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LIFE LASER FENCE

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Laser systems: Reducing food chain poisoning and minimising chemical exposure in the environment

LIFE15 ENV/UK/000386
Sep.2016-Dic.2019

www.laserfence.eu

Did you know?

Wild animals are attracted to crop cultivation and storage areas, due to the abundance of food. Uncontrolled grazing on stored and agricultural crops can cause important losses, reducing farm income.
Until now, traps and poisons have been used to control rodents and other wild animal populations. But even when well used,poisons can accumulate in ecosystems with lethal consequences for some non-target species such as owls, vultures, hawks, eagles and falcons.

This EU project aims to:

Demonstrate the effectiveness of a **new laser technology** by repelling animals from areas of interest across Spain, The Netherlands, England and Scotland.

Show how this effect can reduce farmer's use poisons.

Develop cost-efficient and sustainable agricultural management practices by incorporating technologies such as laser fences and remote-sensing drones.

Project targets:

Reduce crop losses caused by animal intrusion by 50%.

Show 0% use of rodenticide in crop areas by the end of the project.

Demonstrate that using Agrilaser technology can result in a 80% lower exposure of birds to herbicides and pesticides by the end of the project.

Improve biodiversity by preventing poison entering the trophic chain and lowering CO emissions by reducing rodenticide use.

This project is co-funded by the European Union through the LIFE Programme.

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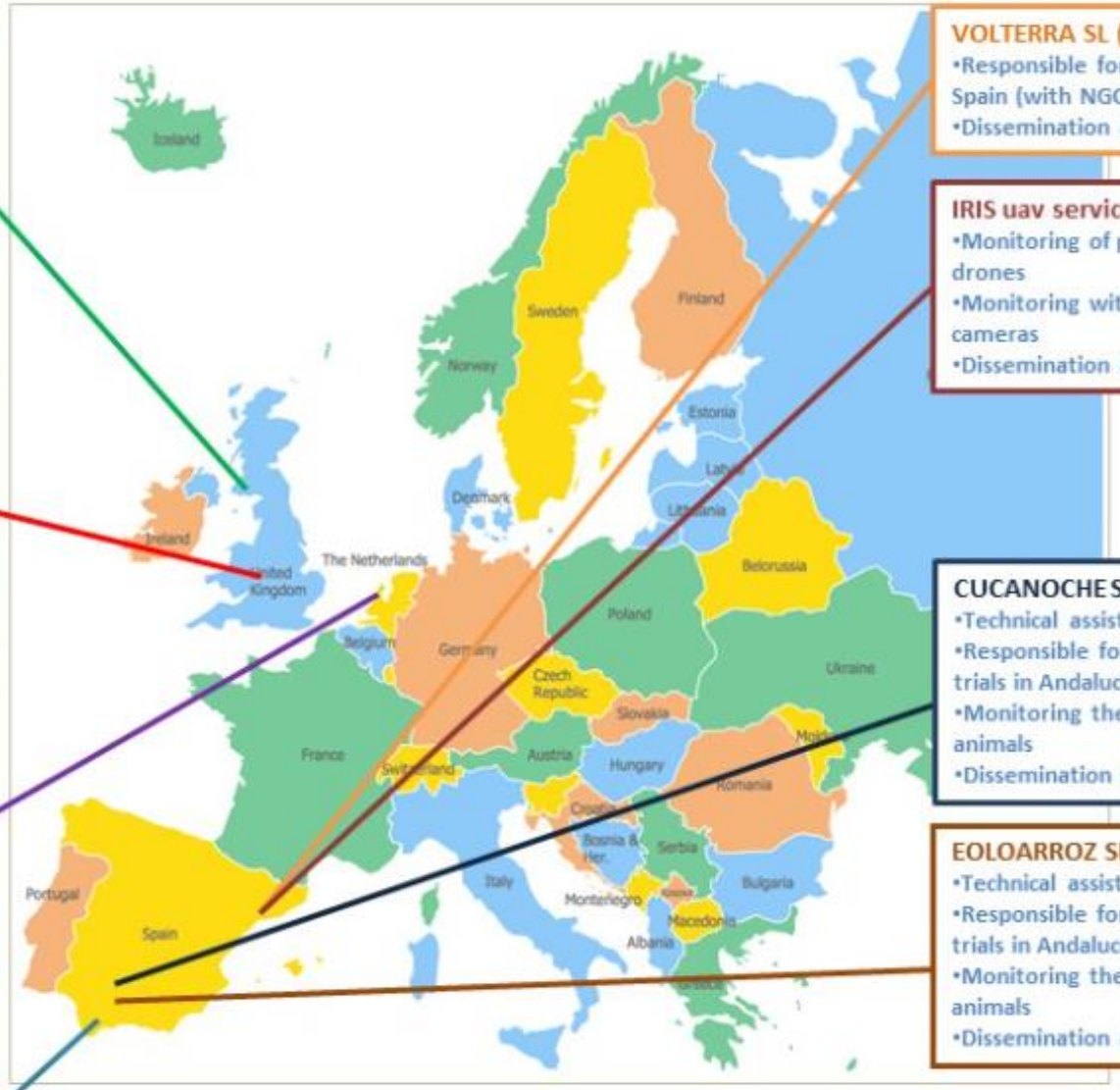
Game & Wildlife Scottish Demonstration Farm(UK)
- Technical assistance
- Responsible for execution of trials in Scotland
- Monitoring of learning effect of animals
- Dissemination & Communication

