

Epidemic models for plants infection under mixed effects of temperature and wetness

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This paper deals with modeling and fitting for epidemic models and their applications to the field of plants disease. For this purpose, two models are proposed that are expressed as a blend of two functions which reflect the effect of the temperature and the wetness. In addition, we provide an original method to fit the proposed models by employing simple techniques that can constitute an easy-to-use tool for simulation, prediction and/or control. Moreover, the method accuracy and efficiency are evaluated for some reported works in the literature. Computational results are provided to show the validity and effectiveness of the proposed epidemic models for some plant infections.