



# Chemical Espionage

By Braxtyn DeGolyer

Jared Pohlmann

Vanessa Wergan





# Simplified Assumptions



Climate does not play a factor



Plant type does not matter for the butterflies



All butterflies take a mate



Death rate of butterflies accounts for all death types



No distinction between the two types of wasps



Wasps only reproduce through taken *Pieris brassicae* eggs

# The Model

---

- $\frac{dW}{dt} = (K_1W)(BK_2K_3K_4) - K_5\frac{W}{B} - K_7W$
- $\frac{dB}{dt} = BK_2K_3 - K_6B - WK_1K_4(K_5\frac{W}{B})$

# Graph of Model