Liverpool John Moores University (UK)
- Leader + Policy recommendation
- Technical monitoring, Assessing and advising
- Animal behavior assessment
- Dissemination & Communication

Bird Control Group (NL)
- Technical assistance
- Responsible for execution of trial in NL
- Inventor of the laser technology
- Improve the functionality of the laser systems
- Monitoring the learning effect
- Dissemination & Communication

TORREBREVA SL (ES)
- Technical assistance
- Responsible for the execution of trials in Andalucía
- Monitoring the learning effect of animals
- Dissemination & Communication



VOLTERRA SL (ES)
- Responsible for replication trial in Spain (with NGO)
- Dissemination & Communication

IRIS uav services SL (ES)
- Monitoring of populations through drones
- Monitoring with IR and thermic cameras
- Dissemination & Communication

CUCANOCHE SL (ES)
- Technical assistance
- Responsible for the execution of trials in Andalucía
- Monitoring the learning effect of animals
- Dissemination & Communication

EOLOARROZ SL (ES)
- Technical assistance
- Responsible for the execution of trials in Andalucía
- Monitoring the learning effect of animals
- Dissemination & Communication

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Bird Control Group

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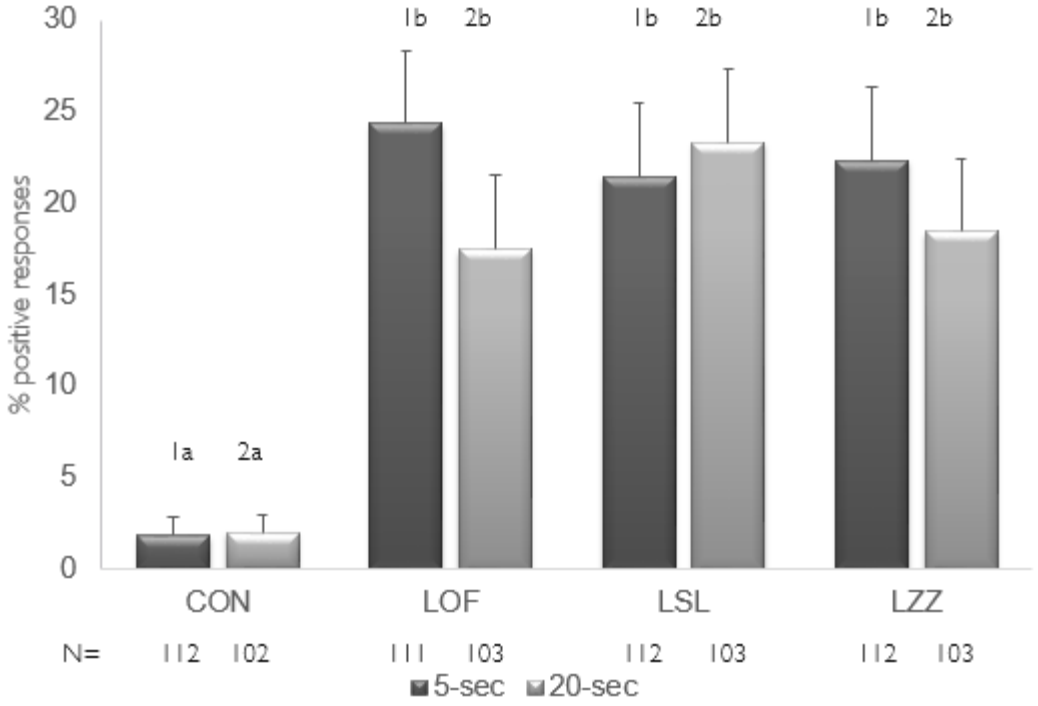
CUCANOCHE, s.l. Productos Agrícolas

CUARTEROLA, S.L.

EOLO ARROZ s.l.


30
25
20
15
10
5
0
% positive responses
1a
2a
1b
2b
1b
2b
1b
2b
CON
LOF
LSL
LZZ
N=
112
102
111
103
112
103
112
103
5-sec
20-sec

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Life

Working on multiple sites seeking interaction with various species – rabbit, rat, badger

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VOLTERRA
power up your soil

http://laserfence.eu/

Equipment

So why not squirrel?

