

# You'll know when your Seed Solutions team has come to visit you.

Get to know more than innovative  
seed treatment from BASF



General Information

 **BASF**  
The Chemical Company

# Planting the seeds for tomorrow's world.



Our world is growing and so is the demand for food and fiber. By 2050 the global population is expected to reach 9 billion people.

Meat consumption in emerging countries like China and India is increasing significantly, leading to a higher need for agricultural products for feed. Additionally the production of bio-fuels will lead to even higher demands for biomass in the future.

These global trends mean a major challenge for the agricultural business: With natural resources being limited, it will be necessary to increase the yield of the existing land while at the same time applying sustainable agricultural practices to ensure the needs of today's and tomorrow's generations.

Successfully managing these challenges begins with the seed, because it embodies the full potential of every crop. By treating your seed with Seed Solutions products, you can make sure that it gets the best possible start in life.

Protection from pests and diseases is just one of the benefits offered by Seed Solutions products. In addition, they also provide a range of positive effects on seed vitality, which we summarize under the brand name AgCelence®. These effects include better and faster germination, better stress tolerance and increased vigor to stimulate plant growth and enhance your yields.



# Our Vision and Mission.

## Helping farmers feed the world

As part of the world's leading chemical company it is our ambition to be your best partner, providing you with cutting edge Seed Solutions products that protect your seed and additionally bring benefits to plant health, which translate into higher yields.

In dialogue with you, we develop innovative, tailor-made solutions for your market needs and make seed treatment an integral part of efficient and environmentally favorable crop protection.

## Powerful knowledge for advanced solutions

Taking advantage of the know-how and synergies between our different divisions at BASF, which we term "Verbund", we provide you with seed treatment solutions that are really three-dimensional:

### Sustainability

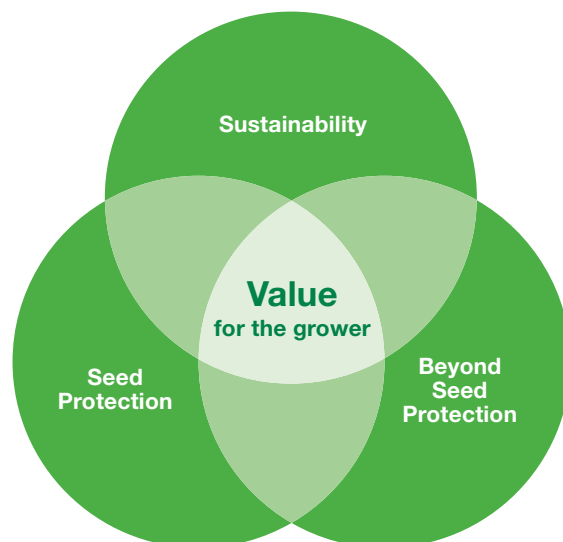
Combining business success with environmental and social responsibility by getting higher yield from existing land and using less water and energy

### Seed Protection

A range of innovative insecticides and fungicides shielding your seeds against the most common threats

### Beyond Seed Protection

Additional AgCelence® benefits including better and faster germination, better stress tolerance and increased vigor





## Customer Value Seed companies, seed treaters and farmers: co-creating complete solutions

With tailor-made Seed Solutions all our customers in agriculture add value to their business – no matter if you are a farmer, a professional seed treater or if you are working at a seed company. By building strong partnerships with all participants in the seed treatment process, we co-create solutions that fulfill our customers' needs and requirements, also those which go far beyond seed protection.

