GROW-HOW!

van der Knaap®

rooting/growing solutions

Autumn 2018 volume 12 no. 27

Reopening Antalya Substrat

On Wednesday 3 October, our Turkish production site Antalya Substrat celebrated its grand reopening in the presence of customers, suppliers, staff, local government officials and our partners from the foreign branches.

In an earlier edition of our newsletter, seven years ago, we wrote that the new factory in Turkey was nearing completion. In recent years, we had been working hard at this beautiful location near Antalya. However, the Turkish government had quite a surprise in store for us: they wanted to build a new ring road, straight through our factory site! Fortunately, after careful consultation, a good alternative location was found, and the factory has now been moved.

The new factory hall

After receiving the building permit in August 2017, construction started with an extension of 1,000 m^2. Afterwards, the existing 3,000 m^2 were also moved. The new factory hall is optimally equipped for producing paperpots and substrates.

Antalya Substrat is unique in Turkey and produces paperpots in various diameters, rooting media and substrates. The basic raw materials are peat, coco and perlite. The substrates are packed in 70-litre bags, Big Bags or bulk.

Antalya Substrat focuses on the production of products specifically designed for Turkish horticulture, but also on the trade in substrates in many variations. In addition to trading in Turkey, we also export to the surrounding countries. In these countries our focus is on the sales of Forteco growbags, produced in our factories in Sri Lanka and India.

Mayor Hakan Tütüncü of Kepez-Antalya congratulates Ron van der Knaap

The company has customers in the both the vegetable and floriculture sector. Our in-house production in Antalya allows us to respond quickly and flexibly to our customers' needs.

F.l.t.r. Ron van der Knaap, Chris van der Wel - GM Antalya Substrat, Hakan Tütüncü - Mayor of Antalya, İbrahim Yavuz - GM Antalya Teknokent, Perry van der Knaap and Gerard van Dieën.

Renovation and expansion of laboratory and R&D departments

Van der Knaap in motion

Van der Knaap stands for innovative and high-quality products. In our innovation centre 'de Kas' in Honselersdijk, we have an extensive laboratory and R&D greenhouses where different growing conditions can be simulated. To provide even better support to our customers in the future, this location was renovated this year.

Laboratory

The relocation and expansion of the laboratory facilities during the first months of 2018 have created additional space for a more efficient process layout as well as opportunities to expand the analyses, such as doubling the capacity for physical analyses.

In addition to the facilities, our staff has also been expanded. The team now consists of a head of the laboratory, two permanent quality assurance staff and an intern, to meet the growing demand for quality support.

In the laboratory 'de Kas', samples of all incoming raw materials are chemically and physically analysed. In addition, periodic checks are carried out on processed raw materials as well as extensive quality checks on finished products.
The latter analyses are complementary to the regular final checks that take place in the laboratories of the production locations as standard with every order.

The laboratory also supports the research of the R&D department and uses the facilities to provide our customers with more information if they have questions or wishes.

The current package of possible analyses includes, for example, the detection and determination of weeds in raw material samples, quality control of external characteristics and chemical properties (pH/EC) and the water absorption characteristics (WAC) of new products.

All information from periodic analyses of raw materials and products is collected in a database. The data is used for trend analyses, to highlight possible process improvements. The laboratory is included in our ISO 9001:2015 certification; all analyses are carried out according to RHP guidelines.

R&D departments

The test greenhouses at Vogelaer in Honselersdijk have become a household name. The R&D centre has expanded considerably over the years. The most recent modification is the creation of two additional sections for cultivation trials. We now have a total of 13 departments in use.

WAC analysis

In addition, a corridor was created near test greenhouses one to eight. As a result, all departments are separated, and the climate in each department can be controlled separately and optimally. Finally, a plot of outdoor field was set up where we can carry out small-scale outdoor trials.

Trials are to take place throughout the year. See the next page for an overview of the current trials. We would be happy to welcome you for a visit to one of these trials or a (renewed) introduction to the innovation centre. Please contact the head office at +31 (0)174 296606 if you would like to visit.

Geothermal energy and LED lighting for innovation centre ‘de Kas’

Innovation centre is committed to sustainability

The hard work on the Vogelaer Geothermal Heating project will not have gone unnoticed in the Poeldijk, Honselersdijk, Kwintsheul area these past few years.
At the time, Van der Knaap made the plot along the Vogelaer in Honselersdijk available to ‘Aardwarmte Vogelaer’.

The plot has been used for various purposes: for storage of the transport pipelines, as a soil depot, and as an installation place for the soil augers. It was also used to prepare and dig in the expansion loops and transport pipelines.

Installation of geothermal heating

The project is currently operating in a stable manner, and several growers are connected to the network.
Geothermal heating fits perfectly within the strategy and vision of Van der Knaap since we are fully committed to the sustainable production of organic substrates and rooting media. It was therefore decided to connect the innovation centre to geothermal energy.

With its limited surface area, Van der Knaap’s innovation centre is far from a large-scale consumer. The choice for geothermal heat is in line with the strategy and vision to operate as sustainably as possible, rather than aimed at reducing costs.

At the moment, preparations are under way to install the heat exchanger during the turn of the year and to actually start purchasing heating.

LED light in ‘de Kas’
The R&D department researches all kinds of fields. In addition to examining the effects of different substrates, fertilisation and irrigation, lighting also often plays an important role in the trials. That is why the test greenhouses are equipped with the latest horticultural technology. As an example, in the coming winter, two departments will be equipped with LED lighting.

