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ACCEPTED MANUSCRIPT

Forecasting model for *Pea seed-borne mosaic virus* epidemics in field pea crops in a Mediterranean-type environment

Running heading: Forecasting *Pea seed-borne mosaic virus* epidemics

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Highlights

- An empirical forecasting model to predict *Pea seed-borne mosaic virus* (PSbMV) epidemics was developed in R using aphid and virus incidence data from six years of 23 calibration block and experimental plot data.
- The final optimised model accurately predicted virus incidence around crop flowering time (R^2=0.94). It had a mean absolute error of just 4.6% demonstrating its usefulness as a PSbMV epidemic predictor in the future.
- A decision support system (DSS) was formulated based on predicted yield loss (based on historical yield loss data) and economic factors involved in pea production.
- Recommendations will be delivered to end-users *via* SMS in combination with the already established pea blackspot DSS to form a pea disease control package.

PSbMV = *Pea seed-borne mosaic virus*, DSS = Decision support system

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