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Agra 2018: precision agriculture and innovative solutions

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From 21 to 25 February more than 40 innovations in agriculture will be demonstrated at the International Agricultural Exhibition „AGRA 2018“, which is held at the International Fair Plovdiv. Companies from 25 countries and Bulgarian scientific institutes will present cutting-edge ideas and innovative solutions in the field of modern farming. This year the focus of the exhibition will be on biotechnologies against stress and diseases in plants and on precision agriculture.

The business forum of the International Agricultural Exhibition AGRA 2018 is enriched by a diverse and interesting programme, which includes various agricultural sectors.

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Precision agriculture and biotechnologies against stress and diseases in plants

At „AGRA“ agro-business software will be presented, developed by „Yara Bulgaria“, which helps farmers apply modern precision agriculture. The company will also present Yara N-Sensor, a nitrogen sensor for variable-rate fertilization that can measure in real time the nitrogen requirements of plants. The sensor also controls and doses the rate at which the fertilizer spreader applies fertilizer.

The digitalization of agriculture is gradually entering Bulgaria as well, therefore this year in Plovdiv one of the innovations to be presented at the exhibition will be the weather station „Meteobot Pro“. Via the GPRS network and a mobile application it sends data on rainfall, wind, temperature and humidity, as well as a 10-day forecast. The information reaches directly from the field to the farmer’s mobile device.

Within the framework of AGRA a seminar „Competitive production of fruit and vegetables“ of the National Union of Gardeners in Bulgaria (NUGB) will also be held, at which Dr. Zvezdomir Zhelev, Head of the Center for Integrated Management of Plant Diseases at the Agricultural University in Plovdiv, will present forecasting models for treatment of diseases in apple, cherry and vine. The forecasting models are based on meteorological data and indicate the exact timing for application of plant protection against economically important diseases in vine and fruit crops, and from this year also in cereal crops and rapeseed.

Bayer will present at the fair its new application for digital farming under the name Xarvio, which is already operating successfully in Canada, the USA, Brazil, Germany, France, Russia and Ukraine. Xarvio is expected to enter the Bulgarian agricultural market by the end of the year. The new digital system of Bayer will enable farmers to optimize the potential of their land. The combination of sensors with satellite imaging of the fields will increase the up-to-date information available to each farm manager about the crops they grow. The aim is to use the exact quantities and the specific plant protection products so that production becomes more efficient. By imaging the fields in real time and professionally analysing their condition, it will be possible to forecast and prevent dangerous diseases and pests. The sensor system will be able to track the proper nutrition of plants, such as the level of nitrogen uptake, damage and leaf condition, etc. Data for each region will be collected and processed in common databases, which will be archived. On their basis a general forecast will be drawn up for an entire agricultural region.

Another main theme of AGRA 2018 is biotechnologies against stress and diseases in plants. Crops can be protected from stress with the biostimulant „BM Start“ from Arysta LifeScience Bulgaria. BM Start is a highly

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effective liquid biostimulant (patented technology) based on a filtrate of seaweed extract (GA 142) and microelements; it stimulates flowering, improves pollination, activates the synthesis of polyamines (flowering hormones), increases fruit set and development, stimulates cell division, enhances plant resistance to stress conditions, improves plant physiology and metabolism and the ability to absorb and utilize more efficiently nutrients from the soil. It corrects deficiency and supplies plants with easily assimilable sulphur (S), magnesium (Mg), boron (B), molybdenum (Mo). BM Start is suitable for application in apples, pears, strawberries, potatoes and peas, to increase the quantity and quality of the yield.

Innovations

At the seminar of the National Union of Gardeners in Bulgaria (NUGB) the innovative BIO TURBO technology will be presented for extending the storage life of fruit and vegetables by removing ethylene, viruses and pathogens in cold storage facilities.

The trend towards higher efficiency is also imposed in plant breeding. Bulgarian scientific institutes are presenting several varieties that are new on a European scale. Two types of pasture ryegrass „Tetrani“ and „Tetramis“ from the Institute of Forage Crops in Pleven provide higher yields with better quality. The new variety „Stela“ of the crop stevia, which is becoming increasingly preferred for cultivation, is distinguished by high yields and a high content of sweet substances. The first Bulgarian stevia variety was developed by the Agricultural Institute in Shumen. High grain quantity and quality, resistance to cold and diseases are the advantages of the new barley variety „Daria“ from the Institute of Agriculture in Karnobat. Making their debut on the Bulgarian market are the sunflower hybrids „Deveda“ and „GTS Tedi“, which are easy to grow and highly productive, and have been bred by the Dobrudzha Agricultural Institute.

At the exhibition seedlings of the medicinal plant immortelle (Helichrysum arenarium), also known as everlasting, will be offered. It is the new hit crop, since its oil is sold at 1500-1800 euro per kilogram. Innovations on a European scale are a mobile irrigation system and a unique header for harvesting white rice and rice, which collects only the grain and halves the time needed for this operation.

Organic farming

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Several events from the accompanying programme are also dedicated to the most modern trends in the sector. Ecological production is the focus of two conferences on organic farming. At round tables the following topics will be discussed: „Farmers of the future – precision agriculture“, „Improving efficiency in livestock breeding“, „Competitive production of fruit and vegetables“.

On 22 February a conference will be held on „Organic farming in Bulgaria, more innovation for better results“, organized by the „Bioselena“ Foundation. It will address the issue of the new regulation on organic production of the European Union and the new ordinance on organic farming in Bulgaria. The Farmknowledge platform will be presented within the framework of the conference, as well as an innovative technology for protecting orchards and vineyards from winter sunscald, bark cracking and late spring frosts. The Agricultural Academy is the initiator of the event „Round table on organic cultivation of perennial crops“, at which the suitable fruit varieties for organic farming, alternative methods for controlling worms in orchards, and the state, problems and prospects for the development of organic raspberry production in Bulgaria will be discussed.

„Hydroponics from A to Z”

The second revised edition of the only book in Bulgarian on this subject will be presented at AGRA 2018. The authors of this valuable handbook are Prof. Hr. Simidchiev and Dr. V. Kanazirska. With this book the authors aim to acquaint students, specialists and producers with the latest trends in hydroponic technologies in greenhouse production. Based on contemporary scientific research and the achievements of professional producers, the book provides accurate information on all aspects of hydroponic cultivation of the main vegetable and ornamental crops by the method „hydroponics with drip system“, referred to briefly as „substrate technology“.

And more...

Visitors will have the opportunity to see traditional and new plant varieties and animal breeds, technologies and equipment for their rearing, developed by the scientific institutes of the Agricultural Academy. Specialists will be introduced to materials for agriculture and animal husbandry, fertilizers and plant protection products, ecological methods for soil cultivation, services and software. The specialized exhibition „BioAgra“ will also be held again.

More than 45,000 guests from Bulgaria and Europe are expected, since at the same time the following international exhibitions are held at the Fair: for viticulture and winemaking „Vinaria“, for the food industry

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„Foodtech“, „Dibla – ideas and products for the interior“, which is part of „Horeca Plovdiv“, for beekeeping „Api Bulgaria“ and „Flavours of Italy“. The combination of these business forums has turned into one of the largest-scale business events in the Balkans in recent years.

Programme of AGRA 2018