Food Security Threat: Hurts More Than a Bee Sting

Problem & Background

- 68% of most produced monoculture crops dependent on bee pollination (Williams, 2010)
- $15 billion sector in U.S. economy (Smith, 2013)
- Managed honeybees: 60% decline since 1940s (Vanengelsdorp, 2009)
- Notable causes of collapses: Agrochemicals (Neonicotinoids) and habitat loss (Smith, 2013)
- Lack of awareness

Project Goals

- Increase awareness
- Increase research done on all species of bees native to the U.S
- Legislation pass to ban neonicotinoids by 2016
- Feed global population by 2050

Benefits

- Agriculture productivity, higher crop yield
- Sustainable Agriculture
- More hospitable and aware United States
- Notoriety
- Influences legislation proposed

Recommendations

Short Term (First Year):

- Have homeowners plant specific flowers

Long term:

- Agrochemical corporations to avoid using bee harmful pesticides
- Influence honeybee interest groups to focus on bumblebees as well

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References


System Dynamics Key

S: Positive Correlation
O: Negative Correlation
R: Reinforced Loop
B: Balanced Loop

System Dynamics

Neonicotinoids
Neonicotinoids
Beepopulation
Collapse
Agriculture
Food prices
Ecosystem
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