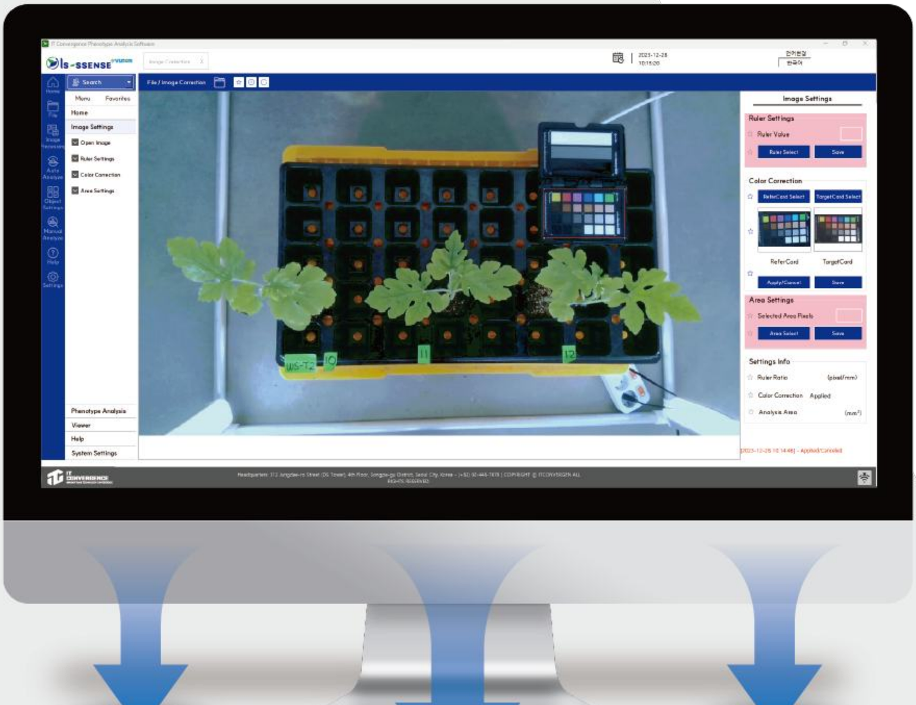
IT CONVERGENCE
IMAGINATION & TECHNOLOGY CONVERGENCE

Is-SSENSE VISION

- Crop Phenotype Image Analysis Service

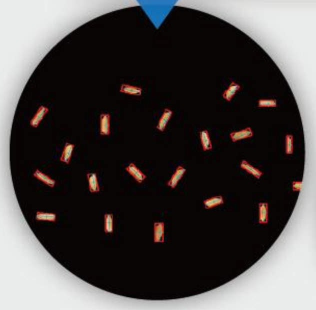

IT Convergence Phenotype Analysis Software
Is-SSENSE VISION
Image Correction
2023-12-28
10:15:20
언어변경
한국어
Search
Menu
Favorites
Home
Image Settings
Open Image
Ruler Settings
Color Correction
Area Settings
Phenotype Analysis
Viewer
Help
System Settings
File / Image Correction
Home
File
Image Processing
Auto Analysis
Object Settings
Manual Analysis
Help
Settings
Image Settings
Ruler Settings
Ruler Value
Ruler Select
Save
Color Correction
ReferCard Select
TargetCard Select
ReferCard
TargetCard
Apply/Cancel
Save
Area Settings
Selected Area Pixels
Area Select
Save
Settings Info
WS-T2
10
11
12
IT CONVERGENCE

Ruler Ratio (pixel/mm)

Color Correction Applied

Analysis Area (mm^2)

