

Determining the home range of roof rats in poultry houses

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Summary

In this work the home range of roof rats in poultry houses was studied. For this purpose lightly and heavily infested two poultry houses were used. In the lightly infested unit two baiting points were placed sidely in the first pen. In the heavily infested one a baiting point was placed in one side, just in the middle of the unit. Results showed that roof rats indistinctly had a quite large home range in both units. The importance of home range in rodent control program is discussed.

Introduction

Home range is the limited area in which animals live (Pratt and Brown, 1976). When dealing with rodents in an area, it is of great significance to be aware of their movements. Thus, when planning a rodent control program it is important to know their home range in order to get maximum results. Failures encountered in rodent control may be attributed sometimes to baits placed out of the home ranges. Home ranges of domestic rodents are of different sizes. The size of this home range naturally depends on the condition of the area (Pratt and Brown, 1976). According to the same authors, nearness of food, water and hiding-places are important factors in the extent of the home range. If food and water are close by, so that the rats need only move a short distance to find them, they may be able to live their entire lives in one building (Anonymous, 1976).

Poultry houses providing food and shelter to rodents may be considered as units where rodents secure easily their necessities throughout their lives.

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For an effective control of rats in poultry houses, when poison baiting or trapping is applied it is doubtless that baits must be located within their home ranges. In addition utilizing data of home ranges may avoid mistakes in over estimation of rat numbers and save labour in rodent control operations.

The aim of this work was to determine the home range of roof rats in poultry houses.

Materials and Methods

Poultry houses where the work was carried out were in group units of 4. Each 12m width, 11m length, half-open type and 1/2 slats from sides including an entrance and 9 pens of 12m length each. The units were situated at 20m of distance from each other.

The work was carried out in two poultry houses one lightly and one heavily infested by roof rats. In the lightly infested unit two baiting points were placed sidely in the first pen. In heavily infested unit a baiting point was placed in one side just in the middle of the 5th pen, being the middle of all the unit.

A 0.025% warfarin dry whole wheat bait was used. Observations were made every day during and after 5 days of baiting. Locations of visible dead rats were recorded in units taking into consideration the distance to baiting points.

Results and Discussion

In our units 3-6 days after baiting dead rats were observed in different locations (Table 1).

In lightly infested units rat carcasses were observed in distances ranging 0-12 to 96-108 meters from baiting points. In heavily infested unit also rat carcasses were observed from both sides within ranges covering all the unit (Table 1).

From these observations it may be assumed that roof rats indistinctly in lightly or heavily infested units have a quite large home range, including all the building.

This range can not be estimated as any result of their feeding behaviour but as a result of their explorative drive behaviour (Jackson, 1965). Since food and water were available all around the unit, rats might feed easily anywhere and not forced to be far away from their nests.

The extending activities of roof rats to all around the poultry houses may be sometimes in advantage making them more vulnerable when poison baits or traps are placed in any location within the unit. But at the same time poses some serious questions to poultrymen. Knowing their nature for carrying and transmitting parasites and diseases, rats may be an important agent in spreading parasites and diseases all around the poultry house.

In conclusion in the light of our results we can say that adult roof rats may extend their activities all around the poultry house. This fact must be taken into account when conducting a rodent control program in poultry houses.

Özet

Tavuk kümeslerinde çatı sıçanlarının gezinme alanlarının belirlenmesi

Sıçanlara karşı tavuk kümeslerinde uygulanacak bir kontrol programında sıçanların hareket sahalarının bilinmesinin yararı büyüktür. Gezinme ve yaşam sahalarının dışında kullanılacak yem tuzakları sıçanların ilgisini daha az çeker. Bu nedenle gezinme sahalarının belirlenmesiyle daha ekonomik ve etkin bir kontrol uygulanabilir.

Bu çalışmada birinde az, birinde daha yoğun çatı sıçanı bulunan 2 kümes saptanarak az sıçan bulunan kümesin ilk bölmesinin sağına ve soluna; daha yoğun olanın orta bölmesinin bir yanına kontrol yemi olarak zehirli buğday konmuştur. Ölü sıçanların tuzak yeme olan mesafeleri saptanmıştır. Sonuç olarak sıçanların iki kümeste de kümes boyunca hareket ettikleri belirlenerek bir sıçan kontrol programında daha az tuzak yerleri kullanarak etkili bir mücadelenin yapılabileceği ortaya konmuştur.

Literature

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Table 1 : Distance of dead rats to baiting points in heavily and lightly infested poultry houses.

UNIT	PEN	Distance to bait point	
		Range (m)	Rats Number
Lightly infested	2	11-24	1
	9	96-108	1
Heavily infested	1	42-54	3
	2	30-42	3
	3	18-30	3
	4	6-18	2
	5	0-6	3
	6	6-18	5
	7	18-30	4
	8	30-42	3
	9	42-54	1