and honeycombs. Kolankaya and his colleagues determined carbamate group pesticide of carbaryl and carbosulfan in honeybees at 7 different locations at Akçakoca, Sakarya (2002). In 2008, all 450 hives are lost because of cypermethrin against tick fighting. In addition,Barnett and colleagues (2007) observed honeybee poisoning cases of chlorpyrifos (6 cases), paraquat (5 cases),permethrin (5 cases), carbaryl (4 cases) and cypermethrin (4cases) in between 1994-2003

In Turkey , we observed an intentional honeybee poisoning by Endosulphan in Afyonkarahisar province, because of conflict between farmers and beekeeper.

To decrease colony collapse disorder, beekeeper and farmer training and cooperation, host choose, preventing bee flights, preventing polen entry to hive, colony movement, colony feeding and weak colony unifying methods should be used. Permanent biocides mustn't be used inside honeybee hive areas and application must be done at nights.