The BCPC Congress 2014: European Regulatory Affairs
Precaution or Innovation?
30 SEPTEMBER - 1 OCTOBER | BRIGHTON | UK

An engaging and lively event line-up

The two-day programme will provide delegates, working in areas influenced by plant protection regulatory affairs, with valuable information and excellent networking opportunities. It will include presentations from influential representatives from industry, government, academia and leading consultants. Sessions will cover mainstream agrochemical and biopesticide regulatory activities, relevant developments in human and environmental health, current regulatory “hotspots” (including updates on pollinator issues!) and reflections on balancing risk, precaution and innovation.

The delegate price is £675+VAT which includes a 2-day conference pass, exhibition entry and pre event drinks reception (sponsored by Eurofins Agroscience Services Ltd).

Places for the Congress Dinner (sponsored by APC) are already in strong demand, so book your place now.

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Should you wish to register, express your interest or would like to discuss sponsorship or exhibition opportunities, please contact us:

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Consultancies & other advisor bodies

APC

Offices worldwide including: UK, France, Poland, Australia and Brazil

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APC provides regulatory services to the Agrochemical, Biocide and Chemical industries.

APC’s worldwide team can help you achieve National, European and International registrations and maximise your regulatory product portfolio and associated sales potential. We deliver timely, cost effective solutions in all aspects of the regulatory process.

Our consultancy has 3 main strengths:

- **Scientific**: Chemists, agronomists, toxicologists & environmental experts.
- **Regulatory**: Each member of APC’s worldwide team has extensive knowledge and expertise in their market sector and of country specific and regional regulatory requirements.
- **Strategic & project managers**: APC’s regulatory experts have professional knowledge coupled with business acumen and hands-on experience.

APC provides a complete range of dossier compilation services for active substance approval, product registration / re-registration and active substance renewal (AIR 3) in all EU Member States:

- Preparation and submission of active substance and product dossiers in accordance with EU and national requirements
- Preparation of active substance renewal (AIR 3) supplementary dossiers and updating statements
- Preparation of biological assessment dossiers (BAD)
- Monitoring of regulatory studies and field trials
- Data Gap Analysis (DGA)
- Assessment of registrability of intended uses according to new EU risk assessments
- Literature searches / study summaries
- Data Matching evaluations
- Technical Equivalence submissions
- Project management throughout the evaluation processes
- Co-ordinating multi-company Task Forces
- MRL/Import tolerance applications

APC can also offer a complete service for development and product registrations in many key countries throughout Asia, Australasia, Eastern Europe and South America.

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AMIS Global is the only company to link global market analysis with original market research data in both crop protection and seeds on a worldwide basis. The AMIS Global database, based on Phillips McDougall analysis of the global market and built on data from a global network of market research consultants, provides easy to use data by crop and product sector at the global level, down to brand level sales by volume, value and area treated, by crop and by country. Similar volume, value and area data is presented by variety and crop in the seeds sector. The database is also the only source providing a complete breakdown of the sales of all commercially significant active ingredients by crop and country market.

AMIS Global also operates a consultancy service to assist with particular market research requirements for products, modes of action, chemistry classes, crops, pests/diseases/weeds or geographies.
CONSULTANCIES & OTHER ADVISOR BODIES

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Dextra International is a leading strategic consultancy firm specialized in the crop protection business at an international level. Our target focuses on our client’s international growth, starting with a deep analysis of the product portfolio and the definition of new potential markets. Dextra strategies are based on detailed market analysis and cost-effective registration processes. Dextra provides you with country-basis market surveys to take the right decision on registration investments and distribution channels. Our Regulatory consultants advice you on the strategic registration decisions and oversee the whole process, from dossier preparation fulfilling local requirements until registration obtaining.

