



Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

# Hive Simulation

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# Outline

## **Simulation results and analysis**

### **Evolution of the model**

- Daily simulation

### **Missing flower season comparison**

- Spring

- Summer

### **Critical points in the fall season**

- Death criteria:

- Overview

- Variation

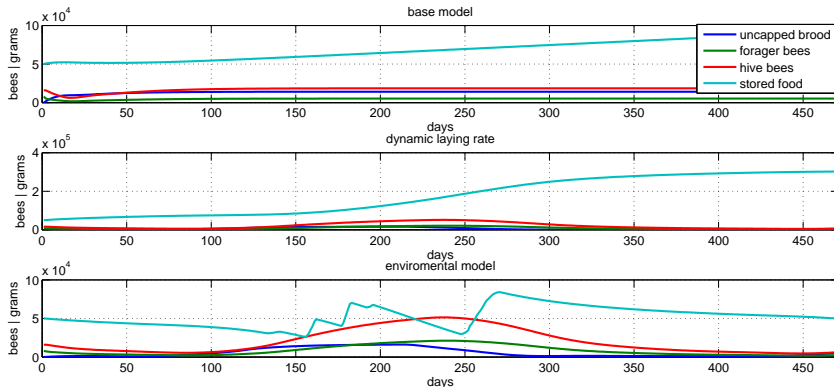
Peak value influence

Delay influence around breaking point

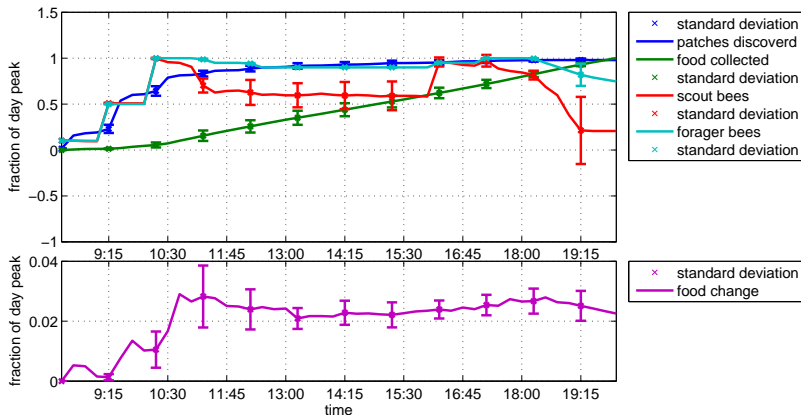
## Simulation results and analysis

- Evolution of the model
- Missing flower season comparison
- Critical points in the fall season

# Evolution of the model



## Daily simulation



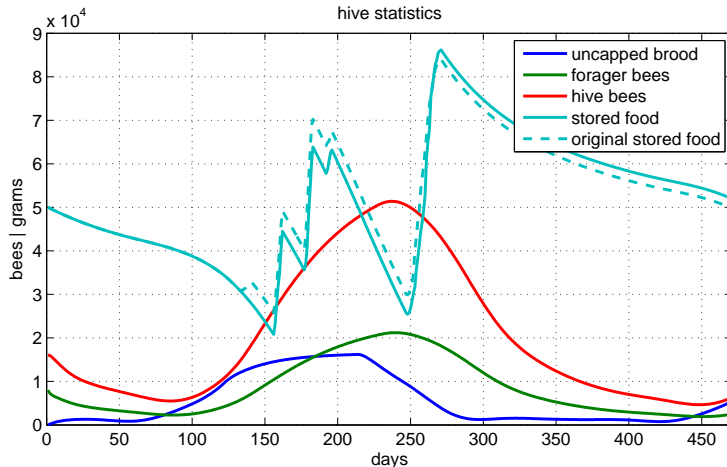
## Missing flower season comparison

- Eliminate non critical seasons
- Study effects of missing season
- Observe the hives compensation measures



