

News Release

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BASF's vegetable seeds business accelerates variety development by partnering with Nature Source Improved Plants in several key breeding segments

- **Long-term partnership intensified as of July 1, focusing on Cucumber, Pepper and Tomato**
- **NSIP's suite of genetic technologies to improve data driven decision making throughout the breeding and selection process**

Nunhem, the Netherlands - August 17, 2021. BASF's vegetable seeds business has collaborated with Nature Source Improved Plants (NSIP) as an external collaborator since 2008, but as of July 1, 2021 we have entered into a more intensive, comprehensive partnership. The collaboration focuses on four key segments within our Cucumber, Pepper, and Tomato breeding programs to develop and execute breeding work-flows, combining the NSIP genomic selection toolbox and BASF germplasm and breeding expertise

NSIP's experience in genomic selection across a variety of crops makes them an excellent candidate to complement our own internal expertise. By working as an additional partner in the specified breeding segments, NSIP offers knowledge that will help us introduce desired traits more quickly.

Under the terms of the multi-year agreement, NSIP will work closely with selected breeding teams, applying their extensive bank of algorithms to improve data driven decision making throughout the breeding and selection process. "By applying these

algorithms with additional phenotyping, our breeding teams will improve the output of our predictive breeding efforts,” says Johan Warringa, Head of R&D EMEA, Vegetable Seeds, BASF. Predictive breeding brings together tools such as phenotyping, genomic selection, and statistics to help breeders make data driven predictions of which lines will perform best in a given situation. Dr. Steve Tanksley, Chief Technology Officer of NSIP added, “NSIP is excited to be providing both its expertise and advanced analytical tools in this collaboration to develop higher yielding, and higher quality vegetables for the benefit of farmers and consumers worldwide.”

“Of course, we are also working on genomic selection in-house, but NSIP brings important additional expertise and their unique Operation Research based approach to breeding and statistical algorithms. By partnering with NSIP, we are launching forward in several areas where they can apply their existing expertise and that allows us to better focus on other key areas with our own research,” says Jan van den Berg, Scouting & Collaboration Management, Bioscience Research, BASF.

It’s a key component of the strategy for BASF’s vegetable seeds R&D division -- carefully selecting the best collaborations in order to stay on the cutting edge of research. “We cannot do it alone,” says Andreas Sewing, Vice President R&D, Vegetable Seeds, BASF. “In order to tap into the best innovations, we must look outwards and bring expertise in where it can strengthen our own efforts. This is part of our R&D strategy, to strike the balance between internal experts in a very nuanced industry, with external partners, who can help us make big strides in specific sectors.” Dr. Suresh Prabhakaran, Chief Operating Officer of NSIP, said, “Our aim is to be a trusted strategic partner and advance the frontiers of genomics and production technologies. We are excited to leverage complementary expertise of NSIP and BASF’s vegetable seeds business to help increase productivity and meet the current and future food needs of our global community”.

Collaborations are an important part of business for all of BASF and since some of the company’s other seed divisions have also shown interest in NSIP, this is an exciting opportunity to see what can be done with a stronger, more intensive and purposeful collaboration. “Especially since 2020 has taught us a lot about how distance is a much smaller factor in partnerships like this than we once believed,” says van den Berg. “Distance between partners was often seen as a barrier, but after being forced to find work-arounds in 2020, we’ve come to realize that distance

is just one factor, and often a surmountable one, especially in the case of using computational tools. It opens the door to even more collaboration possibilities for both the vegetable seeds business and the rest of BASF.”

These new ways of working are good news since collaborations are a great way to gain a new perspective, speed up a project, and come up with exciting new ideas. All of which is key to helping us bring better solutions to our partners more quickly and with improved health and sustainability traits that are delicious to eat!

About BASF’s Agricultural Solutions division

With a rapidly growing population, the world is increasingly dependent on our ability to develop and maintain sustainable agriculture and healthy environments. Working with farmers, agricultural professionals, pest management experts and others, it is our role to help make this possible. That’s why we invest in a strong R&D pipeline and broad portfolio, including seeds and traits, chemical and biological crop protection, soil management, plant health, pest control and digital farming. With expert teams in the lab, field, office and in production, we connect innovative thinking and down-to-earth action to create real world ideas that work – for farmers, society and the planet. In 2020, our division generated sales of €7.7 billion. For more information, please visit www.agriculture.basf.com or any of our social media channels.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. More than 110,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €59 billion in 2020. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the U.S. Further information at www.basf.com.

About NISP

Established in 2006, Nature Source Improved Plants (NSIP) is an advanced optimization analytics company located in New York, USA and Chiapas, Mexico; and dedicated to the conservation, evaluation and utilization of natural genetic resources to deliver high performing plant materials and creating value and efficiency through innovative and sustainable cutting-edge technologies for the global community. NSIP is focused on maximizing genetic performance via a unique pipeline of new breeding technologies based on genomics, operations research and other advanced fields of mathematics and computer science. NSIP's advanced genetics and breeding technologies have resulted in significant increases in productivity and quality across a wide variety of field, vegetable,

perennial and orphan crops, while minimizing R&D costs. NSIP is also focused on the development of high throughput and high-fidelity in vitro propagation techniques to meet the needs of growers – especially those involved in the production of perennial plantation crops. For more information about NSIP, please visit: www.nsiplants.com.