CSI (COMPLIANCE SERVICES INTERNATIONAL)

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For over 25 years, CSI has specialised in regulatory and scientific consultation to the crop protection and allied industries. CSI’s services include agrochemical, biocide, chemical and cosmetic registration, hazard assessment (including QSAR and GHS CLP), exposure assessment (including modelling), risk assessment (including for human and veterinary medicines, and relating to endangered species), study monitoring, QA consulting, literature searching (including bespoke current awareness services), data compensation evaluations, and M&A regulatory due diligence.

In the EU, CSI can assist with Member State (including Mutual Recognition) or pan-EU regulatory compliance with key Regulations, e.g. EC 1107/2009 (Plant Protection), EC 528/2012 (Biocides) and EC 1907/2006 (REACH). CSI can also provide support for global regulatory strategies (including under the OECD Joint Review Process for Pesticides) and for national or regional requirements throughout the Americas, Asia-Pacific, and Africa.

CSI’s staff combine a wealth of experience, derived from regulatory authorities, industry and CROs, to provide services which have received sustained recognition from AGROW AWARDS independent judges since 2010, and of course from our many repeat customers.

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DHD-Consulting GmbH provides scientific and regulatory services for Agrochemicals, Biopesticides and Biocides according to the relevant Directives and Regulations. Our services comprise data review, consultation on requirements and identification of data gaps, project co-ordination and study-monitoring, environmental fate modeling, ecological and toxicological exposure calculations and expertises (including QSAR and GHS CLP), risk assessments, and Biological Assessment Dossiers. We prepare and submit Dossiers in the required formats (including CADDY and IUCLID) for zonal and national registrations in the EU as well as for (re-)registration on EU level.

DHD-Consulting GmbH stands for quality and timeliness, flexibility and more than 18 years experience.

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EBRC’s services encompass the full range of regulatory support for plant protection products, biocides and industrial chemicals under REACH. Comprehensive toxicological, ecotoxicological and environmental fate expertise is provided together with data gap analyses and literature searches for compliance with regulatory data requirements. Electronic submissions (IUCLID, CADDY) supplement our scientific support as routine services. Plant protection product registrations according to EU national Member State legislations as well as EU requirements are processed for all EU member states following the zonal concept (dRR) and also the requirements for the EU notification and Annex-I-renewal (AIR) of active substances. Full dossier compilation is performed in agreement with the requirements of the plant protection product regulation, the biocides regulation and the REACH regulation, including biological dossiers, complex exposure or risk assessments and computer modelling of environmental fate behaviour. Task force management, project coordination and scientific monitoring of experimental investigations complete this package of services.

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ENVIRON offers highly qualified expertise in human toxicology and ecotoxicology, chemistry and regulatory affairs to support the registration of agrochemicals, biocides and chemical substances (REACH). Services include feasibility studies; dossier preparation; development of registration strategies; statistical analysis; preparation of summaries and evaluation; risk assessments (occupational, dietary and eco); toxicokinetic modelling; formulation of expert statements; EU registrations (review and new substances); outsourcing and market research. ENVIRON stands for flexibility, cost effectiveness, quality and reliability.

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Exponent International’s regulatory specialists have extensive European expertise gained with the regulatory agencies, independent consultancies, contract research organisations and industry. Our expertise is in all technical aspects relating to the regulation of plant protection products, biocides and industrial chemicals, including regulatory strategy and project/task force management. We can assist clients with the preparation of dossiers for both EU and national registrations, support discussions on regulatory documents, import tolerance applications, submissions to panels such as JMPR & JMPS, classification and labelling and study monitoring. We are also able to manage all aspects of REACH, including data review, SIEF discussions, generation of CSRs and IUCLID dossiers, as well as manage consortia.
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GAB Consulting is an independent provider of registration services for agrochemicals, bio-control agents, micro-organisms, biostimulants, biocides, and chemicals including nanomaterials, and feed additives, in Europe and overseas. We service the needs of the industry by providing competent and flexible regulatory and scientific expertise, in compliance with the latest OECD and EU requirements, to ensure your product gets registered. Our dedicated project managers oversee complete dossier preparation from initiation through submission to final approval, including risk assessments in all relevant dossier sections and computerised documentation.

