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THE GOOD GROWTH PLAN



















INTRODUCTION

Successful crop production starts with seeds, the essence of life. Today's seeds offer a broad spectrum of varieties and traits that give undisputed advantages to the growers. Seed breeders and growers invest significant amounts of money into these technologies. Ensuring this investment is best protected while exposed in soil to diseases, insect pests, nematodes or abiotic stresses (eg. drought), seed treatments are critical to protect the genetic potential of high value seeds.

To address these challenges, Syngenta Seedcare offers an industry leading product portfolio based on its world-class research, product development and support capabilities. We call it a three-pillar offer P.A.S. (Products – Application – Services) which delivers value to our customers BEYOND SEED PROTECTION™:



01 PRODUCTSBROAD RANGE AND INNOVATIVE PIPELINE

Our innovative product range features combinations of multiple active ingredients, addressing the needs of growers as well as of seed companies, seed multipliers or retailers around the globe in all crops. Seeds and seed treatment technology come together before planting to form an integrated solution that offers plenty of benefits: early disease and pest protection, conveniently supplied in the seed bag, applied at low use rates, complementing the genetic resistance or tolerance against diseases and pests. This ensures a healthy, high yielding plant while a targeted and low-rate application provides minimal environmental impact.

02 APPLICATIONIN-DEPTH ADVICE AND SUPPORT IN APPLICATION TECHNOLOGY

A treated seed is the combination of genetics and seed-applied technologies. Only a high-quality application onto the seed ensures the desired in-field performance, while the impact to the seed company's plant operations should be minimal. Syngenta Seedcare has incorporated these needs into Seedcare specific formulations and recommends customers with individual recipes that fulfil highest quality standards. Seedcare will help customers to assess and manage application quality, select the best application technology, provide seed biology and safety, conduct stewardship and training and provide product marketing support.

03 SERVICESTAILORED CUSTOMER-CENTRIC PRODUCT MARKETING SERVICES

The seed business is a very time-sensitive operation, allowing little time between harvest, processing and treatment. Hence, we provide flexibility to our customers in planning and procurement processes. Our supply chain is set up for in-season response to customer demands. We also provide agronomic know-how and co-marketing support to create demand for the brands and their value towards growers.



