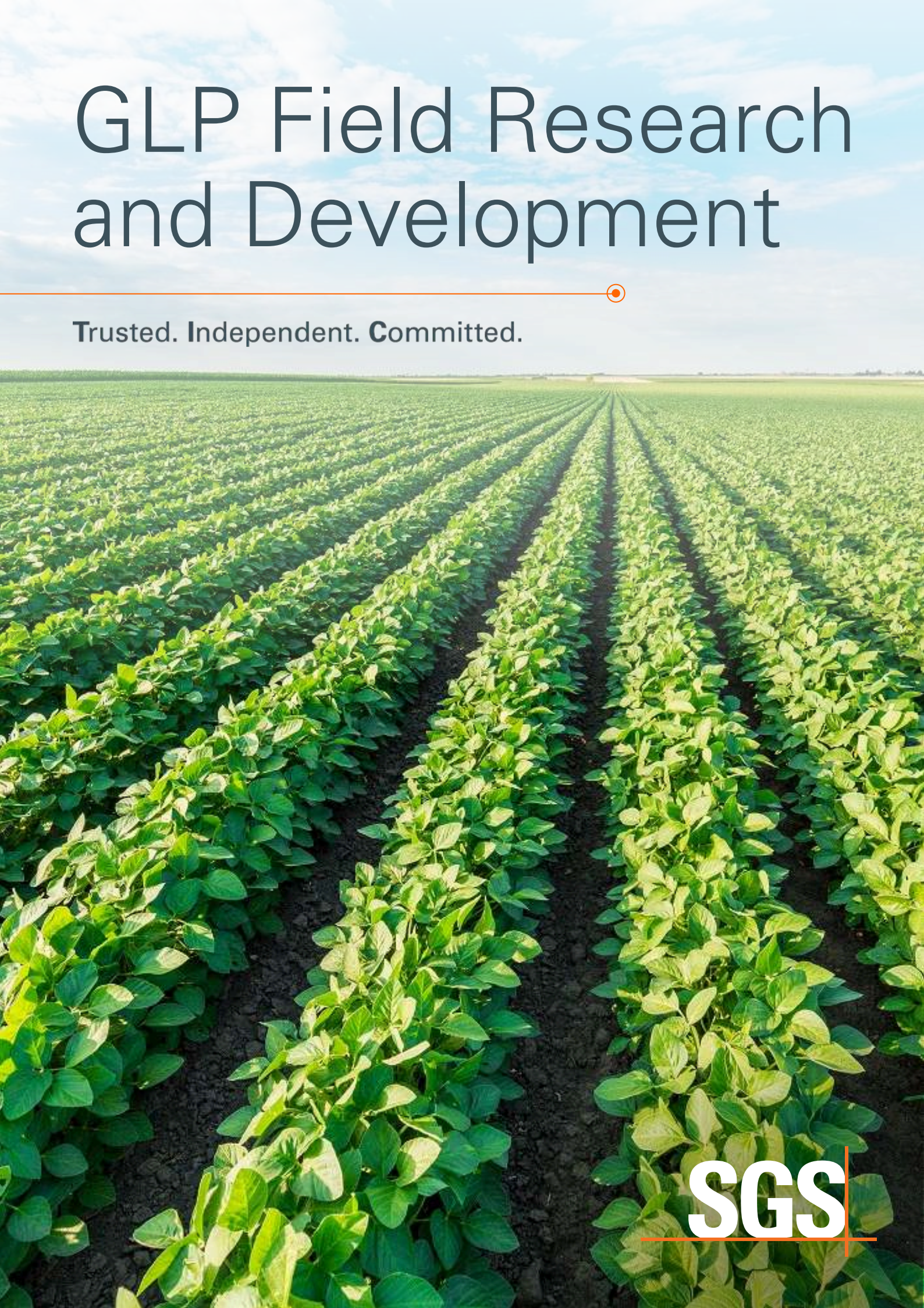


GLP Field Research and Development

Trusted. Independent. **Committed.**



SGS



From R&D to Harvest

Sustainable agriculture relies on a balanced approach that supports environmental health, economic viability, and social equity. As the global population grows and dietary preferences evolve, future generations must navigate the challenge of producing food with limited arable land and finite water resources.

