



# EFFEKTER AV DET NEONICOTINOIDE PLANTEVERN- MIDDELET CLOTHIANIDIN PÅ HUMLER

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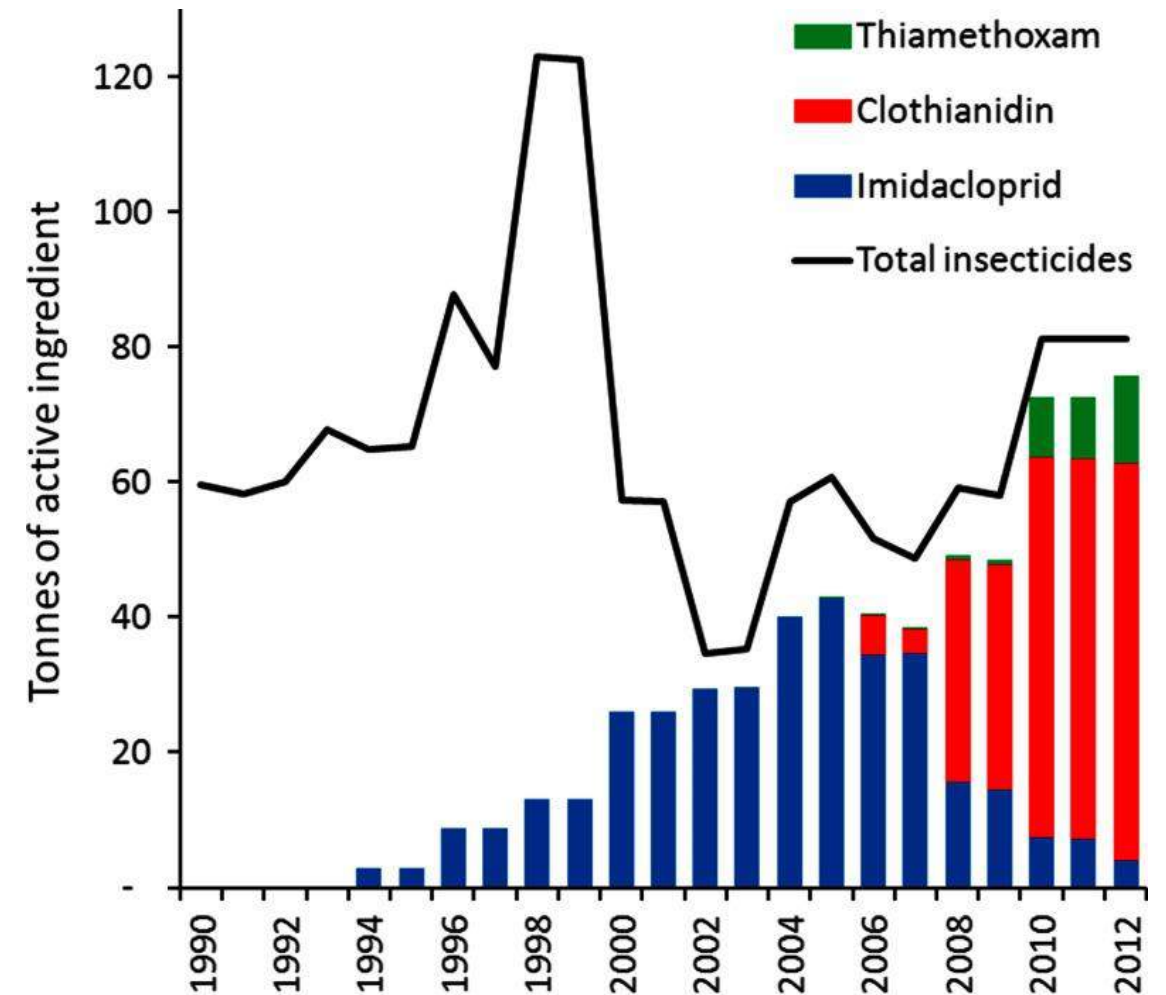
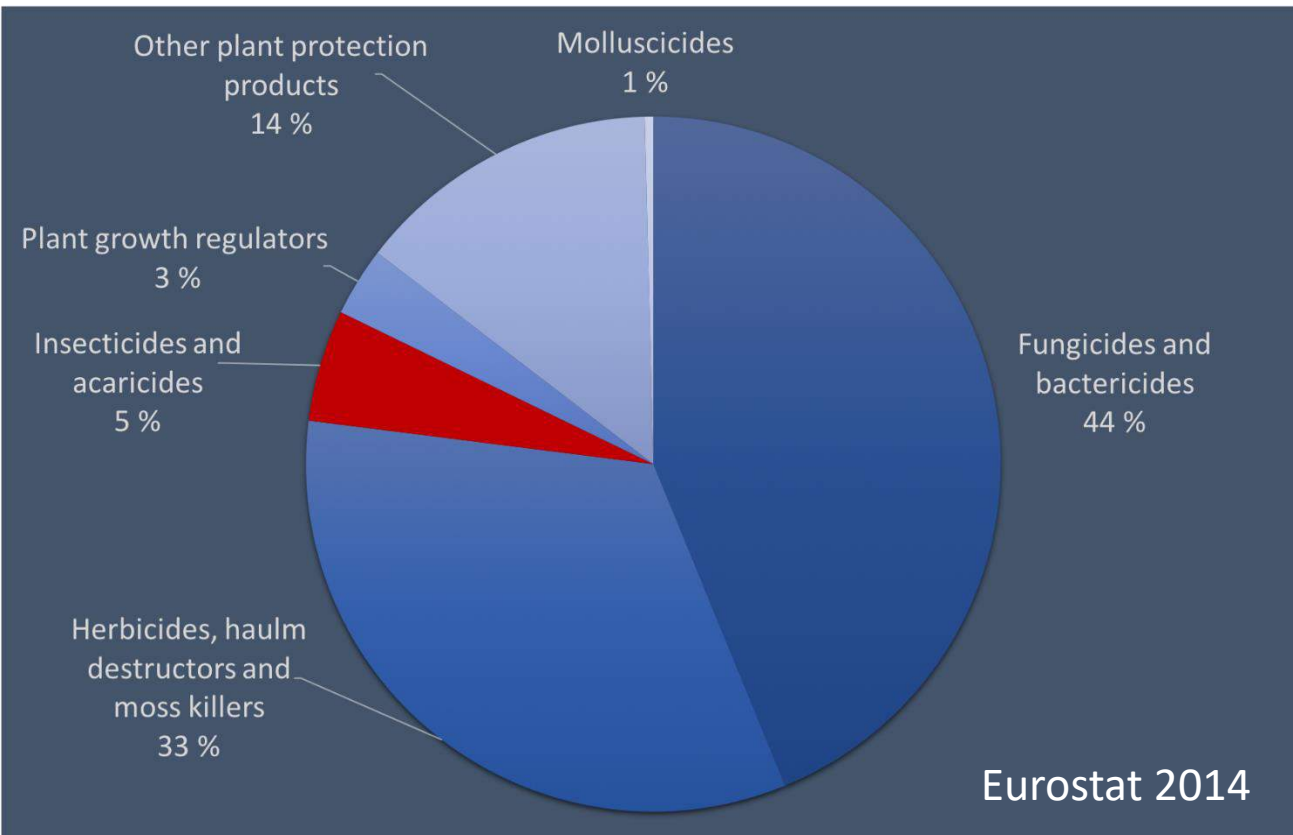
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Centre for Ecological and  
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# Plantevernmidler



