

**New Trends, New Products:**

# Always there at a New Ag Conference!

New trends and new products, in other words INNOVATION always has its privileged place at a New Ag conference and 2015 was no exception. Innovation in the fertilizer industry, innovation in the emerging global agricultural ecosystem and of course innovation in products, especially in the biostimulants niche, were all part of the programme of more than thirty presentations.

## **CONSOLIDATED INTEREST FOR OTHER TECHNOLOGIES: AMINOACIDS, HUMICS AND MUCH MORE**

The problem of insufficient natural dormancy-breaking in deciduous fruit-trees was aggravated in recent years, due to the global-warming phenomenon. Natural bud-break in these crops takes place only after the plants have satisfied their "chilling requirement", following a large enough number of hours, in which they have been exposed to temperatures, below a cultivar-specific threshold. But if this number has not been attained, the dormancy is prolonged to the spring, with a late and non-uniform bud-break, which negatively affects the yield mass and fruit quality.

Valagro decided to lift this glove, and to use it as an opportunity to produce a new type of biostimulants, capable to deal with this problem, by applying advanced research methods based on molecular biology. For this task, Valagro started a collaboration with Nsure research institutes of Wageningen University. Nsure has been selected for this project thanks to its proven contributions as a leader in advanced technologies for the detection of gene-sequence and expression in plants. A basic study was launched in order to discover the specific genes involved in bud break, their role in the different dormancy-breaking stages, and how their activity can be modulated by exogenous compounds. The

study has revealed that most important genes involved in bud-breaking exert their main effect in pectin catabolic process, cell wall changes, and trans-membrane transport. The changes in their activity took place mainly between weeks 33 and 35. This cooperation yielded an innovative approach that culminated with the creation of Erger®, a biostimulant, containing selected diterpenes, polysaccharides, calcium and nitrogen. Erger modulates mainly cell wall modifications and catabolic process genes, but also, amino acid metabolism, sugar transport, secondary metabolism, chitin metabolism, nitrate assimilation, gibberellin-related sequences and more. Erger®, was recently experimented on kiwifruit in New Zealand, by application at 3 different stages, defined by Richardson Chill Units Model, at 60-63, 46-49, and 34-39 days before natural bud break, (too early, optimal and too late, respectively). It has been found with statistical significance that best results were obtained by spraying Erger® at 35 days before expected bud-break that has been previously considered a too-late timing. Happily, there has been found a considerable overlapping between genes aroused by natural dormancy-breaking and those aroused by spraying Erger, which indicates the validity and importance of this applied research. The

take-home message stated by Valagro's Product Manager, Mr. Giovanni Marrollo, is therefore that correct dosage and timing of application are crucial for obtaining optimal results. Correct timing is determined by the actual climatic conditions, and it varies by year and depends on the certain crop and cultivar.



**"Erger® is an innovative and advanced biostimulant, enhancing bud-break under insufficient chilling conditions"**

**VALAGRO'S MR. GIOVANNI MARROLLO**