

How Does Colony Collapse Disorder Affect the Almond Industry?

By

I. A. and Tavis McDowell

Wilson High School

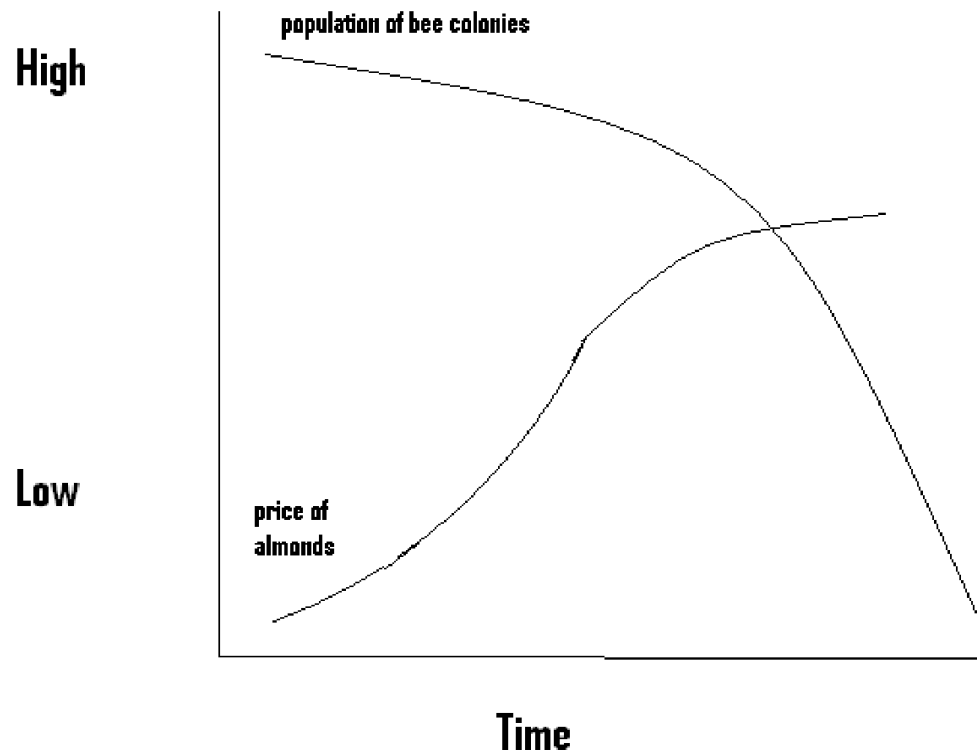
Modeling Dynamic Systems

May 8, 2009

Colony Collapse Disorder

- CCD has been affecting colonies since late 2006
- Once affected with CCD the bees will abandon the colony
- Almond industry is 100% dependent on bees for pollination
- Pesticides are a possible cause of CCD