### Seed companies

- Added value to seed
- Good processability
- Constant technical support

### Seed treaters

- Added value to seed
- Ready-to-use formulations
- Easy to apply and safe to handle

### Farmers

- Excellent biological performance translated into higher yields and reduced risks



# Why shop around, when you can get everything from one source?

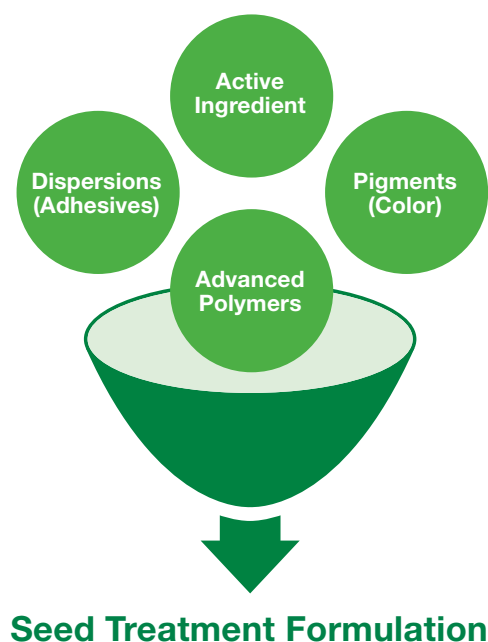


You are looking for effective seed treatment products for long lasting protection against pests and diseases. Therefore, treating seeds with a conventional insecticide or fungicide is not enough.

The active ingredients need to cover the seed evenly and form a durable coating which may need to be colored, so that treated seeds can be easily distinguished from untreated seeds. Furthermore the coatings need to be safely applied using standard treatment machinery.

Building on the wide range of scientific and technical expertise that exists within the BASF group (“Verbund”), we can apply a whole range of formulation technologies.

Mixing the active ingredients with advanced polymers helps them to stick to the seed and coat it evenly, as well as enhancing the stability of the coating and reducing dust. Adding dispersing agents as well as further ingredients enhances the physical properties of treated seeds and makes it easier to apply the seed treatment to the seeds, while pigments add the necessary color. These are just a few examples of the enhanced product properties we are offering to you with Seed Solutions.





## Our Technology Centers Exchanging expert knowledge with you

On-going exchange of knowledge and experience across our different divisions and with our customers is the basis for the development of innovative solutions for effective seed treatment.

At our Technology Centers in Limburgerhof, Germany and Campinas, Brazil we hold dialogue and practical discussion with our customers, through which our dedicated team of scientists can optimize our products.

Thanks to our state-of-the-art equipment, we can reproduce the treatment processes and techniques that are used by our customers allowing us to assess product performance under real-life conditions and further develop seed treatment processes, application and product usage for you.

This involves analyzing and testing the technical performance of our formulations and products such as mixing compatibility, viscosity and dilution behavior. Furthermore, the properties of the treated seed are being examined thoroughly according to our Product Stewardship guidelines, like seed loading, homogeneity of treatment, dust-off, seed flow and plantability.

## Our Seed Laboratories Analyzing the beneficial effects of our products

Located next to our Technology Centers, our Seed Laboratories investigate the impact our products and formulations would have on the seeds and seedlings. This ranges from germination capacity and efficacy against a broad range of diseases to important plant health benefits such as improved germination and enhanced vigor under different environmental conditions.

Before proving these effects under practical conditions in the field, we conduct a broad range of tests under controlled conditions in the laboratory and greenhouses.

All our tests comply with the official guidelines of ISTA as well as our high BASF quality standards. In addition, our professional Seed Laboratory staff continuously develops new methodologies that help to ensure the quality and safety of our products and to obtain the maximum value for you.

Our Seed Laboratories support the development of new ideas and technologies for the individual requirements of all our customers. For this purpose we use advanced technologies being developed in other parts of BASF as well as the direct feedback from farmers, seed treaters and seed companies.

