



PRP **EBV**

PHYSIO-STIMULANT
OF THE PLANT'S
VITAL FUNCTIONS

PRP
TECHNOLOGIES

Because soil is alive, it is a source of life.



A plant's production level depends on its ability to get through the critical phases in its development. To develop plant resistance capability, PRP Technologies has formulated a liquid physio-stimulant solution using essential minerals based on its MIP concept (Mineral Inducer Process).

Through targeted applications, PRP EBV activates the natural growth and stress-response mechanisms. Cultivated plants can thus express more widely the production potential determined by their genetic heritage. PRP EBV is therefore the perfect companion for the basics of sustainable agriculture: increasing plant production whilst reducing the environmental footprint as much as possible.

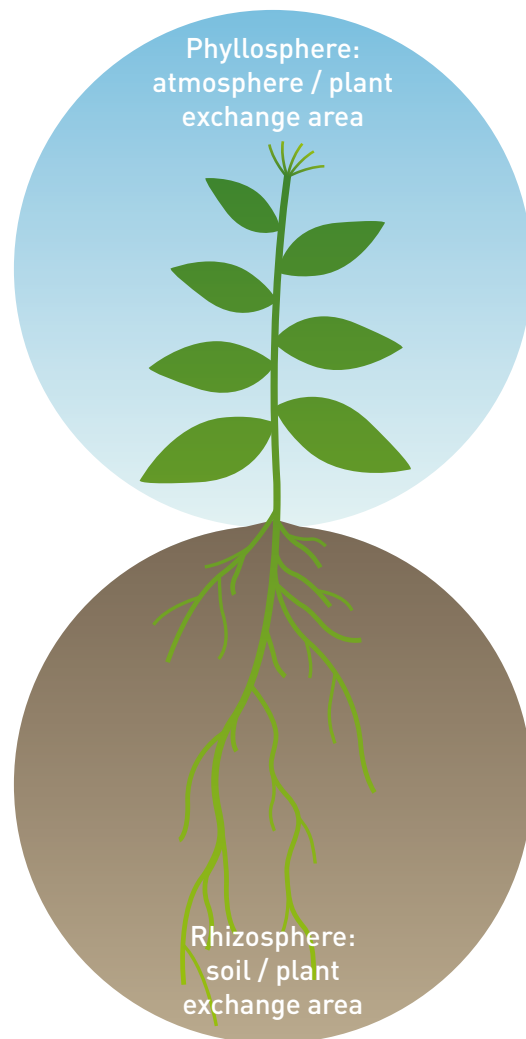
PHYLLOSPHERE AND RHIZOSPHERE: KEY PRODUCTION AREAS

The phyllosphere is the combination of the different above-ground components of the plant, the microflora and the microscopic fauna found on the surface of leaves.

The rhizosphere is the area surrounding the roots. It is an area of intense biological activity and symbiotic relations between the root and the micro-organisms surrounding it.

The development of the plant is conditioned by the intensity of exchanges within each of these spheres.

Alterations in quantity and quality of these flows handicap plant growth and hence the yield and quality of the harvest.



STRESS IN PLANTS

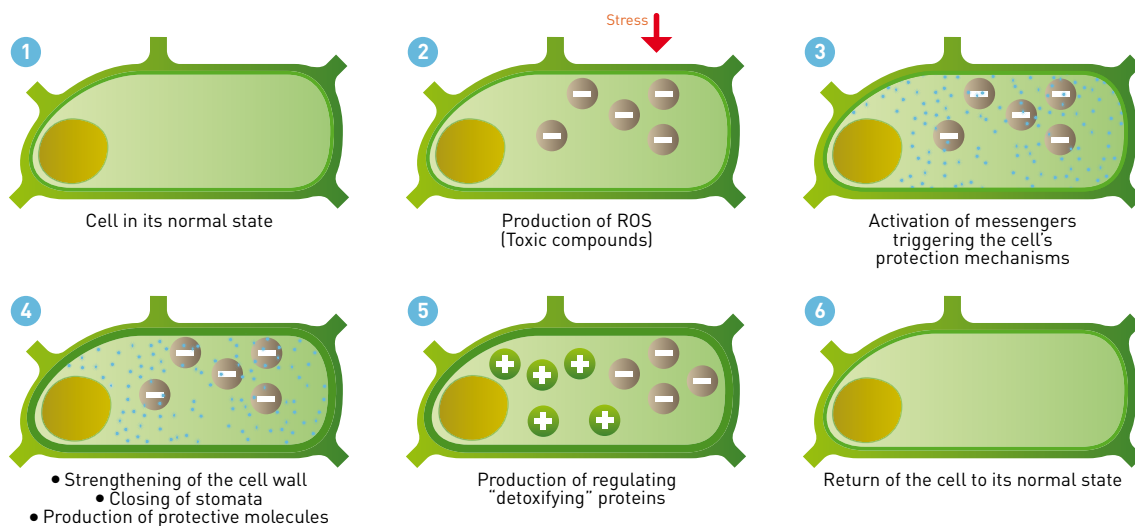
Like any living organism, plants react to environmental factors.