BOTG Prediction

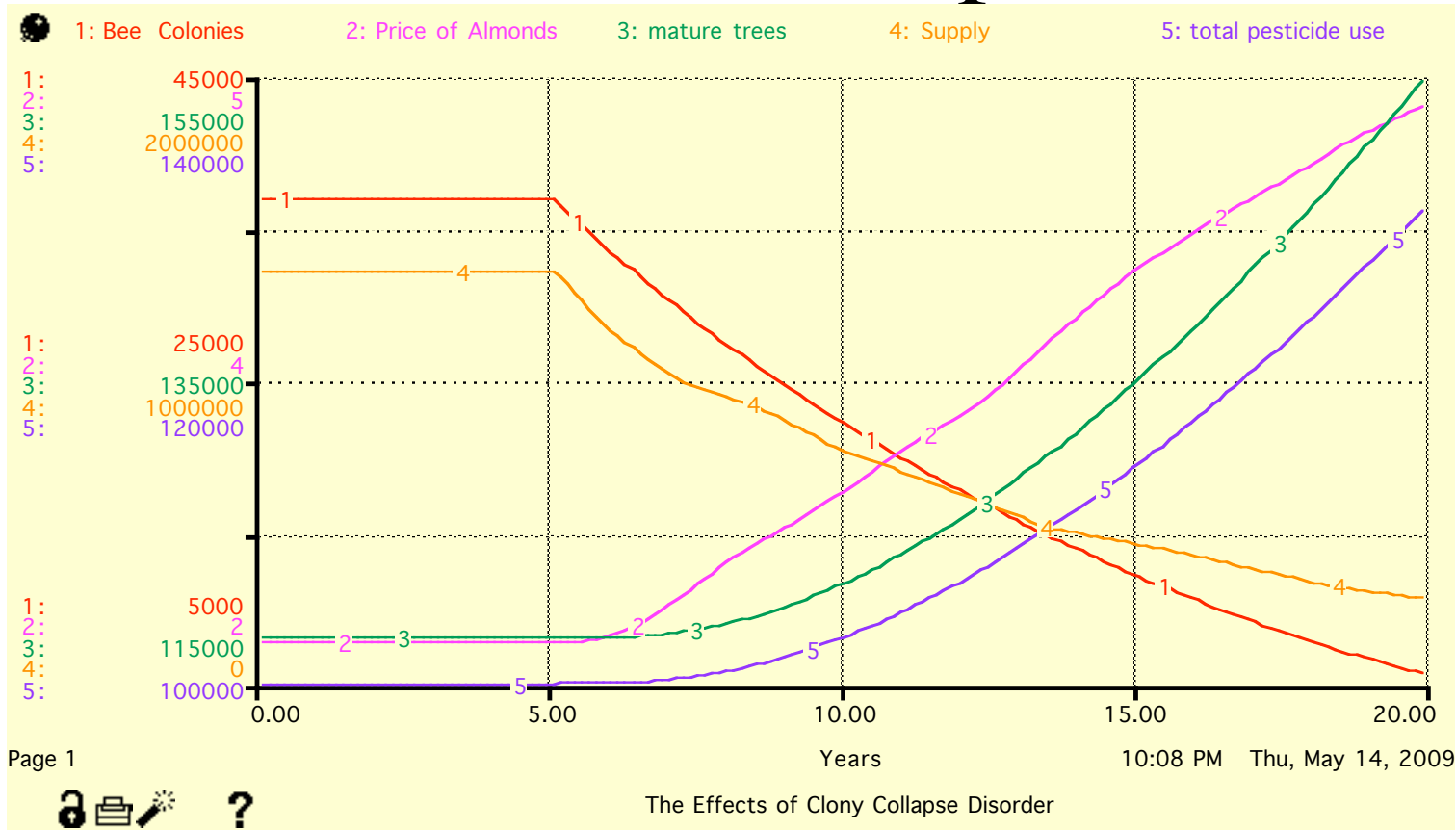


Feedback Loop



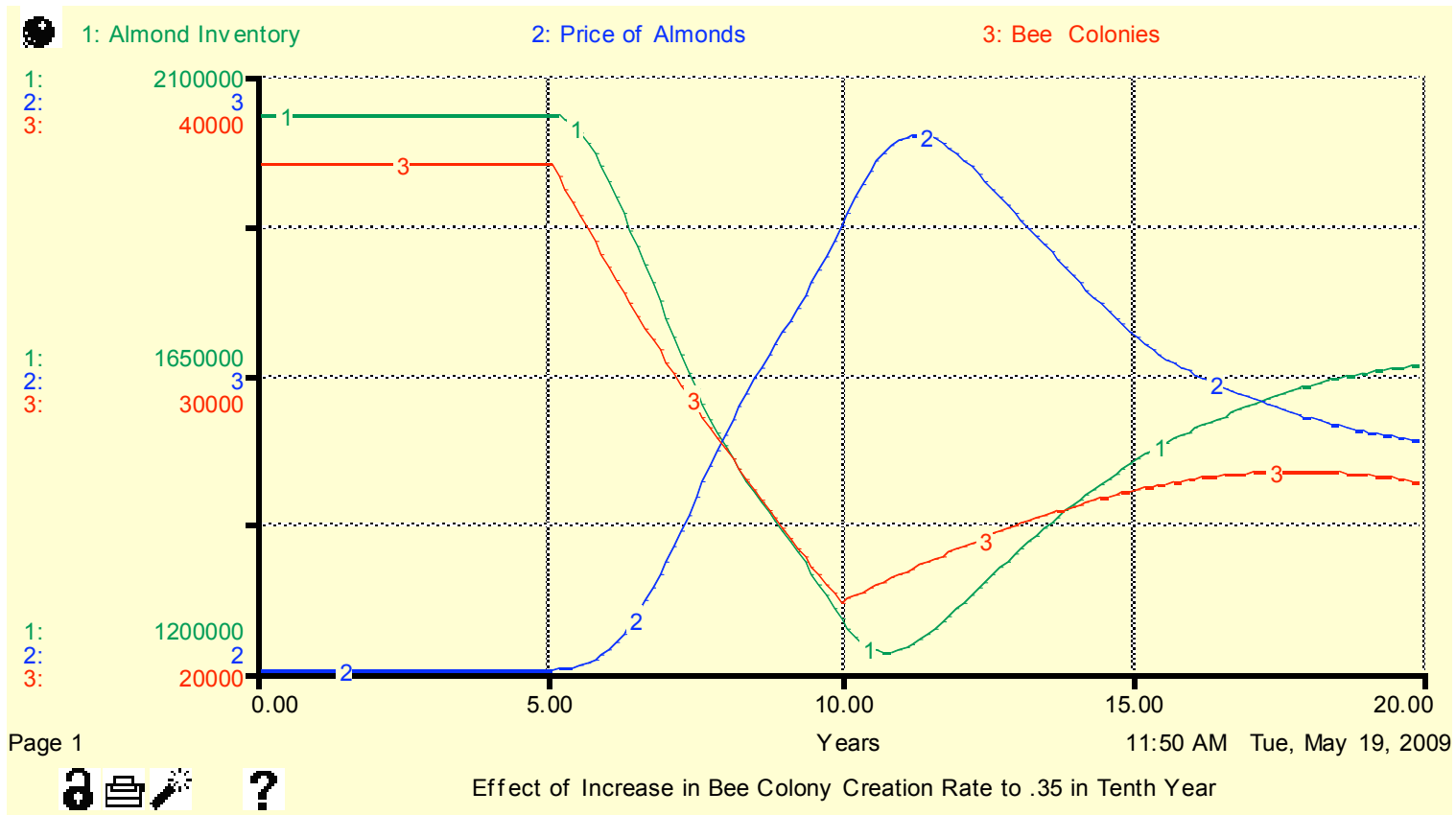
Effect of Almond Harvest on Bee Colonies

