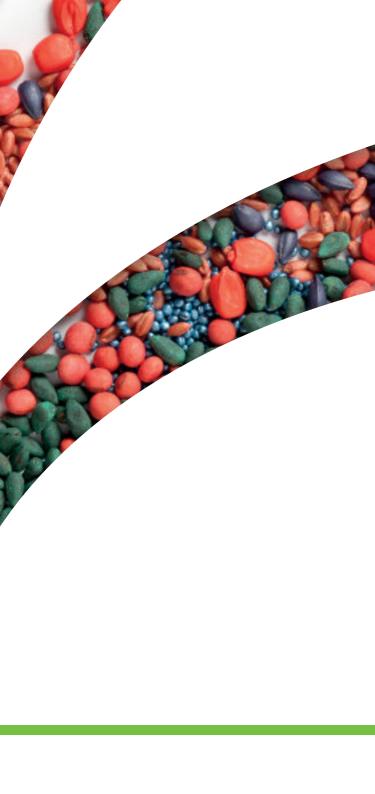




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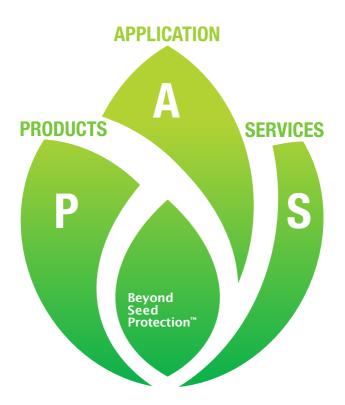
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### NTRODUCTION

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 seed treatment solutions based on its world–class research, product development and support capabilities. We call it a three–pillarofferP.A.S. (Products – Application – Services) which delivers value to our customers BEYOND SEED PROTECTION™.

## **OUROFFER PAS.**





## **PRODUCTS**

### INNOVATIVEPIPELINE

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 across Africa & Middle–East 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.

### **BROADEST PORTFOLIO IN AFRICA & MIDDLE-EAST**

- A portfolio of unique high technology formulations designed only for seed treatment use.
- Covering all key crops (including maize, cereals, vegetables, sorghum, rice, sunflower, soy).
- Registrations in more than 35 countries in Africa & Middle–East.

### SFED TREATMENTE INCICIDES:







Dividend<sup>®</sup>

DividendExtreme® Dynasty\*CST

(A) Maxim Quattro (A) Maxim XL

**Vibrance** 

### SEED TREATMENTINSECTICIDES:





### SEED TREATMENTINSECTO-FUNCIODES:

Apron<sup>®</sup>Star





### SFED TREATMENTNEMATICIDE AND INSECTICIDE:

Avicta Complete

### **GRAIN STORAGE**

**SEED STORAGE**:

Actellic\*500EC

Suren'

Actellic Gold Dust

### VEGETABLE SEED TREATMENTSOLUTION:

FarMore<sup>®</sup>

### SEED TREATMENTABIOTIC STRESS MANAGEMENT:

(a) Epivio™



### **APPLICATION**

# IN-DEPTH ADVICE AND SUPPORT IN APPLICATION TECHNOLOGY

A treated seed is the combination of genetics and seed-applied technologies. Only a high-qualityapplication onto the seed ensures the desired in-fieldperformance, 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 fulfill 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.

In a global environment with increasingly complex business operations, simplifying processes, applying know-how, using data efficiently and setting standards is imperative. At The Seedcare Institute of Syngenta Seedcare, a team of highly-skilledexperts strives for excellence in defining standards in the six key categories of application support:

- 1. Recipe development
- 2. Application support, Quality Assessment & Engineering assistance
- 3. Stewardship
- 4. Tailored training for your needs
- 5. Seed safety information
- 6. Product marketing support

Syngenta Seedcare invests heavily in The Seedcare Institute, setting up facilities around the world to deliver these services in the main countries and all regions.

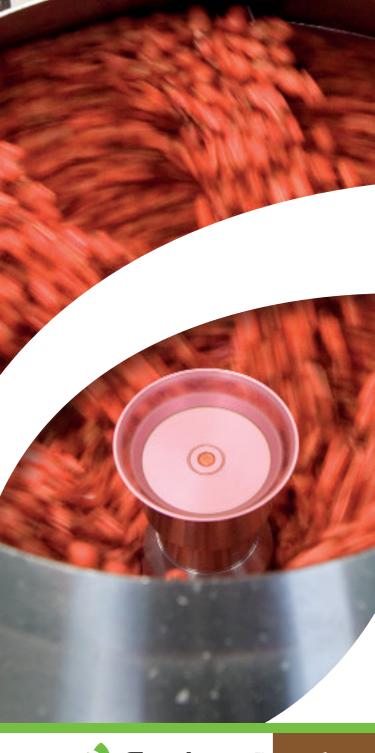
The Seedcare Institute is made up of 17 fully functional facilities where experts make sure global service standards are met and implemented based on local market needs and customer requests.