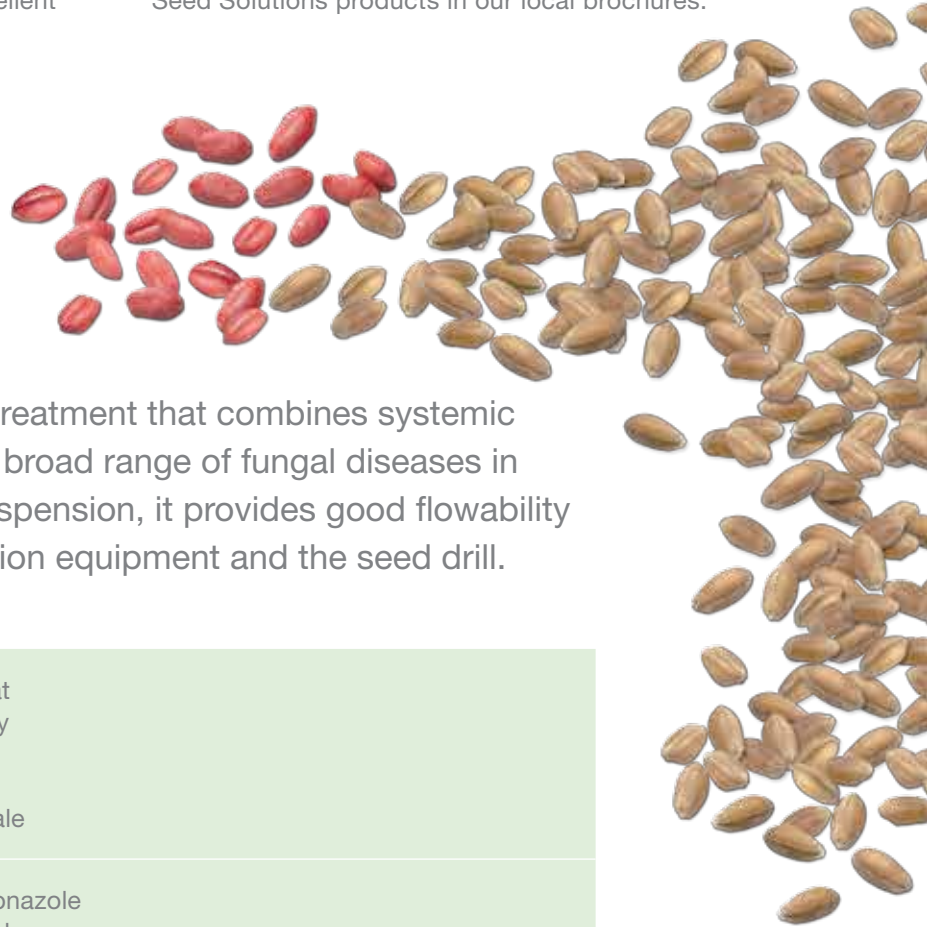
# All our products contain innovation as a standard.

Thanks to intensive research and development we can provide you with a continuously strong product line combining cutting-edge seed protection with additional AgCelence® benefits for higher performance, excellent processability and enhanced biological efficiency.

A few selected products from our broad range of innovative Seed Solutions are introduced briefly on the following pages, yet you can find out more about these and other Seed Solutions products in our local brochures.

## Kinto® Duo

Kinto Duo is a new generation seed treatment that combines systemic and contact activity to control a very broad range of fungal diseases in cereals. Formulated as a flowable suspension, it provides good flowability of treated seeds, both in the application equipment and the seed drill.



<b>Crops</b>	<ul style="list-style-type: none"> <li>• Wheat</li> <li>• Barley</li> <li>• Oats</li> <li>• Rye</li> <li>• Triticale</li> </ul>
<b>Active ingredients</b>	<ul style="list-style-type: none"> <li>• Triticonazole</li> <li>• Prochloraz</li> </ul>
<b>Control spectrum</b>	<ul style="list-style-type: none"> <li>• Seedling blight and foot rot (<i>Microdochium nivale</i> and <i>Fusarium spp.</i>)</li> <li>• Septoria seedling blight (<i>Septoria nodorum</i>)</li> <li>• Common bunt (<i>Tilletia caries</i>)</li> <li>• Loose smut (<i>Ustilago tritici</i> and <i>Ustilago nuda</i>)</li> <li>• Covered smut (<i>Ustilago hordei</i>)</li> <li>• Leaf stripe (<i>Pyrenophora graminea</i>)</li> <li>• Ergot fungi (<i>Claviceps purpurea</i>)</li> </ul>
<b>Additional benefits</b>	<ul style="list-style-type: none"> <li>• One ready-to-use product for all cereals</li> <li>• Protects against a very broad range of fungal diseases with high level of activity against ergot</li> <li>• Provides good seed to seed distribution and flowability in the drill</li> </ul>

# Acronis<sup>®</sup>

In addition to providing systemic and contact activity against a wide range of fungal diseases, Acronis enhances the health and vitality of the seed and young plants under various climatic and stress conditions what we call AgCelence<sup>®</sup> effects.

