WHY CHOOSE ERGER?

ERGER HAS THE SPECIFIC FUNCTION OF A DORMANCY BREAKER

ADVANCES VEGETATIVE AWAKENING, NATURALLY IMPROVES BUD OPENING, PROMOTES BUD BREAK UNIFORMITY AND FRUIT SIZE HOMOGENEITY

REDUCES THE NUMBER OF HARVEST PICKINGS

SAFE FOR THE OPERATOR, IN COMPLIANCE WITH CURRENT REGULATIONS

DEMONSTRATED EFFICACY IN DIFFERENT PARTS OF THE WORLD

FORMULATION IMPROVED THANKS TO GEAPOWER TECHNOLOGY, A WORLD EXCLUSIVE OF VALAGRO

THE PLANT DORMANCY NETWORK IS BORN

Valagro has promoted the creation of a scientific network, through international forums in major global fruit areas, to compare and exchange ideas among the company, researchers, professors and major fruit industry players. The goal is to create a **global scientific network on the topic of dormancy** leading to improved quality and quantity of crops using fewer resources in relation to the growth of the food needs of the planet.

Plant Dormancy Network

THE NETWORK AWAKENING

Valagro has also created a **website** specifically dedicated to dormancy and to the Valagro solution ERGER.

If you are interested in exploring more deeply the topic and collecting all of the technical information (dosages, correct timing of application and agronomic trials) necessary to maximize the effectiveness of ERGER for each relevant crop, visit our website:
plantdormancy.net

dmgcomunicazione.it

Valagro®
Where science serves nature

Valagro S.p.A.
Zona Industriale Via Cagliari, 1
66041 Atessa (CH) - Italia

Tel: +39 0872 881.1
Fax: +39 0872 897.416
www.valagro.com

Perfect synchronization beyond all expectations.

Early and uniform bud break
to give the best to your harvest.

Erger advances and synchronizes bud break. A Valagro solution resulting from innovative Geapower technology, enables you to obtain the best from your harvest.

www.valagro.com

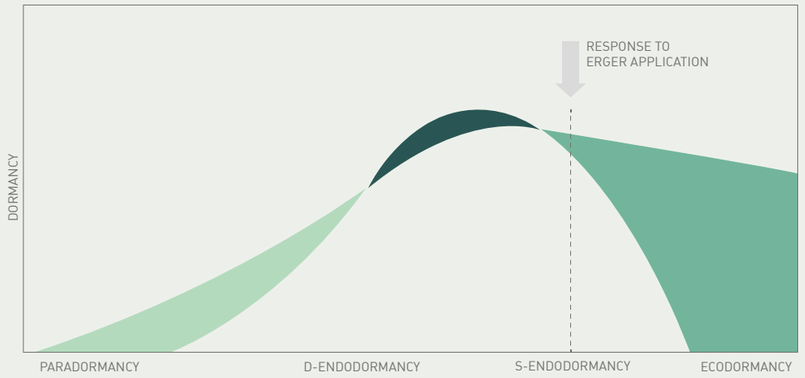
Valagro®
Where science serves nature

WHAT IS ERGER?

Erger is a biostimulant, developed using Geapower technology (Gea342), which advances and evens bud break, producing more uniform fruit growth, an advancement and evenness of ripening.

THE IMPORTANCE OF DORMANCY

Plants alternate periods of growth, when the weather conditions are favorable, with periods of vegetative stasis or reduced metabolic activity, when the weather conditions are unfavorable. **Dormancy is therefore a resting phase essential for good plant health, defined as a temporary suspension of visible growth of any plant structure containing a meristem** (tissue consisting of cells capable to multiply by division). During dormancy starch, nitrogen compounds and inhibitors (abscisic acid and naringenin) increase, while promoters decrease (gibberellins, cytokinins, and auxins); later during the vegetative regrowth the opposite occurs.
Bud break takes place after an exposure for a certain period to low temperatures when the plants have satisfied their "chilling requirement".