Syngenta Seedcare sells seed treatment formulations to customers, who apply slurries based on recipes which describe the composition and the application process settings provided by The Seedcare Institute experts. A slurry consists of different components, such as a seed treatment product, 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 around the globe.

Similar processes in defining standards and protocols are applied for all the six service categories, locally: in application technology and engineering, 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.

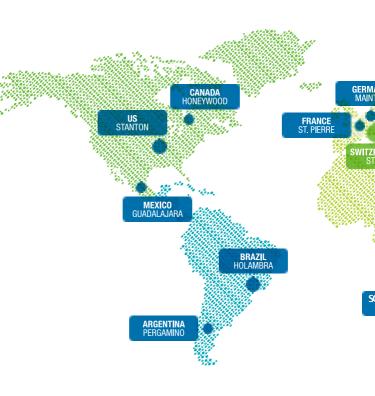
In seed safety, we follow ISTA standards and have established a network of partner seed testing laboratories locally, covering all continents, to deliver seed safety data on our customers' preferred seed varieties. In seed treatment stewardship, we apply best practice methods according to internationally recognized standards in crop protection.

We also provide product marketing support, to help customers demonstrate the benefits and value of our seed treatment brands. We have established testing protocols in the laboratory and the field to investigate the performance of our seed-applied technologies on customers' crop varieties. Tests include root and shoot development, yield and quality improvement and many more.



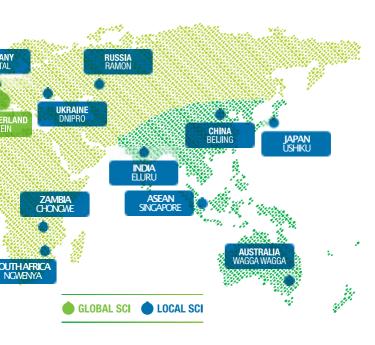


# THE SEEDCARE INSTITUTE NETWORK: GLOBAL KNOWLEDGE, LOCAL DELIVERY



- GLOBAL SEEDCARE INSTITUTE
- LOCALSEEDCARE INSTITUTE





### APPLICATION SUPPORT IN AFRICA & MIDDLE-EAST

Proving its focus on developing cutting-edge technologies and demonstrating the benefits of professional seed treatment, Syngenta was a pioneer in establishing its Seedcare Institute in South Africa in 2014. After a successful journey and strong partnership with seed companies, it established a second specialized center in Zambia in 2020, aiming to meet a growing number of requests from seed partners, give more agility to the services provided, expand its capacity to a increasing number of customers and bring more technology to this which is one of the most important seed markets across the continent.

The two centers of excellence help customers across Africa (seed companies, services providers, farmers) to:

**Select the best application technology** suited to their specific needs.

Manage application quality, through customized recipe development (for compatibility, stability and safety) and on–site application applicability tests.

Assess application quality, throughactive ingredient seed loading, dust-offtests as well as through plantability tests (seed handling and planter compatibility).

**Provide seed safety testing** to preserve seed quality.



Conduct safety stewardship trainings, following Syngenta's Good Growth Plan commitments.

**Provide product marketing support** through the preparation of quality treated seeds for trials.

Managed by Wayne Jansen van Rensburg, Seedcare Technology Manager, this center of excellence delivers unique application support to Seedcare product users. "Delivering best after–sales support, superior quality seed treatment, optimum treatment homogeneity and adapted safety stewardship are critical steps to meet seed treatment





## **SERVICES**

# TAILORED CUSTOMER-CENTRIC PRODUCT MARKETINGSERVICES

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. We try to design our supply chain 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.

### **BEST MANAGEMENTPRACTICES**

The seed treatment process, including the handling and use of treated seeds, should be managed responsibly and sustainably to maximize the benefits of seed treatment. Establishing and executing Best Management Practices for professional application of seed-applied technologies, safe handling and proper planting of treated seeds contributes substantially to sustainable, intensive agriculture.

### STEWARDSHIP AND GOODGROWTHPLAN

The Good Growth Plan is part of Syngenta's contribution to improve the sustainability of agriculture and our business by 2020. Safe use of our products is a critical component of the Good Growth Plan. Comprehensive quality assurance programs, established with our customers, ensure that high–qualitytreated seeds are safely delivered to farmers' fields.

All the necessary steps that constitute Best Product
Stewardship are highlighted by Syngenta training programs for both employees and customers. They are summarized in our 5-golden rules for safe use of treated seeds:





#### 1. Exercise caution at all times

- Always handle seed treatment products and treated seeds carefully, avoiding contamination of yourself and the environment.
- Always clean up spills of seed treatment products and treated seeds immediately.
- Keep children, animals and bystanders away when handling seed treatment products and treated seeds.



#### 2. Always follow the label recommendations

- Always read and understand the product label, or have someone read it to you. If unsure, seek the advice of local field experts.
- When using seed treatment products and treated seeds, always comply with your local regulations and laws.



