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Studies to improve the efficiency of fly attractants in poultry ranches

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Summary

Experiments were carried in a poultry ranch to improve the efficiency of fly attractants. Cotton cords impregnated with the liquid extract of a mixture of wheat bran, fish meal and sugar were attractive to ranch flies for almost two weeks.

Introduction

For an efficient fly control campaign it is necessary to investigate the areas where adult flies spend most of their time. This avoids excessive use of insecticides. For such selective treatments the night resting location of adult flies should be known. According to Keiding (1965) flies prefer narrow objects hanging down from the ceiling, such as cords etc. When such vertical objects are present only small fraction of the flies would be found on rafters or on the ceiling at night. The effectiveness of an insect trap is largely determined by the behaviour of the insect to be trapped. It is important to know how the insect will behave, specially since the placement of trap is critical if weak or short range attractants are used (Pickens et al., 1973).

One of the main drawbacks encountered in bait applications is the short longevity of the attractant. Persistant attractants are desirable for economic conditions. In the present study the longevity of an attractant consisting of a mixture of wheat bran, fish meal und sugar (Hazan, in preparation) was tested under field conditions.

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Experimental procedures and results

The experiments were conducted on a poultry ranch as described elsewhere (Hazan, in preparation). The attractant mixture was prepared as follow : 72gr. of wheat bran and 24gr. of fish meal were mixed with 500 ml tap water. The mixture was filtered and the extract and the residue obtained were used separately by adding to each one sugar till a 20 % sugar solution was obtained.

Preliminary experiments have shown that cotton cords (40cm length) impregnated with the liquid extract of the attractant mixture and suspended at 50cm from the floor were more attractive than wooden plates and glass dishes. These results are in agreement with those of Keiding (1965) further indicating the preference of ranch flies for hanging down objects. Further experiments have shown no significant differences between the attractancy of liquid extract, residue and humidified residue placed on glass dishes (10 cm diameter) against ranch flies for 13 days.

The bottom of a plastic bottle was perforated and a cotton cord (40cm length) passed through the orifice (1cm of diameter). The bottle was filled with lipuid extract prepared as described above. The cord was maintained humid by regulating the plug of the bottle. The bottles were hung at 50cm above the floor. A cotton cord (40cm length) was also hung at the same level as control. The test was repeated in three poultry houses. Every day the number of flies on the cords were counted at 10 am. and the test lasted 25 days. The daily temperatures during the study was 25°C and the ambient relative humidities were from 54 to 74 % RH. For the first 5 days the attractiveness of the bait was above 75 %. From the 5th day till the 15 th one it decreased to 60 %. After 17 days the bait became less attractive to ranch flies.

Conclusion

Cotton cords impregnated with liquid extract of wheat bran, fish meal und sugar are attractive to ranch flies. This mixture has the advantage of easy storage and transport in bottles, and is simple to prepare. The attractant mixture can be used for almost 2 weeks in field studies with ranch flies. It also provides a possibility to test insecticides under field conditions with the attractant, thus providing simple economic fly control under ranch conditions.

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Özet

Tavuk çiftliklerinde sinek cezbedici maddelerin etkilerinin arttırılması

Sineklere karşı etkin bir mücadele verebilmek için, ergin sineklerin gündüz veya gece hangi yerleri ve hangi kesimleri tercih ettiklerini bilmek gerekir. Bu, gereksiz ilaç kullanmayı önler.

Kullanılan cezbedici maddelerin uzun süre dayanması aranılan niteliklerdendir. Yapılan çalışmalarda kepek, balık unu (3 : 1) oranında su ile karıştırılıp, bu karışımdan elde edilen tortu veya eriyiğe % 20 şeker eklendiğinde etkili olduğu görülmüştür. Bu çalışmalarda yerden 50 cm yükseklikte, cezbedici eriyikle doldurulmuş plastik bir şişeden sarkıtılan 40 cm uzunlukta ve 1 cm çapında pamuklu ipin, dış şartlarda iki hafta süreyle cezbedici niteliğini koruduğu görülmüştür.

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