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WORLDWIDE INTEGRATED ASSESSMENT OF THE IMPACT OF SYSTEMIC PESTICIDES ON BIODIVERSITY AND ECOSYSTEMS

## Systemic insecticides (neonicotinoids and fipronil): trends, uses, mode of action and metabolites

N. Simon-Delso · V. Amaral-Rogers · L. P. Belzunces · J. M. Bonmatin · M. Chagnon · C. Downs · L. Furlan · D. W. Gibbons · C. Giorio · V. Girolami · D. Goulson · D. P. Kreutzweiser · C. H. Krupke · M. Liess · E. Long · M. McField · P. Mineau · E. A. D. Mitchell · C. A. Morrissey · D. A. Noome · L. Pisa · J. Settele · J. D. Stark · A. Tapparo · H. Van Dyck · J. Van Praagh · J. P. Van der Sluijs · P. R. Whitehorn · M. Wiemers

# Hva skjer?

## 1. Insektene dør som resultat av eksponering

### På grunn av eksponering

- Redusert immunforsvar
- Redusert evne til læring
- Redusert hukommelse
- Fysiologiske effekter
- Endringer i tarmfloraen

### 2. Insektene svekkes

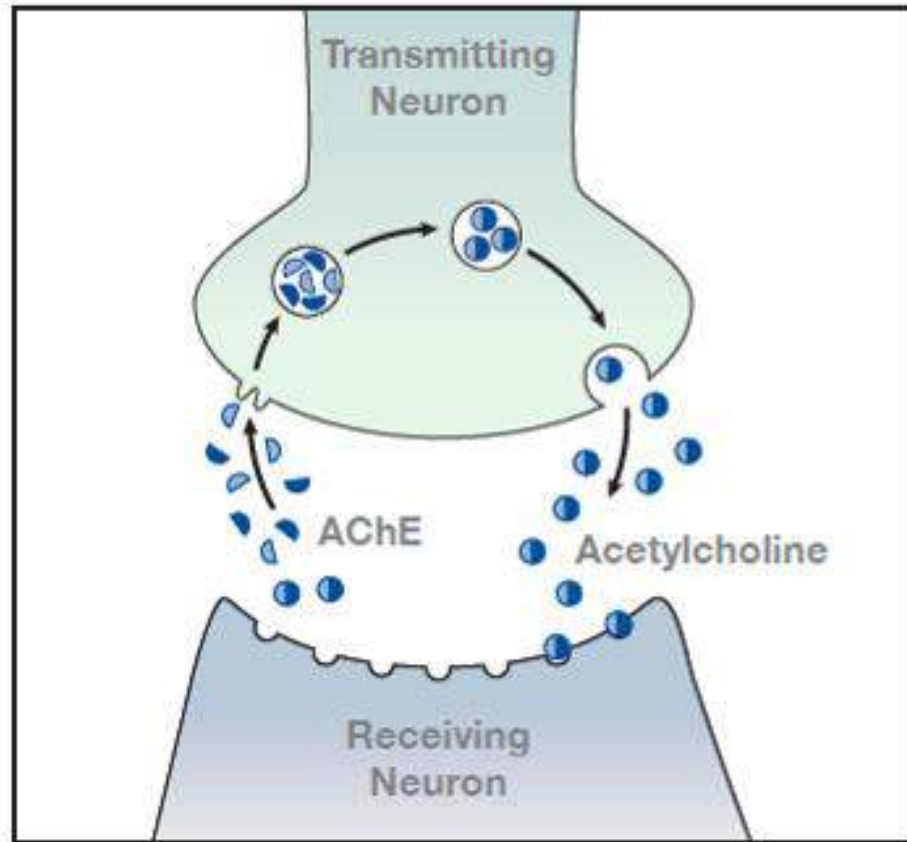
- Lavere overlevelse
- Lavere reproduksjon