Arrangement of bait stations 1-7

November 2018
14,16,23,27

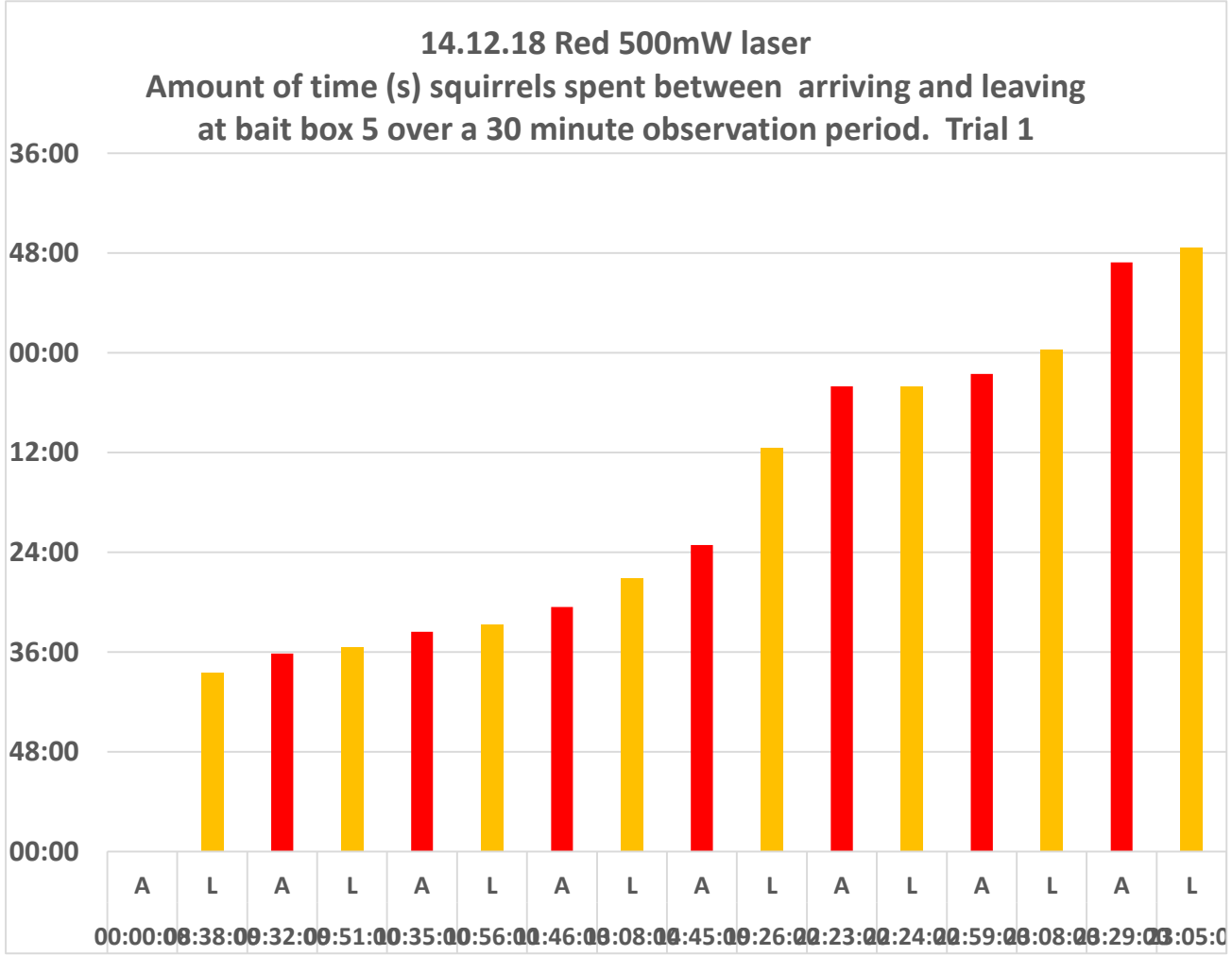
4h treatment