Since the establishment of our company in 1998, we have developed a reputation for professionalism, adaptability, resourcefulness and, above all, for getting the job done. During this time, our staff has continuously increased and currently comprises of over 50 scientists and documentation assistants, all offering expertise in the development, assessment and registration of new active ingredients as well as in supporting existing substances. For national (re-) registrations we prepare core dossiers amended by national addenda for specific Member States requirements.

In addition, our senior specialists ad hoc group (the “fire brigade”) is available to serve you immediately and solve any issues with authorities requests.

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JSC International Limited provides expert independent regulatory and risk assessment services to the agrochemical, biocides and chemical industry. The team of scientists from regulatory, industry and contract research backgrounds has extensive experience in European regulatory affairs. Through its network of collaborators the company has the capability to extend this to global regulatory support.

JSC provides expert advice in the development of regulatory strategies, data gap analysis, study monitoring, dossier preparation and submission for Council regulation 1107/2009, BPR and REACH (including CADDY and IUCLID5) and has an excellent track record in post-submission support leading to many successful active substance approvals. JSC can also develop strategies for agrochemical active substance resubmissions and renewals, and product authorisations for agrochemicals and biocides.

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LKC offer experience and strategic advice to clients who want to be successful in Europe. Development and Registrations of Crop Protection Products, Biocides, Veterinary Medicines, Pharmaceuticals and specialized chemicals (REACH) are handled by our scientific experts.

We have technical and regulatory expertise to contract and monitor studies including higher tiered studies; to interpret the findings; to prepare the appropriate risk assessments and compile regulatory dossiers in both paper and electronic formats. We engage in dialogue with Regulatory Authorities and work with a network of global affiliates to provide a ‘big picture’ perspective for our clients.

LKC is a GLP Certified facility for directing multi-site studies to ensure the best scientific database for our clients.

Contact LKC to see how we can find solutions to your regulatory challenges.

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Phillips McDougall offers publications and consultancy across the crop protection, biotechnology and seeds industries. The AgriService provides an authoritative and comprehensive analysis of the global crop protection and agricultural biotechnology industries, incorporating profiles of the leading companies along with crop, chemistry, R&D and country market reviews and forecasts, all supported by basic market research through its global network of market research consultants. The AgriService includes a complete product directory and company support service as well as the monthly research note, AgriFuture. The Seed Service provides a similar analysis of the seeds and traits industry.

AgriWorld is a daily web-based information service that provides data and analysis of recent events across all the major agricultural inputs industries, but particularly agrochemicals and seeds.

Phillips McDougall has a respected reputation as a leading industry commentator, regularly quoted in industry and financial publications.
Established in 1989, Protech Consulting provides a range of technical services to the crop protection and animal health industries in Australia, New Zealand and Pacific Islands.

In the area of regulatory support, company services include submissions for registration of new agricultural and veterinary products; the updating of labels and applications for label extensions; the preparation of trial and off-label applications along with ongoing regulatory support. Technical support activities include advice on development programmes and registration requirements. At field level, the company advises on the design, evaluation and co-ordination of laboratory and field trials. The company also runs an extensive training programme including Agsafe and Chemical Users courses.

Established in 1989 by Dr. Friedbert Pistel, SCC has become one of Europe’s largest privately owned and independent regulatory consulting companies, supporting its more than 200 global customers with all their registration needs across a broad spectrum of disciplines: agrochemicals and biopesticides, biostimulants and fertilizers, biocides, chemicals, consumer products, cosmetics, feed and food additives, pharma pre-clinical and veterinary medicine.

A hundred percent success rate in defending agrochemicals active substances under 91/414/EEC, successful filing of more than 200 LEAD dossiers, several hundred registrations for phase-in-substances, many dossiers prepared for active substances and biocidal products, and meeting every single deadline: we are the experts for regulatory challenges – large and small.

