“Partners in growth”: In accordance with this motto, Bayer SeedGrowth® contributes to farmers’ high yields. We rely on a manifold approach by providing integrated seed treatment solutions tailored to customers’ needs, while always keeping the Bayer SeedGrowth core values of expertise, engagement, and consistency in mind. In this interview, Boualem Saidi, Global Head Bayer SeedGrowth, talks about the benefits of seed treatment and about strengthening the company’s leading role in seed-applied technologies.

HOW WOULD YOU DESCRIBE BAYER SEEDGROWTH?
Boualem Saidi: Bayer SeedGrowth is unique in the seed treatment area. It is now combining best-in-class seed knowledge and expertise with a fully integrated system for on-seed applications. Our purpose is to create value for growers, foster partnerships along the value chain, and promote sustainability. We’re at the forefront of innovation and are committed to delivering better and tailored solutions to our customers by leveraging our seed know-how and four competences: our innovative product portfolio, coatings, equipment, and services.

WHAT ARE THE BENEFITS OF SEED TREATMENT?
Boualem Saidi: Seed treatment preserves the seed’s value and enables the best possible development into healthy plants and thus helps achieve the best yields and quality. It also has a high sustainability profile due to targeted applications, in addition to a limited chemical load and environmental exposure. Combined with good agricultural practices, proactive stewardship is another important aspect of seed treatment.

WHAT’S THE OVERALL STRATEGIC DIRECTION OF BAYER SEEDGROWTH?
Boualem Saidi: Bayer SeedGrowth perfectly represents the objective of the new Crop Science division to shape agriculture and deliver tailored solutions at the intersection of the newly combined portfolios of crop protection and seeds and traits. One of our research focus areas is crop efficiency. We strongly believe that biologicals for both biocontrol and crop efficiency will dramatically develop in the near future. And transformational inoculants might totally change the game, not only for crop protection but also for fertilizer, irrigation, and other areas. On that note, we are happy to share that Bayer and Novozymes are continuing our close collaboration in crop efficiency in various formats going forward. Another major benefit is that we now have extensive testing capabilities—both in quantity and in quality—which accelerates our T&A processes significantly. Digitalization will undoubtedly play a key enabling role as well.

IN WHAT WAY HAS THE ACQUISITION OF MONSANTO AFFECTED THE BAYER SEEDGROWTH PORTFOLIO?
Boualem Saidi: As previously mentioned, the biggest change comes from the seed knowledge and huge capacity to test and deploy seed applied technologies. From a portfolio standpoint, divestments related to the acquisition of Monsanto have changed our product line-up, while at the same time our portfolio has been enriched through legacy Monsanto products—resulting in a very strong combined portfolio. Both Bayer and Monsanto were very successful in bringing innovations to the market. To illustrate that, let me share a few recent examples: Redigo® M and Scenic® Gold, two new fungicidal seed treatments that have recently been launched in the European market, or JumpStart® and ProStablish®, two new products which expand our offering of biological seed treatments. We’re also launching innovations in Bayer SeedGrowth Coatings, such as Pendim® Active 109. Another new product to the market is our NemaStrike® Technology. This nematicide and its novel mode of action stay in the root zone, where nematodes attack, for 75 days. This is unique to the market!

TELL US A BIT MORE ABOUT THE BAYER SEEDGROWTH PARTNERSHIP APPROACH.
Boualem Saidi: Having more than 100 years of experience as a leader in the seed treatment market makes us a trusted partner in protecting and enhancing seed value. We partner with all value chain players; we create and facilitate sustainable business opportunities. Ultimately, a farmer’s success is what motivates us every day. We help farming professionals increase crop yield as well as quality and optimize their return of investment in the most sustainable manner.
EFFECTIVE PROTECTION FROM THE START

Bayer SeedGrowth’s innovative and comprehensive product portfolio protects plants above and below ground against pests, diseases, and nematodes, and enables them to thrive to their full genetic potential. Furthermore, we push boundaries in crop efficiency through improved root health, nutrient uptake, and water management – all to the benefit of growing seed investments.