### På grunn av redusert ressurstilgang

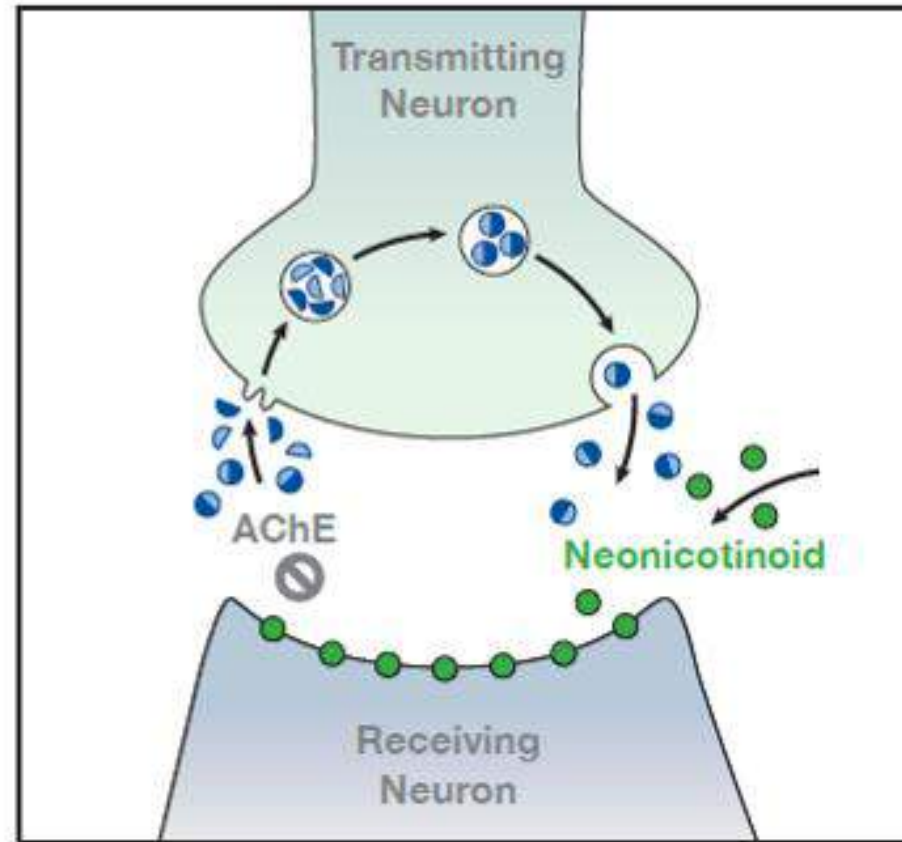
- Færre blomster

# Neonicotinoid

Normal Neurotransmission



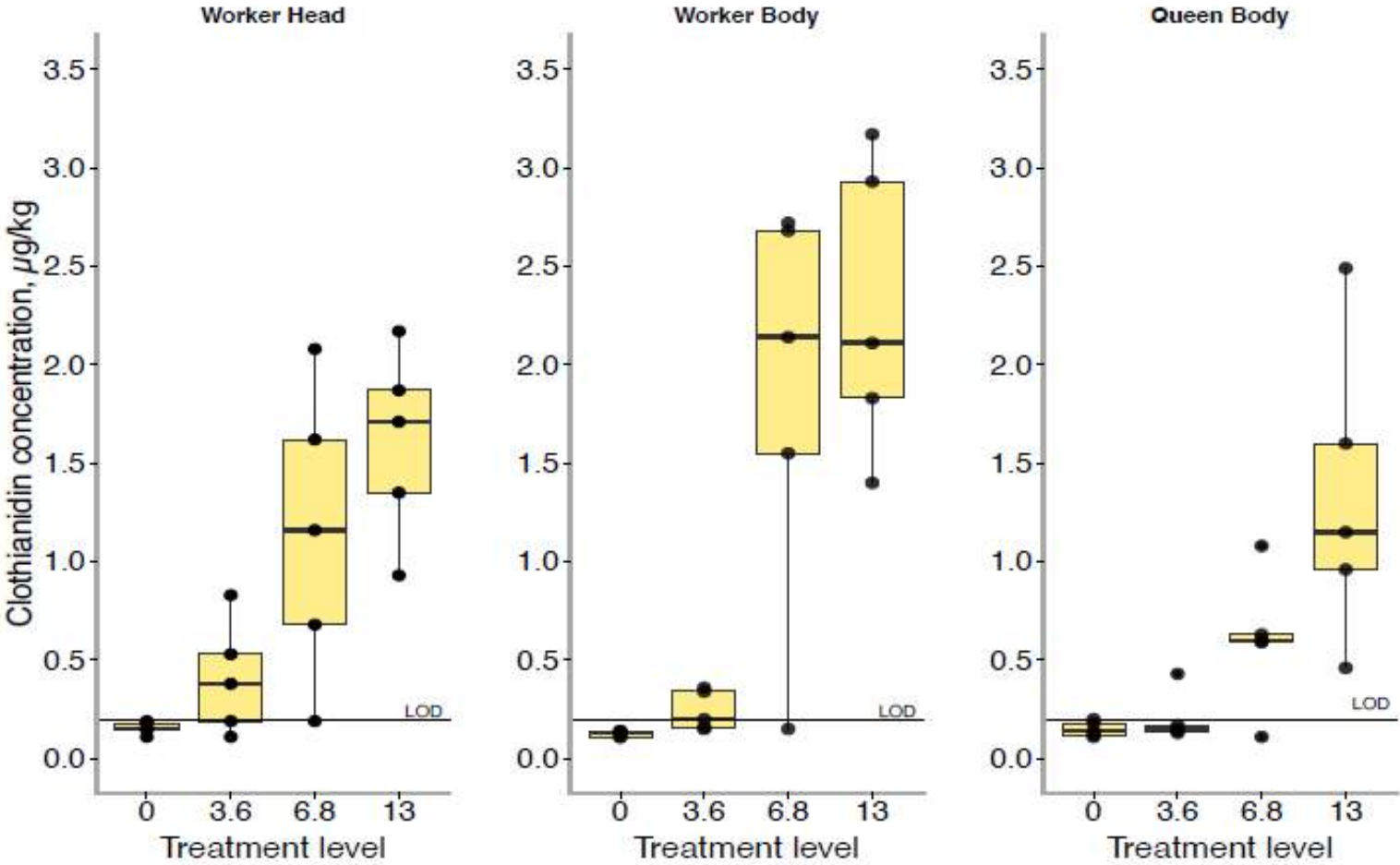