[2023-12-28 10:14:48] - Applied/Canceled



www.itconv.co.kr | is-ssense.com

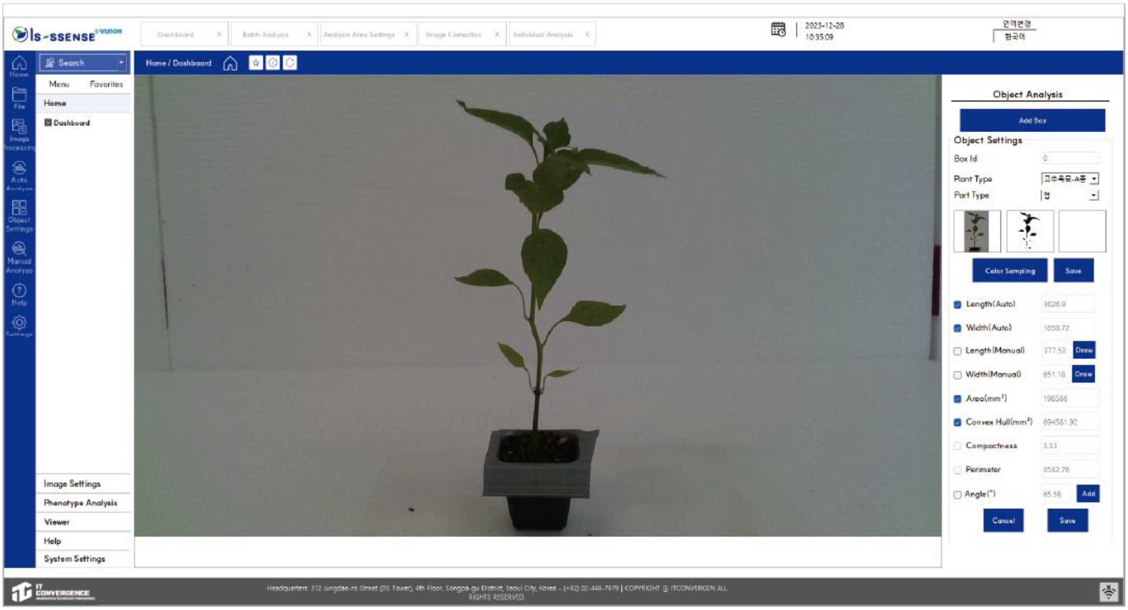
Copyright ⓒ ITCONVERGENCE All rights reserved.

Crop Phenotype Image Analysis Service

01 Product Features

Crop Phenotype Imaging Analysis Service utilizing stage-specific RGB or Depth images of crops

- Phenotype : Refers to genetic characteristics like form, biochemical properties, growth patterns, habits, instincts, etc.


Is-SSENSE vision
Dashboard
Batch Analysis
Analysis Area Settings
Image Correction
Individual Analysis
언어변경
한국어
Search
Home
File
Image Processing
Auto Analysis
Object Settings
Manual Analysis
Help
Settings
Menu
Favorites
Home
Dashboard
Home / Dashboard
Image Settings
Phenotype Analysis
Viewer
Help
System Settings
Object Analysis
Add Box
Color Sampling
Save
Draw
Draw
Add
Cancel
Save
IT CONVERGENCE

2023-12-28
10:35:09

Object Settings

Box Id: 0
Plant Type: 고추육묘-A종
Part Type: 엽

☑ Length(Auto) 3026.9
☑ Width(Auto) 1658.72
☐ Length(Manual) 377.53
☐ Width(Manual) 651.18
☑ Area(mm²) 196586
☑ Convex Hull(mm²) 694581.92
☐ Compactness 3.53
☐ Perimeter 3532.76
☐ Angle(°) 65.58

Headquarters: 312 Jungdae-ro Street (DS Tower), 4th Floor, Songpa-gu District, Seoul City, Korea - (+82) 02-448-7679 | COPYRIGHT ⓒ ITCONVERGEN ALL RIGHTS RESERVED.

02 Image Analysis Classification

- Stage-specific classification of crops : Seed, Seedling

Seed Stage

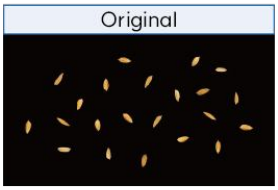
Seedling Stage

Stage-specific phenotype analysis of crops

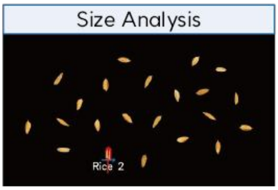
- Analysis and monitoring of crop size, shape, and color

- Crop phenotype classification : Size, Shape, Color

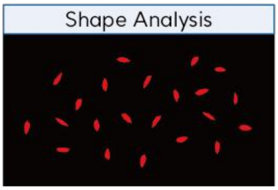
Original



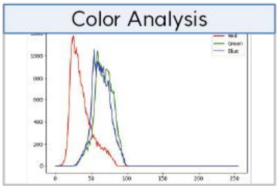
Size Analysis



Shape Analysis



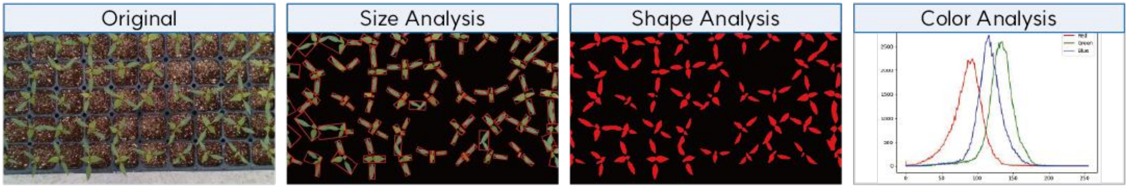
Color Analysis



Seed Phenotype Analysis

- Analysis of seed size (central axis, minor axis, perimeter, width) and shape (e.g., symmetrical, asymmetrical)
- Analysis of seed phenotype (including color) to assess the condition and predict germination timing