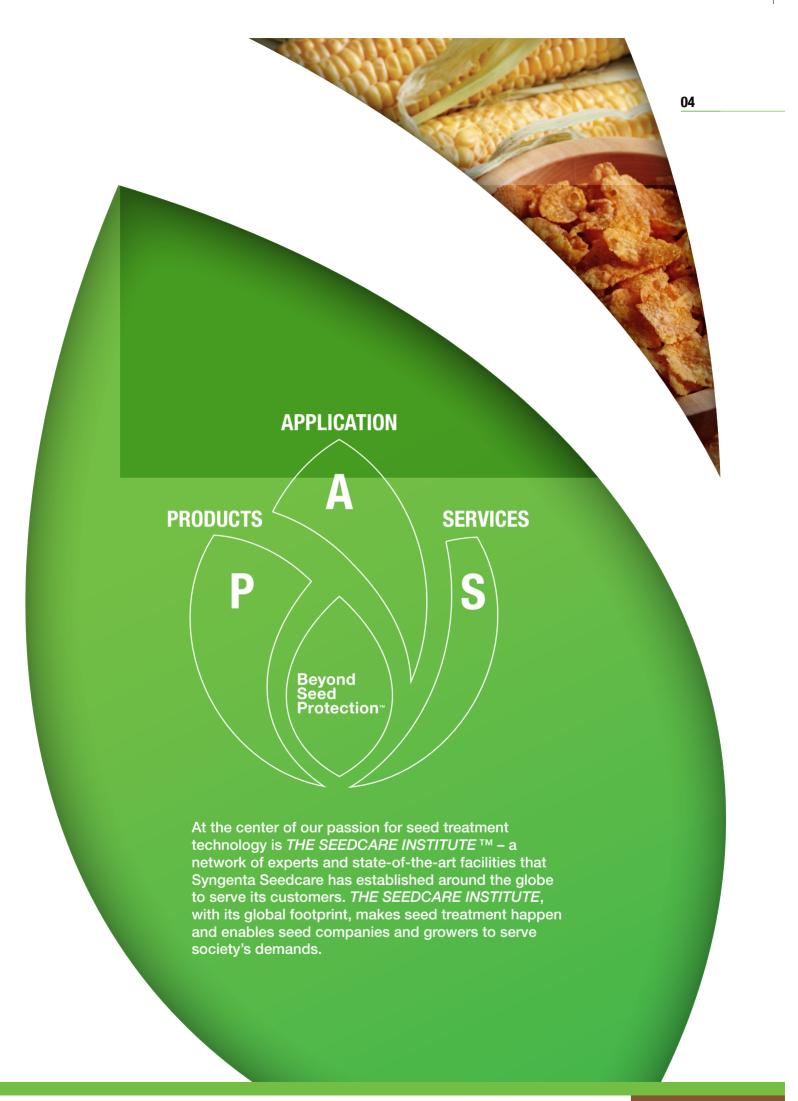


































LEADING PORTFOLIO

Syngenta is a leading seed treatment company with a broad range of products that gives customers a complete seed treatment offer with products such as, CRUISER® Insecticide, APRON®, MAXIM® and VIBRANCE® Fungicides, AVICTA® Nematicide and many more.

The Syngenta Seedcare portfolio helps defend and boost yield potential by protecting against early stage diseases, insect pests and nematodes.

The seed-applied technologies go a step further. with products capable of mitigating environmental stresses like drought and cold, or enhancing the efficiency of nutrients and water. Our performance materials, such as polymer-based coatings and colorants applied on seeds, provide additional enhancements.



INNOVATION

Syngenta invests extensively in R&D around the world to discover new technologies for future growth. The innovations made by R&D help clients and growers get the best performance from our products to deliver higher yields and improved quality. Syngenta's innovative approach brings a strong range of new products to market: VIBRANCE® is the first Syngenta molecule developed specifically as a seed treatment. In addition to broad spectrum disease control, it offers unique RootingPower™ that results in stronger, healthier roots for higher crop productivity - right from the start. FORTENZA™ Duo is a next-generation seed treatment insecticide that delivers long-lasting insect control both above and below the ground. CLARIVA™ is a seed treatment nematicide that offers soybean growers revolutionary season long protection against soybean cyst nematode (SCN).

FUTURE NEEDS

With a continually innovating offer, Syngenta's aim is to constantly keep ahead of pest shift and resistance by leveraging our pipeline to deliver new seed treatment solutions.

The investment and commitment Syngenta has in delivering quality gives customers confidence that they can rely on consistent results from Syngenta products - now and in the future. Furthermore, customers have the reassurance that each product has been thoroughly researched, meticulously tested and fully approved for the crop, the customer and environmental safety.









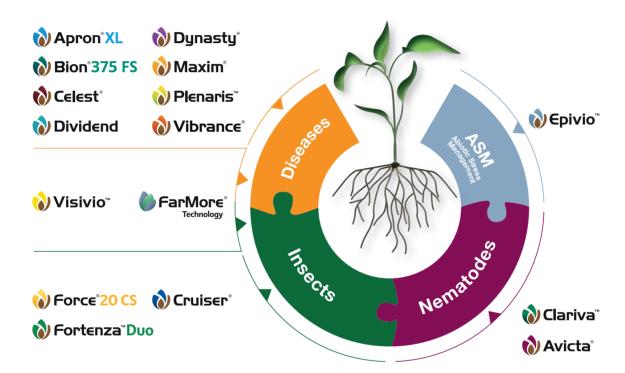






ABIOTIC STRESS MANAGEMENT (ASM)

To enhance our portfolio, Syngenta has invested in a new ASM brand family under the name EPIVIO®. With this new product family, backed by scientifically-endorsed field performance, we plan to help customers amplify their genetic footprint and mitigate abiotic stresses. This new brand family complements the existing portfolio and will help customers stand out from the competition.