Neonicotinoid Toxicity



# NEOPOLL

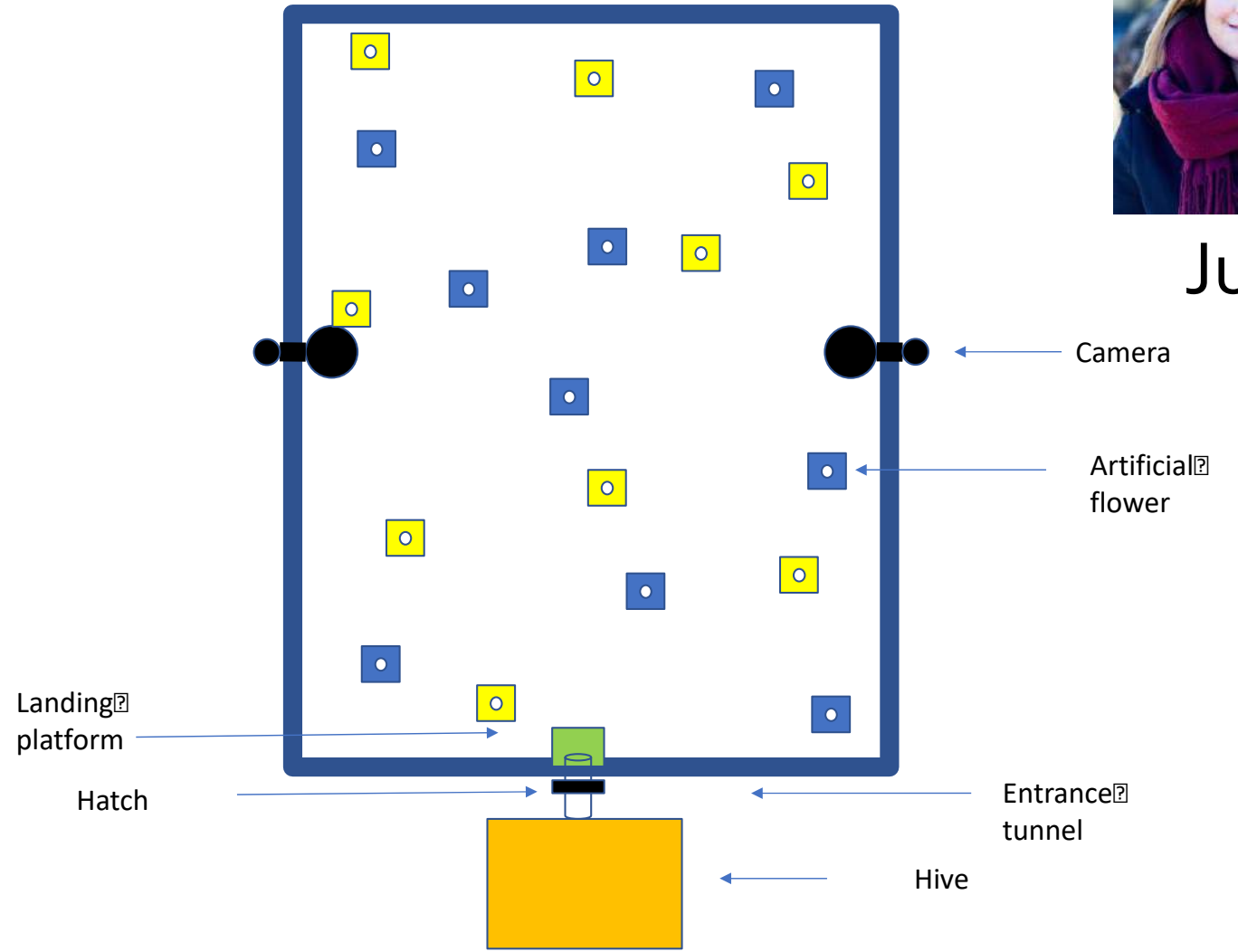


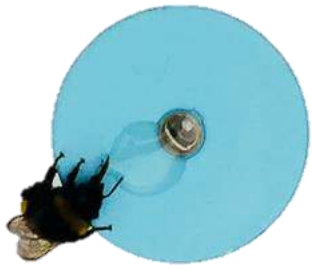
Malin





Julie



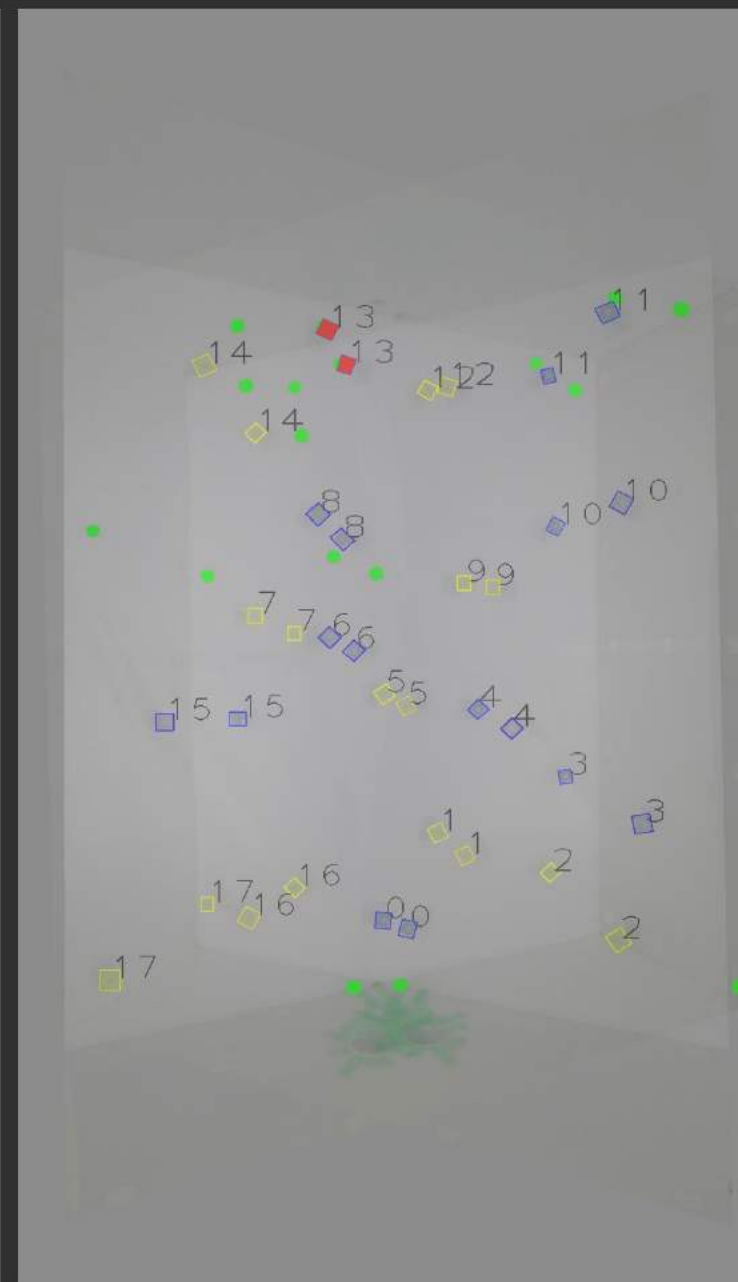
