

ChronoRoot App Interface

A dark blue diagonal gradient bar that starts from the bottom left and extends towards the top right, covering the lower half of the slide.

ChronoRootAnalysis

Plant AnalysisAnalysis OverviewPlant OverlayGenerate ReportReport

Individual plant root analysis

Select Project Folder

/media/apolom/DATOS_1/Datos/Arabidopsis/FlorR

Select Video Folder

/media/apolom/DATOS_1/Datos/Arabidopsis/FlorR/rpi101_2024-09-20_12

Raspberry Module

101

(should be a number between 1-24)

Camera

1

(should be a number between 1-4)

Plant Number

4

(should be a number between 1-4)

Identifier

WT

(variety identifier, e.g. WT, Col0)

Analysis and postprocessing parameters

☐ Save Cropped Images

(useful to make growth videos, takes extra time and disk space)

Set processing limit

0

(in days, 0 means no limit)

Capture interval

15

(in minutes, usually 15 minutes)

Save

Preview video

Analyze Plant

Process all plants

Load config json from file

Load previous configuration

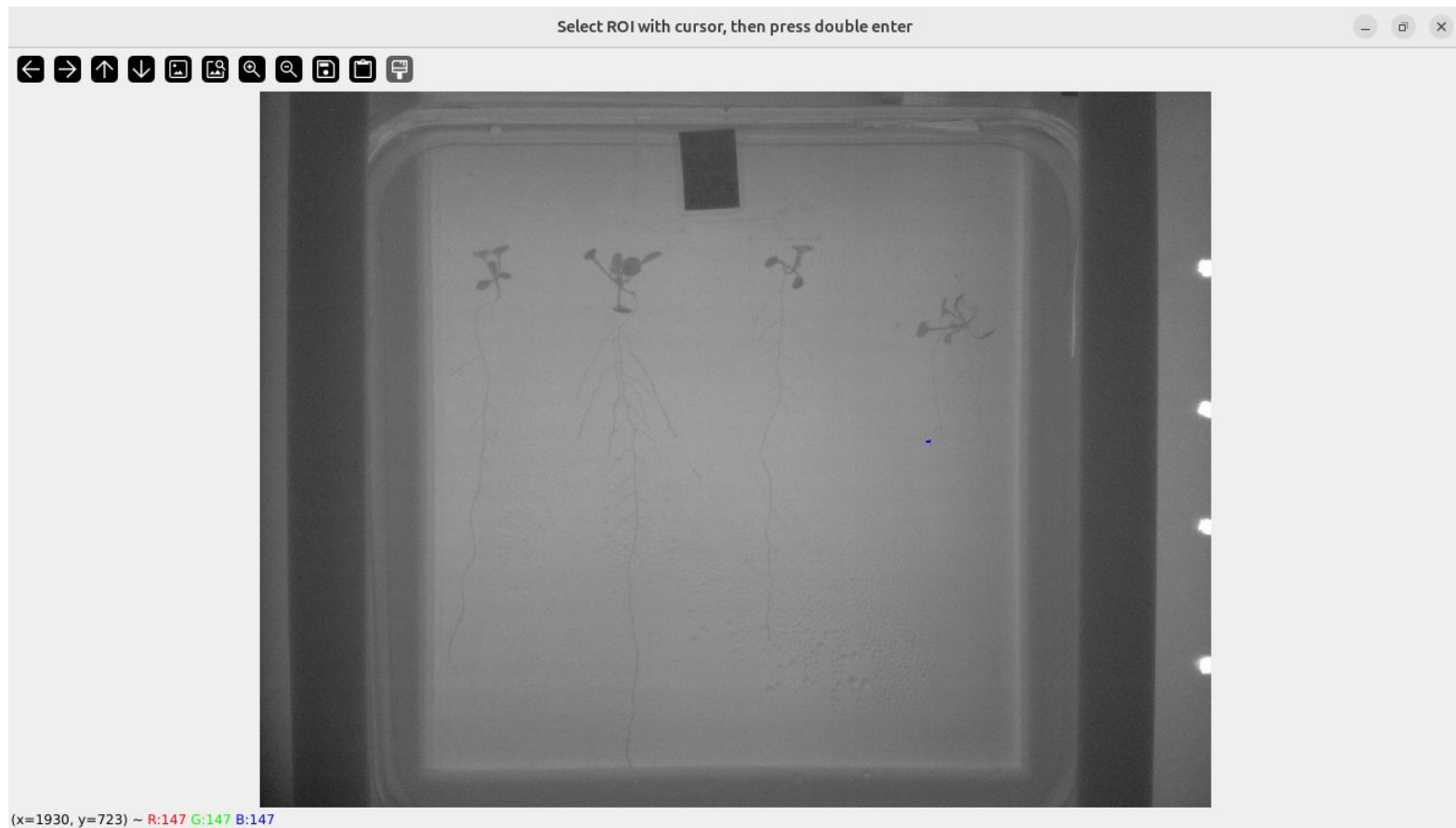
Main Interface with parameters



Preview Button



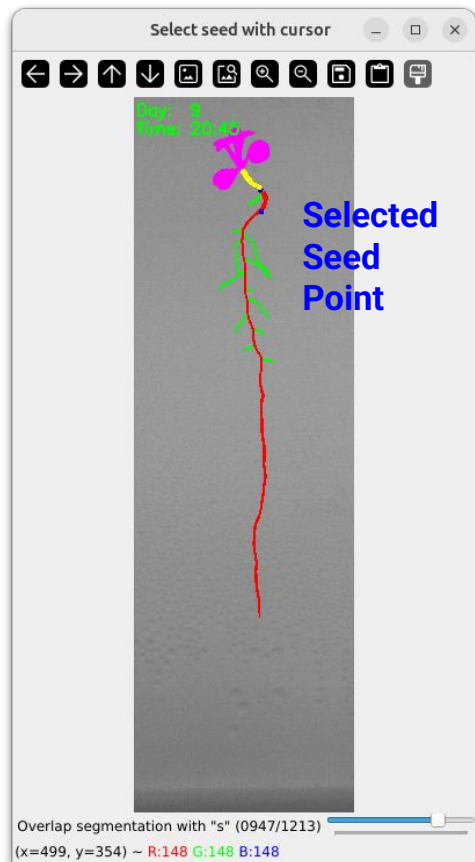
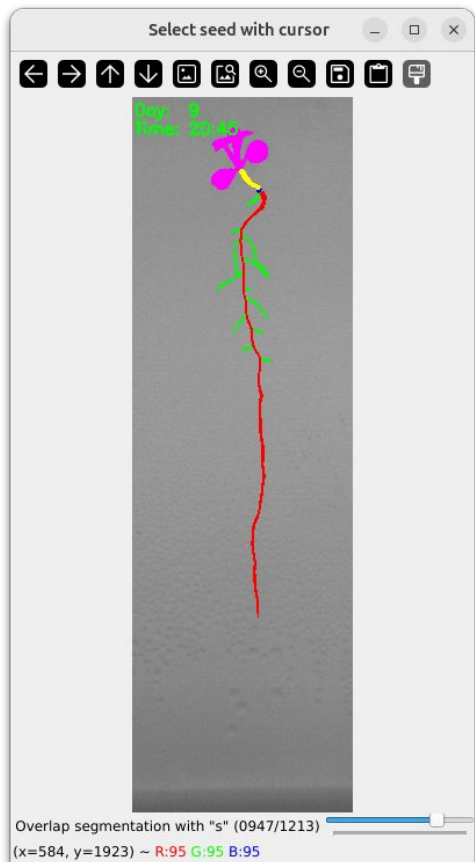
Preview Button with segmentation overlay