Laser/no laser

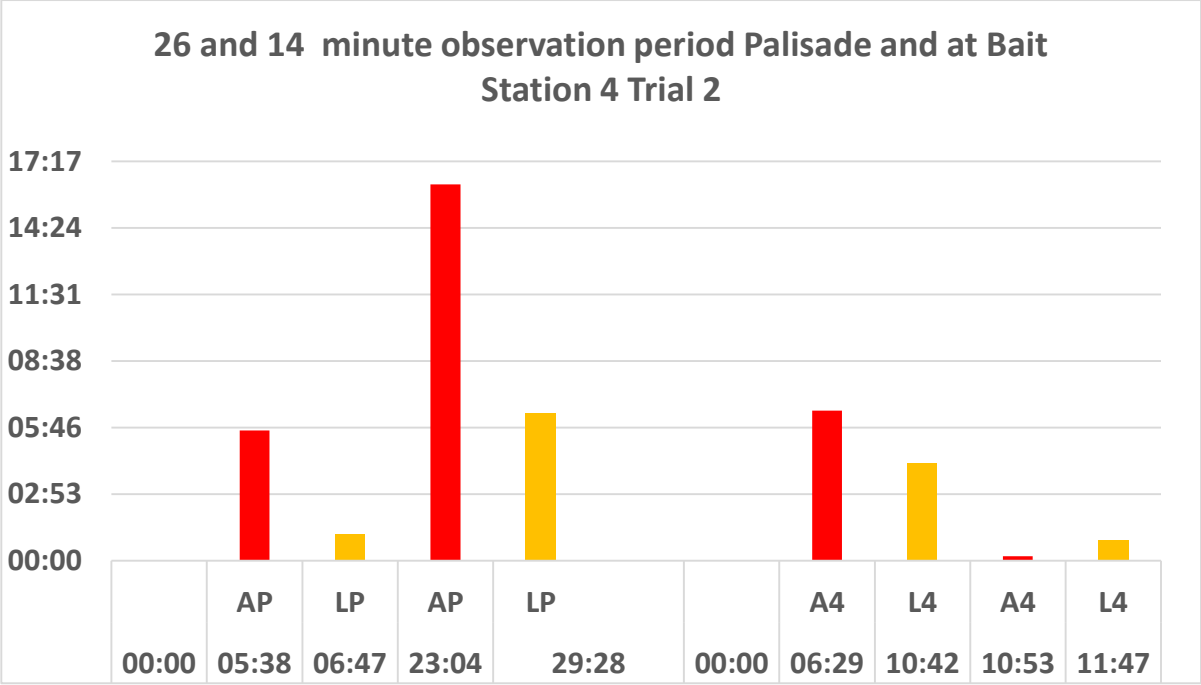
Laser on when there were squirrels present not all the time

