

PORTAL SIGLA – AN INTERNET GEOGRAPHICAL INFORMATION SYSTEM FOR THE PORTUGUESE BLUETONGUE ENTOMOLOGICAL SURVEILLANCE PROGRAMME

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Bluetongue (BT) is an infectious non-contagious disease, whose transmission is commonly associated with an intermediate arthropod host from the *Culicoides* genre. A BT entomological surveillance programme was implemented in Portugal in May 2005 to collect data on the abundance, and spatial and temporal distribution of several species potentially involved in the transmission of the disease. At that time a simple local alphanumeric relational database was built to record all data. Although it fulfilled the initial objectives of data management, there was an increasing need to share this information in real-time with national veterinary authorities. Moreover, sharing this data in a map-based approach was not possible without considerable time-consuming effort. To overcome these needs, a new web-based system with geographical information system (GIS) capabilities was designed and is currently being developed exclusively using Open Source Software (Portal SIGLA). The alphanumeric component was partially migrated from the previous system, though introducing query capabilities visually supported by the use of dynamic charts further enriched it.

The geographical component is now the development core, but it already contains several tools of a standard web mapping application (zooming, panning, distance and area measurements, activation/deactivation of spatial layers, legend panel, graphical and numerical scale...). This enterprise-level relational database with geographical functions also makes spatial editing available through the web and thus enables technicians with no GIS expertise to create and handle easily spatial data. The system democratizes GIS technology and provides veterinary officers with real-time data sharing. It helps to gain further insight into disease dynamics and thus to contribute to more effective sanitary control measures. Future developments are mainly related to spatial querying of data through the form of choropleth and chart maps. This will further enrich the analysis capabilities of the system.

KEYWORDS: BLUETONGUE – *CULICOIDES* – DISEASE SURVEILLANCE – GEOGRAPHICAL INFORMATION SYSTEM.

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