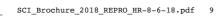














CANADA HONEYWOOD

US GREENSBORO

BRAZIL

HOLAMBRA

US STANTON

MEXICO GUADALAJARA





GLOBAL (PERTISE

In a global environment with increasingly complex business operations, simplifying processes, applying know-how, using data efficiently and setting standards is imperative.

Within the THE SEEDCARE INSTITUTE™ Network of Syngenta Seedcare, a team of highly-skilled experts strives for excellence in delivering best-in-class customer services around seed treatment applications in our six key categories...

ENGINEERING

RECIPE DEVELOPMENT

APPLICATION, QUALITY ASSESSMENT &

STEWARDSHIP

TRAINING

SEED SAFETY & BIOLOGY

ARGENTINA PERGAMINO

PRODUCT MARKETING SUPPORT



Syngenta Seedcare invests heavily in THE SEEDCARE INSTITUTE Network, setting up facilities around the world to deliver these services in the main countries and all regions.

THE SEEDCARE INSTITUTE consists of multiple fully operational facilities where experts make sure global service standards are met and our offer is tailored based on local market needs and customer requests.

The positive working relationship between Greg Gungoll, a Syngenta key account lead (left), and grower Matthew Lobmeyer (right) contributes to a successful season for Lobmeyer on his farm in Garden City, Kansas.







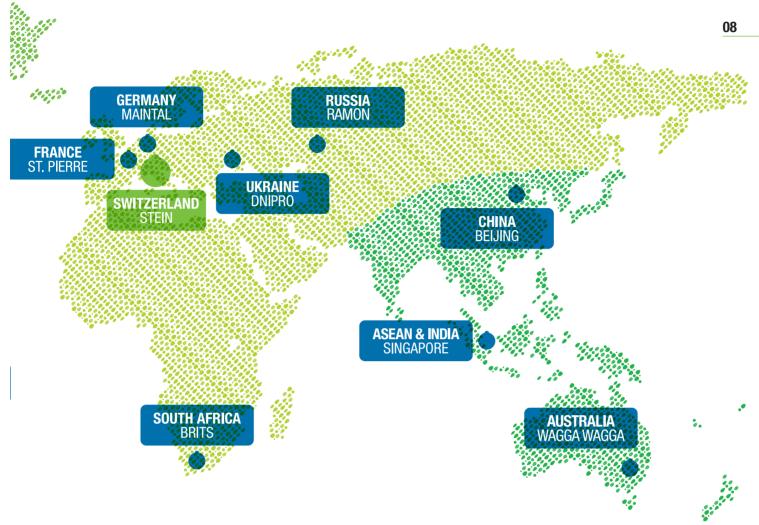












Syngenta sells seed treatment formulations to customers, who apply slurries based on ready-to-go formulations or customized recipes, depending on crop and geography. These custom recipes describe the composition and the application process settings and consist of different components, such as seed treatment products, a colorant and seed coating additive. Global standards ensure that specific procedures are used in the design and documentation of a recipe and a set of quality parameters are fulfilled to meet customer, grower and regulatory needs in each country.

Similar processes in defining standards and protocols are applied for all the six service categories: In application, quality assessment and engineering support, our experts work with market leading equipment manufacturers to stay at the forefront of innovation and engineering capabilities. We listen to our customers and assist them in selecting the right equipment and placing it in the best configuration for their plant.

In Quality Assessment, critical measurements are dust-off, seed flow and plantability besides several methods of analysis of the amount of active ingredients applied on every seed.

In seed treatment stewardship, we apply best practice methods according to internationally recognized standards in crop protection. In addition, protocols for plant audits and improvement recommendations, promotion of auditable production site quality assurance scheme for dust monitoring are important parts of the work.

We provide training modules in various levels (basic, advanced or professional) to customers of different profiles (stakeholders, plant operators, distributors or retailers). In seed safety, we follow ISTA standards and have established a network of partner seed testing laboratories locally, covering all continents, to deliver seed safety data on our customers' preferred seed varieties.

We also provide product marketing support, to help customers visualize the benefits and value of our seed treatment brands. We have established testing protocols in the lab and the field to investigate the performance of our seed-applied technologies on customers' crop varieties. Digital tools become very important in this area.