Manual plant selection



Manual plant selection



Manual seed point selection

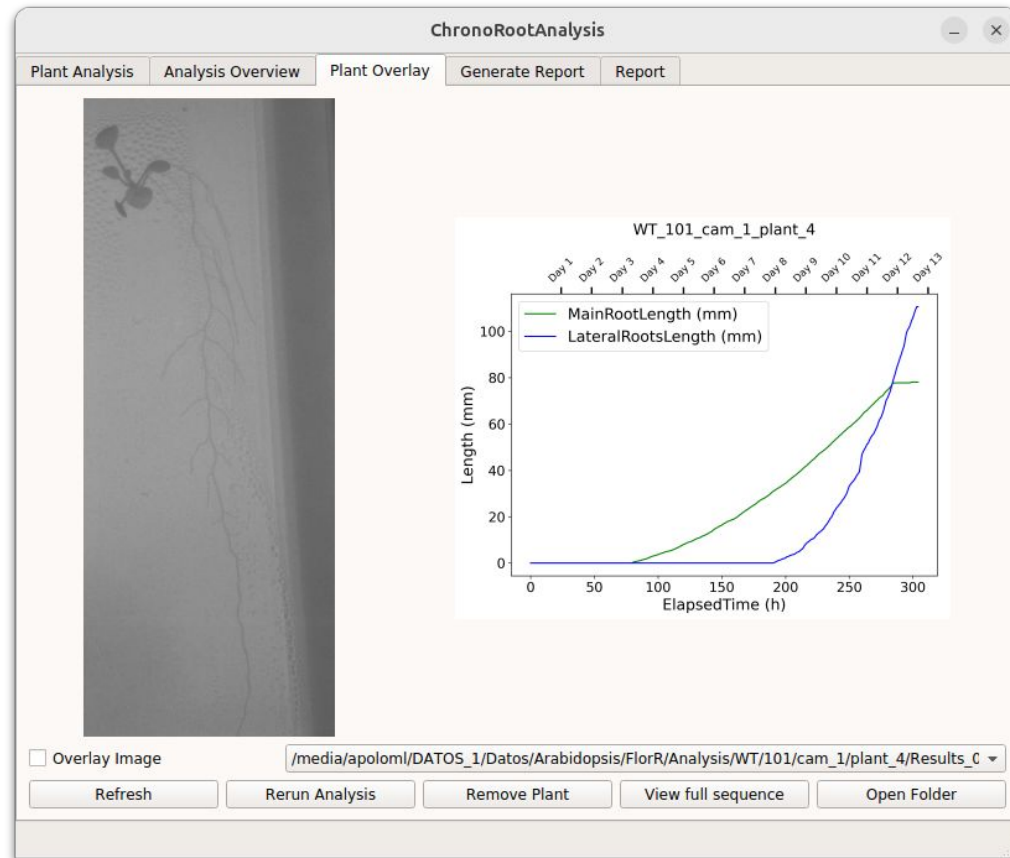
ChronoRootAnalysis

Plant Analysis Analysis Overview Plant Overlay Generate Report Report

	Variety	Raspberry	Camera	Plant Number	Result ID	Error Rate	Status	Finish Date
1	WT	101	cam_1	plant_4	Results_0	0.0	Finished	2025-01-30 14:57:46
2	WT	101	cam_4	plant_4	Results_0		Not finished	

Refresh Open Path Remove Plant Rerun Analysis

Analysis overview



Individual plant analysis preview

ChronoRootAnalysis

Plant Analysis

Analysis Overview

Plant Overlay

Generate Report

Report

Select Project Folder

/media/apolom/DATOS_1/Datos/Arabidopsis/FlorR

☐ Average intervals before testing

Time series stats interval (dt, in hours)

Hypothesis testing uses Mann-Whitney test every dt interval. If selected, an average value will be used, or a step ($i*dt$) otherwise

☐ Perform Functional PCA on time series

☐ Normalize FPCA Boxplots

Number of components

☐ Do Convex hull analysis

☐ Save images for each day

Days to report (Numbers separated by commas)

☐ Evaluate Growth Speeds and perform Fourier Analysis

Speeds stats interval (dt, in hours)

☐ Do Lateral Root Angles Analysis

Emergence distance

(in millimeters, recommended: 2 mm)

Days to report First LR Tip Stats interval (dt, in hours)

Processing limit

0

Save

Process all plants

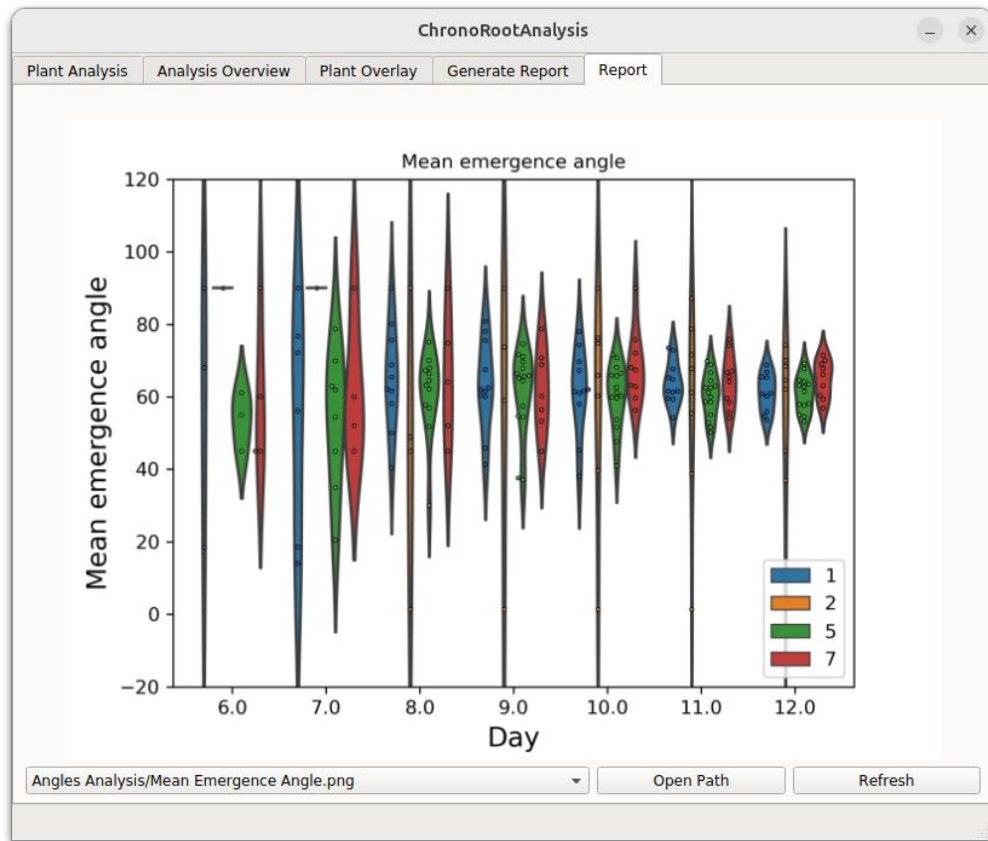
Generate report

Load previous configuration

Capture interval

15

Report configuration



Report preview