Example of various stress factors:

PHYSICAL	CHEMICAL	BIOLOGICAL	CLIMATIC
Mechanical stresses	Weed control	Weaning	Hail
Compacted soil	Growth regulators	Setting up the reproductive organs	Cold stress
Hydromorphy	Fungicides	Translocation	Heat stress
		Pathogen attacks	Too much or too little water

The various reaction phases of the plant to stress:

Stress causes toxic reactive oxygen species (ROS) to invade the plant's cells. As self-protection, the plant activates anti-oxidant systems and enzymes capable of "detoxifying" its cells.



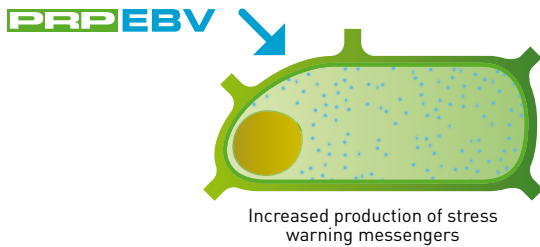
The ability of the plant to recover its initial state as quickly as possible conditions the regularity of its growth.

THE PRP EBV PHYSIO-STIMULANT SOLUTION

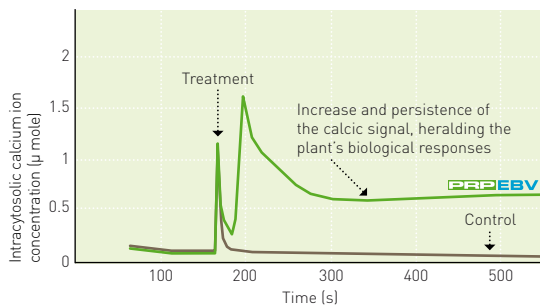
The MIP process (Mineral Inducer Process) developed by PRP Technologies is a major asset in the world of plants. With PRP EBV, the phyllosphere benefits from the stimulating properties of minerals through a specific design variation of MIP.

PRB EBV and its treatment method are both patented. This underlines the originality of the product, especially its impact on the adaptive response of plants to stress and root system development.

PRP EBV acts on the parts of the crop above ground. The contribution of the specific PRP EBV minerals encourage:

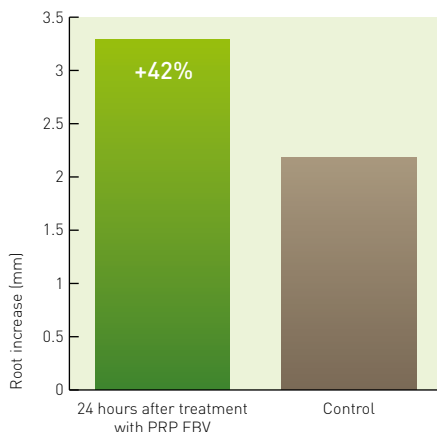


- Increased resistance to attacks and stress



- improved exchanges between the plant and its environment (photosynthesis and respiration, absorption and secretion of root exudates)