FOCUS INDICATIONS: PESTS, DISEASES, AND CROP EFFICIENCY

WIND-BORNE / FOLIAR / STEM
• Powdery mildew
• Rust
• Net blotch
• Ramularia leaf spot
• etc.

LEAF PESTS
• Aphids
• Thrips
• Leaf hoppers
• Jassids
• etc.

SOIL-BORNE
• Take-all
• Rhizoctonia
• Snow mold
• Dwarf bunt
• etc.

SOIL PESTS
• Wire worms
• Nematodes
• Corn root worm
• etc.

SEED-BORNE
• Fusarium
• Stinking smut
• etc.

DWARF BUNT
• Loose smut
• Snow mold
• etc.

In terms of putting new, effective products on the European market, 2019 is indeed a very special year for us at Bayer SeedGrowth®. For one thing, offering very good alternatives to soon to be withdrawn thiram, we will have the broad-scale launch and registration of Redigo® M as well as the first commercial usage of Scenic® Gold in the EU. For another thing, we have launched Bariton® Super that has the potential to be a real game changer in some countries.

REDIGO M: THE DUAL-ACTION FUNGICIDAL SEED TREATMENT

Redigo M is effective against the two most important diseases affecting corn in its early stages: Fusarium and Pythium. The fungicidal seed treatment contains two well-proven active ingredients (Prothioconazole and Metalaxyl) providing excellent efficacy against both diseases. With registration already granted in 10 countries in the EU and beyond (France, Austria, Belgium, Italy, Serbia, Turkey, Ukraine, …), and others to come, we are looking forward to this year’s full launch and first commercial usage of Redigo M in the EU for the 2019 corn sowing season.

SCENIC GOLD: BENCHMARK FUNGICIDE SEED TREATMENT FOR OILSEED RAPE

Scenic Gold is a fungicidal seed treatment that combines two active ingredients, Fluoxastrobin and Fluopicolide, and two different modes of action. It sets a new standard in terms of efficacy for the control of key early diseases affecting oilseed rape and provides good crop establishment. So, before too long, farmers will no longer need to worry about early infestation of Phoma, Alternaria, downy mildew (Pero nospora) or damping-off (Rhizoctonia). We have already obtained registrations in Poland, Hungary, the Czech Republic, Slovakia, Ireland and Serbia and are planning the first commercial launch for the 2019 winter oilseed rape season.

BARITON SUPER: BROAD DISEASE SPECTRUM STATE-OF-THE-ART SEED TREATMENT FORMULATION FOR CEREALS

Bariton Super is a liquid “dedusted” seed treatment based on three active ingredients – Prothioconazole, Fludioxonil, and Tebuconazole. It is highly effective against a broad spectrum of seed-borne and soil-borne diseases, such as snow mold, Fusarium, bunts or loose smut. It is indeed a unique combination of active substances, optimized for use in spring and winter cereals (wheat, barley, triticale, rye, oats, …). Bariton Super has already been launched in 2018 in Finland and in the Baltics and the country scope will significantly increase for the 2019 sowing season.

We’re always looking for new solutions for farmers. Marc Letroublon
Product Manager Bayer SeedGrowth for Western and Northern Europe
GETTING TO THE ROOT OF NEMATODE PRESSURE

Invisible, invasive, and underestimated: Nematodes infest plants, feeding on the roots, transmitting viruses and causing injuries which open the door for secondary bacterial and fungal infections, ultimately resulting in major yield losses for farmers. With a novel mode of action, NemaStrike® Technology controls a wide range of nematodes and helps corn, soybean, and cotton farmers protect their yield.

Plant-parasitic nematodes are microscopic, worm-like creatures mostly found in the soil – and they are a highly invasive pest that causes an estimated 10% yield loss in corn, soybean, and cotton, while also posing a serious threat to crops including tomatoes, potatoes, and grapes. Losses due to soybean cyst nematodes, for example, have been estimated at about $1.5 billion in the United States alone. Nevertheless, growers significantly underestimate nematode damage – one reason being that nematode damage is often misattributed to other causes such as drought stress, fertility deficiency, and diseases.