Why choose SGS Crop Science?

At SGS, we are dedicated to offering top-tier solutions to the Crop Science industry. With extensive expertise and cutting-edge facilities, we support research and development by providing precise, reliable, and regulatory-compliant studies.

Driven by a commitment to quality, compliance, and scientific excellence, we assist clients in navigating the complexities of the agricultural sector, ensuring the safety and sustainability of their products.

Our solutions

Our services are designed to facilitate the safety, efficacy, and compliance of crop protection products across global markets.

These solutions include:

- Physical Chemistry
- Tox Field Studies
- GLP Field Residue
- e-Fate
- Ecotoxicology
- Residue Analytical Laboratories
- GLP Microbiology
- Sample dispatch



**Learn more about how we
deliver value to society.**



Physical Chemistry Testing

Our physical chemistry division offers comprehensive analytical services to evaluate the stability, composition, and properties of active substances and formulations.

We develop and validate analytical methods, perform Certificate of Analysis (CoA) assessments, and conduct material accountability studies. Our testing capabilities include organic and inorganic analytics, nuclear magnetic resonance (NMR), gas and liquid chromatography, infrared spectroscopy, and mass spectrometry.

For formulation and product analysis, we perform content analysis, storage stability assessments, and compatibility testing.

Structural and surface analyses are conducted using scanning electron microscopy (SEM), while our inorganic analytics division specializes in elemental and ion chromatography. Additional methods include particle size distribution, thermal stability testing, and the determination of physical parameters such as viscosity, surface tension, and density.



Tox Field Studies

At SGS, we conduct tox field studies to evaluate exposure levels and environmental persistence of crop protection products, with a strong focus on Dislodgeable Foliar Residue (DFR) studies. Our experienced teams operate under US EPA OCSP 875.2100 and relevant EU regulations, delivering high-quality data for regulatory submissions.

We perform DFR assessments in open fields, applying test substances with realistic equipment and collecting foliar samples to analyze dislodgeable residues. Our capabilities include method development, container adsorption testing, and full analytical support, ensuring accurate results.

Backed by a broad European trial network, we provide reliable, climate-specific insights to support the safe use of crop protection products.

With a strong network of trial sites, we're equipped to conduct studies under a range of climatic conditions, delivering robust, compliant data that supports safe and effective crop protection product usage.



GLP Field Residue Studies

Our field residue studies are designed to ensure compliance with regulatory requirements for residue levels in crops, soil, and the environment. We operate according to strict Good Agricultural Practice (GAP), under Good Laboratory Practice (GLP) standards to ensure that all data generated is reliable, reproducible, and accepted by regulatory bodies worldwide. Our dedicated study management team oversees every aspect of the trial process—from protocol development to execution and reporting.

Our field platforms are equipped with automated irrigation systems and on-site weather stations, enabling us to replicate realistic agricultural scenarios and monitor key environmental factors throughout the study period.

We offer a broad portfolio of field residue studies. These studies provide essential data for the establishment of Maximum Residue Levels (MRLs) and ensure consumer safety and regulatory compliance.

In addition, we specialize in import tolerance trials, which are critical for gaining market access for plant protection products in countries with specific residue requirements. All trials are carried out in accordance with both SANTE and OECD guidelines, ensuring alignment with international regulatory expectations.

Through our extensive network of test sites and experienced scientific teams, SGS delivers high-quality residue data that supports product registration, market access, and the responsible use of plant protection products.



Environmental Fate Studies

Environmental fate studies are crucial for understanding how crop protection products behave in the environment. At SGS, we offer comprehensive studies to assess the persistence and mobility of active ingredients in soil, water, and air.

We specialize in soil dissipation and accumulation studies, tracking the breakdown and buildup of active ingredients under real-world conditions. Our groundwater monitoring services evaluate runoff, leaching, and the potential contamination of surface and groundwater by pesticides.

Additionally, we conduct dust drift studies to measure airborne residues and their impact on non-target areas.

Using advanced field and laboratory techniques, we ensure reliable data to assess the environmental risks of crop protection products, helping stakeholders make informed decisions for safe and sustainable agriculture.