Times (s) taken to arrive at bait boxes and to leave bait boxes

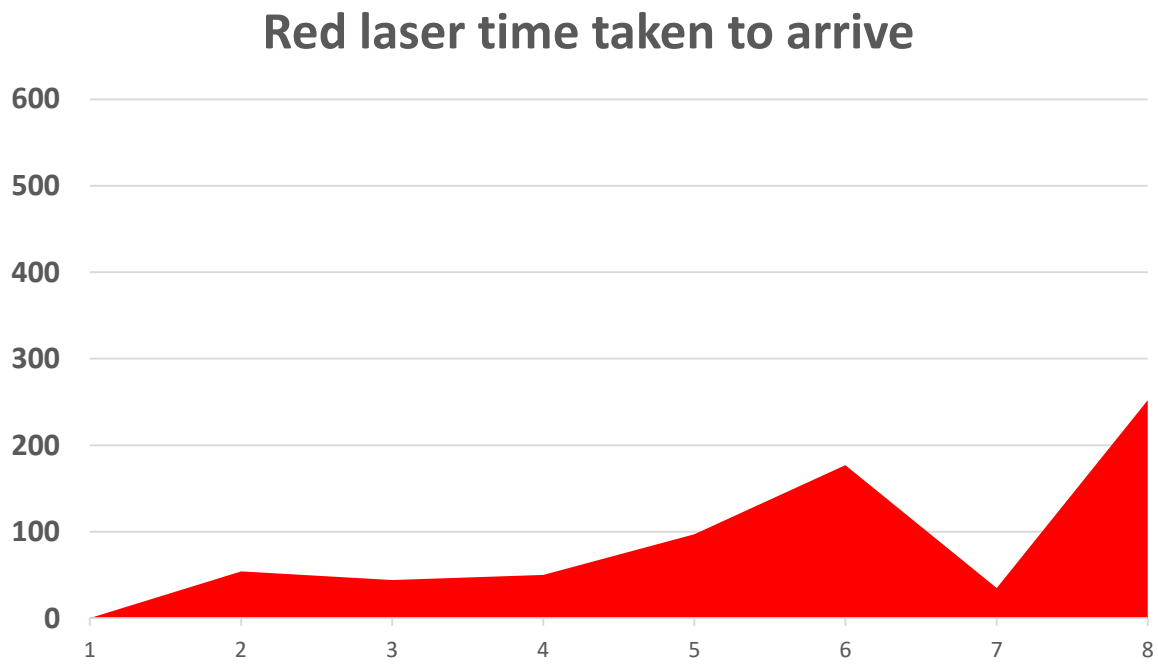
14.2.18 red 500mW laser squirrel activity at bait box 5, the palisade and bait box 4.