Each department is set up differently. In one department the LED lighting will serve as a replacement for the regular lighting. Research there will focus on specific product groups in which growers from the field are involved with the aim of achieving improvements in cultivation. This includes the search for and application of the right spectrum to reduce the use of plant growth regulators without compromising on growth, for example.

The other department will be set up for indoor farming on layers, to investigate which plugs and substrates fit best in combination with the various crops and various light spectra. Here too, we will seek a direct connection with practice.

Vertical farming

Installation will be carried out by Valoya, a Finnish company founded in 2009. With Valoya, Van der Knaap has found the right partner to take this route. The focus at Valoya is on the agricultural sector with plenty of research into plant biology and plant physiology in combination with (the right spectrum) LED. The research focuses on optimal plant development. For more information: www.valoya.com

Trials in innovation centre ‘de Kas’

- Organic cultivation of strawberries; a complete cultivation season with organic nutrition from the bioreactor. Comparing mineral and organic nutrition
- Rooting of Poinsettia in paperpots with different mixtures
- Growing blueberries in two sections; one section with biological fertilisation, the other with conventional fertilisation
- Rooting of Phalaenopsis in Fibre-Neth plugs. Followed by the cultivation of Phalaenopsis plants in Fibre-Neth pots of 6, 7, 9 and 12 cm
- Cultivation of Calathea, organic and mineral methods
- Cultivation of sweet peppers, entirely organic on Forteco Growpots
- Cultivation of tomato, entirely organic on Forteco growbags
- Cultivation of cucumber, entirely organic on Forteco Growpots
- Cultivation of cucumber, entirely organic, in soil

Coco: natural resaturation

All coco products have excellent water absorption properties. This is why cocopeat is used in potting soil mixtures to grow plants in drier conditions.

Bedding plants
One of the cultivations in which Knaap Elite (coir) can be of added value is bedding plants. Especially during potting at the end of the year, when the pots winter and are kept 'as dry as possible' for a longer period.

In the dark winter months and early spring, when watering is less frequent, the pots dry out quickly. Pots that remain relatively wetter will reabsorb the water more easily and retain the desired moisture level. This is much more difficult to achieve in drier pots. In these, but also many other similar situations, the addition of coco is a possible solution.

WAC-analysis
To illustrate this, we offered two mixtures to an external laboratory to determine the Water Absorption Characteristics (WAC).

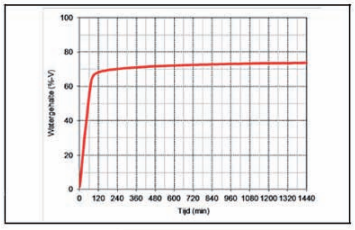
With this standardised analysis method, the potting soil is dried, then spread over a thin layer of water, after which a measurement is taken of how quickly the potting soil absorbs the water.

The WAC analysis was performed on two potting soil mixtures for bedding plant cultivation. Mixture 1 is a 'traditional' bedding plant mixture. Mixture 2 is the same mixture, with a small proportion of peat replaced with Knaap Elite.

Analysis reveals that the total water absorption remains the same (see table and graph): 74% for mixture 1 and 73% for mixture 2. However, the 50% moment, which indicates in how many minutes 50% of the moisture content is absorbed, is significantly different. For mixture 1 this takes 39 minutes, whereas for mixture 2 it takes only 7 minutes. After 15 minutes, mixture 2 has reached a moisture content of 64%, which represents 90% of the total moisture content. In mixture 1, the traditional bedding plant mixture, this takes 60 to 90 minutes.

Water absorption is therefore much quicker when using a mixture with part coco.

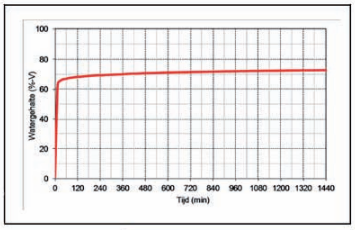
Mixture 1



50% point uptake : 39 minutes

water uptake (%)[1] after number of minutes	
start	1
15	15
30	29
60	54
90	67
120	68
240	70
360	71
1440	74

Mixture 2



50% point uptake : 7 minutes

water uptake (%)[1] after number of minutes	
start	1
15	64
30	66
60	67
90	68
120	68
240	69
360	70
1440	73

Table and graph WAC analysis mixture 1 and mixture 2

AGENDA 2018

FRUIT ATTRACTION
Tuesday 23 to
Thursday 25 October
Madrid, Spain
At this international fair for the fruit and vegetable industry, Van der Knaap-Braam España will be represented at the Ejiturbas booth. **Hall 1, booth number 1B07.**

EXPO AGROALIMENTARIA
Tuesday 13 to
Friday 16 November
Guanajuato, Mexico
Just like last year, we will have our own booth in the Holland pavilion at the Expo Agroalimentaria. You can find us at **booth number 810**.

HORTI CHINA
Wednesday 21 to
Friday 23 November
Shanghai, China
This exhibition focuses on the main players throughout the supply chain of the rapidly growing modern Chinese horticulture industry, with a specific focus on fruit and vegetables. Van der Knaap is represented in the Holland Pavilion **booth number 2HM007.**

GROWTECH EURASIA
Wednesday 28 November to
Saturday 1 December
Antalya, Turkey
Growtech Eurasia is the place to be, whether you are a farmer, a giant business exporting to world markets or a professional in the agricultural sector. You can find Van der Knaap at **booth number 2-C112.**

Would you like more information about any of the topics in this newsletter? Please contact our Public Relations Department: tel. +31 (0)174 296606.

group of companies
www.vanderknaap.info

van der Knaap®