<b>Crops</b>	<ul style="list-style-type: none"><li>• Soybeans</li><li>• Peanuts</li><li>• Corn</li></ul>
<b>Active ingredients</b>	<ul style="list-style-type: none"><li>• F500<sup>®</sup></li><li>• Thiophanate-methyl</li></ul>
<b>Control spectrum</b>	<ul style="list-style-type: none"><li>• Purple seed stain (<i>Cercospora kikuchii</i>)</li><li>• Pod and stem blight (<i>Phomopsis sojae</i>)</li><li>• Seed rot (<i>Phomopsis spp.</i>)</li><li>• Root rot (<i>Fusarium semitectum</i>)</li><li>• Anthracnose (<i>Colletotrichum dematium var. truncate</i>)</li><li>• Mold diseases (<i>Penicillium-/ Aspergillus spp.</i>)</li></ul>
<b>Additional benefits</b>	<ul style="list-style-type: none"><li>• Provides a dual mode of action: systemic and contact activity</li><li>• Increases vitality as well as stress and cold tolerance</li></ul>



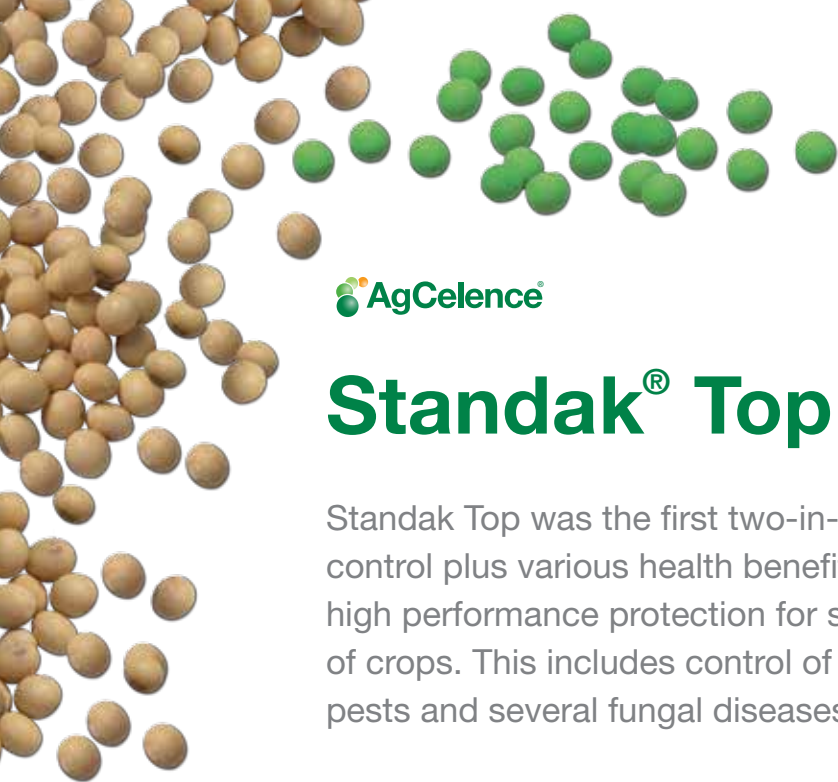




# Stamina<sup>®</sup> F3 Cereals

Stamina F3 Cereals, a 3-way fungicide combination, provides effective protection against a broad range of soil- and seed-borne diseases in a variety of crops. In addition, it can enhance the vigor and health of seedlings by distributing active ingredients in the root zone and forming a protection barrier around the roots.