Nematodes do not just feed on plant roots, they also destroy root cells from the inside out, facilitate bacterial and fungal infections, transmit viruses, and prevent water and nutrient uptake, resulting in considerably reduced agronomic performance, overall quality, and yield. Most nematodes are undetectable by the human eye and typical symptoms are often inconclusive, such as wilting, yellowing, stunting – or, worst of all, there are no visible symptoms at all! That is why plant-parasitic nematodes are often referred to as invisible crop killers.

Invisible, invasive, and underestimated: Nematodes infest plants, feeding on the roots, transmitting viruses and causing injuries which open the door for secondary bacterial and fungal infections, ultimately resulting in major yield losses for farmers. With a novel mode of action, NemaStrike® Technology controls a wide range of nematodes and helps corn, soybean, and cotton farmers protect their yield.

BROAD-SPECTRUM SEED TREATMENT TO CONTROL A WIDE RANGE OF NEMATODES

It is estimated that 80% of all corn acres sampled in the United States Corn Belt have parasitic nematodes that adversely impact yield potential. To better help corn, soybean, and cotton growers protect their yield, we developed NemaStrike Technology, a broad-spectrum seed treatment, controlling a wide range of yield-robbing nematodes. Being seed-applied, NemaStrike Technology is designed to offer nematode control right from the start – and it stays in the root zone for up to 75 days.

NemaStrike Technology is a chemistry with a novel mode of action: Tioxazafen, a disubstituted oxadiazole which represents a new class of nematicidal chemistry. It is a targeted protein, only affecting plant parasitic nematodes. “Tioxazafen brings game-changing technology to the market,” says Dr. Mike South, Global Seed Treatment Product Advancement Lead at Bayer. This broad-spectrum seed treatment allows for effective and long-term control of nematodes such as soybean cyst nematode, root knot, lesion, lance, and reniform. “NemaStrike Technology delivers results farmers can actually see at harvest,” says Dr. Mike South.

PROVEN EFFICACY AND DURABILITY

NemaStrike Technology has demonstrated consistent yield protection in hundreds of field trials in all soil types and levels of pressure. Moreover, farmers who have participated in Ground Breakers® Trials have seen a clear impact on their fields. “Using NemaStrike Technology, I believe we’re going to have a better yield,” said Jake Tischroeb, cotton grower in Seminole, Texas. “We’re going to have a stronger growing season to give that plant all the nutrients it needs from the roots.”

“Seeing how NemaStrike Technology gives a farmer peace of mind that his fields and roots are protected has been the most exciting moment so far,” says Dr. Mike South. Having successfully launched the broad-spectrum seed treatment in the United States in 2018, NemaStrike Technology will be marketed in Canada next, followed by a global roll-out in South America, Europe, and Australia.
STRENGTHENING PLANTS FROM THE VERY START

Biological seed treatments address the needs of both growers and society. Jannis Wittka, Segment Manager at SeedGrowth Biologicals, knows why Bayer SeedGrowth® strongly believes that continuous investment in biologicals will lead to further innovation in seed-applied technologies and advances in sustainable agriculture.

WHAT IS THE CURRENT STATE OF THE BIOLOGICAL SEED TREATMENT INDUSTRY?
Jannis Wittka: Overall the industry has seen tremendous growth in market demand and acceptance in the last few years. At the same time, the rapidly evolving technology landscape and heterogeneous regulatory environment created some uncertainties with growers. Companies like Bayer with strong R&D capabilities, global outreach and innovative, thoroughly tested and field-proven products can help to alleviate those concerns and offer differentiating solutions to agriculture and society.

WHAT ROLE DOES BAYER PLAY IN THIS SEGMENT?
Jannis Wittka: Bayer offers science-based biologicals that give growers a broader choice in agronomic solutions, going hand in hand with consumer and environmental needs. Our innovations are intended to contribute to better soil, root and plant health and offer enhanced profitability to our customers by increasing yield and quality.

