VBD 6: CHEMICAL COMPOSITION OF SILAGE RESIDUES SUSTAINING THE LARVAL DEVELOPMENT OF THE C. OBSOLETUS/SCOTICUS COMPLEX SPECIES (DIPTERA: CERATOPOGONIDAE)

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Culicoides (Diptera: Ceratopogonidae) are biological vectors of bluetongue virus (BTV). Bluetongue is a viral disease that affects domestic and wild ruminants. Since its recent emergence in northern Europe, this disease has caused considerable economic losses to the sheep and cattle industry. The biotopes and more particularly their chemical characteristics which are suitable for larval development of the main vector species are still relatively unknown. This study shows that the larvae of biting midges belonging to the Culicoides obsoletus and Culicoides scoticus species are able to breed in different types of silage residues (maize, grass, sugar beet pulp and their combinations). The chemical composition of substrates strongly influences the presence of immature stages of these biting midges. Thus, the lignin seems to favor their presence; it could play the role of a physical support for the semi-aquatic larvae. In contrast, increasing concentrations of calcium and potassium are negatively correlated with the presence of these two species. These data will help to locate and monitor the breeding sites of these species and could contribute to the control of these insects in the farms.