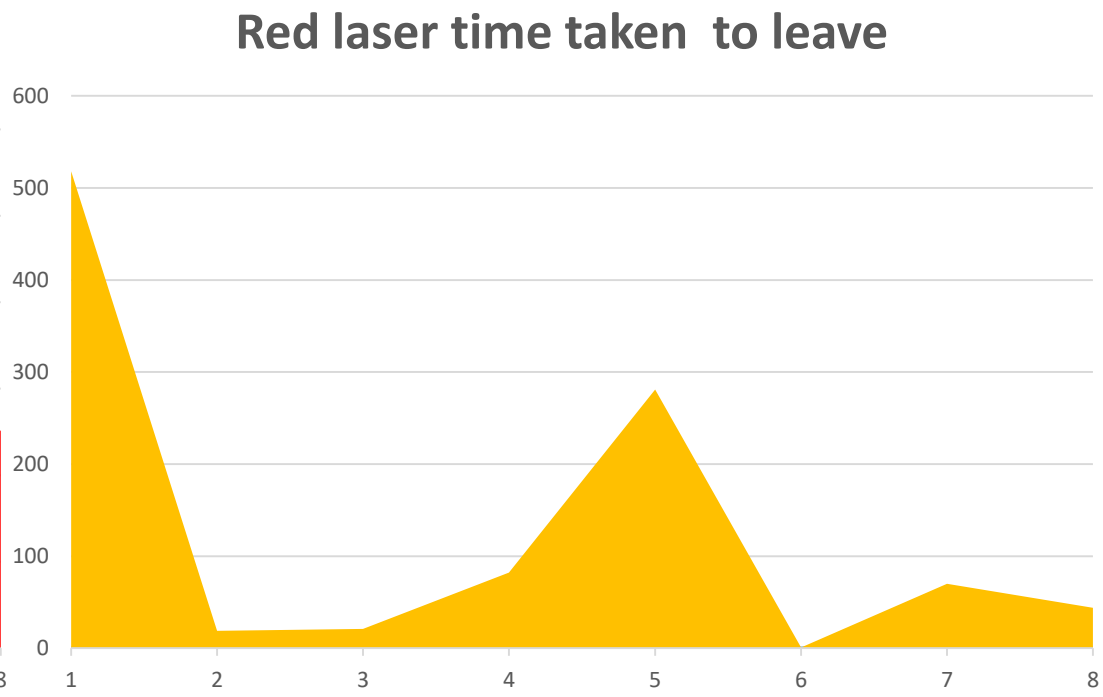
A = time to arrive at a bait box L = time before leaving a bait box



