

QUANTITY ASSESSMENT OF FLIES CAPTURED WITH FLY BUSTER® IN A DAIRY COW RAISING FARM.

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Introduction

During the technical-scientific collaboration between the authors and TEA System (European distributor; www.teasystem.eu) it was decided to assess FLY BUSTER®'s efficiency.

Such work was done in a dairy cow raising farm located in Carpaneto Piacentino in the province of Piacenza and having about 300 heads and producing milk for Grana Padano cheese.

Materials and methods

Among the materials used we have: iron rods, Fly buster®, buckets, bait for Flying bugs, iron strainer (20 cm in diameter), measuring jug (1000 ml), plastic spray (1 l).

Fly buster®, resulted being to all effect an innovating method to capturing mayflies, Israelian patent, present on the Italian market since 2012.

The trap presents itself as a 10 lt bucket with transparent lid.

The vertical side of the traps present 8 holes in which special plastic cones are inserted allowing a one way entrance of the mayflies into the bucket, from outside to inside (creel effect), attracted by a special bait. The bait is in liquid form and is composed of fermented yeasts and baking soda.

Following TEA System's instructions, 21 traps were placed along the farm's perimeter (between the sheds, manure pit and pasture grounds).

The traps were set on their stands, defines as iron rods having a height of about 120 cm. For practical reasons 7 traps (namely traps 1-2-14-15-19-20-21) were placed on different supports or on the ground. The traps were set in the month of June, according to the technical chart which calls for 1.5 lt of attractive agent (bait) and 4 lt of water.

Observation was followed through starting in of the month of July 2012 until the end of August current year with an interval of 15 days between visits.

The collection of flies from the trap was done using a strainer.

The material collected was then placed on top of the trap, washed thoroughly by using a spray bottle to the end of recovering as much bait as possible from the bulk of flies.

The sample was then quantified tank to the lines of the measuring jug (see chart).

The assessment was done by counting the number of flies contained in 100ml. This operation was repeated 3 times needed to establish an average of subjects equivalent to 1250 (see count chart). The quantitative evaluation was made by counting the number of flies present in 100 ml

COUNT CHART.

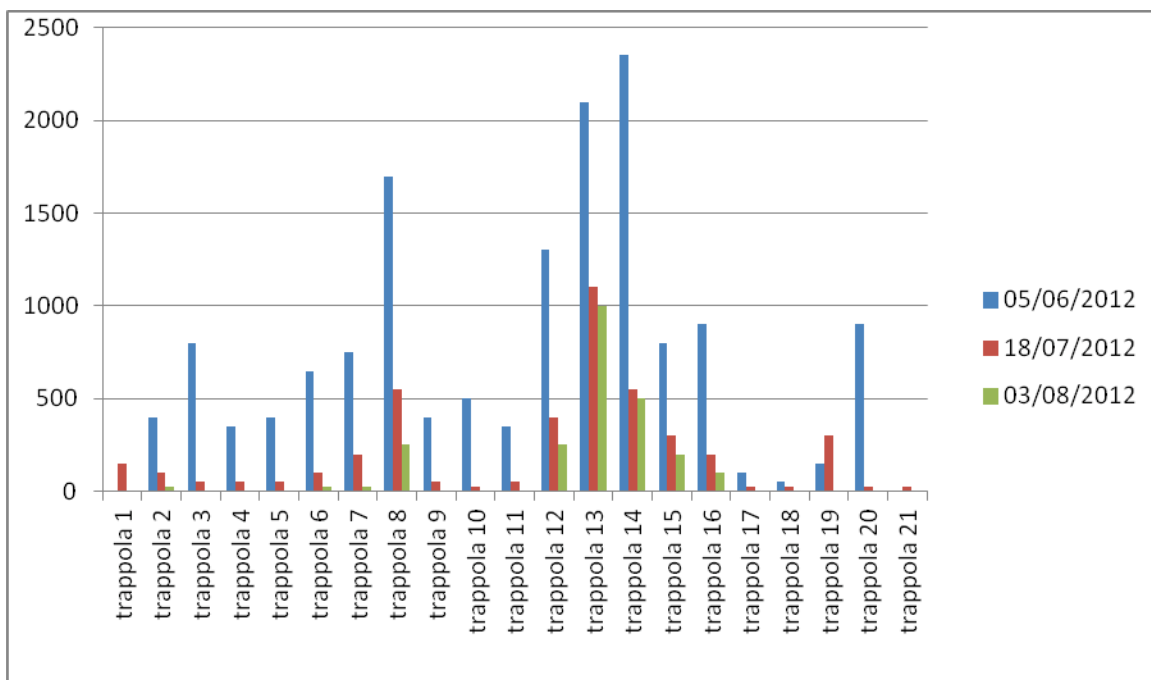
Sample	Tot. Count
1	1304
2	1215
3	1232

Average: **1250**

At each collection we re-established the initial level of bait solution and added clean water.

Data collected

Chart of fly samples (ml/n.traps)



Conclusions

According to the information collected we can state that Fly buster®, fully corresponding to the characteristics of physical traps for bulk capture.

The average of the traps is equivalent to 100,000 flies captured (925,000) with a lowest peak of about 63,000 (62,500) and a highest peak of 3,000,000 (2,937,500) flies captured in the first 15 days. These facts therefore confirm what stated above.

The different heights at which the traps were set didn't highlight any notable differences with their efficiency.

Furthermore the directions on the tickets was confirmed, that is that the maximum efficiency of the trap is within the first month of activity.

The observation has, in fact highlighted that the quantity of flies caught decreases by half every 15 days. This confirms the fact that the attractive force of the trap slowly decreases until it is completely null.

Only the information recorded in 3 sites result being contrary to average, but we need to keep in mind the environmental factors that can influence an area rather than another. This is the case of 2 traps (13 and 14) placed near the woods and a third trap (8) placed in an area that is particularly right for capturing flies (wind, sun exposure...).

It is essential bringing bait solution level back to starting level by adding water, evaporation in fact results being a limiting factor for catching insects.

The time of reactivation was also established: 1 hour for a total of 21 traps extending over 22,000 square meters.

This aspect is important since regular maintenance time (placement, check, bait level) represent livestock technical practice from which the farmer can't refrain, as all other farming practices (clearing, plumbing maintenance, feeding, pathogen control).

At present a good deal of the livestock sector linked with fly control as a marginal and exceptional aspect to which much time and manpower should not be dedicated preferring to rely on the commercial sector for the solution of the problem.

In one of the traps (n.13) a large quantity of fly eggs were found around the cones and in internally in the lid, eggs most likely laid by trapped flesh flies.

By what stated above Fly buster[®], results being an excellent method of integration in the fight against flies, easy to use and having little impact to the environment.

The authors further suggest some research material which would be useful to examine in depth:
Assess the efficiency according to different placements (shaded areas and sunlight vs only direct sunlight):

- Identification of captured species.
- Comparison with other types of traps.
- Assessment of costs over benefits contextualized in an integrated fight.
- Assessment of perceptions of Fly buster[®] 's functionality on behalf of end users.

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