

Draft Report GEP 504 2018-1 / MN FHO 18 508

Project:

Repellent of roe deer with ultrasonic system Natech

Test Facility

Bavarian State Research Center for Agriculture

Institute for Crop Science and Plant Breeding

Hop Plant Protection IPZ 5b

Huell 5 1/3, 85283 Wolnzach

Hüll, 3. Juni 2019

1. General trial information

GPS:	48°41'29.2"N 11°49'22.1"E
	at 84094 Elsendorf
Trial type:	Outdoor
Hop variety:	Hallertauer Magnum
Hop age:	old hops
Trellis system:	single rows, V-Training
Soil type:	loamy sand, silt
Meteorological station:	Huell
GPS:	48°36'07.6"N 11°40'32.5"E
Distance to trial site:	17 km

2. Trial design

Objective: Efficacy evaluation of ultrasonic field installation to control game bite of roe deers.

A non-protected area was compared to a directly neighbored protected area. 4 ultrasonic Natech setups were installed around the protected area. Within this areas 4 technical replicates were assessed (4 a-d).

Amount of plants per area:	about 300 plants
Size of one area:	about 1500 m ²

3. Results

All raw data, trial results and calculations can be inspected in Hüll.

Mean value					
Natech	0,1	0,0	0,2	0,0	0,0
Non-protected	0,1	3,5	0,2	3,2	3,8
Standard Deviation					
Natech	0,0	0,0	0,1	0,0	0,0
Non-protected	0,1	2,0	0,0	1,7	2,8

4. Summary

The crop was even and of good vigor. There wasn't any external effect adversely influencing the trial (e.g. weather, soil, plant protection products, farmer practices, etc.).

The installation of Natech setup was done on 25.04.2018. At this time point, the hop plants had a height about 1 m or more, caused by warm and dry climatic conditions. On 3rd May the main shoots of each hop plant reached a height about 1,5 – 2 m, on 9th May 2 – 2,5 m.

In this height the roe deer damage isn't any problem anymore. Nevertheless, damaged shoots could be observed until 24th May in the lower parts of the plants.

In comparison to the non-protected area, Natech setup resulted in an efficiency up to 100 %.

The results of the draft report GEP 504 2018-1 / MN FHO 18 508 are valid and reliable. There were no extreme data deviations in the treatment results.

End of Report GEP 504 2018-1 / MN FHO 18 508