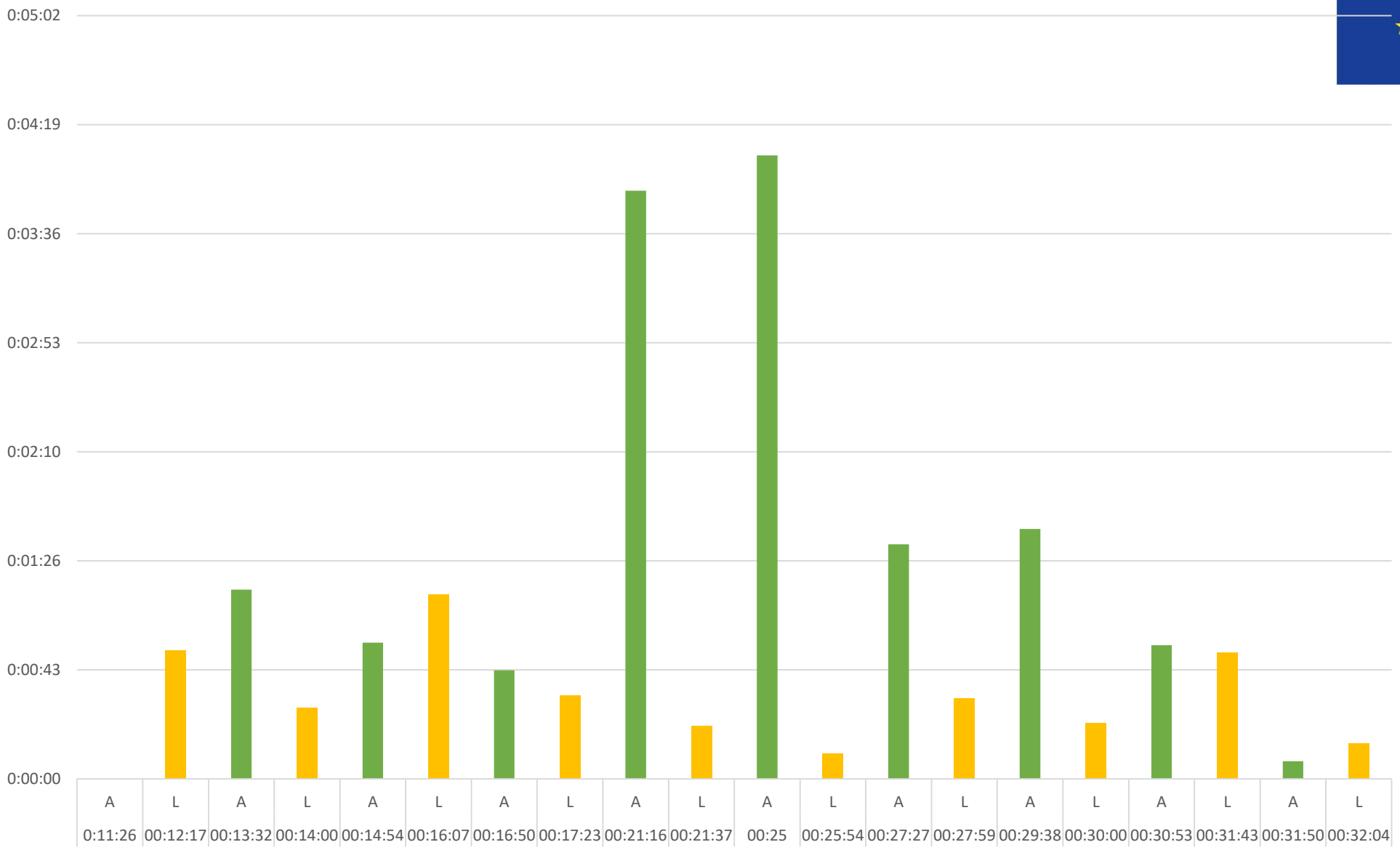


Area chart alternative mode of expressing squirrel activity at bait box 5 obtained from 30 min of video clip. 14.11.18 Trial 1

