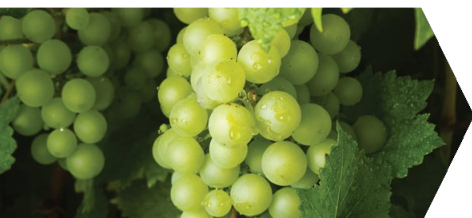


PHOTON® SG 50 – to strengthen the plant's own stress defence



PHOTON, a globally successful CMM product

- PHOTON®SG 50 is a registered trademark of CMM (Crop Microclimate Management), Wilmington. The globally patented product has been successfully used for more than 10 years in 40 countries in arable farming, vegetable growing, fruit growing and viticulture.
- CMM was founded in 2006 in the United States and is dedicated to testing solutions for abiotic stress in crops. Early products include Screen (developed and formulated kaolin) and Screen Duo (addition of terpenoid for improved performance). CMM's research aims to improve stress protection in order to provide farmers with better solutions and higher added value in cultivation.

How does PHOTON work®?

- PHOTON® reduces the influence of environmental stressors such as excessive solar radiation, heat, drought, cold and other environmental conditions that negatively affect crop productivity. The active ingredients in PHOTON are natural compounds present in all plants.
- These are mainly 50% dicarboxylic acids and 22% potassium oxide, and in trace amounts also magnesium and boron. Azelaic acid, for example, occurs naturally in various types of grasses and cereals. It is mainly used in wide cosmetic application. In its capacity as an antioxidant, it also intercepts free radicals and has a positive effect on the skin and complexion.
- A comparable effect has also been demonstrated for plants. The redox potential in the plants is affected after the uptake of PHOTON, which causes many key enzymes to change their state. This is a signal that activates the defense mechanisms against stress in the plants and prepares their cells and metabolism for the effects of environmental stress, which is why it is also called PRIMING.
- The decisive effect is that PHOTOSYNTHESIS, which is important for yield formation and carbohydrate shift, can be maintained despite adverse conditions.

How to use PHOTON?

- In order to achieve the positive effects, early treatment is important, i.e. preventive use of the product, approx. 2 -3 weeks *before* the stress factors occur. In many cases, these can only be detected when it is too late for corrective treatment.
- PHOTON SG can be used in all crops at any time during the growing season, from planting to harvesting, in practice early applications in the juvenile stage have proven successful. Another decisive advantage is the problem-free miscibility with pesticides, foliar fertilizers and biostimulants.

- Usually applied through the leaf, PHOTON is rainproof within 2-3 hours and is distributed throughout the plant within 24 hours after ingestion. The product remains active in the plant for 2-3 weeks, depending on the growing conditions, and is broken down through normal metabolism.
- For PRACTICE: PHOTON is also absorbed via the flower organs or petals (e.g. important for stone fruit)
- Targeted preventive applications are most successful as part of a routine spraying program to ensure optimal protection against environmental stress during the season. If the product is used alone, it is recommended to add a non-ionic additive or silicone-based spreader, e.g. HASTEN, Break Thru S 301, Trend, Mero, Pro Net alpha, and others.

Important arguments for using PHOTON®

- Natural product, highly effective, ensures yields and quality, even under adverse climatic conditions
- Dosages PHOTON® SG: from 20 to 40 g/ha/application (+ additive)
- No pesticide, no risk of resistance, no residue problem
- Excellent miscibility



Core dosages for the 4 application segments and most important crops in Europe in arable farming and in special crops suitable for seed and planting material treatment, seed row fertilization, for fertigation and foliar application .

Please read the separate application recommendation before using

Culture	Dosage/ Application	Remarks
	40 g/ha (60 ml/ha)	Preventive
Pome and stone fruits, nuts	4 - 6 applications Interval 3 weeks	From flowering to 3-4 weeks before harvest
Sugar beets	3 - 4 applications, Interval 3-4 weeks	From NAK1 in combination with plant protection and fertilization
Cereal, corn , Legumes, Raps	2 applications, see separate instructions	1.Youth stage, 2. Before generative phase for corn up to 80cm in height
	20-40g/ha (30-60ml/ha)	Preventive
Potatoes, vegetables (all types)	4 - 6 applications, interval 3 weeks	Start after planting (also seed treatment possible) up to 3 weeks before harvest
	20 g/ha (30 ml/ha)	Preventive
Wine grapes and table grapes, soft fruit	3 - 6 applications Interval 3 weeks	From flowering to just before harvest

What kind of formulation is offered?

PHOTON SG50 has been available throughout the EU as a special fertilizer since March 2023.

It is offered as a user-friendly, dust-free, water-soluble granule.

The introduction of a liquid formulation is also currently being prepared.

The following container sizes are available:

- 250 g (375 ml) + Dosing aid 30 ml
 - 500 g (750 ml) + Dosing aid 30 ml
 - 1000 g (2x 500 g Pack) + Dosing aid 30 ml
 - „Sixpack“ (6 x 500g Pack) + Dosing aid 30 ml
- For simplicity, we recommend volumetric dosing

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