Our recipe development experts understand that high quality seed deserves a high performance seed treatment.



- First comes selection of seed treatment products from Syngenta's complete range of fungicides, insecticides and nematicides to provide full pest protection for your growing area.
- 2. Next, we ensure compatibility of additives typically demanded by growers such as inoculants and micronutrients.
- 3. Finally, we go beyond seed protection and recommend a complete recipe package of optimized film coating polymer and color or any other required additive plus a finishing powder if required, and check performance under realistic treatment conditions.

The result is a recipe that meets your local requirement for criteria such as dust control and provides strong protection against rub-off or abrasion so that your seed looks as good in the bag as it does in our laboratory.

US customers can access our Seedcare Resource Center for information about our products and digital recipe calculator that is updated live throughout the season.

Please visit: www.seedcareresourcecenter.com

















WHAT WE DO:

- Recommend full-package recipes customized for customer needs
- Partner globally with vendors of film coating polymers, colors or other additives to provide local choice
- Optimize film coating additives for coverage, dust-off, abrasion, good seed flow in planting equipment and low build-up in the treater
- Ensure mixture compatibility of all recipe components including biologicals, inoculants, and micronutrients
- Provide detailed recipe calculators to support easy treatment operation (available online for US customers)

HOW YOU BENEFIT:

- Choice of seed treatment options to build differentiated offers
- Trusted recommendation for film coating polymer, color or additives that will complement the existing seed treatments including biological products
- Confidence in having a seed treatment that will bring out the best of high quality seed
- Tools and advice to support application at any scale and type of treating equipment under different environmental conditions



















APPLICATION, QUALITY ASSESSMENT AND ENGINEERING

We recommend treatment equipment and application processes so that you can obtain the best treatment quality.

Our experts ensure the highest quality of application so that your seed performs optimally in the field.

To do this right, we test and define the best product combinations and application processes and compile them in clear equipment and process guidelines. Additionally we provide in-season application support to answer your needs and concerns, whether you are a seed company, grower, on-farm or other channel applicator.

WE PAY ATTENTION TO:

- The best product combinations and application processes
- Safe use and stewardship throughout treatment
- Maintaining physical treatment quality parameters

WHAT WE DO:

- · Tests:
 - Analysing seed loading how much active ingredient is effectively applied onto your seed?
 - Analysing seed-to-seed product distribution – is the active ingredient applied evenly onto all seeds?
 - Plantability testing are the treated seeds easy to plant?
 - Seed flowability testing do the treated seeds easily flow through your seed operations, providing highest process efficiency?
- Information and engineering support on how to best integrate seed treatment into your seeds operations
- In-season support and troubleshooting

















DID YOU KNOW?

IN 2009 WE SERVED ONLY 9 SEED TREATMENT PLANTS IN BRAZIL. TODAY WE SERVE MORE THAN 80 SITES.

• Simplified process for your operators





















STEWARDSHIP

WE KEEP STEWARDSHIP CENTRAL TO EVERYTHING WE DO

We call upon everyone involved in the lifespan of a seed treatment product to take up responsibility to reduce its environmental, health and safety impacts. This means we keep stewardship central to everything we do and deliver real and tangible benefits to our customers and growers.

As a company, we are a strong proponent of seed treatment stewardship and our education in this regard includes making sure that our customers understand best practices in handling and applying products, as well as maintaining safety standards for themselves and for the environment.

Next to educating, we also actively try to reduce our environmental impact by focusing on preventing dust from treated seeds being released in the environment. By partnering with academia, equipment manufacturers and our own recipe development team we look at the dust problem from multiple angles. We also support industry-wide programs to reinforce the safe use of products at any level of the chain, such as ESTA (European Seed Treatment Assurance) or via the ASTA (American Seed Trade Association) seed treatment working group. This work extends to our active efforts in programs to support beneficial insects, such as Operation Pollinator.

