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Travelling wave solutions in a model of Fire blight spread

Fire blight is a bacterial disease that affects apple and pear trees. I present a model to describe the host-pathogen-vector dynamics through a system of two semi-linear reaction-diffusion PDEs coupled to three ODEs. By using Schauder's fixed point theorem in combination with the method of upper and lower solutions, I show that there exists a travelling wave solution connecting the disease free equilibrium with an equilibrium in which no susceptible or infectious hosts remain.