### 3. Practice good personal hygiene

- Always practice good personal hygiene when handling seed treatment products and treated seeds.
- Do not eat, drink or smoke when handling seed treatment products and treated seed.



## 4. Wear appropriate personal protective equipment (PPE)

- Wear the PPE recommended by the label or applicable local requirements when handling seed treatment products and treated seeds. Products with different toxicity levels require different PPE.
- Wear protective gloves (e.g. nitrile and other non-absorbent materials) whenever you handle seed treatment products and treated seeds.



## 5. Regularly calibrate and maintain application equipment

 Regularly maintain your seed treater and drilling equipment so that it works effectively and does not leak.











SUREN 600FS is a new solution for seed storage, exclusive for professional seed producers, offering a complete protection against Large Grain Borer and corn weevil infestation.

Active ingredient	600 g/L Thiamethoxam
Mode of action	Thiamethoxam, neonicotinoid chemical class, interferes with nicotinic acetylcholine receptors in the insect nervous system through product contact or ingestionactivity. SUREN 600FS stops pests feeding within hours of ingestion, resulting in mortality and preventing subsequent seed damage. SUREN 600FS offers a solution against pests (like Large Grain Borer) resistant to pyrethroids.
Targets	Large Grain Borer, weevils, flour beetle, indian meal moth
Main crops	Corn
Registered countries	Zambia, Zimbabwe, Tanzania
Advantages and main benefits	<ul> <li>48+weeks protection for stored seeds against Large Grain Borer, weevils, flour beetle, indian meal moth</li> <li>New mode of action, with no Large Grain Borer resistance</li> <li>Low rate usage, no seed safety impact</li> <li>Proven high operation efficiency on industrial application</li> </ul>

An effective, broad spectrum insecticide and acaricide for the control of stored commodities pests. Ideal for industrial storage, ACTELLIC controls more than 20 species of pests in the orders Coleoptera (beetles and weevils), Lepidoptera (moths) and Acarina (mites).

Active ingredient	500 g/L Pirimiphos-methyl
Mode of action	Active against insects by contact, ingestion and fumigant routes
Targets	Saw-toothed grain beetle and merchant grain beetle (Oryzaephilus spp.), Grain weevil/Rice weevil (Sitophilus spp.), Flour beetle (Tribolium spp.), Lesser Grain borer (Rhizopertha dominica), Common grain mite/flourmite (Acarus siro), Angoumois grain moth (Sitotroga cerealella), Flour moth/mill moth/fruit moth/coca moth (Ephestia spp.), Rust red grain beetle (Cryptolestes ferrugineus), Tobacco beetle (Lasioderma serricorne), Indian meal moth (Plodia interpunctella), Khapra beetle (Trogoderma granarium), Pulse beetles (Anthoscelides obtectus, Callosobrochus maculatus)
Main crops	Any stored commodities (grain and other foodstuffs)
Registered countries	Morocco, Algeria, Tunisia, Ethiopia, Kenya, Tanzania, Uganda, Zimbabwe, Malawi, Zambia
Advantages and main benefits	Suited to use in storage facilities, whether these are domestic grain storage bags, stores or large industrial scale silos Controls a wide range of pests Long-term protection and prolonged insect kill on inert surfaces Low toxicity to mammals and other non-target animals Proven low risk to users and consumers Approved for use on ships by the International Maritime Organisation Registered by the US EPA as a stored grain protectant Internationally established maximum residue levels (FAO/WHO Codex Alimentarius) No withholding period after treatment





ACTELLIC® Gold Dust is a powerful and long lasting solution against difficult green storage pests. developed for small holders, it has broad-spectrum control, including weevils, beetles, and moths. It is particularly strong against larger grain borer.

Active ingredient	3.6 g/kg Thiamethoxam + 16 g/kg Pyrimiphos-methyl
Mode of action	<ul> <li>Contact, systemic and respiratory action</li> <li>Acts on the nervous system of the insects, neuron/neuron and neuron/muscle (neuromuscular) junctions or synapses</li> <li>Causes a rapid twitching of voluntary muscles and final paralysis of the insects, leading to death</li> <li>The combined systemic and respiratory action give a long-termprotection</li> <li>Controls insects emerging from diapauses after a long period</li> </ul>
Targets	Tropical warehouse moth, tobacco beetle, saw toothed grain beetle, rust red grain beetle, indian meal moth, grain weevil, red flour beetle, lesser grain borer, larger grain borer
Main crops	Corn, sorghum, wheat
Registered countries	ACTELLIC® Gold Dust is approved for use in most countries around Africa
Advantages and main benefits	The outstanding post-harvest insecticide solution Curative and preventive grain storage method Rapid knockdown from the first hours Long lasting and reliable protection of your grain beyond 48 weeks after application The modern weapon against large grain borer damage Guarantees long lasting storability of rich-in-protein grain and flour Available in small packing for small holders



APRON® Star is a broad spectrum multi-cropseed applied insecto-fungicide with proven efficacy in vigor enhancement. Ideal for industrial treatment (60kg/bag) and for smallholders (10g /sachet).