More than 110 highly skilled, team-focused employees form the backbone of the company, most of them with university degrees or PhDs. SCC is internationally active, including its Global Office in Japan.
Market research

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Dextra has its headquarters in Barcelona (Spain), being the main markets of activity: Europe, USA and Latin American countries.

Dextra International is the Right Key for your Internationalization.

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GfK’s Animal and Crop Health is the leading global, full-service, full-spectrum provider of market research and consulting services to the animal health, crop protection, seed, biotechnology, and farm machinery industries. With offices across the Americas, Europe, Asia and Australasia, GfK provides a broad range of market intelligence and actionable insights. Our extensive experience includes longstanding relationships with global companies in the agricultural supply industry. As part of the GfK global network, we can provide additional advanced market tools, with the benefits of leveraging outside perspectives from other industries and of having access to over 13,000 professionals operating in over 100 countries.

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Founded in 2000, Specialty Products Consultants is the recognized leading provider of market research studies to the specialty (non-crop) pesticide industry. SPC clients include a significant majority of the manufacturers and distributors serving the professional turf and ornamental and structural pest control markets.

SPC sponsors two syndicated studies for each of the two market areas (T&O, Pest Control) annually; SPC’s survey-based studies report end user buying behavior, attitudes, brand awareness, and manufacturer level product sales. SPC’s transaction-based studies, in partnership with XS, Inc., track in-season sales and market share performance and invoiced pricing data for all chemical products. Both studies are delivered to clients via easy to use and secure web interfaces.

For more information please visit SPCResearch.com and SPCexpress.com
Contract research organisations

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AGROBLU is one of the leading CRO’s in Europe and provides a wide range of services for the registration of existing or new Plant Protection Products.

All studies have been conducted in a wide range of Mediterranean Crops for testing Chemical, Natural and Biological crop Protection products.

AGROBLU has established and developed a New Research Laboratory of Entomology, which conducts researches and Studies on Biocides and Biological pest control. The Laboratory is managed by the Professor Luciano Suss already Director of the Institute of Entomology of the University of Milan. All the studies and researches are conducted in compliance with the International Guidelines such OECD, EPPO, CEB.

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ANADIAG is one of the leading CRO’s in Europe and provides a wide range of services for the registration of existing or new Plant Protection Products.

Your project – Our services

Field Experimentation Services
We own one of the largest European GEP and GLP certified field networks which provide efficacy, residues and development trials for registration as well as marketing trials.

Laboratory Services
We manage complex studies in analytical chemistry, physical measurements, environmental fate, residue analysis and methods development under GLP and other accepted industry test protocols.

Regulatory Affairs and program handling
We are managing a regulatory group with excellent connections at EU and National level and can arrange the preparation and submission of your EU Annex II and Annex III dossiers as well as National applications, equivalence/specification dossiers.

Marketing Services
We also provide comprehensive market analysis and investment appraisal to provide you with objective information on the European market.

YOUR PRODUCT REGISTRATION – OUR SUCCESS
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BIOTECNOLOGIE B.T. (BT) is a CRO offering research services for the registration of Plant Protection Products (chemical and biological), Veterinary Medicines, Biocides, Biopesticides and Pharmaceuticals. The two sites of BT, Biospheres (Northern Italy) and Biotecnologie BT (Central Italy), cover a total of 3000 m². Our focus is on honeybees and other pollinators tests in the framework of the new agrochemical Regulation (EC) 1107/2009.

Both facilities dispose of cutting-edge equipment and have highly qualified staff with academic degrees in the relevant scientific disciplines. The company holds certificates for GLP and GEP compliance and all research activities are performed in accordance with international Guidelines (OECD, IOBC/WPRS, ESCORT, CIPAC, ICH etc.).
Eurofins Agroscience Services are a global service provider of field, laboratory and regulatory programs. With proven expertise in managing global field studies, worker exposure studies, ecotoxicology, analytical services, physico-chemical property testing, environmental fate laboratory and field studies, the service offering is continuously developed by knowledge transfer initiatives between the Group’s various centres of expertise across the globe. By acquiring a carefully selected range of CRO’s, Eurofins Agroscience Services has created a unique portfolio of expertise that provides support to plant breeders, agrochemical, biopesticide, biocide and fine chemical manufacturers that spans over 25 years.

