

# effectOfIndividualInputs

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**Investigation into effects of individual inputs on time to reach resistance thresholds.**

**version 1 - in progress**

Based on 1000 runs with all inputs varying at once which explains the variability at particular input values.

Within each figure the plots are divided into 6 sub-plots according to the insecticide use strategy and when the resistance threshold is reached

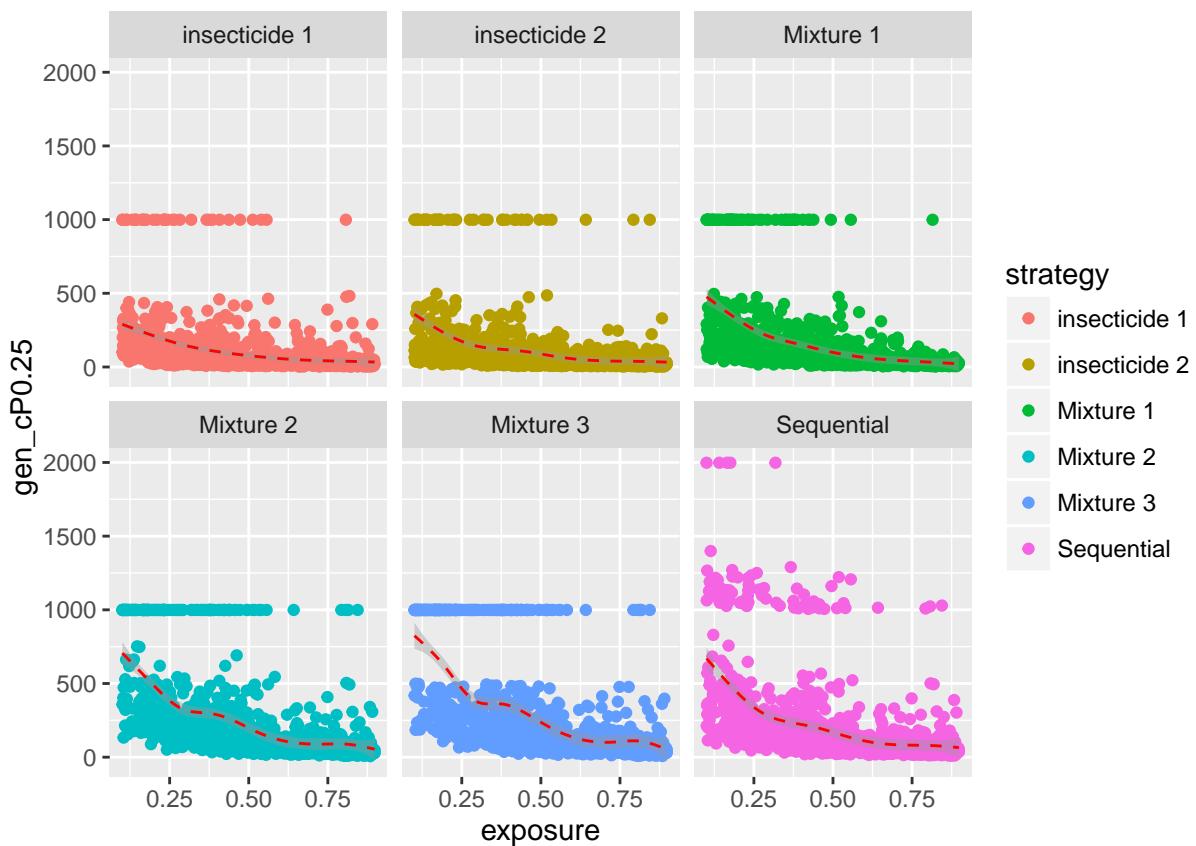
1. insecticide 1 : sole use
2. insecticide 2 : sole use
3. Mixture 1 : threshold reached for either insecticide in mixture
4. Mixture 2 : once threshold reached for either insecticide in mixture, switch to sole use of other until it too reaches threshold
5. Mixture 3 : threshold reached for both insecticides in mixture
6. Sequential : sole use of one insecticide, switch to other when threshold reached until it too reaches threshold

These plots show gen\_cP0.2, which is the number of generations to reach 20% resistance.

Red dashed lines are a smoothed mean.

The plots show a set of points at 1000 generations. The model is run for 500 generations, any runs which have not reached the resistance threshold by this time are given a value of 1000. This has little effect on questions of whether mixtures or sequential use is better, but does effect the plots presented here.

This plot shows exposure which has the most noticeable pattern.



In the following plots all inputs are plotted individually, the points are coloured by exposure, which allows us to see that, even as other inputs change, low times to resistance are associated with high exposure.