Additional brands	SEED Star
Active ingredient	200 g/kg MEFENOXAM® + 20 g/kg Difenoconazole + 200 g/kg Thiamethoxam
Mode of action	MEFENOXAM®  Metalaxyl-Minhibits the RNA synthesis. This results in the prevention of spore production and inhibition of mycelial growth of the fungus. Difenoconazole Preventing formation of ergosterol in fungus cells. As a result the growth and development of pathogenic fungi is rapidly and permanently halted. Thiamethoxam Stop pests feeding within hours of ingestation, resulting in mortality and preventing subsequent crop damage.
Targets	Diseases: Pythium spp., phytophthora spp., downy mildew, common bunt, dwarf bunt, seedling blight, helminthosporiumspp., net blotch, loose smut Insect pests: Wireworms, flea beetles, spring tails, aphids, white flies, thrips, jassids
Main crops	Sorghum, rice, potato, cotton, sunflower, beans, peas, cowpeas, corn/maizeand wheat
Registered countries	APRON® Star is approved foruse in most countries around Africa
Advantages and main benefits	Versatile product Tailor made for small scale farmers Available in small packing for small holders Applicable on many crops Easy to apply Improved germination and root development Stronger vigor at early stage Better stress management Higher quality and yield





Unsurpassed control of seed, soil borne and early season foliar diseases caused by downy mildews or Pythium species. The active principleMEFENOXAM® delivers fast and uniform emergence at ultra-low rates.

Active ingredient	350 g/L MEFENOXAM®
Mode of action	Phenylamide chemistry Inhibitor of the RNA synthesis, preventing spore production and inhibiting mycelial growth of the fungus Safe to crop High systemic activity
Targets	Seed and soil-bornediseases caused by fungi such as Pythium, Phytophthora, Peronospora, Plasmopara and other downy mildews.
Main crops	Cotton, sunflowers, peas, beans, corn and soybeans
Registered countries	South Africa, Zambia
Advantages and main benefits	Outstanding activity against Pythium damping off and early downy mildew infections Fast and uniformcrop establishment Excellent crop safety Flexible in terms of application rates and tank-mixcompatibility to adopt to disease and pest situations  Favorable toxicologyprofile- APRON® XL has a very low use rate.



AVICTA® Complete is the proven seed treatment nematicide and insecticide for use in corn, soybeans and cotton.

AVICTA® Complete works from the moment the seeds are planted to provide growers with instant, convenient and reliable protection of their crops against a wide spectrum of yield–robbingpests and nematodes.

Active ingredient	500 g/L Abamectin +600 g/L Thiamethoxam
Mode of action	AVICTA® Complete is a multi-pestcombination of two active ingredients. AVICTA® 500FS moves alongside the growing roots, thereby protecting young plants from nematodes attacking root system and CRUISER® 600FS is a neonicotinoic chemistry, with excellent systemicity and movement through the plant with a broad spectrum insect control.
Targets	AVICTA® Complete has a broad spectrum control against Meloidogyne incognita, Pratylenchus brachyurus, Pratylenchus zeae, Meloidogyne javanica and Rotylenchulus reniformis.CRUISER® deliverers excellent control of black maize beetle, false wireworms, small false wireworms, ground weevils, spotted maize beetle larva, maize leafhopper (maize streak virus vectors), Russian wheat aphid, cotton aphid, cotton leafhopper, black cotton beetle.
Main crops	Cotton, corn and soybean
Registered countries	South Africa
Advantages and main benefits	<ul> <li>Provide high protection against nematodes and early-season pests -it is immediate consistent and reliable</li> <li>Protect the investment and genetic value</li> </ul>





A combination of two key active ingredients for superior performance in diseases control in cereals including Fusarium spp. Unique mode of action with broad spectrum seed and soil borne disease control securing uniform, healthy crop establishment as foundation for yield and quality in small grain cereals.

Active ingredient	25 g/L Fludioxonil + 25 g/L Difenoconazole
Mode of action	Fludioxonil blocks a protein kinase that catalyses phosphorylation of a regulatory enzyme of glycerol synthesis. This inhibits spore germination and growth of germ tubes and mycelia on the plant surface (preventative fungicide) Difenoconazole is a triazolefungicide and inhibitor of sterole biosynthesis, has contact, penetrant, and systemic activity and less rapid movement within the plant compared to other triazoles, which explain the exceptional crop tolerance.
Targets	External or Superficial contamination: Fusarium spp., Tilletia caries (bunt), Cochliobolus sativus, Septoria nodorum. Internal contamination: Ustilago tritici (loose smut)
Main crops	Cereals including wheat, barley, oat, triticale, rye
Registered countries	CELEST® Extra is approved for use in most countries around Africa
Advantages and main benefits	<ul> <li>The best available control of Fusarium spp., Microdochium and bunts resulting in better crop establishment and overwintering and building the foundation for yield and quality.</li> <li>Unique mode of action and ideal partner for sustainable disease control via seed treatment.</li> <li>High intrinsic activity and low use rate with favorable regulatory profile.</li> </ul>



CELEST® Top is a protectant and systemic broad spectrum insecto-fungicide Seedcare product with vigor effect.

