

Phyto Terra: Technology matters because it is designed for a specific field, crop and farmer

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Pepper as in a magazine, neat rows stretching all the way to the horizon. Behind them, fields of processing tomatoes in perfect harmony, where every plant knows its place.

In the Deroni gardens, a step-by-step professional plant nutrition programme is strictly followed, specially prepared by a team of agronomists on the basis of products by *Atlántica Agrícola*, about which we learn in detail first in the field and then from the seminar section held in Stara Zagora at the beginning of July within the framework of the Open Day in the Deroni gardens.

Open Day in the Deroni gardens – modern vegetable production in action

In modern agriculture, fertilization is mandatory for every grower who wants to increase their yield, shares Stergios Kalfas from *D Sandros SA*, an agronomist with 35 years of experience in vegetable crops, who, together with the company *Fito Terra*, takes care every week of the Deroni farms and of other producers in the region.

Why are biological soil improvers becoming increasingly important?

Along with the main inorganic fertilizers containing the macronutrients nitrogen (N), phosphorus (P) and potassium (K), the use of biostimulants is becoming more and more established. They are not only a source of beneficial nutrients, but also a means of counteracting abiotic and biotic stress in plants. Through their application from planting to harvest, the quality of crop production is improved and growth and productivity are stimulated.

Each plant nutrition protocol is prepared individually, according to the climatic and soil conditions in the specific farm.



*One of the most important results when using a system of nutrients in industrial tomatoes **Heinz** is the well-developed root system, which is a guarantee of high-quality and healthy produce*

Since 2012, Stergios Kalfas has been constantly consulting Bulgarian farmers who grow vegetable crops and has noticed that climate change is increasingly affecting the quality of production and yield. Therefore, according to him, adapting plant nutrition to climate change and developing workable and effective solutions under adverse conditions is of exceptional importance. Crop nutrition is already a mandatory expense that no farmer should save on if they want the respective results, Stergios Kalfas is convinced.



The products of Atlantica Agricola, which are applied in Deroni's fields with pepper and processing tomatoes, are focused on the specific stages in the production of vegetable crops for processing, such as rooting, a well-developed root system, leaf mass, flowering, fruiting, and, of course, high Brix and limiting excessive vegetative growth of the plants.

The seminar part of the meeting was extremely rich in useful information and succeeded in bringing together in one place scientists, representatives of agricultural institutions, farmers, companies and media.



Dimitar Angelinov - Deroni, Teodora Taseva - Fito Terra, Prof. Nidal Shaban - Balkan Agricultural, Antoaneta Bozhinova - Association of Traditional Bulgarian Canned Foods, Miguel Miralles – Atlantica Agricola, George Sandros – D Sandros, Stergios Kalfas – D Sandros

The special guests from Spain – Atlantica Agricola, from Greece – D Sandros SA, and Prof. Nidal Shiban from Balkan Agricultural presented lectures through which they shared experience, scientific data and good practices in global production of processing tomatoes and their processing in the food industry.

Fito Terra – a holistic approach for a successful harvest

The technology applied in the vegetable fields of Deroni was presented by George Sandros – D Sandros SA, the main partner of the company *Fito Terra*, which operates on the Bulgarian market.

"For every farm, the most important thing is to understand what it needs, after which a specific action plan is drawn up", notes Teodora Taseva from Fito Terra

The protocols drawn up for crop cultivation are based on a holistic approach – soil, climatic conditions and varieties. They are basic and are further developed in the course of work, and with each subsequent year they are upgraded. This means that some of the products may be dropped in favour of new ones that are added depending on the needs and objectives of the farm and the soil.

Tomato protocol applied during the current season in Deroni's fields with processing tomatoes



George Sandros – D Sandros SA presents the Tomato Protocol applied during the current season in Deroni's fields with processing tomatoes

One of the key products of *Atlantica Agricola*, which was applied already during transplanting of the tomato seedlings in the field, is **Biocat G®**.

Biocat G® is a soluble, granulated soil bioactivator, ideal for stimulating plant activity and growth, especially in the initial stages of the vegetative cycle or during periods of high vegetative activity. Its formula includes specific amino acids, N-K, fulvic acids, polysaccharides and organic substances that are immediately available to the plant after application to the soil.

The main properties of **Biocat G®** are to stimulate the root system and to improve the uptake of nutrients introduced into the soil through base fertilization. In the Deroni gardens, **Biocat G®** is applied in some of the

fields with the aim of reducing the crop rotation period.

During vegetation, in the flowering period, *Atlántica Agrícola* offers a rich portfolio of products that support strong flowering of plants and protect them from stressful weather conditions.

Fitomare® is a product of *Atlántica Agrícola*, formulated with seaweed extract (*Ascophyllum nodosum*) and enriched with amino acids, macro- and micronutrients, which improves germination, flowering, fruit set and increases tolerance to various abiotic stresses.

In agriculture, in addition to being used as soil improvers and a source of nutrients, seaweed solutions are also applied as plant biostimulants. It has been established that they increase seed germination, stimulate growth and flowering, improve plant tolerance and increase yields.

Another biostimulant, composed of hydrolysed vegetable protein formulated with NPK and micronutrients, which is applied during this period, is **Florone®**. It regulates the distribution of photoassimilates in the crop according to the stage of development and is able to control the vegetative growth of crops depending on the phenological stage, inducing flowering, homogeneous fruit set and improving fruit growth.

To enhance the natural immunity of plants and support their resistance to diseases and abiotic stress, the protocol applied in the tomato fields of *Deroni* also includes **Archer Force®**. It consists of plant hydrolysates with a specific aminogram aimed at activating protective metabolic pathways.

Archer® Force triggers the synthesis of compounds that strengthen the plant's defensive response in a preventive manner, making the crop more tolerant to various types of abiotic and biotic stress.

The magical **Sodial®**, as George Sandros calls it, comes to the rescue at high levels of soil salinity, when plants suffer from osmotic stress and water uptake from the soil is hindered. The liquid formula of **Sodial®** contains calcium in an active form that can be used in specific stages of intensive calcium fixation in tissues (stages of strong cell division and/or early fruit formation).

There is no golden formula for plant nutrition protocols. If for one farm one or several products are applied and the results are evident, for another the overall concept may be completely different depending on the conditions and needs of the land and the farmer's objectives. Therefore, *Fito Terra* recommends that they visit you on site and prepare a comprehensive programme for your fields and crops.