WHAT CAN EASILY BOOST YIELDS?
Jannis Wittka: The focus of our research activities at Bayer continues to be on boosting yields. By providing suitable seed treatment products, we are pursuing our goal of strengthening plants from the very start. That way, they can successfully cope not only with pests and diseases, but also with unfavorable environmental conditions such as abiotic stress and nutrient-poor soils. One of our most important goals at Bayer SeedGrowth is to enhance crop efficiency, for example by contributing to optimized water and nutrient uptake or increased functional root volume.

SO BIOLOGICAL SEED TREATMENTS CAN EASILY BOOST YIELDS?
Jannis Wittka: The plant rhizosphere and the multidimensional interaction between microbes, soil, and plants is extremely complex and has developed over millions of years. Therefore it is a challenge to transfer positive results from a laboratory or greenhouse environment to the field under varying climatic and soil conditions and to ensure that growers get the trusted performance they expect. Another relevant challenge for the practical application of biological seed treatments is shelf life on the seed and compatibility with other seed treatment components such as chemical fungicides or insecticides, micronutrients or additional microbes such as inoculants.

WHAT IS THE FOCUS OF YOUR CURRENT RESEARCH?
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WHAT DOES THE FUTURE LOOK LIKE?
Jannis Wittka: The biological seed treatment industry will grow significantly in importance. Precision farming and advanced digital offerings will enable more targeted farming practices. We know that consumers are increasingly interested in how their food is grown and want to know that farming practices are environmentally sustainable. Biological seed treatments already play a role in helping farmers reduce their CO2 emissions and can help their crops use fertilizer more efficiently. Bayer has a strong track record of developing and commercializing ground-breaking biological seed treatments and with our strong R&D pipeline and innovation partnerships we will continue to launch new tools to support our customers around the world.
MAXIMIZING
SEED VALUE

Bayer SeedGrowth Coatings optimize seed performance by offering coating technologies for improved flowability, sowability, and adhesion as well as differentiation through coloring.

Our seed coatings can point to decades of leading-edge experience and outstanding expertise in seed-applied technologies, such as seed coatings, fluency powders, and drying powders, to name just a few.

At our dedicated facility in Méryville, France, our R&D team develops new and innovative seed-applied technologies and tackles challenges such as germination and dust control - both in the lab and on the field. Agronomic evaluations are carried out to test flowability, sowability, and field emergence; following this, the Heubach dust meter is used to analyze dust emissions. Furthermore, since all the seed-applied technologies are manufactured to the highest possible standards at Méryville, customers all over the world can be sure of uniformly high quality from Bayer. “None of our seed coatings leaves our facility without the permission of our quality control team,” says Markus Borkowski, Marketing and Sales Manager for Bayer SeedGrowth Coatings. “These people ensure compliance with the highest quality standards and really everyone is working to ensure that the seeds perform best.”

With our seed coatings we are upgrading the investment our customer has made in his seeds. Markus Borkowski

MARKETING AND SALES MANAGER BAYER SEEDGROWTH COATINGS

PERIDIAM® ACTIVE 109 OFFERS A UNIQUE COMBINATION OF MICRONUTRIENTS AND SEED COATING

- Better START
- Good DUST CONTROL
- Good FLOWABILITY
- Perfect COLORATION

Peridiam Active 109 is a seed coating for cereals, supporting early plant development by adding micro-nutrients, and it works in combination with different kinds of seed treatment products, for example Redigo® Pro.

Peridiam Active 109 has been extensively tested in the United Kingdom, showing positive effects on early shoot growth and on maximum root depth. Its key markets are currently Europe and the Asia Pacific region.