Ecotoxicology Studies

Understanding the environmental impact of crop protection products is essential for ensuring their safe use. SGS offers a comprehensive range of ecotoxicology studies, evaluating both aquatic and terrestrial toxicity.

Our Aquatox division conducts acute and chronic toxicity studies in line with OECD guidelines, ensuring the safety of active ingredients and formulations for aquatic ecosystems.

For terrestrial toxicity, we assess the impact on soil organisms, non-target plants, and non-target arthropods, all conducted according to OECD standards. We also perform biodegradability testing to measure how substances break down in water and soil, ensuring compliance with regulatory requirements.

Our analytical support team uses advanced liquid chromatography (LC) and gas chromatography (GC) methods for in-house dose verification, providing accurate and reliable measurements.

We also conduct field trials to assess environmental exposure, with specialized studies on dislodgeable foliar residues, seedling emergence, and pollen and nectar analysis to evaluate pollinator risk. Our studies adhere to OECD guidelines for aquatic organisms (201, 202, 203, and 221) and chronic exposure studies (OECD 210, 211, 218, and 219), ensuring comprehensive and globally accepted data.



Residue Analytical Laboratories

At SGS, we offer a comprehensive array of analytical laboratory services, focusing on the development, validation, and implementation of tailored methods for diverse study types.

Our team of experts are skilled in method development, validation, Independent Laboratory Validation (ILV), and storage stability testing.

We analyze a broad spectrum of parameters, including active ingredients, metabolites, chiral compounds, and conjugates.

We perform analytical phase studies across a wide variety of matrices, including crops, processed commodities, animal tissues, body fluids, water, soil, sediment, air, and more. Additionally, we provide extraction efficiency studies to ensure the maximum recovery of active substances.

We utilize cutting-edge technology to employ advanced methodologies including:

- QuEChERS QuOil
- DFG-multiresidue S19
- Chemical and enzymatic hydrolysis, utilizing cutting-edge instruments like LC-MS/MS, GC-MS, GC-MS/MS, ICP-OES, ICP-MS, IC, and LC-UV.



GLP Microbiology Services

Microbiological testing is essential for assessing the safety, stability, and compliance of plant protection products. At SGS, we offer a wide range of studies to support registration, quality assurance, and product development.

Our services include a five-batch storage stability testing, metabolite identification, and antibiotic resistance screening to ensure microbial safety and consistency. We also conduct compatibility tests with agrochemicals and efficacy evaluations to confirm product performance under real-world conditions.

We integrate advanced technologies to deliver high-resolution data and insights, including:

- **Whole Genome Sequencing (WGS):** For detailed genetic profiling of microbial strains, enabling identification, traceability, and safety assessments.
- **16S rDNA Sequencing:** Used to identify bacterial species and confirm strain identity, especially important for quality control and regulatory submissions.
- **MALDI-TOF Mass Spectrometry:** A rapid, accurate method for microbial identification based on protein fingerprinting.
- **Biochemical Characterization via VITEK 2:** For identifying microbial species and their functional traits through biochemical reactions.



Sample Dispatch Services

At SGS, we streamline the distribution of test formulations for field trials through our comprehensive and efficient sample dispatch services. From the moment test materials arrive at our facility, we take full responsibility for their handling—ensuring secure reception, storage, subsampling, packaging, and dispatch.

Our process is built around precision and traceability. We use a robust quantity monitoring system to accurately track all incoming and outgoing materials, maintaining full transparency and minimizing the risk of discrepancies or loss. To further enhance efficiency, clients benefit from access to our dedicated registration and ordering tool, which enables direct entry of dispatch requests and real-time updates on order status.

Speed is essential in field trial logistics, and we pride ourselves on achieving an industry-leading turnaround time of 48 hours from request to shipment. This rapid preparation ensures materials reach trial sites on schedule, helping to keep your study timelines on track.

In addition, we are IATA-accredited, enabling us to safely and compliantly handle and ship dangerous goods globally. Whether it's small-scale test samples or larger commercial quantities, our expert team ensures every shipment meets stringent international safety and transport regulations, mitigating risks during transit.