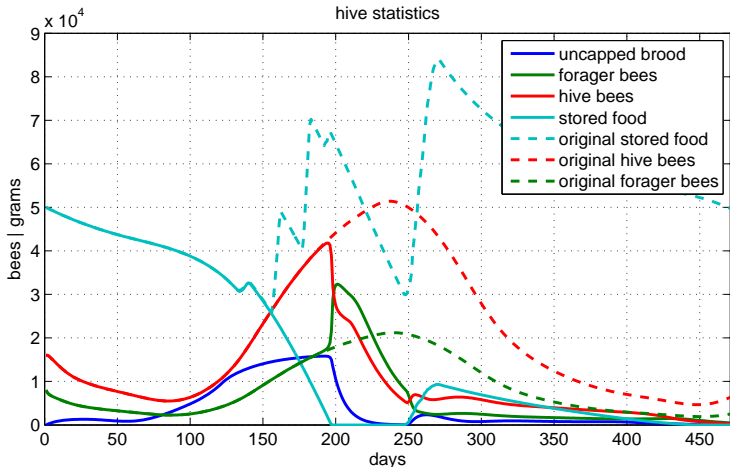


## Spring





## Summer



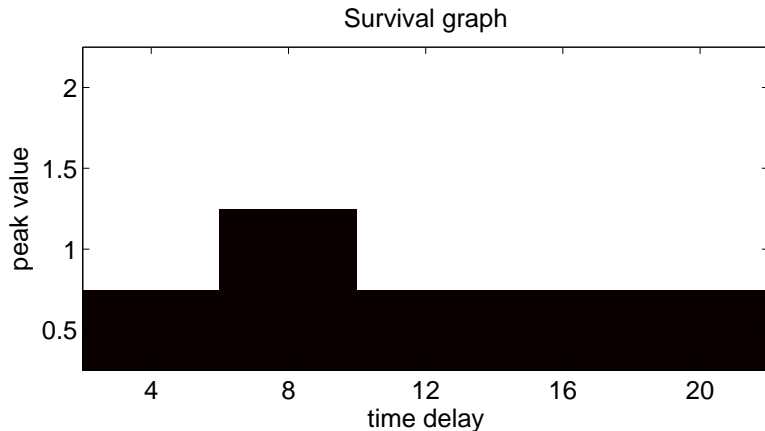
## Critical points in the fall season

### Death criteria:

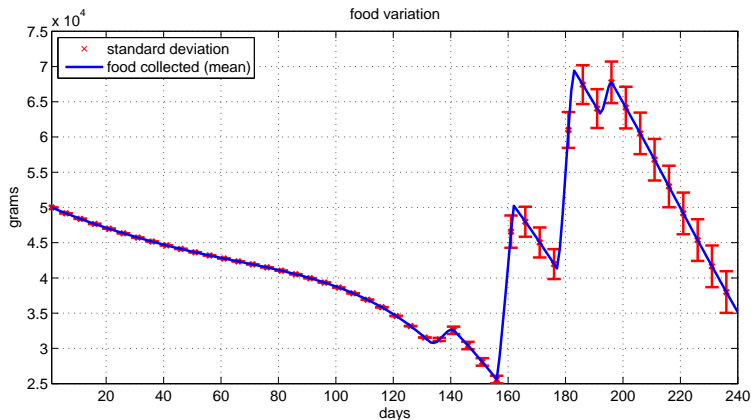
- Less than 1000 bees at day 400
- Less than 20 kg of stored food at day 400



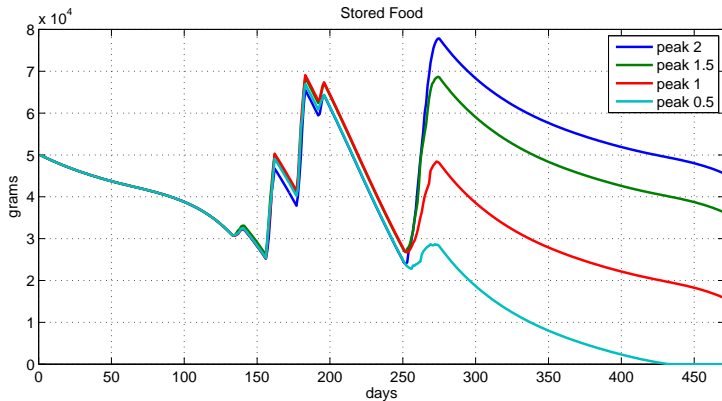
## Overview



## Variation

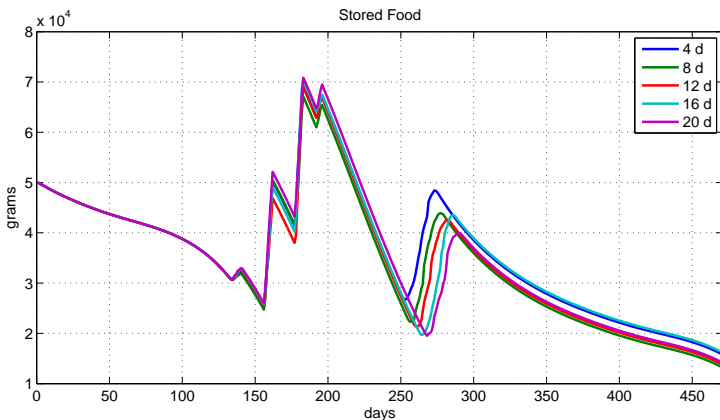


## Peak value influence





## Delay influence around breaking point



The background of the slide features a honeycomb pattern of hexagons. The top and bottom sections consist of bright yellow hexagons with black outlines. A central horizontal band is a solid dark green color, also featuring a faint honeycomb pattern. The word "Questions?" is written in white text on the right side of this green band.

Questions?