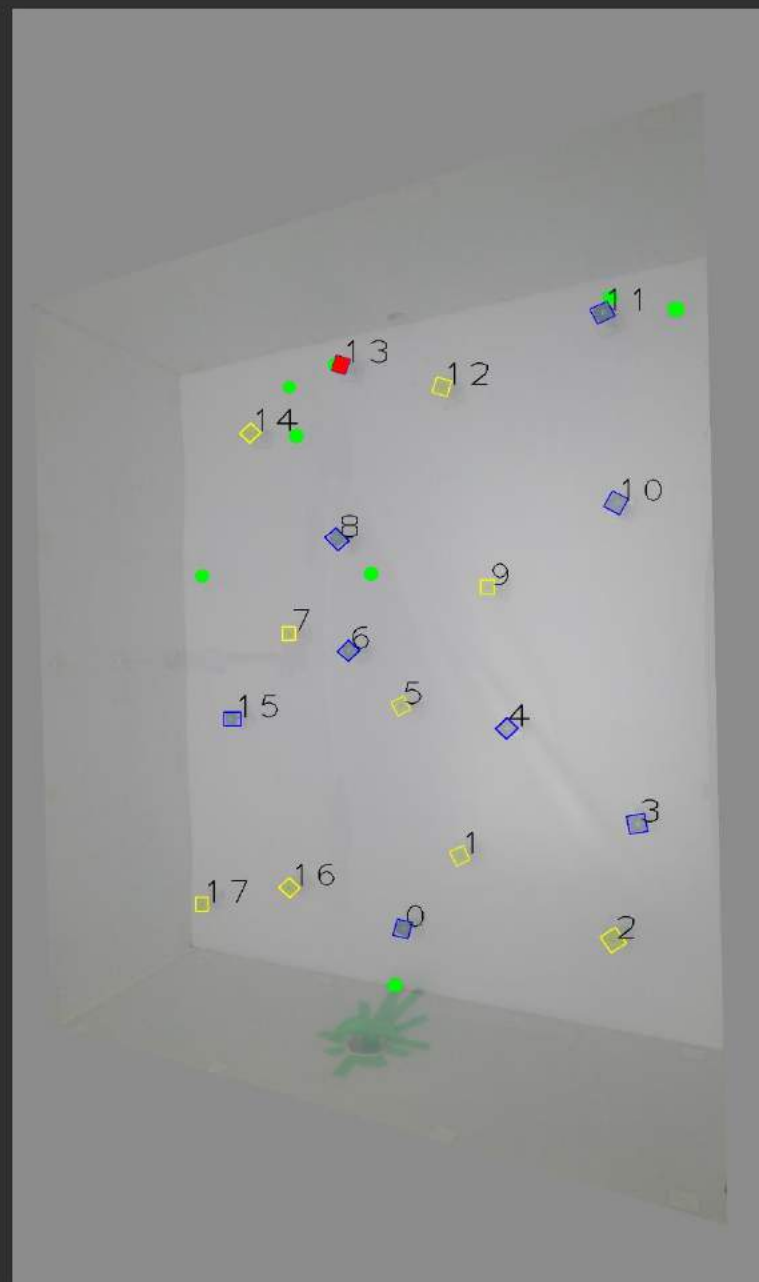
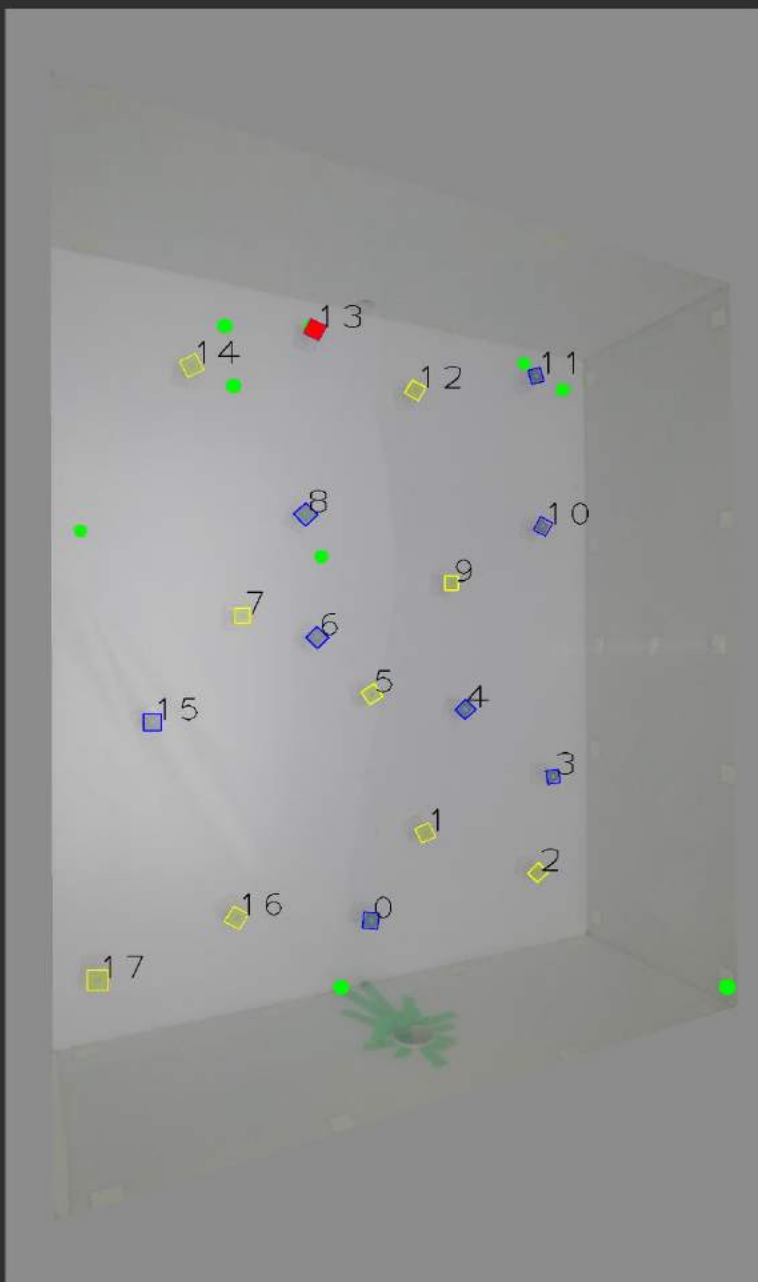


- Raw
- Bounding boxes
- ColorFiltered
- DOG
- Binary
- Raw + Identifiers
- Features
- SubtractBG