Seeds are protected against soil and seed borne diseases and storage pests. At planting it provides strong, healthy and vigorous seedlings, firm crop establishment and final crop stand resulting in secured yield setting. Seedling and young crop is protected against soil dwelling insects and early season foliar pests. Its broad disease spectrum, includes best in class activity against Fusarium spp. and early leaf blast.

Active ingredient	262.5 g/L Thiamethoxam + 25 g/L Fludioxonil +25 g/L Difenoconazole
Mode of action	Fludioxonil Phenylpyrrole chemistry Inhibitor of protein kinase for regulation of glycerol Leading control of Fusarium spp. Long-lasting control Difenoconazole Triazole chemistry Inhibitor of sterole biosynthesis Safe to crop Systemic activity, protectant and penetrant Thiamethoxam Neonicotinoid chemistry Receptor site inhibitor Broad-spectrum insect control Plant vigor effect Movement through plant
Targets	CELEST® Top offers the best available control of Microdochium nivale and Fusarium spp., two major seedling diseases in cereals, as well as excellent control of other seed borne diseases such as bunt and Septoria. The association with Thiamethoxam, provides broad–spectrum control of a wide range of early–season sucking and chewing, leaf–feedingand soil–dwellinginsect pests, including aphids, hoppers, maggots, beetles, soil grubs and wireworms.
Main crops	Cereals
Registered countries	CELEST® Top is approved for use in most of the wheat countries around Africa
Advantages and main benefits	<ul> <li>Full body seed treatment solution</li> <li>Protection that grows with the crop</li> <li>Fast germination and crop establishment</li> <li>Healthy final crop stand</li> <li>Protects the seed in storage facilities</li> <li>Preserves the genetic potential of the seed</li> </ul>





CELEST® 100FS is the standard fungicide seed treatment for high quality potato production. The use of CELEST® 100FS as a seed treatmentpromotes a healthy, vigorous crop through the control of all key seed-borne diseases in potato.

Additional brands	MAXIM® 100FS
Active ingredient	100 g/L Fludioxonil
Mode of action	The unique mode of action of fludioxonil interferes with protein kinase in fungal cells interacting at various points in the life cycle of the fungus. Contact activity.
Targets	Controls Rhizoctonia solani, Fusarium spp. Helminthosporiumin potato, Polyscytalum postulans (skin spot), Phoma exigua (gangrene) and Collectotrichum coccodes (black dot)
Main crops	Potato
Registered countries	CELEST® 100FS is approved for use in most countries around Africa
Advantages and main benefits	Even crop establishment     Reduction of major skin blemish diseases     Greater marketable yields     No need for dust products     One less job to do at planting     Easy to use     One product solution protecting against major seed-borne diseases



CRUISER® is an innovative, environmentallysafe, insecticide which provides instant, early season, broad spectrum pest control and seed storage treatment thereby enhancing plant vigor and crop yield potential.

Additional brands	CRUISER® 350FS and CRUISER® 600FS
Active ingredient	Thiamethoxam, belongs to a subclass of neonicotinoid chemistry.
Mode of action	CRUISER® stops pests feeding within hours of ingestion, resulting in mortality and preventing subsequent crop damage. The fast uptake and distribution of CRUISER® provides full plant protection.
Targets	CRUISER provides broad–spectrumcontrol of a wide range of early–season sucking and chewing, leaf–feeding and soil–dwelling insect pests, including aphids, leafhoppers, beetles, thrips, white flies, soil grubs and wireworms. Its high level of systemicity offers long–lasting protection while providing consistent performance.
Main crops	CRUISER® is registered on a broad range of crops, such as corn (maize), sunflowers, cotton, cereals, peas, soybeans and sugarbeets.
Registered and registering countries	Most Africa & Middle-East countries
Advantages and main benefits	Long-lasting control of a broad spectrum of insects     Reliable performance under a wide-range of growing conditions     Strong crop vigor and density to maximize crop potential     Fully compatible with genetically enhanced plants     Commercially applied by the seed company to conveniently replace older chemistry and soil and foliar insecticide applications     Supported by worldwide registrations to ensure free movement of treated seed within the global seed market     High-quality formulations with low use rates for easy-to-handle application



Protects the cotton seeds and developing seedling against a broad range of the most important diseases and insects during a very critical and sensitive stage of the cotton plant's development cycle.

The excellent crop safety and broad–spectrum protection of CRUISER® Extra Cotton helps seed companies to increase the value of their offer by maximising the genetic potential of seeds. The high quality formulation is easy to handle with excellent worker safety.