BENEFITS OF BAYER SEEDGROWTH COATINGS

- Uniform seed treatment application for optimum coverage
- Improved adhesion and coverage so all beneficial additives stay on the seed
- Protection of operators and beneficials from dust with emissions reduced by up to 95 %
- Branding and visual differentiation through coloring
- Improved flowability in the planting equipment and sowability on the farm
- Micronutrients to promote plant growth

Seed treated with Lamardor® 0,2L/T + Peridiam Active 109 1,0L/T

Control sample (left) vs Redigo Pro + Peridiam Active 109 (right)
TREATERS CUSTOMIZED TO YOUR BUSINESS

Your business is unique – as are your needs when it comes to seed treatment equipment. Our wide range of different equipment solutions is perfectly suited to deal with all of them. But how do you choose the right one?

Bayer SeedGrowth® offers a comprehensive range of equipment solutions – from state-of-the-art computerized seed treatment machinery to basic systems. We differentiate them into two categories:

1. BATCH SEED TREATMENT EQUIPMENT
   Designed for seed treaters who are looking for equipment with the latest technology built in and want complete control of seed treatment parameters in delivering a high-performance seed treatment process.

2. CONTINUOUS SEED TREATERS
   Suited to seed treaters who are looking for relatively simpler, high-capacity treatment equipment that can handle volumes of up to 54 MT per hour continuously.

MAXIMIZING TREATMENT CONTROL OR CAPACITY?
Both Batch and Continuous seed treaters offer high accuracy seed treatment. While continuous seed treaters offer high-capacity seed treatment, batch treaters offer superior seed treatment process control since they allow you to control critical seed treatment parameters such as batch size, product application time, and seed mixing time. All these factors combined will result in a replicable seed treatment process, batch after batch.

Our vision is to bring the same convenience and intuitiveness our customers know from using their smartphone or coffee maker to our Bayer SeedGrowth equipment.  

Peter Herold
Global Head of Bayer SeedGrowth Equipment
SERVICES DEDICATED TO YOU

Bayer SeedGrowth® completes its tailor-made solutions by offering a wide range of services, from training, analysis, and customization to hands-on technical support and troubleshooting.

Bayer services in customization, testing, training, advice, technical support, and troubleshooting are an integral part of our fully integrated system for on-seed applications. Our powerful 24/7 service network is made up of Bayer SeedGrowth Centers across the globe and numerous truly committed field personnel.

Whatever part you play in the seed treatment business – as a farmer, seed breeder, treater, retailer, or adviser – our services can play a part in growing your business and helping to protect your investments.

» Our services can play a key part in optimizing operations and your business.«

Frank Laubert
Head of Bayer SeedGrowth Center Monheim
We supply high-quality seed-applied solutions in combination with suitable management practices around the world. Focusing on risk mitigation, innovation, and partnerships is crucial for sustainable agriculture – to maximize yield and avoid negative impact on human health and the environment.

Seed treatment is an important tool which is accepted worldwide for sustainable agriculture. Bayer SeedGrowth® has more than 100 years of unmatched experience and expertise in this field. At Bayer SeedGrowth we follow Bayer’s purpose – "Science for a better life" – and take product stewardship very seriously. “We are committed to excellence in stewardship delivered by stewardship experts and a comprehensive range of practical stewardship measures,” says Peter Ohs, Senior Global Stewardship Manager at Bayer SeedGrowth. FROM IN-FACTORY SOLUTIONS …

“We want to ensure the responsible and ethical management of a product throughout its life cycle, the maximization of the benefits derived from the use of our products, and the minimizing of potential risks to human health and the environment,” Peter says in summary of Bayer SeedGrowth’s stewardship efforts. Something that starts inside seed treatment facilities:

- **Certifications**: Foster compliance with certain safety and quality standards such as the ESTA scheme. Certification of treatment sites is essential to show the professionalism of the seed treatment industry, strengthen the confidence of authorities and civil society, and optimize seed treatment practices to support sustainable agriculture.

- **Dust reduction**: Increases operator safety. Our stewardship measures involve promoting the application of high-quality seed treatment products in combination with innovative coatings – all in an effort to reduce dust while also improving treatment quality, flowability, and plantability.

