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


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System Dynamics Key
S: Positive Correlation
O: Negative Correlation
R: Reinforced Loop
B: Balanced Loop

System Dynamics

Numbers of Managed Honeybee Colonies in the U.S. Since 1940-2008

U.S. Ecosystem

Agriculture

Food Prices

Identify Problem
Honeybee and Bumblebee population collapse

Identify Cause
Agrochemicals (Neonicotinoids), Urban stressors

Our Solution

Research Process

Develop Solution

Develop game based on system dynamics

Corporate Sponsorship
(Burt’s Bees)

Influence legislative process

Create informative website

Create interest group on social media.

Launch ad campaign

Identify Problem
Honeybee and Bumblebee population collapse

Identify Cause
Agrochemicals (Neonicotinoids), Urban stressors

Our Solution

Rayyan Khan (UND) - Andre Padilla (UND)
Lars Rucker (ME) - William Rucker (ME)

Advisors: Professor Kristin Wobbe (UGS)
Professor Sharon Wulf (BUS)