Active ingredient	350 g/ L Thiametoxam + 8 g/L Fludioxonil + 3 g/LMEFENOXAM®
Mode of action	CRUISER® Extra Cotton with its contact and systemic activity gives long lasting, broad spectrum control of key diseases, including Pythium spp., Fusarium spp. and Rhizoctonia spp.; protecting not just the seed but also the vulnerable young seedling. CRUISER® Extra Cotton provides protection for the young vulnerable cotton seedling from germination until the first few weeks after germination. The product controls a broad spectrum of insects and gives consistent performance under a wide range of climatic conditions.
Targets	Broad spectrum disease control to soil and seed-borne diseases like: Pythium spp., Phoma exigua, Fusarium spp., Rhizoctonia spp., Damping off complex. Provides broad-spectrum control of a wide range of early-season sucking and chewing, leaffeeding and soil-dwellinginsect pests, including aphids, leafhoppers, beetles, thrips, whiteflies, soil grubs and wireworms.
Main crops	Cotton
Registered countries	CRUISER® Extra Cotton is registered in the main cotton growing countries in East and West Africa.

#### Advantages and main benefits

- Early control protect the seed and seedling against a broad range of seed–and soil–borne diseases and insects as well as early foliar diseases and insects when it is too early for foliar applications.
- Peace of mind- protect seeds and seedlings when conditions unexpectedly become favorable for the development of soil-borne diseases such as Pythium spp., Fusarium spp. and Rhizoctonia spp. and early insects such as wireworms, aphids and thrips.
- Convenience treated seed offers full protection and no additional measures needed. Safe to the seed and seedling with no detrimental effect on the growth and development of the plant.
- Targeted application focus control on the areas that matter most. Can be used on mechanic or acid de–linted seed.
- Uniform emergence healthy and vigorous emergence under a wide range of climatic conditions. The unique vigor effect boosts germination and crop establishment which results in higher yields, even in the absence of pests and diseases.





Foundation seed treatment combining high performance with exceptional crop safety in extensive cereals. Unique dwarf bunt activity.

Additional brands	SPECTRO®
Active ingredient	30 g/L Difenoconazole
Mode of action	<b>Difenoconazole</b> is a triazole with, inhibitor of sterole biosynthesis, preventing fungi membranes formation. It has contact, penetrant and slow systemic activity, providing very crop tolerance
Targets	External or Superficial contamination: Tilletia caries, Septoria nodorum Internal contamination: Ustilago tritici
Main crops	Cereals
Registered countries	DIVIDEND® is approved for use in most countries around Africa
Advantages and main benefits	Broad spectrum of seedborne and soilborne diseases and some early foliar pathogens: Tilletia caries, Tilletia controversa, Septoria nodurum, Ustilago tritici, Ustilago hordei and Ustilago nuda (suppression only)     Unique activity against dwarf bunt in wheat Excellent crop safety     Range of mixture products to target specific disease problems and growing conditions

DIVIDEND® Extreme, two active ingredients, two modes of action to protect your cereal crop against seed-and soil-borne diseases.

Additional brands	SPECTRO® Extreme
Active ingredient	23 g/L MEFENOXAM® +92 g/L Difenoconazole
Mode of action	MEFENOXAM® Inhibits the RNA synthesis, preventing spore production and inhibiting mycelial growth of the fungus Difenoconazole Inhibits sterol synthesis and therefore prevents fungi membranes formation
Targets	Downy mildew, Pythium spp., Tilletia caries, smuts and Rhizoctonia spp.
Main crops	Wheat, barley, rye, triticale, oats
Registered countries	DIVIDEND® Extreme is approved or being approved in all leading cereal producing countries around Africa & Middle-East
Advantages and main benefits	Seed-borne disease protection     Excellent crop safety     Increased seedling survival     Healthier root system with the control of Pythium spp. root rot     Indirect secondary disease control     Maximized yield potential



DYNASTY® CST is a systemic and contact seed treatment fungicide, with particular strengths against a broad range of damping-offand seedling blight diseases.

Active ingredient	12.5 g/L Fludioxonil+37.5 g/L MEFENOXAM® + 75 g/LAMISTAR® Technology
Mode of action	Fludioxonil Contact activity, inhibits kinase group synthesis, taking action on the fungal cell membrane, inhibiting spores germination and growth  MEFENOXAM® Highly systemic activity Inhibits the RNA synthesis, preventing spore production and inhibiting mycelial growth of the fungus  AMISTAR® Technology Systemic activity, electron transport inhibitor, preventing spore germination
Targets	Seed and soil borne fungicausing decay, damping-offand seedling blight: Seedling damping-off(Rhizoctonia solani, Pythium spp., Fusarium spp.) Downy mildew (Plasmopara halstedii)
Main crops	Sunflowers, soybean, cotton
Registered countries	South Africa
Advantages and main benefits	Outstanding downy mildew control Highly active against all races of the pathogen Contact and systemic fungicide Long lasting activity for efficient seedling protection Resistance management COMPLEMENTS GENETIC RESISTANCE



Seedcare has developed many solutions for abiotic stress around the globe. Supporting the seed companies on making their genetics more efficient during establishment, these products are increasing importance specially in the tropical soils conditions. Current Epivio offers are based on natural plant growth regulators, plant and algae extracts or slow release micronutrients, that in combination with current chemistry delivers excellent seedling nutrition.

