

# RGB IMAGING



The Plant RGB Imaging Module from WPS is used to quantify morphological traits in the visible spectrum, using RGB cameras connected to automatic WPS software analysis. This can also be disconnected once the customer would like to perform the software analysis themselves.

It allows extracting a large number of features linked to plant growth and development over time. High-resolution kinetic measurements of visible traits are used for in-depth analysis of plant morphology, architecture, and extraction of color index features.

To create optimal RGB images, it is also possible to polarize the cameras. By polarizing the camera, the reflections on the plant are removed. This is done by allowing only the light to pass through with the same orientation as the polarizing filter.

The RGB cameras can be placed in two different positions in the system, top and side. Both can observe different aspects of the plant. See below for the different possibilities.

For more information on the capabilities of RGB imaging, please feel free to contact us at [info@wps.eu](mailto:info@wps.eu).

The screenshot displays the WPS software interface for RGB imaging. It is divided into several sections:

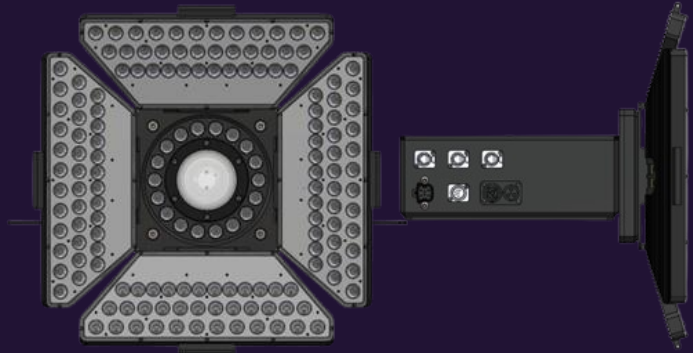
- VISION SETTINGS:** On the left, there are thumbnails for different camera views (Side, Top) and a main image of a plant. Below the thumbnails are controls for 'Plant ID' and 'Experiment NameX'. A vertical slider on the right of the main image allows for zooming in and out (0.64x to 1.1x).
- COLOUR SETTINGS:** On the right, there are two main sections: 'Colour setting 2' and 'Light leaves'. Each section contains 'HSV Setting 1' with values for HSV (79, 0.3, 0.01) and RGB (132, 255, 5). There are buttons for 'New Setting', 'Clone', and a trash icon.
- GREEN LIGHT ACTIVE HSV SETTING NAME:** At the bottom left, there is a color selection tool with H, S, and V sliders. The H slider is set to 74° (Min 74°, Max 83°), the S slider is set to 0.450 (Min 0.450, Max 1.000), and the V slider is set to 0.050 (Min 0.050, Max 1.000).
- YOUR VISION SETTINGS:** At the bottom right, there is a message: 'Saving the vision settings will override the existing global vision settings.' Below this is a warning icon and a 'Save settings' button.



## RGB / CHLOROPHYLL FLUORESCENCE IMAGING

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In the world of plant science and agriculture, precise and non-invasive monitoring of plant health and growth is crucial. That's where the RGB / Chlorophyll Fluorescence imaging comes into play, offering an advanced solution for researchers and professionals. This advanced system combines the power of color imaging and chlorophyll fluorescence analysis to provide comprehensive insights into the well-being of plants.



With two high-performance CMOS cameras equipped with color and fluorescence filters, the system captures color and monochrome images simultaneously. This dual-camera setup allows for pixel-to-pixel analysis of plant features, making it a versatile tool for researchers. The software integrated into the system provides flexibility in adjusting image settings, such as shutter times and gains, to cater to specific research needs, and it enables precise timing control for capturing sequential RGB / Chlorophyll Fluorescence data.

The RGB / Chlorophyll Fluorescence imaging unit's adaptability further enhances its utility. It offers a broad measuring distance range, from 10 cm to 100 cm, and allows for manual or computer-controlled lens focusing. This flexibility ensures high-quality, high-resolution imaging of entire plants, making it an invaluable asset for plant analysis, research, and the development of more sustainable agricultural practices.

For more information on the capabilities of RGB / Chlorophyll Fluorescence imaging, please feel free to contact us at [info@wps.eu](mailto:info@wps.eu).