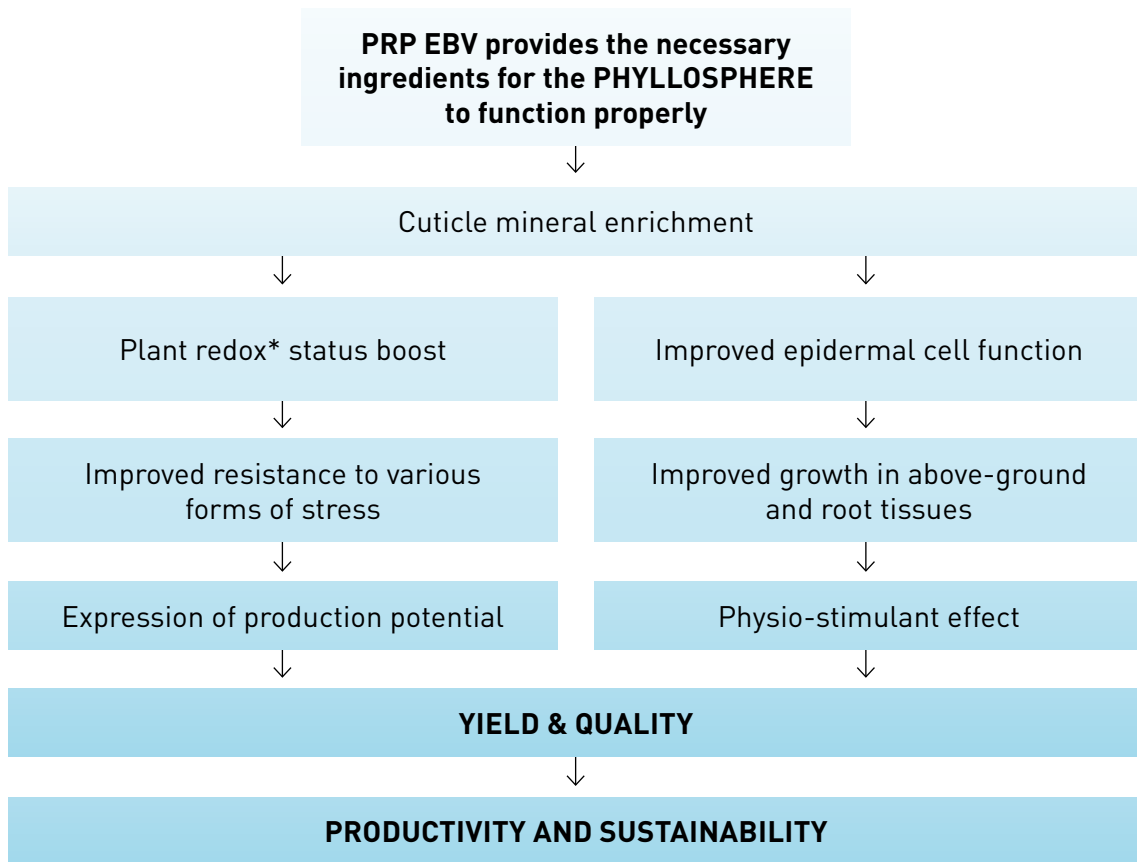
Source: PRP EBV impact on the response of young seedlings to environmental stresses. "Cell surfaces and signalling in plants" laboratory (UMR 5546 - CNRS/Université Toulouse III)



- stimulation of root growth

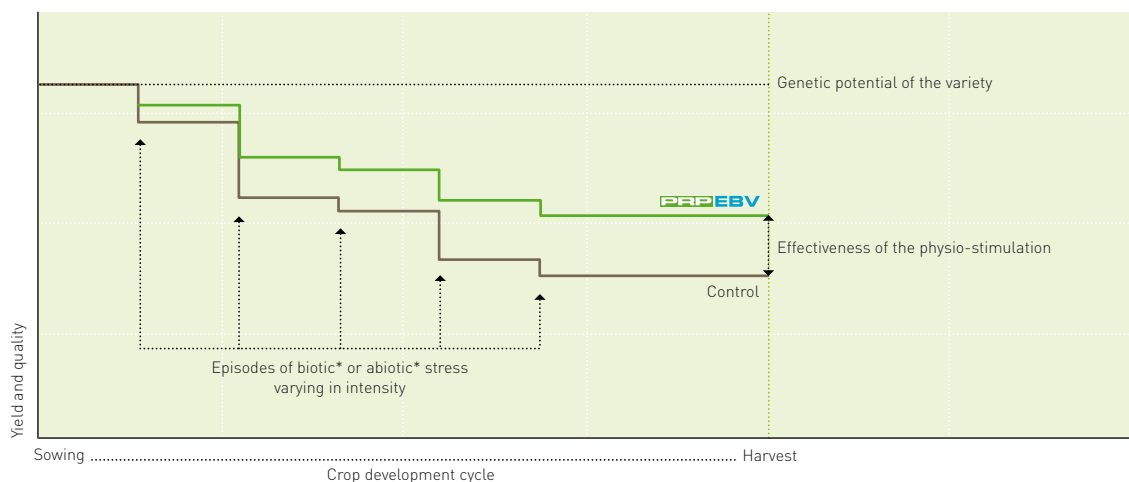
Source: Effect of applying PRP EBV on the growth of the primary root in young seedlings. "Cell surfaces and signalling in plants" laboratory (UMR 5546 - CNRS/Université Toulouse III)

PRP EBV BENEFITS



* Oxidation-reduction state of a plant's cells. Strengthening a plant's redox status helps it combat the increase of oxidizing phenomena within its cells.