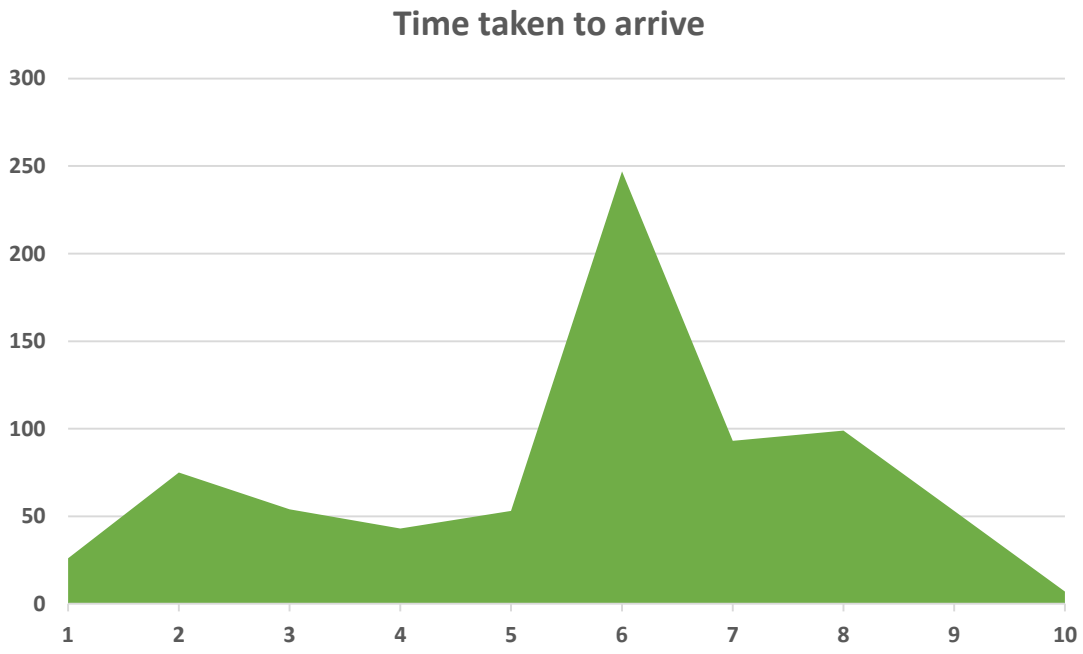


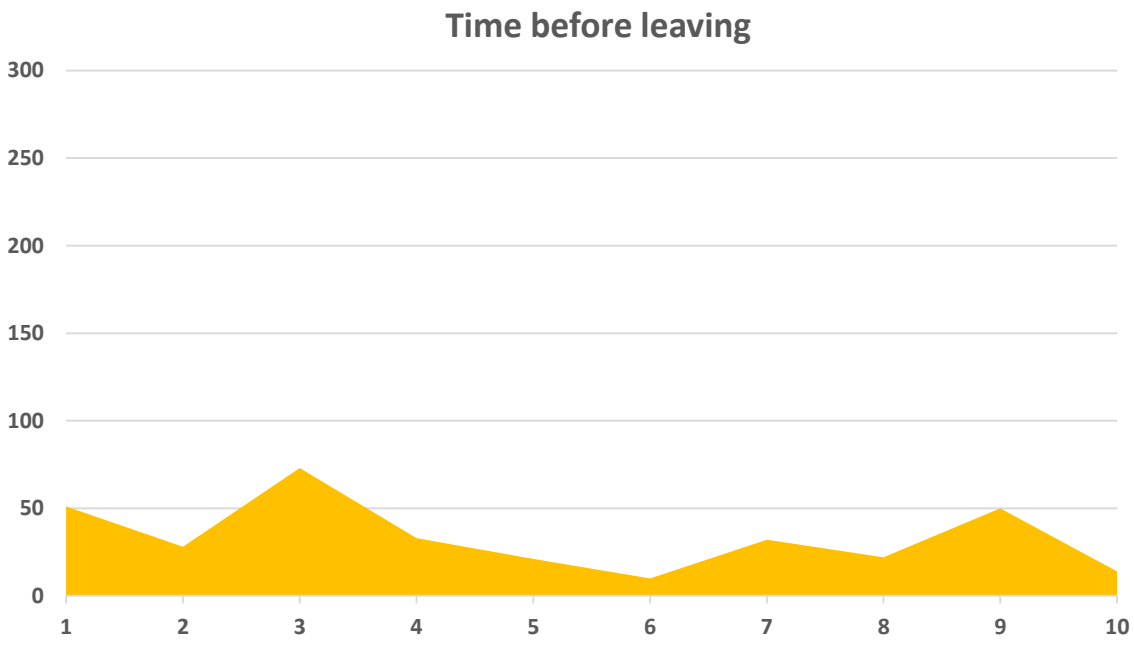


23.11.18 Green 500mW laser bait box 5



Area charts bait box 5 first hour of green laser treatment 23.11.18





Conclusions?

- Squirrels are not generally *repelled* by the encroaching laser beam
- There is one example of a squirrel being startled by a laser beam.
- At the moment, we would conclude that the laser would not provide a fencing solution.
- There is increasing evidence that squirrels may be irritated by the laser – particularly by a rapidly moving and hence “flashing” beam.
- This could lead to a deterrence solution, i.e. deterring squirrels from entering an area.

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