

Dualex Scientific™

Optical pigment sensor



What can the Dualex detect?

Detection of **nutrient deficiencies** or **drought stress** before symptoms can be seen with the naked eye.

How do you use the Dualex?

Put the **leaf clip** on a leaf of your crop, preferable the youngest fully developed leaf (in the centre next to the main vein). The measurement is made in **less than a second**. Sample the crop regularly with at least **5 scattered measurements** (in one plot) to reach a conclusion in comparison with measurements in optimal conditions.

Scientific background & interpretation of the results

The Dualex emits light at different wavelengths and measures the transmission and fluorescence of the light by chlorophyll and different stress molecules. Afterwards, the Dualex calculates 4 different indices.

If plant experiences nutrient/drought stress:

- ➔ **Chl:** Chlorophyll content of the leaves will decrease ↓
- ➔ **Flav, Anth:** Flavonol and anthocyanin content (stress molecules) will increase ↑
- ➔ **NBI:** Nitrogen Balanced Index will decrease ↓ (= Chl/Flav)

Pros & Cons

- + portable, cheap, fast, non-destructive, easy to use software, easy to analyze data
- does not distinguish between drought and nutrient deficiency, reports relative indices (optimal reference values required for different crops)

Price range: € 3000-5000

Company: Force A

More information? <https://www.force-a.com/products/dualex>