<b>Crops</b>	<ul style="list-style-type: none"><li>• Barley</li><li>• Oats</li><li>• Triticale</li><li>• Rye</li><li>• Wheat</li></ul>
<b>Active ingredients</b>	<ul style="list-style-type: none"><li>• F500<sup>®</sup></li><li>• Triticonazole</li><li>• Metalaxyl</li></ul>
<b>Control spectrum</b>	<ul style="list-style-type: none"><li>• Root and crown rot (<i>Rhizoctonia solani</i>)</li><li>• Seed rot (<i>Fusarium solani</i>)</li><li>• Seedling blight (<i>Fusarium spp.</i>)</li><li>• Common root rot (<i>Cochliobolus sativus</i>)</li><li>• Dry seed decay (<i>Fusarium spp.</i>)</li><li>• Phythium damping off (<i>Pythium spp.</i>)</li><li>• Common bunt of wheat (<i>Tilletia tritici/syn. Tilletia caries</i> and <i>T. laevis/syn. T. foetida</i>)</li><li>• Covered smut of barley (<i>Ustilago hordei</i>)</li></ul>
<b>Additional benefits</b>	<ul style="list-style-type: none"><li>• Promotes emergence under cold germination conditions, better seedling survival and seedling vitality</li><li>• Diffuses into the soil surrounding the seedling roots to protect the growing seedling</li><li>• Confers a range of health benefits on the seed, which contribute to enhanced yields</li></ul>

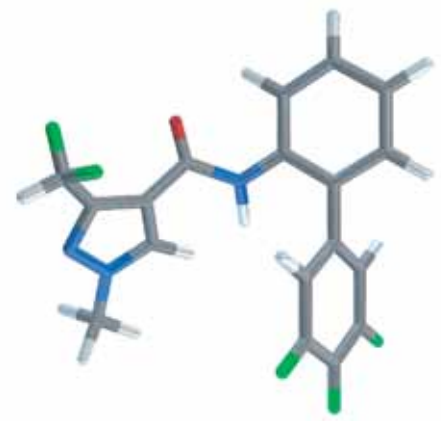


# Standak<sup>®</sup> Top

Standak Top was the first two-in-one solution combining pest and disease control plus various health benefits through AgCelence<sup>®</sup> effects. It offers high performance protection for seeds and young plants of a broad range of crops. This includes control of all the major soil and early season insect pests and several fungal diseases at the beginning of the plant life cycle.

<b>Crops</b>	<ul style="list-style-type: none"> <li>• Soybeans</li> <li>• Corn</li> <li>• Drybeans</li> <li>• Cotton</li> <li>• Wheat</li> <li>• Barley</li> <li>• Sunflower</li> <li>• Sorghum</li> <li>• Peanuts</li> </ul>
<b>Active ingredients</b>	<ul style="list-style-type: none"> <li>• Fipronil</li> <li>• F500<sup>®</sup></li> <li>• Thiophanate-methyl</li> </ul>
<b>Control spectrum</b>	<p><b>Pests:</b></p> <ul style="list-style-type: none"> <li>• White grubs (i.e., <i>Phyllophaga cuyabana</i>)</li> <li>• Corn rootworm (<i>Diabrotica speciosa</i>)</li> <li>• Lesser cornstalk borer (<i>Elasmopalpus lignosellus</i>)</li> <li>• Weevil (<i>Sternechus subsgnatus</i>)</li> <li>• Termites (<i>Proconitermes triacifer</i>)</li> <li>• Wireworms (i.e., <i>Agriotes ssp.</i>)</li> <li>• Thrips (<i>Thrips ssp.</i>)</li> </ul> <p><b>Diseases:</b></p> <ul style="list-style-type: none"> <li>• Purple seed stain (<i>Cercospora kikuchii</i>)</li> <li>• Phomopsis seed decay (<i>Phomopsis spp.</i>)</li> <li>• Fusarium root rot (<i>Fusarium spp.</i>)</li> <li>• Anthracnose (<i>Colletotrichum dematium var. truncate</i>)</li> <li>• Mold diseases (<i>Penicillium-/ Aspergillus spp.</i>)</li> <li>• Leafspot (<i>Alternaria alternata</i>)</li> <li>• Root and stem rot (<i>Rhizoctonia solani</i>)</li> </ul>
<b>Additional benefits</b>	<ul style="list-style-type: none"> <li>• Improves stress tolerance</li> <li>• Ensures protected germination and enhanced seedling growth for stronger and healthier plants and significant yield enhancement</li> </ul>

# Xemium®



Xemium is the latest active ingredient innovation to emerge from our fungicide research program. Showing outstanding mobility in both the plant and its roots, the Xemium product family sets a new benchmark in controlling a wide range of diseases that afflict various crops.