DORMANCY

The graph shows the three stages of dormancy:
- **PARADORMANCY**: last stage of bud differentiation. Reversible stage of dormancy.
- **ENDODORMANCY**: lack of metabolic activity in the plant, can be identified as:
  - » **D.endodormancy** (irreversible stage)
  - » **S.endodormancy** (reversible stage)
- **ECODORMANCY**: first stages of the activation of the metabolism of the reversible type and influenced by environmental conditions.

Evolution of dormancy in plants.
Dormancy begins with **paradormancy** and it increases during **d-endodormancy**.

As it declines during the **s-endodormancy** the buds become progressively more sensitive to Erger application. The intensity and duration of the **ecodormancy** depend on the environmental conditions.

EFFECTS OF NON-FULFILLMENT OF COLD

Each plant has specific chilling requirements, with very marked differences according to species and varieties. **When winter is not long or rigid enough** to allow a normal completion of dormancy, a situation unfortunately ever more frequent due to changes in the general climate, **bud dormancy is prolonged**. Negative effects can be observed on each aspect of the plant growth cycle and the degree of symptom intensity is in relation to the lack of cold hours accumulated. **Vegetative lateral buds can fail to open**, **flowering can be delayed or extended over an excessive period**, which in turn may result in **delayed fruit ripening**. In these cases, the production in general is very poor with smaller fruit sizes and deformations reducing quality.

Valagro®
Where science serves nature

Valagro is a leader in the production and commercialization of biostimulants and specialty nutrients for use in agriculture, gardening, and industrial applications. Founded in 1980 and headquartered in Atessa (Italy), Valagro is committed to providing innovative and effective solutions for plant nutrition and care. Its mission is to increase the quantity and quality of plants and harvested crops while enhancing productivity and reducing the environmental impact of cultivations. Valagro uses science in the service of mankind to improve nutrition and quality of life while respecting the environment.

ERGER, THE SOLUTION THAT ACTIVATES THE AWAKENING

In areas where the necessary chilling requirements are not satisfied, for example due to a mild winter season, the application of **Erger allows the plant to start the metabolic processes that lead to the interruption of dormancy.**
Using Geapower technology, Valagro developed GEA342, an innovative process that has allowed us to improve the product formulation, enhancing the effectiveness on activation of metabolic processes related to the interruption of plants dormancy.
ERGER contains selected diterpenes, polysaccharides; it is also enriched with calcium and nitrogen (in the nitric, ammonia and urea forms). Erger is particularly effective in deciduous fruit tree where it advances and synchronizes bud break and reduces the number of blind buds.

POSITIVE EFFECTS OF ERGER

At vegetative regrowth

- Early bud opening
- Bud break uniformity
- Reduces the number of blind buds and increases fertility over the years

During fruit ripening

- Early ripening
- More even ripening and fruit size uniformity
- Increased productivity

ACTIVE INGREDIENTS AND USE FUNCTIONS

1 SELECTED DITERPENES & POLYSACCHARIDES

In addition, mono, di and **polysaccharides present in the product form the basis of reserve materials**, which support structures and cell walls and contribute to their development.

2 CALCIUM

Calcium is a meso-element with various functions, including that of **enzyme activator**, **calcium intervenes in different plant metabolic processes by increasing enzymes activity levels** responsible for energy production (ATP) raising the levels of starch reserves degradation (catalyst amylase).

3 NITROGEN

Nitrogen is an essential building block of amino acids and nucleic acids. **Bud opening starts with the activation of the nitrogen metabolism**, therefore, in this stage, the plant immediately needs available forms of nitrogen.

INNOVATION ACCORDING TO GEAPOWER

POWERED BY GEAPOWER

Using science to seize and exploit the potential of Nature with an eye to environmental sustainability:

This is the principle behind GeaPower, the exclusive technology platform developed by Valagro in order to turn potential active ingredients into high-quality nutrient solutions. A technology based on four fundamental concepts:

- Deep knowledge of active ingredients and raw materials
- Selection of the extraction methods of active ingredients
- Cutting edge investigations and analytical skills
- Proven ability to provide effective solutions to the customer's requirements