IT CONVERGENCE
IMAGINATION & TECHNOLOGY CONVERGENCE

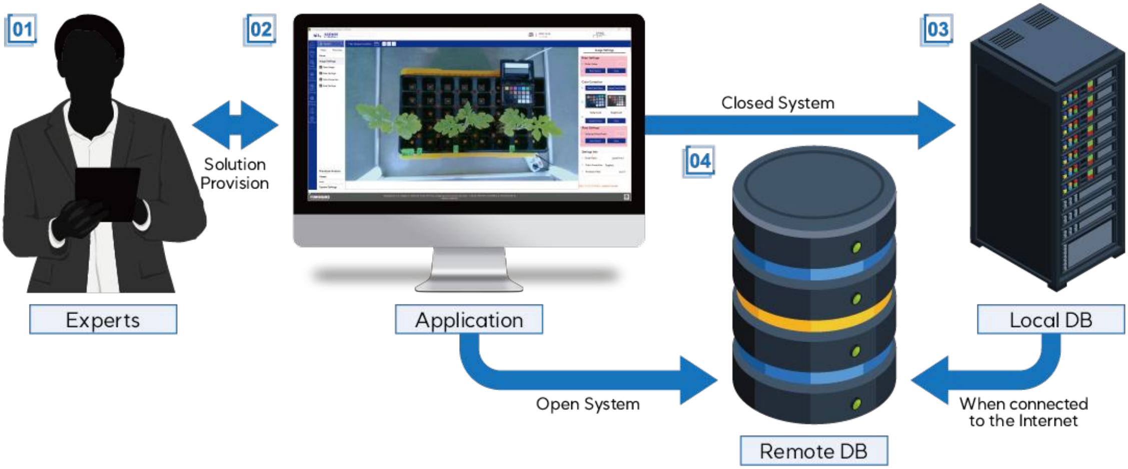

Original
Size Analysis
Shape Analysis
Color Analysis

Seedling Phenotype Analysis

- Analysis of seedling size (central axis, minor axis, perimeter, width), germination rate, and shape (e.g., 3-leaf, 4-leaf)
- Calculation of shipping timing through seedling phenotype indicators

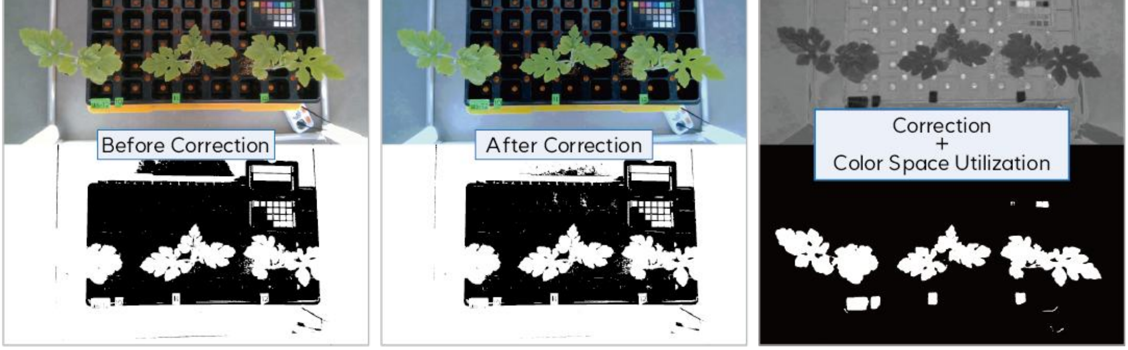
03 Service Features

- Continuous analysis of a large volume of seeds and seedling images and time-series analysis using Database


01
02
03
04
Solution Provision
Closed System
Open System
When connected to the Internet
Experts
Application
Local DB
Remote DB