www.eurofins.com/agroscienceservices
Harlan Laboratories is a global leader of essential, non-clinical contract research, research models, animal diets and testing services to the agrochemical, biocide, chemical, animal health, pharmaceutical, biotech and medical device industries, further academic and government research organisations. Harlan understands the importance of combining effective customer service and strong client relationships, with the need for scientific excellence. Stability, reliability, consistency and quality are all essential.

Our core capabilities include:
- Mammalian toxicology, genetic toxicology, in vitro alternative testing
- Ecotoxicology – aquatic, terrestrial, biodegradation
- Animal and plant metabolism
- Environmental fate and modelling
- Analytical chemistry
- Regulatory affairs – consulting and chemical, biocide and agrochemical registration.

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With nearly 30 years’ experience in ecotoxicological research, Mambo-Tox is an independent, GLP-compliant, contract research organisation specialising in terrestrial ecotoxicological studies. We evaluate the effects of pesticides and biocides on non-target arthropods, soil invertebrates and honeybees. Bioassays following the relevant international testing guidelines are carried out under laboratory, extended laboratory or semi-field conditions, utilising our extensive controlled-environment and glasshouse facilities. We have also carried out many full-scale field trials to assess the impact of pesticides on NTA populations in both arable and orchard crops.

Mambo-Tox understands the importance of delivering quality studies to tight deadlines and can normally offer a rapid turnaround for urgent projects.
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Myrnefield Research Services Ltd (MRS) is the commercial affiliate of the world leading James Hutton Institute. We are committed to developing sustainable agriculture through advanced marker assisted plant breeding, diagnostics, pathogen testing, fertilizer optimisation and crop nutrition trials. We are officially recognised by the UK Chemicals Regulation Directorate for crop protection efficacy trials, we have access to the latest research into alternative disease and pest control strategies. MRS also offer a wide range of analytical services, including specialist lipid analysis and stable isotope profiling, to an international portfolio of clients in the food and drink, nutraceutical, agriotech and oil seed industries.

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NIAB is a major international centre for plant science, crop evaluation and agronomy, with headquarters in Cambridge and regional offices across the country. NIAB spans the crop development pipeline, combining within a single resource the specialist knowledge, skills and facilities required to support the improvement of agricultural and horticultural crop varieties, to evaluate their performance and quality, and to ensure these advances are transferred into on-farm practice through efficient agronomy.

With an internationally recognised reputation for independence, innovation and integrity, NIAB is ideally placed to meet the industry’s current and future research, information and knowledge transfer needs. We provide a wide range of scientific and technical services including seed quality tests, food authenticity and traceability, pathogen diagnostics and agrochemical efficacy evaluation.

Joining with The Arable Group in 2009, and with the specialist potato agronomy unit at Cambridge University Farm (CUF) in 2013, as NIAB TAG we conduct field crops research and provide impartial variety and crop husbandry information. The organisation includes The Silsoe Spray Applications Unit, providing unique skills in spray technologies and precision farming. We offer customers an integrated service in delivering quality and reliability through ISO 9001-2000 and GEP management standards.

**OXFORD AGRICULTURAL TRIALS**

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Since 1984, Oxford Agricultural Trials (OAT) has been a leading contract research organisation specialising in agrochemical field trials: residue (crop residue and rotation, soil dissipation and accumulation) efficacy, crop safety, variety evaluation, fertiliser and demonstration. The main base in Oxfordshire is equipped with glasshouses and a cold store, whilst regional bases in Devon, Hampshire, Essex, Cambridge, Lincolnshire, Newark, Warwickshire, Yorkshire and Scotland ensure products developed for northern hemisphere clients are tested under a variety of environmental conditions. There is close co-operation with research organisations in Europe for many projects.

