



### Variety Presentation Days 2019: main objectives in breeding vary widely

What is your most important focus in your breeding work at the moment?

#### ! Remco Koeman and Matthijs Kloek, Den Hartigh, Emmeloord: 'We have a broad perspective that allows us to serve the entire playing field in the potato sector.'

RK: 'The most interesting thing about this question for us is, what do you focus on? As a breeder and a trading company, you always look first at who your customers are and what they need. Our customer base can be split into two main groups: the seed potato growers in the Netherlands and the buyers of the seed potatoes they grow. Most of the latter are ware potato growers abroad. Both main groups have their own requirements. In our view, when it comes to focus, there's always a matter of differentiation. On the one hand you have the breeder who often takes a long-term view and on the other there's the grower who's more concerned with every-day problems. In order to get a clear picture of the direction we need to follow as breeders, we make trend analyses for each customer segment. For example, what we observe among growers is the search for answers to problems related to climate change. Think of brief hot spells, longer periods of drought, cases of flooding, and soil salinisation. And then there are the ensuing pests and diseases reflected in the increased damage caused, for example, by viruses and nematodes. For us, these are again spearheads in variety breeding. If we focus on the potato processors, it's clear to us that the most important trend is the enormous growth in this segment. As a breeding company, you could decide to devote more attention to this. And if we look at the consumers, we notice an increasing interest in healthy food in this segment with more attention to low-calorie foods that are also rich in antioxidants. MK: 'The great thing is that we can respond to all these trends, because we have two breeding companies, Den Hartigh and Solanum, which together cover all these aspects. So, we have a broad perspective that allows us to serve the entire playing field in the potato sector. If there's more demand for French-fry

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potatoes, we'll try to breed those. If they need to be climate-proof and to have more resistances, then that's what we're going to look for. The young French-fry variety, King Russet, is a result of this approach. It's a block-shaped potato with a length from which you can cut a lot of fries with very little loss. In addition,

it's not affected by internal defects and has broad nematode resistance from A to E. We see that the French-fry market currently needs this.'

#### ! Jörg Renatus, Europlant, Lüneburg (D): 'Our main objective cultivation.'

'What we are focusing on? That question isn't difficult, nor is the answer. Our main objective is to develop varieties that contribute to sustainable potato cultivation. Breeding for resistances is an important part of this and is both a huge challenge and an opportunity for us. The challenge lies in the fact that we try to develop varieties that are the most efficient for each grower, wherever they are in the world. In this context, I've mentioned the three key words that today's breeding work at Europlant is all about: durability, resistance and efficiency. None of these can be separated from the others. So what challenges are we facing? First and foremost is, anticipating all the cultivation factors brought about by climate change, drought, heat, flooding, etc. Nitrogen

is number two on the list. How do we develop varieties that handle this as efficiently as possible and therefore require little fertilisation? The third in line is resistance to pests, diseases, drought and heat. The trick here is to be able to offer a suitable variety for each purpose and region that provides an answer to problems that pose a threat there. This requires a flexible breeding programme. And then there's the disappearance of crop protection chemicals as number four. What's the answer to that? When I look at CIPC, it's especially important that we find varieties that can be stored for a long time with little or no sprout inhibiting agents. There's currently a high demand for this from growers, because alternative products are very expensive. Fortunately, we have modern cultivation tools at our



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#### ! Henk Feddes, Interseed, Dronten: 'How are the French-fry varieties doing in the factory? They are our number 1 priority.'

'French fries and crisps, that's the segment that the breeding work is 100 percent focused on. And when we zoom in on that, most of the attention goes to the question of how the varieties are performing in the factory. That's our number 1 priority. Do the varieties suitable for French fries have sufficient length, is the frying quality okay, which ones produce the most fries and which varieties produce the least possible waste? These are the most important criteria. The fact that this is at the top of our list is mainly because the owner of Interseed is a French-fry manufacturer. Naturally, the grower must also be able to work with it, so we also look at resistances. Several of our French-fry varieties already have the much sought-after combination of pallida and wart disease resistance, such as the Poseidon. And this year, all interest is focused on virus resistance, which is a characteris-

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tic we've been working on for many years in our breeding programme. We've always been pretty rigorous when it comes to virus selection. If we find this in a seedling, we stop immediately and the effect of doing this can be found in our most important French-fry varieties.

This season, the NAK's (General Netherlands Inspection Service for Field Seeds and Seed Potatoes) virus reduction percentage is over 37 percent. Our Zorba variety had 5.7 percent reduction, no rejects, Miss Malina, Austin and Alanis all had 0.0 percent reduction and no rejects. You could, in fact, call this a focus, but with us it's no more than good practice because, if you ask about the main focus in breeding, it's the frying quality. This involves size, tuber shape, length, low levels of reducing sugars and a firm texture. The Zorba is currently the most successful result of this method. This year, we had 142 hectares of seed potatoes and next year we expect to have between 200 and 210 hectares. What the variety has to offer is that in addition to a good frying quality, it also has characteristics that are in high demand at the moment. We've already mentioned virus resistance, but its early maturity is also an advantage. Due to the disappearance of a remedy such as Chlor-IPC, processors are now looking more to early-maturing varieties, because they expect that they'll not be able to store the volume of storage varieties for as long.

#### to develop varieties that contribute to sustainable potato



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disposal to tackle this urgently, such as marker technology. And with that, we develop varieties that can answer all those questions from the sector, such as

the many examples we already have here in the boxes.

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