WHAT WE DO:

- Seed treatment site assessment (including health, safety, environment and waste management)
- Product-specific certification programs
- Assistance for proper handling of waste (empty containers, dust, etc)
- Provide dust monitoring with certified labs
- Support for site certification standards setting and implementation
- Customer support in understanding and implementing specific local seed treatment regulation

HOW YOU BENEFIT:

- Identify key positives and improvement points regarding employee working conditions and operational efficiency opportunities
- Practical and smooth implementation of new regulations and rules















- Principles of seed treatment technology
- Pre-season applicators training
- Customized training adapted to our clients' needs
- · Tailored training on- or off-site

HOW DO YOU BENEFIT FROM OUR TRAININGS?

- Providing the right knowledge to your workforce boosts your operation efficiency
- We help you plan investment and development for your seed treatment
- You gain information that will benefit your business
- You constantly develop and learn to stay ahead of your competition

In Brazil, seed treatment specialists and customers can benefit from enhanced training and education through SEEDCARE ACADEMY, a one-year online and classroom program.

DID YOU KNOW?

IN 2017 THE SEEDCARE INSTITUTE **NETWORK CONDUCTED 379 TRAINING** SESSIONS, REACHING 6195 PEOPLE

"THE SEEDCARE ACADEMY HELPED US TO UNDERSTAND THE ENTIRE INDUSTRIAL SEED TREATMENT CHAIN. THE BEST TECHNOLOGIES AND EQUIPMENT WORLDWIDE, AND HOW TO ANALYZE QUALITY. WE LEARNED HOW TO DELIVER THE BEST POSSIBLE QUALITY TO OUR FARMERS, INCREASING THEIR YIELDS. IT'S ALSO AN OPPORTUNITY TO DISCUSS WITH SEED COMPANIES FROM OTHER REGIONS AND UNDERSTAND THE SEED PRODUCTION MARKET IN GENERAL."

SEED SALES MANAGER, SEMENTES ESTRELA





















We rigorously test all Seedcare products for their safety on seed before they reach the market.

Seed treatment products should never impact the inherent quality of seeds, their vigor and germination during storage. To ensure this remains so, we assess seed safety during development and before marketing any of our products.

WHAT WE DO:

- Customer support
- Extensive testing throughout the entire lifecycle of our products
- Evaluating the potential impact of a seed treatment on the physiological quality of seeds and their ability to perform after storage time (carryover)

















- accredited and neutral contract labs to perform seed safety tests
- We have regional seed safety labs in Stanton (USA), Holambra (Brazil) and Beijing (China) that evaluate the safety of Seedcare products registered specifically in those areas, at rates relevant to those particular markets
- We initiate research projects, often in collaboration with academia to investigate and improve current standards of treated seeds germination and vigour protocols
- We share our results and conclusions with our customers, the seed industry, international seed testing organizations and scientists and work on continuous improvement

HOW YOU BENEFIT:

- When using one of our new products you know the inherent quality of your seed will not be impacted even during storage
- You receive advice on how to test treated seeds
- You receive support to overcome issues and answer questions

DID YOU KNOW?

IN 2017 THE REGIONAL SEEDCARE INSTITUTE IN HOLAMBRA (BRAZIL) TESTED OVER 60000 SEED SAMPLES WITHIN SEED SAFETY PROGRAMS.

ISTA = International Seed Testing Association AOSA = Association of Official Seed Analysts ISSS = International Society for Seed Science























SEEING IS BELIEVING

Our experts visualize the benefits of seed treatments and convert technical data into compelling marketing for your local needs.

The primary purpose of seed treatments is to protect both the seed and the young seedling from damage caused by seed and soil-borne diseases, insects, nematodes and/or abiotic stress (drought, cold ...). Our experts develop various methods and tools that enable us to not only generate technical data, but to also demonstrate the multiple and complex effects of seed treatment in a highly visual way.

Seeing is believing, our experts strive to make it easy for customers to both see and experience these benefits through development of innovative tools and technologies.