PRP EBV is at its most efficient when applied as close as possible to key physiological stages (see "PRP EBV recommendations for use" table) and episodes of physical, chemical or climatic stress. In these conditions, PRP EBV develops the expression of the plant's genetic potential.



* Biotic: relating to the action of living organisms (e.g. pathogenic organisms)

** Abiotic: relating to the environmental conditions (physico-chemical stress, climatic stress, etc.)

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TECHNOLOGIES

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PRP EBV RECOMMENDATIONS FOR USE

PRP EBV is absorbed through the leaves and can be used on all crops. Suitable temperature and hygrometric conditions are essential for it to be effective.

Crops	Number of applications	Total quantity of PRP EBV (l/ha)	Applications				Comments
Small grain cereals	1 to 2	2 to 4	Tillering (BBCH 25 to 29) 2 l/ha	Booting (BBCH 40 to 49) 2 l/ha			*Application at the booting stage on high-potential fields
Maize (grain and silage)	1	4	4-6 leaves (BBCH 14 to 16) 4 l/ha				
Rape	2 to 3	3,5 to 5	2 leaves unfolded to form the rosette (BBCH 12 to 18) 2 l/ha	Vegetation regrowth in Spring* 1.5 l/ha	Flower buds closed (BBCH 55 to 59) 1.5 l/ha		*Only on winter rape
Sunflower	1 to 2	4	2 to 4 leaves (BBCH 12 to 14) 2 l/ha	Inflorescence (BBCH 51 to 55) 2 l/ha			When one application only, prefer the 2 to 4 leaf stage at 4 l/ha
Peas, soya, faba bean	3	5	3 to 6 leaves (BBCH 13 to 16) 2 l/ha	Flower buds (BBCH 51 to 55) 1.5 l/ha	Pod development (BBCH 70 to 73) 1.5 l/ha		
Potatoes	4	8	3 to 6 leaves (BBCH 13 to 16) 2 l/ha	BBCH 16 + 15 days 2 l/ha	BBCH 16 + 30 days 2 l/ha	BBCH 16 + 45 days 2 l/ha	Stop 3 weeks before top-killing
Sugar beet	5	6	4 to 6 leaves (BBCH 14 to 16) 2 l/ha	10% to 15% inter-row cover (BBCH 19) 1 l/ha	30% inter-row cover (BBCH 33) 1 l/ha	85% inter-row cover (BBCH 38 to 39) 1 l/ha	Root ripening (BBCH 49) 1 l/ha
Alfalfa	3 to 5	3 to 5	1 l/ha as soon as possible after each harvest				
Flax	2	4	3 to 6 leaves (BBCH 13 to 16) 2 l/ha	Stem elongation (BBCH 30 to 33) 2 l/ha	Flower buds (BBCH 51 to 55)** 2 l/ha		* Flax fibre ** Seed flax

These recommendations are as a guide only. The rates can vary depending on local conditions (seek advice from the PRP Technologies distributor). In case of clear stress (hail, late frost, water stress, etc.), 2 to 4 l/ha of PRB EBV can be used as close to the stress period as possible. Seek advice from the PRP Technologies contact for the other crops.



TECHNICAL SHEET

PRP EBV falls under the regulatory fertiliser category for mineral nutritive solutions (standard NFU 42-004).

Stated values:

Potassium oxide (K ₂ O)	3,50%
Copper (Cu)	0,02%

Other elements present:

Sodium, Magnesium, Sulphur, Manganese, Boron, etc.

pH	8,0
Colouring	blue solution
Density at 20°C	1,10 kg/dm ³
Conductivity	125 mS/cm

Use:

PRP EBV is used according to regulations in force regarding product mixes and in accordance with good spraying practices. If the water used is corrected with mineral acids or alkaline products, use the products named and specified in standards NFU 42-005 and NFU 42-006 mandatory for applications.

PRP EBV can be used in organic agriculture in accordance with regulation EC 834/2007 and the American NOP (National Organic Program) regulation.

Safety guarantees:

PRP EBV harmlessness is validated using standardised eco-toxicity and oral toxicity tests by approved laboratories.

Conditioning:

20 litre container (pallet holding 32 containers).

Storage:

Store the product away from frost. Store it out of the light and heat in its original packaging, keeping it closed at all times.