

TWO YEARS OF *CULICOIDES* TRAP COMPARISON IN THE BALEARIC ISLANDS

R. Del Río^{1*} M. Monerris¹ M.A. Miranda¹ C. Calvete³ D. Borràs²
M. Miquel¹ R. Estrada⁴ J. Lucientes⁴

Several types of light traps are being used in different European countries to help determine the potential vector species of bluetongue virus (BTV). The four traps compared in this study were: i) the Onderstepoort trap – black light trap, with 8 W ultraviolet light tube used in the United Kingdom and Italy; ii) mini-CDC – black light, model 912, with 4 W UV light tube, used in Spain and Portugal; iii) Rieb trap, white light model, with 4 W UV light tube, used from 2000 to 2006 in France; iv) UK trap, with 4 W standard white incandescent bulb, used in the past in the UK and other European countries for African horse sickness surveillance. All traps included a down draught suction fan. Tests were conducted from 18 Oct. to 19 Nov. 2007, from 18 Feb. to 4 June 2008, and from 1 Oct. to 28 Nov. 2008. During at least nine non-consecutive nights the traps were placed following a randomized block design in four different positions on a cattle farm located on the island of Mallorca (Balearic Islands, Spain). In 2008, only three traps (Onderstepoort, UK and mini-CDC) were tested. Results showed major differences in collecting *Culicoides*. The Onderstepoort

trap showed the best performance in terms of total number of *Culicoides* captured in autumn both in 2007 and 2008. The UK trap, and especially the Rieb trap showed the lowest efficacy in terms of captures. In autumn 2008, the Onderstepoort trap captured on average 90 *Culicoides* per night, whereas the mini-CDC captured on average 27. During spring 2008, however, the mini-CDC performed better as it captured on average 180 *Culicoides* per night, against 84 captured by the Onderstepoort. However, Fisher's least significant difference test showed no statistically significant differences between the traps ($P < 0.05$). No remarkable difference was observed between the four traps as they all captured a similar range of species. Captures of *Culicoides newsteadi* were greater during the autumn, and those of *C. obsoletus* in the spring. Finally, the Onderstepoort trap showed a higher sensitivity in catching *Culicoides* midges in low population levels of the vector, especially during the winter season.

KEYWORDS: *CULICOIDES* – LIGHT TRAP – ISLAND – SPAIN.

1. Laboratory of Zoology and Emerging Diseases, University of the Balearic Islands Palma de Mallorca, CP 07122 Illes Balears, Spain.

2. Institut de Biologia Animal de les Illes Balears, Mallorca, Spain.

3. Unidad de Tecnología en Producción Animal, Zaragoza, Spain.

4. Departamento de Patología Animal, Facultad de Veterinaria, Zaragoza, Spain.

* Corresponding author

Tel.: +34 9 71 17 33 51; Fax: +34 9 71 17 31 84

E-mail: vdbsrrl4@uib.es