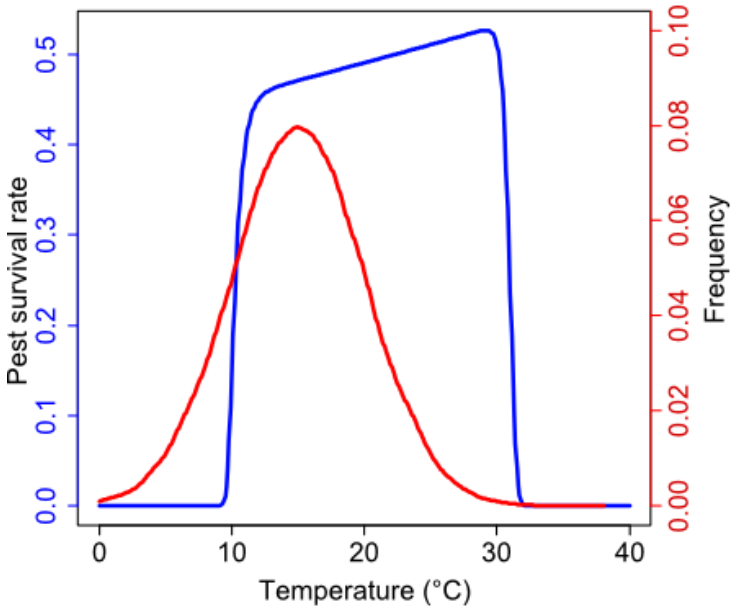
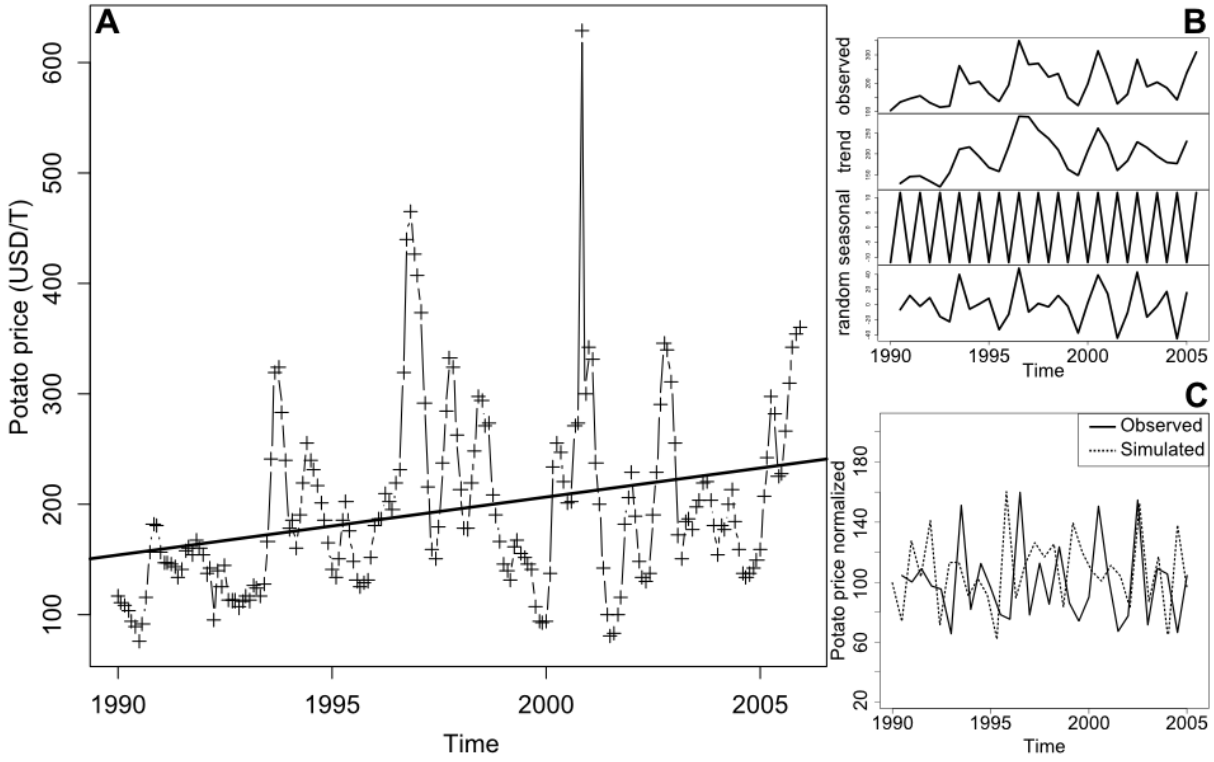
Appendix #1. Fig. A1.1

Fig. A1.1. Pest temperature dependant survival model, following Sharpe and DeMichele (in blue, see Crespo-Pérez et al. 2011 Supplementary material 1 for the model parameters), and temperature variability in our agent-based model (in red). Further sensitivity analyses demonstrated a linear response of farmers' pest control to different degrees of variability in temperature (using a Gaussian distribution centered on 15 degrees and with a standard deviation ranging from 0 to 5).



Appendix #1. Fig. A1.2

Fig. A1.2. Time series of the potato price in Ecuador observed from 1990 to 2005 (data from SIGAGRO, Coordinación Consejo Consultivo Papa) (A). The time series has been decomposed over periods of 6 months (to fit the temporal scale of the model) according to an additive model (B) to extract the random component of potato price. Then we simulated potato price variability using a normal distribution (C), which has been used to simulate 50 years in our model.



Appendix #1. Fig. A1.3

Fig. A1.3. Fluctuations in farm revenue from the optimized model. The standard deviation in farm revenue is represented for the four main farmers' behaviors at equilibrium. As described in the literature, behaviors based on experiments exhibits fluctuations in farm revenue.