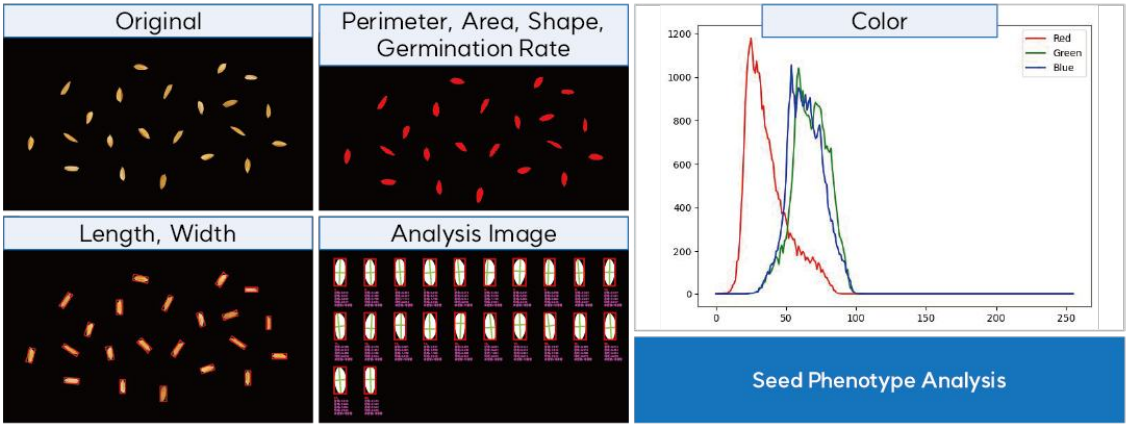
- Use of lightweight built-in local DB in closed environments (continuous analysis possible within about 2GB)
- Remote DB available in open environments or with internet connection (unlimited large-scale time-series analysis possible)

- Enhancement of binarization performance using color correction and appropriate color spaces for images

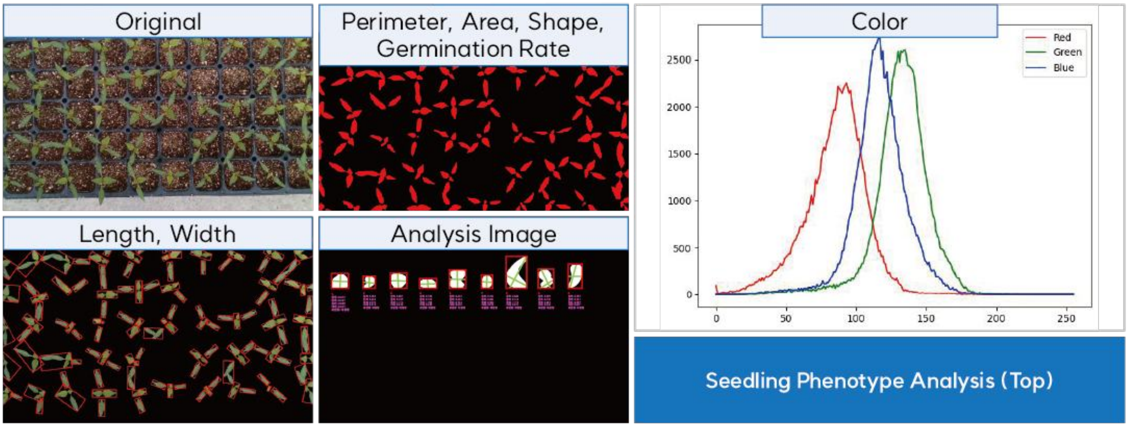

Before Correction
After Correction
Correction
+
Color Space Utilization

- Color Correction (Brightness and Color Tone): A key feature for binarization and color analysis essential for phenotype analysis

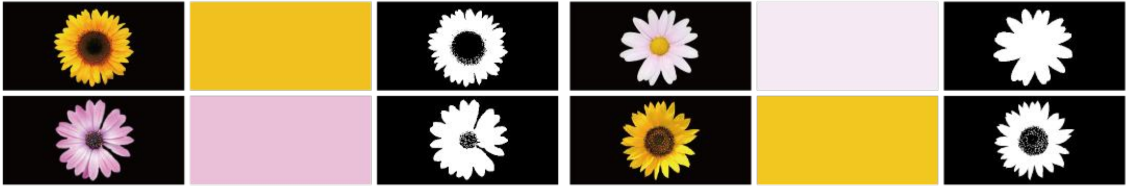
Crop Phenotype Image Analysis Service



Seed Phenotype Analysis



Seedling Phenotype Analysis (Top)



Stage-specific Crop Phenotype Analysis

[Expected Benefits]

- Automatic analysis of a large volume of crop images from the seed and seedling stages, deriving cultivation solutions.

IT CONVERGENCE
IMAGINATION & TECHNOLOGY CONVERGENCE

IT Convergence Co. Ltd
Mail Inquiry : itconv@itconv.co.kr | Tel : +82-2-448-7679 | Fax : +82-2-407-1252
Head Office: 4th Floor, D.S Tower, 312 Jungdae-ro, Songpa-gu, Seoul