<b>Crops</b>	<ul style="list-style-type: none"> <li>• Cereals</li> <li>• Soybeans</li> <li>• Cotton</li> <li>• Corn</li> <li>• Oilseed rape/Canola</li> </ul>
<b>Active ingredients</b>	<ul style="list-style-type: none"> <li>• Xemium®</li> </ul>
<b>Control spectrum</b>	<ul style="list-style-type: none"> <li>• Root and stem rot (<i>Rhizoctonia solani</i>)</li> <li>• Seedling rot / seedling blight (<i>Fusarium solani</i>)</li> <li>• Leafspot (<i>Alternaria spp.</i>)</li> <li>• Asian Soybean Rust (<i>Phakopsora pachyrhizi</i>)</li> <li>• Leaf stripe (<i>Pyrenophora spp.</i>)</li> <li>• Loose smut (<i>Ustilago nuda</i>)</li> <li>• Pink snow mold (<i>Microdochium nivale</i>)</li> <li>• Septoria leaf blotch (<i>Septoria tritici</i>)</li> <li>• Net blotch (<i>Pyrenophora teres</i>)</li> <li>• Black stem disease (<i>Phoma spp.</i> (seed-borne))</li> </ul>
<b>Additional benefits</b>	<ul style="list-style-type: none"> <li>• Offers advantageous new mode of action for seed treatment application</li> <li>• Exhibits outstanding mobility and distribution in young plants and their roots for healthy start</li> <li>• Provides additional plant health benefits regarding root mass production and cold stress tolerance</li> <li>• Ensures complete protection when combined with other active ingredients such as F500®, Triconazole, Prochloraz, etc.</li> <li>• Enables reliable and robust application in any weather</li> <li>• Complements the genetic potential of seed varieties by supporting healthy crops from the very beginning</li> </ul>

# There are five major benefits you gain from Seed Solutions.

With Seed Solutions, not only can you obtain higher yields while saving costs and time – our products are also safe and easy to use.



## Best seed protection

Productivity starts with the seed. All our Seed Solutions products offer you advanced protection from seed- and soil-borne diseases, and insects. Shielding your seeds against these common dangers is the decisive first step towards maximizing your yields and the return on your investment.



## Extra vitality beyond seed protection

BASF is a pioneer in scientific research on plant health. That's why we are able to provide you with new-generation products that possess additional quality benefits beyond disease and pest control like AgCelence® plant health effects and nutrient use efficiency to increase your marketable yield.



## Professional service

Being a Seed Solutions customer means gaining access to one of the world's most skilled seed treatment support teams. At our Seed Solutions Technology Centers, experts and scientists work for you and with you, from testing products to demonstrating applications and analyzing your samples.



## Verbund research

At Seed Solutions, we take advantage of expert knowledge from all parts of BASF, allowing us to combine technologies for tailor-made innovations from one source. By utilizing our unique knowledge resources, the BASF Research "Verbund" is able to use and combine cutting-edge polymer, pigment and formulation technologies for ideal optimal application and sustainability.



## Tomorrow's solutions

At BASF, research into new chemistry is a continuous process. Innovative active ingredients that are in the pipeline today will contribute to the further advancement of tomorrow's Seed Solutions. As our customer, you will always have first-hand access to cutting edge solutions to bring out the full potential of your seeds.

To contact us, please get in touch with the address below, or contact our local BASF office.

**BASF SE**  
Global Strategic Marketing  
Seed Solutions  
Speyerer Str. 2  
D-67117 Limburgerhof, Germany  
[www.solutions-for-seeds.com](http://www.solutions-for-seeds.com)

© Copyright BASF  
© Registered Trademark of BASF

 **BASF**  
The Chemical Company