- · Enables stronger plant growth Tested on local varieties, with their specific soil and climate conditions, EPIVIO™ solutions enables seedling stress tolerance and improves plant growth and establishment.
- · Stable with excellent seed safety Easy to apply and stable on the seed, the product is activated when the seed is planted. Specially developed for seed companies, follow the Seedcare standards for formulation and applicability.
- Supports microbioma enhacement Some specific compounds increase beneficial soil microorganisms population with a positive priming effect, facilitating nutrients up taken by the plants.







**EPIVIO™** Solution



The Syngenta platform for seed-delivered technologies in vegetables.

Active ingredient	MEFENOXAM® and Fludioxonil
Mode of action	MEFENOXAM® Inhibits the RNA synthesis This results in the prevention of spore production and inhibition of mycelial growth of the fungus Fludioxonil blocks a protein kinase that catalyses phosphorylation of a regulatory enzyme of glycerol synthesis. This inhibits spore germination and growth of germ tubes and mycelia on the plant surface (preventative fungicide)
Targets	Soil-borne diseases: Pythium spp., Phytophthora spp., Rhizoctonia solani, Fusarium spp. Seed-borne diseases: Alternariaspp., Mycosporaella spp., Phoma spp., Colletotrichum spp. Air-bornediseases: Perenospora spp.
Main crops	Vegetables
Future registering countries	All key vegetables growing countries
Advantages and main benefits	<ul> <li>FarMore protects the seed and seedling during the most susceptible phase of plant development and ensures that every seed becomes a healthy young plant contributing to the crop stand necessary for best yield results</li> <li>Under adverse conditions up to 6–8% more plants per ha can be achieved</li> <li>FarMore treated seeds can be exported across many countries in the world</li> </ul>



FORTENZA™ Duo is ultimate generation seed treatment insecticide that delivers long-lastinginsect control both above and below the ground including lepidoptera control (Fall Armyworm).

This convenient and flexible solution delivers superior results in a variety of climatic conditions – even under high pest pressure. It is designed to optimize the grower's experience in pest control with the best–in–class early season insect spectrum promoting an improved crop establishment driving to better yields.

FORTENZA™ Duo can be applied in both transgenic and conventional crops with excellent benefits in both cases.

Additional brands	FORTENZA™				
Active ingredient	Cyantraniliprole (diamide class of insecticides) and thiametoxam.				
Mode of action	When applied as a seed treatment, FORTENZA" Duo is quickly taken up by the roots and moves upward in the plant through the xylem system, controlling a broad range of above ground insects. The product is also distributed into the soil around the root zone forming a bulb of protection against below ground insects. It is a soil systemic product. Insects are controlled mainly by ingestion but some contact activity can also be observed. FORTENZA" Duo provides excellent crop protection resulting from a rapid feeding inhibition and long lasting residual effect.				
Targets	FORTENZA <sup>TM</sup> is commercializedas FORTENZA <sup>TM</sup> Duo brand offers, delivering the best-in-class early season insect spectrum in combination with CRUISER <sup>TM</sup> . Particularly effective against lepidoptera pests including Fall Armyworm (Spodoptera Frugiperda).				
Main crops	FORTENZA™ Duo will be available for: corn, soy and wheat. Additional crops are expected in thefuture.				





Future registering countries	All key maize growing countries.
Advantages and main benefits	Best-in-class early-season insect spectrum control, both above and below the ground Long-lasting residual effect Dual mode of action with no known cross-resistance Strong root uptake and highly systemic in the xylem Complements insect traits and improves yield potential Help manage insect resistance to chemicals and GM traits Robust database of more than 1,000 seed treatment field trials across the globe Liquid formulations that are specifically designed for seed treatment Safe to seeds, rhizobium, selective for beneficial arthropods Efficient movement around and within the plant Designed to be a completely compatible fit to the Syngenta portfolio Increases return on investment via an unprecedented crop establishment for greater yields



MAXIM® Quattro is the broadest spectrum fungicide seed treatment that delivers superior disease protection, secures maize establishment and contributes to grain quality improvement.

Thanks to two additional active ingredients (AMISTAR® Technology, thiabendazole), spectrum of activity is broadened to various Pythium spp., Fusarium spp. and Rhizoctonia spp.