- **Monitoring and reporting**: Allow for a proactive stewardship approach. We have established processes which allow us to closely monitor the safe use of our products and to address potential risks fast and efficiently.

- **E-labeling**: The Bayer way to support customers to equip every bag of treated seeds with all legally required safety phrases, independent of the products used. This ensures the highest possible degree of operator safety.

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... TO IN-FIELD INNOVATION

“Our stewardship focus does not stop at the factory – we also place great efforts on supporting farmers to competently and safely sow treated seeds. All in an effort to protect humans as well as the environment,” Peter says. Examples are:

- **Deflectors**: Deflectors attached to pneumatic sowing equipment ensure that at least 90% of the dust particles released from the seeder are directed onto the soil, and not into the air. Further reducing dust emissions in this way not only minimizes the potential risk of exposure for watercourses and pollinators like honey bees, it contributes to avoiding emissions for the operator as well.

- **Fluency Agent**: The use of a lubricant improves planting performance while reducing the amount of dust potentially released during planting.

- **SweepAir**: Bayer specialists have developed SweepAir, a new prototype technology for minimizing dust emissions from pneumatic corn-sowing machines. It is based on an air-cleaning cyclone that reduces dust emissions by up to 99%. The next step will involve further optimization hand in hand with major machinery manufacturers.

We follow our purpose ‘Science for a better life’ and take product stewardship very seriously. 

Peter Ohs Senior Global Stewardship Manager at Bayer SeedGrowth
Outperforming competitors to preserve the business for future generations: that is the goal of the wholesale seed company Pasture Genetics. Their strategy? Investing in Research & Development, collaborating closely with dedicated, international partners like Bayer SeedGrowth® and thus offering the highest-quality seed to farmers.

Farmers across Australia and all over the world use seeds produced and treated by Pasture Genetics: from small family businesses to large corporate farms. They all face the same problems: their crops get attacked in their early establishment phase by pests like redlegged earth mites, Lucerne fleas, and aphids. “Farmers need treated, ready-to-use seeds with protection against insects and enriched with micronutrients,” says Rob Damin, General Manager of Pasture Genetics. “And we’re delivering that to them for success in their fields.”

FAMILY-BASED SUCCESS
From Research & Development, seed production, and seed treatment to wholesale and distribution, as a vertically integrated seed company Pasture Genetics takes care of all that. Founded more than 20 years ago, the South Australian family business run by the Damin family employs more than 30 people, operates 13 distribution warehouses nationally, and exports to over 30 countries. As one of the largest producers, marketers, and suppliers of seeds to Australian agriculture, Pasture Genetics focuses on seed treatment in forage legumes like medics, clovers, and lucernes, as well as forage cereals, such as oats and barley. Last year, the company treated around 2,500 tons of pasture-based legume seed and 1,000 tons of forage cereals in its seed treatment facilities.

THE HIGH VALUE OF INTEGRATED OFFERINGS
But why should farmers choose seeds from Pasture Genetics? Because the company continually strives to provide only the highest-quality seeds. In their research efforts, they constantly search for seed treatment products that are both physically appealing and going to perform in the field to farmers’ satisfaction. “To achieve this, we work extensively with Bayer SeedGrowth,” explains Rob’s son Tom, Research and Technical Services Manager at Pasture Genetics. He especially values the integrated offering of seed treatment products, coatings, equipment, and services. “We tested many different combinations to make sure we were doing everything to get the right end product,” Tom says.

FIRST TO KNOW
But it wasn’t only Bayer’s expertise in putting together the right mix of seed treatment products, coatings, and equipment that came in handy for Pasture Genetics. “By working closely with Bayer SeedGrowth, we gained access to new, developing active ingredients and solutions,” Tom points out. Pasture Genetics profits from the insights gained by the global Bayer network of scientists and technical experts dedicated to working on and testing ever better seed treatment products and technologies. “Bayer SeedGrowth’s and Pasture Genetics’ partnership is ongoing and it’s driving the development and the technology that we have to surpass industry standards. We are setting new benchmarks in seed treatment,” says Rob.