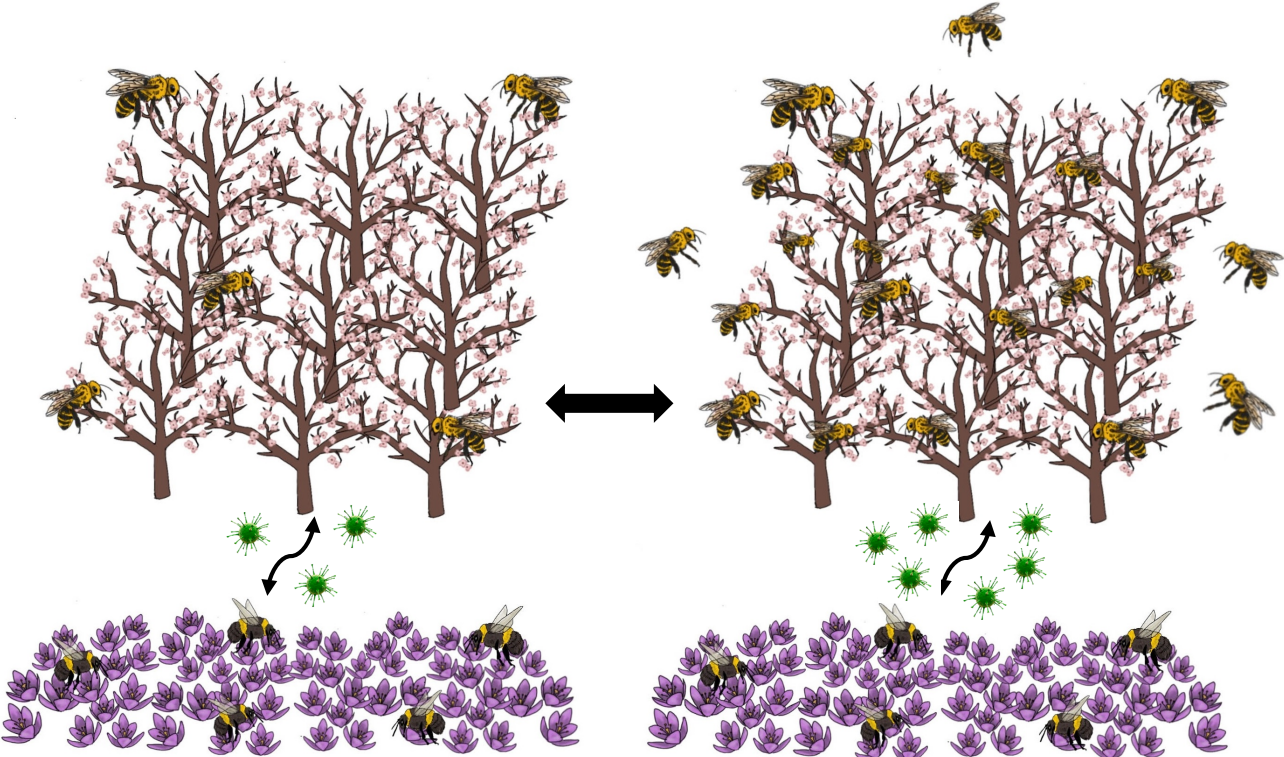


Impact of commercial honey bee importation on viral prevalence in wild bees



- How far do we find viruses from honey bee sites?
- How fast does the virus spread?
- When is there peak prevalence?
- What is the impact of a fluctuating source population density?

| PARAMETERS | |
|--------------------------|---------------------------------|
| Birth rate | Virulence (sublethal -> lethal) |
| Natural death rate | Disease death rate |
| Host population density | Transmission rate |
| Pathogen production rate | Pathogen decay rate |
| Vectors present/absent | Behavior (foraging rate) |

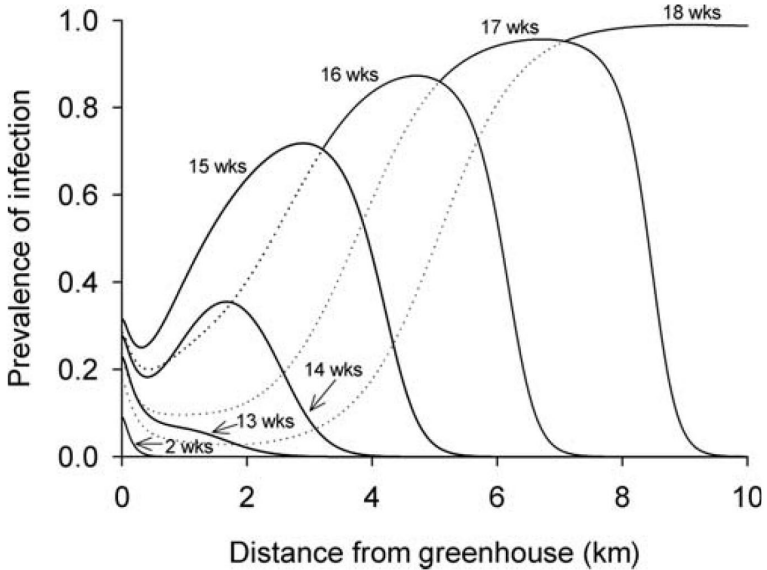
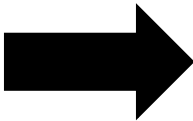


Figure 1. Predicted long-term dynamics of pathogen spillover into wild bumble bee populations near greenhouses. Prevalence
M. C. Otterstatter, J. D. Thomson. PLOS ONE 3, e2771 (2008).