Active ingredient	MAXIM® Quattro is a combination of four active ingredients: Fludioxonil,MEFENOXAM®, AMISTAR® Technology and Thiabendazole.					
Mode of action	Broad activity with four different modes of action Interferes with protein kinase in fungal cells interacting at various points in the life cycle of the fungus.					
Targets	MAXIM® Quattro, used on maize, is a mixture of four active ingredients providing four different modes of action including improved Pythium spp. and Rhizoctonia spp. activity and control of Fusarium verticillioides.					
Main crops	Corn					
Registered countries	Key maize growing countries					
Advantages and main benefits	Complete protection of high-valueseeds Excellent seed safety combined with broad spectrum, reliable disease control for an optimum start of the crop Colorless formulation gives opportunity to combine with different binders, colorants and other service products Important component to manage mycotoxins threat					



MAXIM® XL is the global standard seed-applied fungicide in maize, which provides early season, broad spectrum disease control thereby protecting the potential of high-value maize seeds.

Additional brands	CELEST® XL
Active ingredient	25g/L Fludioxonil + 10g/L MEFENOXAM®
Mode of action	Fludioxonil Interferes with protein kinase in fungal cells interacting at various points in the life cycle of the fungus  MEFENOXAM® Systemic activity at ultralow application rates. In fungal cells it interferes selectively with the synthesis of ribosomal DNA, thus inhibiting mycelial growth and spore formation
Targets	Fusarium spp., Rhizoctonia spp., Helminthosporium spp., Pythium spp.
Main crop	Maize, soybean, potato, cotton, sunflower and vegetables
Registered countries	MAXIM® XL is approved for use in most countries around Africa & Middle-East
Advantages and main benefits	Consistency of performance     Ideal formulation for industrial treatment     Greater peace of mind     Better environmental profile     Safety to worker and environment



VIBRANCE® – Unique RootingPower™ that results in stronger, healthier roots – right from the start.

VIBRANCE® is the firstSyngenta molecule developed specifically for 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. Worldwide field trials show higher and more consistent yields for all major crops.

Root Health: A key to better crop productivity
Changes in agriculture worldwide – including increased demand for food and biofuel – drive new research directions such as Root Health. This research increasingly focuses on the ability of roots to efficiently use water and nutrients as a key to further improvements in crop productivity. VIBRANCE® is a major step toward integrated Root Health solutions.

Protecting and enhancing root systems for key

Protecting and enhancing root systems for key crops worldwide

With a new mode of action for the seed treatment market, VIBRANCE® defends roots against a wide range of soil—, seed—and air—bornediseases. It provides long—lasting protection of the entire plant root system through critical crop development stages and under a wide range of environmental conditions. The VIBRANCE® root stimulating effect results in better biotic and abiotic stress management – the foundation for higher and more consistent yield.

Additional brands	VIBRANCE®, VIBRANCE® Duo, VIBRANCE® SB
Active ingredient	Sedaxane
Mode of action	Belongs to the SDHI (succinate dehydrogenase inhibitor) class of fungicides.
Targets	Long-lasting protection against difficult-to-control seed-, soil-, and air-borne pathogens such as: Rhizoctonia spp., Ustilago spp. (on cereals), Tilletiacaries, Urocystis occulta, Pyrenophora graminea, Microdochium nivale, Typhula spp., Sphacelotheca reiliana, Macrophomina, Sclerotium spp. and also some activity on Verticilliumspp., Phoma spp., Helminthosporium solani, Phakopsora, Cochliobolus sativus.





Main crops	Cereals, maize and sugarbeet					
Future registering countries	Wide range of countries in Africa					
Advantages and main benefits	Broad spectrum disease control for all major crops, including best-in-class protection against Rhizoctonia spp. Long-lasting protection of the roots throughout critical crop development stages. Increased water and nutrient uptake through healthier, more robust root systems - for stronger plants with improved stress tolerance. Higher performance under abiotic stress: VIBRANCE® shows biostimulanteffect for optimized root performance under a wide range of conditions. Specifically increases photosynthetic efficiency under drought stress. Protection of crop genetics and improved yield potential. Support of sustainable agriculture by helping crops take better advantage of available water and soil resources. Higher and more robust yields.					

## NOTES



## TALORED TO CROPS

	SYN	SYNGENTA SEEDCARE SOLUTIONS							
	SUREN®	ACTELLIC® 500	ACTELLIC® Gold Dust	APRON® Star	APRON® XL	AVICTA® Complete	CELEST® Extra	CELEST® Top	
CROPS	공	¥	A	₹	₹	₹	병	B	
Cereal		•	•	•			•	•	
Com/Maize	•	•	•	•	•	•			
Cotton				•	•	•			
Potato									
Pulses/Legumes		•	•	•	•				
Rice		•	•	•					
Sorghum		•	•	•	•				
Soybean		•	•	•	•	•			
Sugarbeet									
Sunflower		•	•	•	•				
Vegetables									

	CELEST® 100FS	CRUISER®	CRUISER® Extra	DMDeND®	DMDEND® Extreme	DYNASTY®CST	EPIVO"	FARMORE®	FORTENZA" Duo	MAXIM® Quattro	MAXIM® XL	● VIBRANGE®
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For more information, please visit: www.syngentaseedcare.com

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