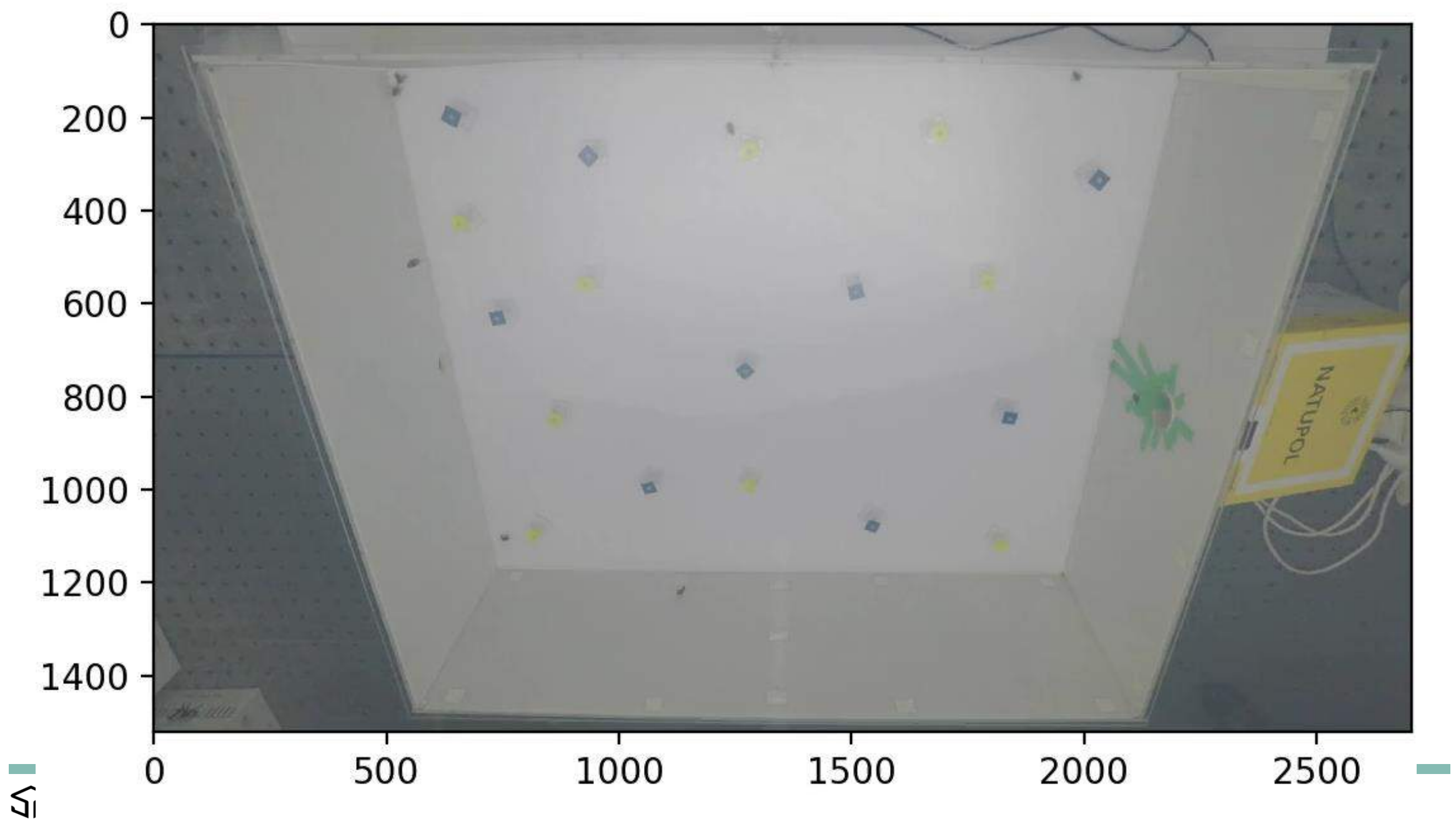
**STEREO**

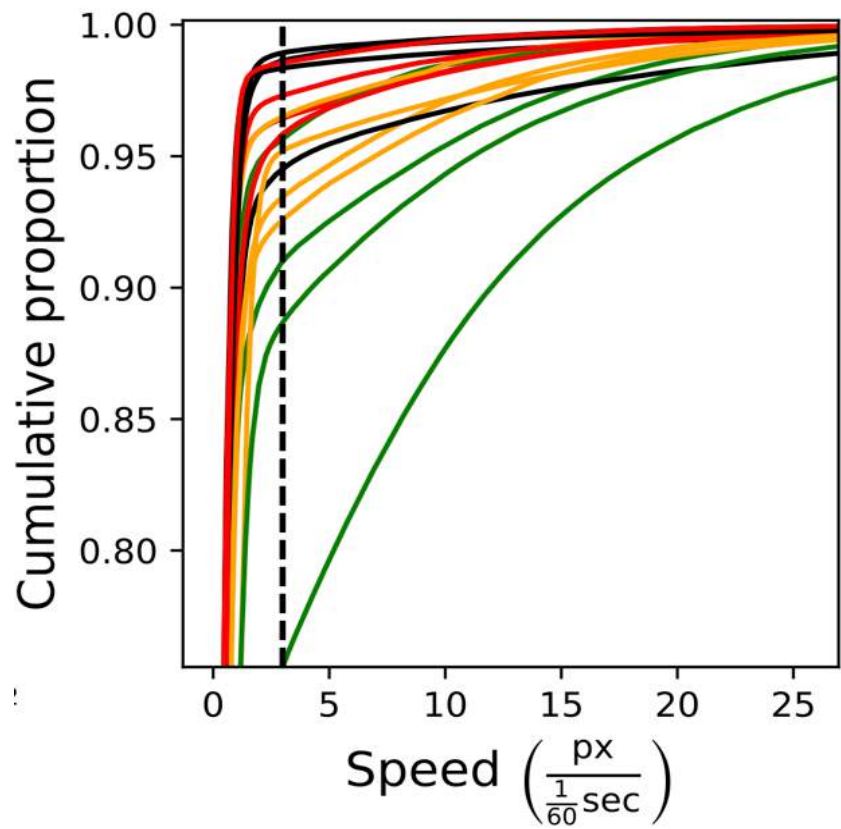
- Threshold  
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- Lower Gaussian width  
11
- Upper Gaussian width  
25
- Minimum Area  
100
- Maximum Area  
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INVOKE SETTINGS

