

Use of thermal cameras in measuring the effectiveness of climate change adaptation practices in coffee plantations

Measuring tool: Thermal camera

Brand and model: Flir – E5

Description:

A thermographic camera (also called infrared camera or thermal camera) is a device that forms an image of infrared radiation, in a similar way that a digital camera records visible light. The E5 camera allows the generation of thermal images, generating temperature information that easily permits the identification of hot and cold spots.

Use in agriculture: thermal cameras deliver information on soil, plant and coffee bean temperatures or any other surface of interest. The use of this device is useful at the time of evaluating the temperature of any kind of surface subjected to adaptation practices such as agroforestry systems, use of soil coverage, and use of temporary covers, among others. It is recommended to take the images less than one meter away to collect precise information. In some cases, calibrations should be made to make information more accurate.



Use in c&c:

c&c is validating different adaptation practices, including cover crops and temporary shade with the purpose of reducing the soil temperature, because temperatures above 33°C have a negative impact on the root and foliage development which contributes to reduced productivity.

Thermal images are recommended to be taken with a distance less than 1 meter and correct for the emissivity factor.

Data generated: Temperature °C/°F. The image can also be analyzed by using the software **Flir Tools**.

Use of thermal camera in coffee plantations:

Thermal camera Flir E5	Field data collection
	
Thermal image from coffee plantation – summer	Coffee plantation picture - summer