Our unrivaled global network



500+

Laboratories

125

Countries

140+

Years

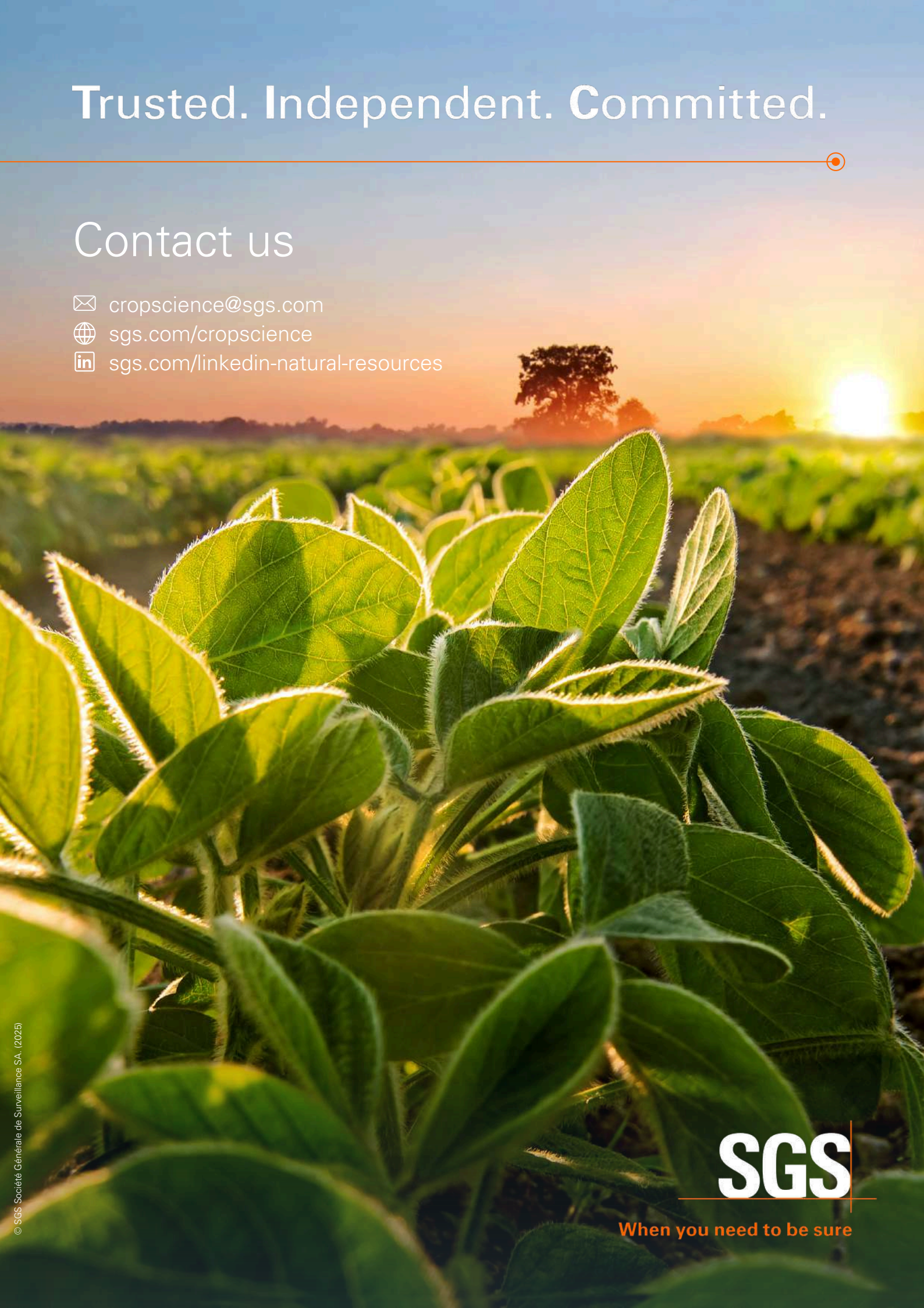
Take your natural resources operations to the next level.

Get in touch today.

Contact us

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When you need to be sure