**Monitoring the phenology of individual flowers using deep learning and automatic tracking**

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ABSTRACT | Often simple variables will be used to describe the flowering phenology of a population of plants, e.g. onset or peak of flowering and to infer respones to climate change. Here we show that image-based monitoring of field plots at very high temporal resolution can return information on flowering phenology at the level of indiviuals. Further, we present an automatic flower tracking algorithm.

**NOTES**

What questions do we want to answer?

*Flower information*

# Introduction

The flowering phenology of a population may mask responses at the individual level. For example,

Does flower visitation rates and/or reproductive success depend on the timing of flowering for the indiviual flower?

# Material and methods

## Study site

## The image series

## Flower annotations

# Results

**Figure 1:** Figure text….

# Discussion

## Flower phenology

# Acknowledgements

# Data availability

The code that supports the results in this paper will be made openly available at <https://github.com/TECOLOGYxyz>. Raw data as well as the trained flower detection model will be archived on <https://zenodo.org/>.