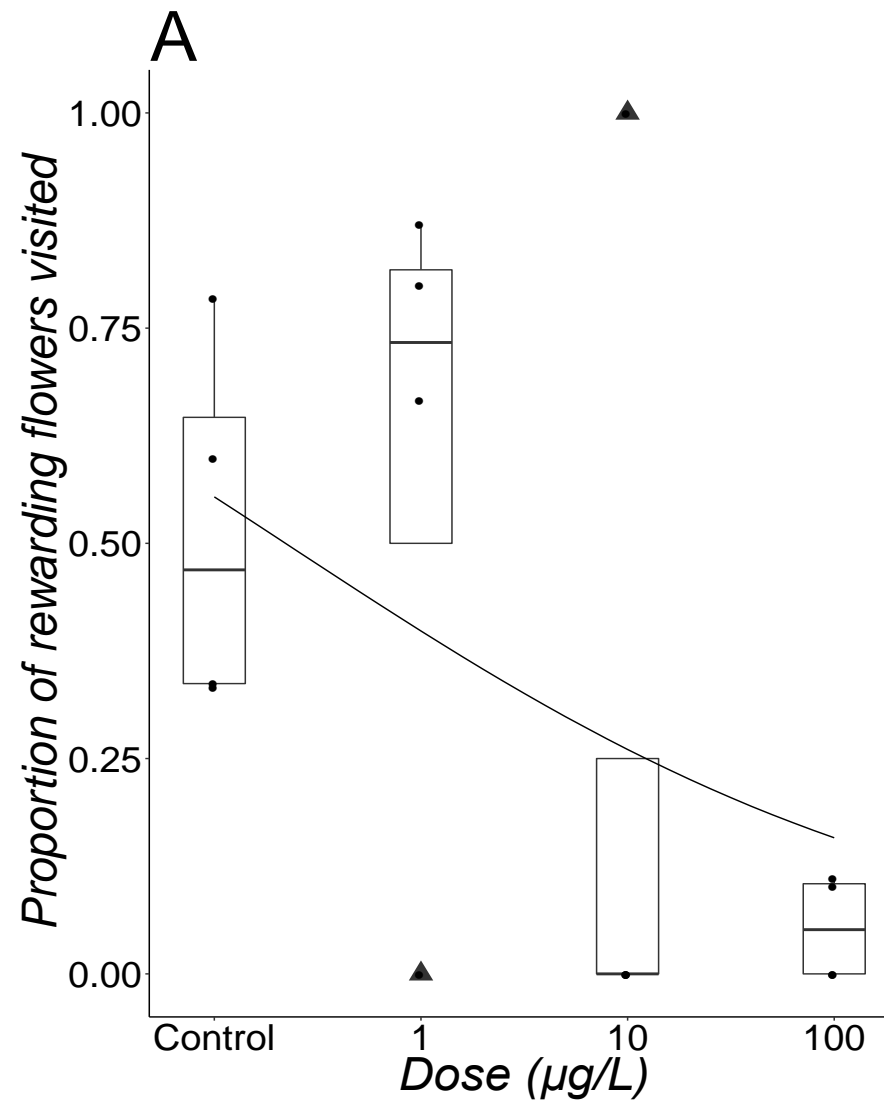








Imidacloprid

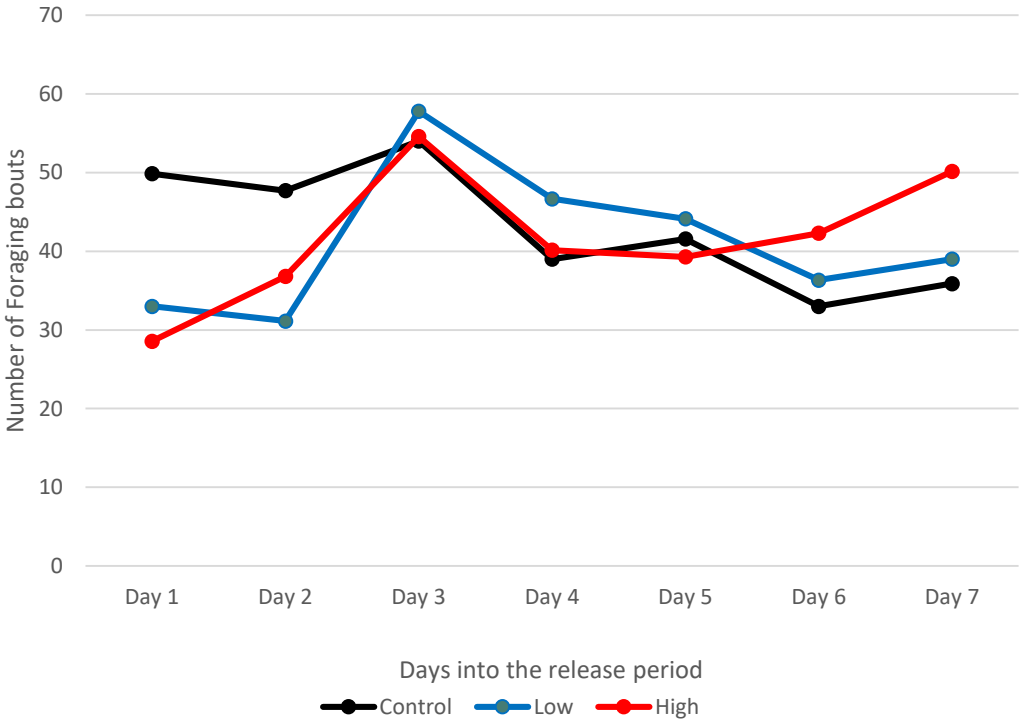




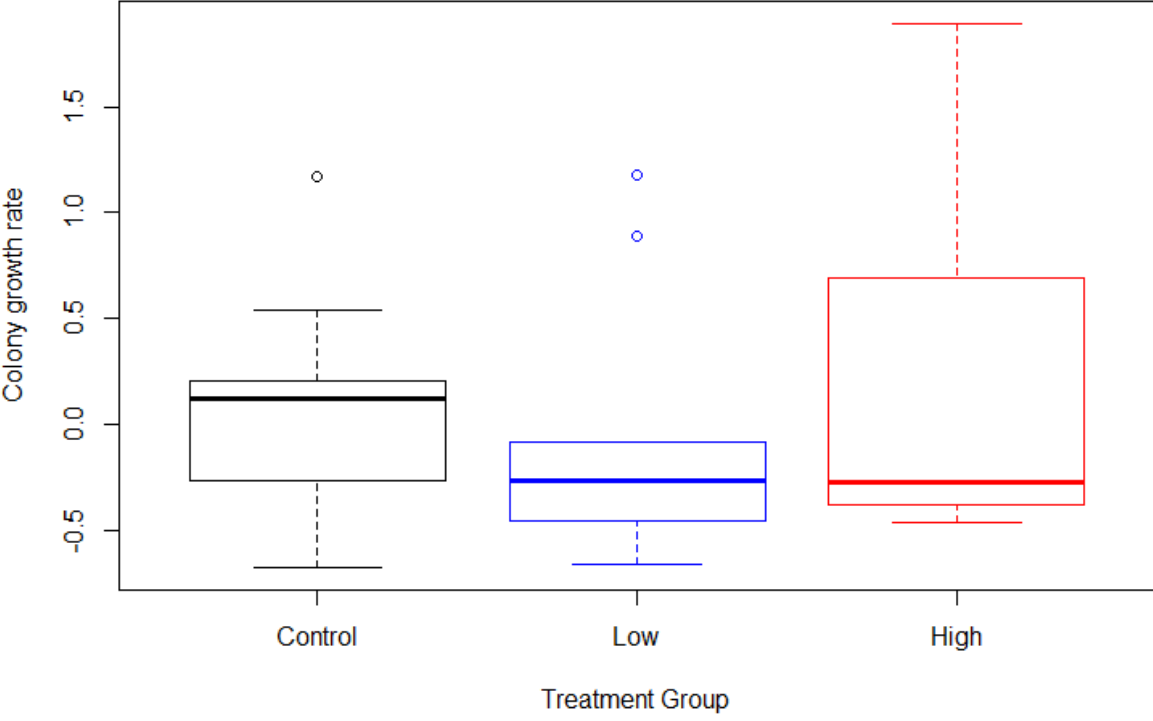
Pawel



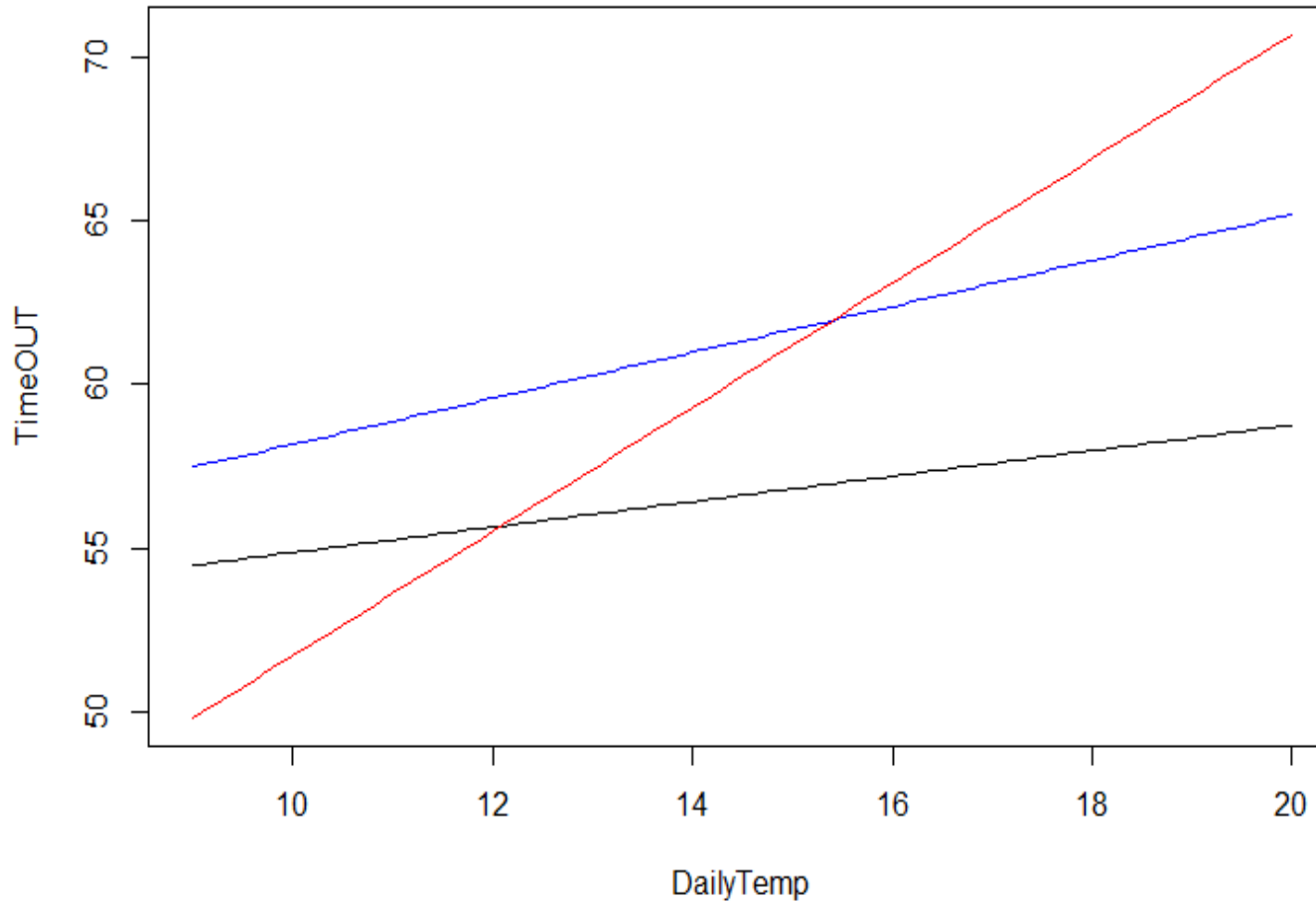
# Antallet flyginger

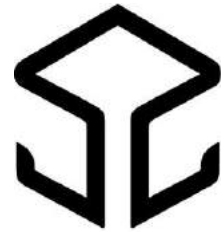


# Ikke-dødelige effekter



# Flyturenes lengde, eksponering og temperatur





# NIBIO

NORSK INSTITUTT FOR  
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UiO : Universitetet i Oslo



# CEES

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## The Research Council of Norway

RCN project number: 268415



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