WHAT WE DO:

- · Work in the lab, the field and on-line
- Visualizing the benefits of Seedcare products using a broad range of methods:
 - Rhizotron and root scanning technology
 - 3D/360° visualization
 - Petri-dish time-lapse videos
 - Thermogradient table time-lapse videos
 - Augmented reality
- Supporting in field trial design and demonstration platforms to support demand creation
- Partnering with academia to develop new, innovative tools to gather real life information

TECHNICAL DATA GENERATION

SEEDLING

VISUALIZATION: FROM TECHNICAL DATA TO MARKETING





ROOT SCANNING







AUGMENTED REALITY



TIMELAPSE VIDEOS



RHIZOTRONS AT FIELD DEMONSTRATIONS













- Receive access to our marketing material to use in your campaigns with your customers
- We support in co-marketing events data package, live material for promotion and marketing demand
- · We demonstrate local in-field performance proving the added value for growers beyond seed protection

DID YOU KNOW?

THE THERMOGRADIENT TABLE ALLOWS US TO VISUALIZE ABOVE AND UNDERGROUND BENEFITS OF SEED TREATMENT, EVALUATE ABIOTIC AND BIOTIC STRESSES ACROSS A RANGE OF SOIL TEMPERATURE AND MOISTURE, SIMULATING VARIOUS FIELD PLANTING CONDITIONS.



















THE SEEDCARE INSTITUTE™ - A GLOBAL NETWORK

Once mainly focused on products and machinery, today our customers around the world need access to a broad spectrum of services at any time and at any place.

This need has driven and continues to drive the evolution of the Seedcare Institute Network of Syngenta Seedcare, coordinated by our headquarters in Stein, Switzerland.

Our Network continues to expand and will grow to include other territories that are currently in the process of adopting seed treatment technology.

Situated in key territory markets, our local experts ensure that global knowledge and standards are locally adapted to support our customer operations.

The local facilities of THE SEEDCARE INSTITUTE are configured to react promptly, delivering best-in-class recipes, quality management expertise, application and engineering support, seed safety and biology knowledge, stewardship guidance and training programs, and product marketing support.

Whatever region you are in, regardless of the environment, we can provide innovative solutions for your needs and challenges.

THE FUTURE IS NOW! Stanton, US

We believe in constant innovation

In September 2016 we opened up the expansion of THE SEEDCARE INSTITUTE in Stanton, Minnesota, USA, one of the future premier seed treatment development facilities in the world representing an investment of \$20 million.

The Stanton expansion comes as a natural response to the increasingly complex challenges facing farmers. Seedcare North American Regional Director Jamie Eichorn, said:



"THE NEW SCI WILL ALLOW US TO BRING COMPREHENSIVE TECHNOLOGIES TO GROWERS, SEED COMPANIES, DISTRIBUTORS, AND OTHERS. THE NEW 38000 SQUARE FOOT FACILITY IS FIVE TIMES LARGER THAN THE FORMER

INSTITUTE AND FEATURES SOME OF THE MOST SOPHISTICATED LABORATORIES IN THE INDUSTRY. NOBODY HAS THE CAPABILITIES THAT WE HAVE HERE AT STANTON. IT'S A REAL PRIVILEGE TO HAVE THIS CAPABILITY AND LEVERAGE IT WITH OUR CUSTOMERS AND WITHIN THE GLOBAL SCI NETWORK."











TO STAY CLOSE TO OUR CUSTOMERS, WE HAVE GLOBALLY CONNECTED EXPERTS AND FACILITIES IN:



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good growth plan

Syngenta's business serves and sustains one of the world's largest industries: agriculture. And today that industry is grappling with one of the toughest challenges on earth – feeding the world's fast-growing population.

Each day, the world has an extra 200,000 mouths to feed, and the planet's agricultural resources are already under unprecedented strain.

The Good Growth Plan is Syngenta's commitment to help the world's growers rise to that challenge in a sustainable way. We focus our integrated capabilities on six crucial issues shaping the future sustainability of agriculture, so that we can deliver solutions that are better, more productive, and more beneficial to rural economies.

One planet. Six commitments















Make crops more efficient

Increase average productivity of the world's major crops by 20 percent without using more land, water or inputs.