Baseline Graph



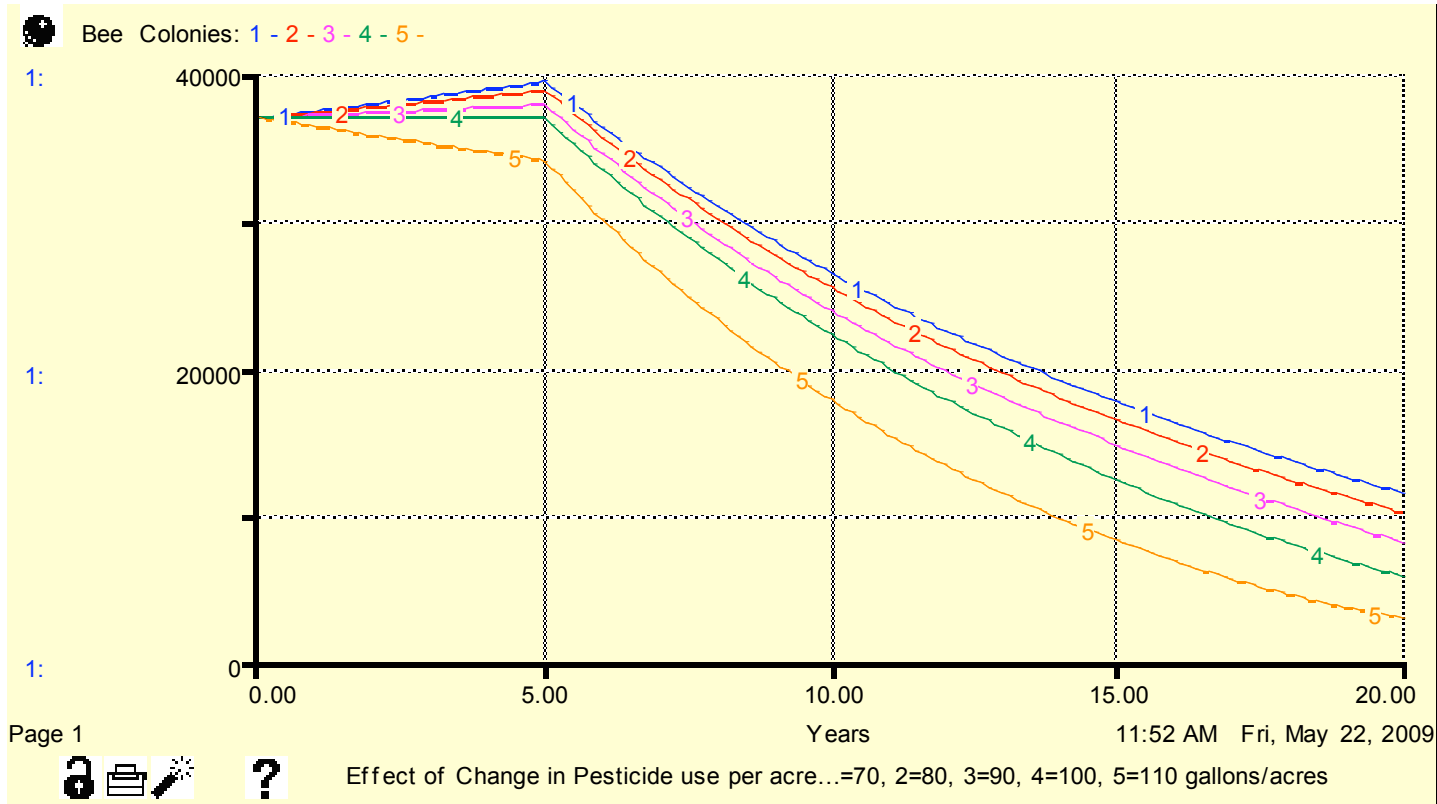
The Effects of Colony Collapse Disorder

Testing



Effect of Increase in Bee Colony Creation Rate

More Testing



Effect of Change in Pesticide Use per Acre

Conclusion

- A decrease in bees will cause a significant loss in almonds and, will eventually; spike the price of almonds significantly.
- CCD is spreading throughout bee colonies all over America and nobody knows what is really causing it or how to stop it.
- If a tree dies on an almond farm it will take 7 years for a new tree to start producing at the level the old tree did. This causes a gap in which the almond farm loses inventory.