Syngenta Seedcare:

Ensures that one seed turns into one yielding plant

Protects root development and hence water and nutrient use efficiency

Using our Seedcare technologies leads to higher yield



Empower smallholders

Reach 20 million smallholders and enable them to increase productivity by 50 percent.

Syngenta Seedcare:

Seed treatment is key to enhance the seed value and performance of smallholders

Seed applied technologies are part of our integrated solutions

Seed treatment is the ideal partner for seed improvement programs in developing countries



Rescue more farmland

Improve the fertility of 10 million hectares of farmland on the brink of degradation.

Syngenta Seedcare:

Supports soil conservation schemes with seedling protection from the start

Allows bringing back marginal soil into production

Good root development enhances the organic matter content of soil



Help people stay safe

Train 20 million farm workers on labor safety, especially in developing countries.

Syngenta Seedcare:

Seed treatment is a very safe crop protection technology

Seed treatment is a low use-rate technology

Training and education is an integral part of our seed treatment business philosophy



Help biodiversity flourish

Enhance biodiversity on 5 million hectares of farmland.

Syngenta Seedcare:

Seed treatment is a targeted application only onto the seed

Optimized application recipes limit environmental exposure

Optimizes carbon footprint with optimized spray regimes



Look after every worker

Strive for fair labor conditions throughout our entire supply chain network.

Syngenta Seedcare:

We promote best use practices throughout the whole supply chain

We actively support industry initiatives in safe use of seed treatment technologies

We develop and implement quality management programs







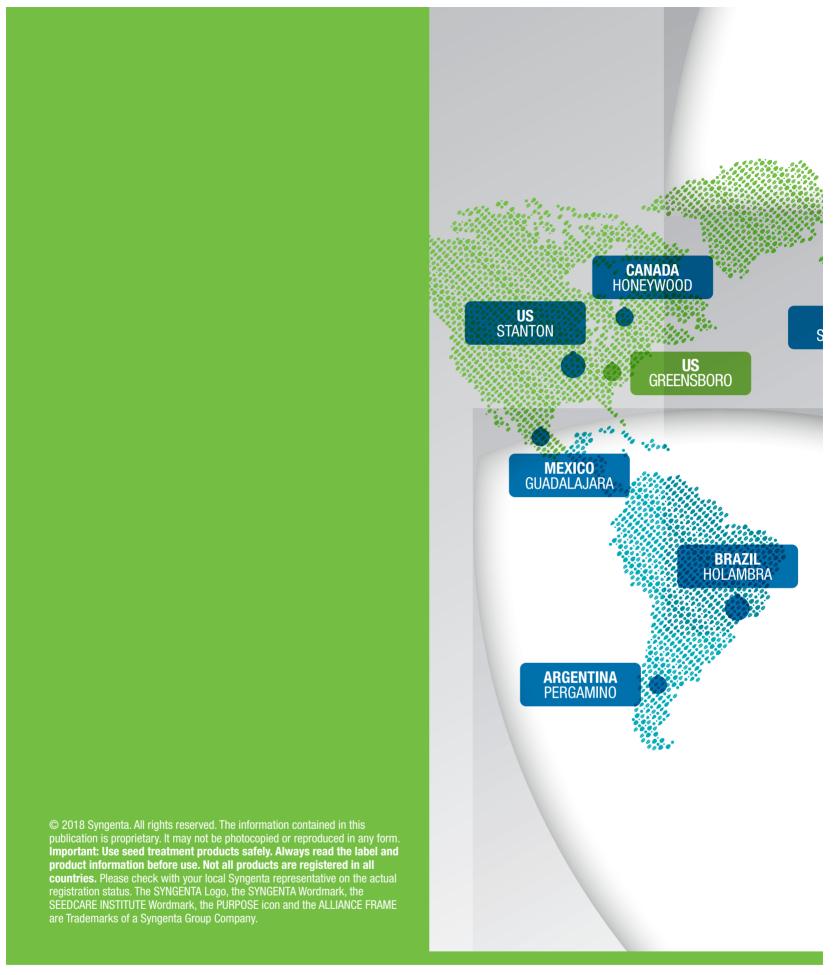














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