The company has an excellent reputation for providing a service which is independent, confidential and of the highest quality. Residue trials are conducted in accordance with Good Laboratory Practice (GLP) guidelines and OAT has been an “Officially Recognised Efficacy Testing Facility” (ORETO certified) since 1998.

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Operating since 1976, Peracto is the leading Australasian agricultural contract research organisation with a growing international client base. We provide superior design and conduct of GLP and efficacy studies in all crops grown in Australia and New Zealand. Experienced and fully qualified staff bring a wealth of national and international experience with the company offering out-of-season opportunities for northern hemisphere clients. Peracto delivers a range of independent research, development and technical services including management of chemical residue studies, with capability in soil dissipation, beneficial insect, insect residue and operator exposure studies. For more information visit www.peracto.com
Since it was founded 25 years ago, REDEBEL has become a leading company in the EU in the following areas:

1. Regulatory affairs for PPP, Biopesticides, Biocides, Adjuvants, REACH, and CLP
2. Study Direction throughout the EU
3. Study Monitoring for Field Trials

REDEBEL prepares complete dossiers for pesticides, biocides, adjuvants & REACH. Through its wide EU network of partners, REDEBEL is able to:

- Act as global Study Director for Pan-EU GLP Residue programmes
- Act as Study Monitor for Pan-EU Efficacy & Selectivity GEP programmes
- Prepare core draft Registration Reports for all EU zones with all respective addenda
- Prepare core Biological Assessment Dossiers (BAD) with specific national addenda
- Submit national applications in the 27 EU Member States
- Carry out all types of Residue, Efficacy & Selectivity trials in Belgium in accordance with REDEBEL’s high quality standards
- Provide clients with high quality R&D & Demo programmes.
Laboratories around the world.

SGS operates a network of over 1,650 offices and employees, SGS is recognised as the global benchmark for quality and integrity. With more than 80,000 employees, SGS operates a network of over 1,650 offices and laboratories around the world.

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Contact: Bernard J. Franc

Smithers Viscient is a global Contract Research Organization (CRO) providing environmental testing and regulatory services for the crop protection, pharmaceutical, industrial chemical, and the consumer and household product industries. With laboratories located in North America and Europe, Smithers Viscient has performed standard guideline and higher-tiered environmental studies for over 40 years. We conduct studies to satisfy all regulatory requirements globally. Smithers Viscient is a global leader delivering trusted testing services. Offerings include aquatic and terrestrial ecotoxicology, avian toxicology, environmental fate, metabolism, residue, analytical, and product chemistry, consulting, risk assessment, and endocrine testing, including in vitro toxicology, in vivo toxicology, and in vivo ecotoxicology.

STAPHYT

23 route de Moeuvres, 62860 Inchy-en-Artois, France.
Tel:+33.3.21.21.45.21-
Fax:+33.3.21.21.45.19
www.staphyt.com

Contacts:
Business Development Manager:
Yves Coconnier
(ycoconnier@staphyt.com)
Regulatory Affairs & Consulting Manager: Benoit Delcour
(bdelcour@staphyt.com)

Staphyt is the company you can rely on to succeed in your trials, their management and registration issues. These key points show our commitment to provide the best quality within agreed deadlines:
• 25 years experience
• 240 experts
• 22 countries covered
• Access to 67 field trial stations in Europe
• Access to all crops
• GEP & GLP accredited

We have the expertise you need to succeed at all stages from screening through to registration.
Staphyt offers the most complete area of expertise:
• GEP trials (efficacy & dose response, crop safety, practical value, rotational, drift studies, …)
• GLP studies (residue, OPEX, soil dissipation and accumulation, DFR…)

SGS GROUP

1 Place des Alpes
1201 Geneva
Switzerland
Tel: +41 22 739 91 11
Fax: +41 22 739 98 00
www.sgs.com/SeedAndCrop

Contact: Andreas Zumdick

SGS Seed & Crop Services provides a global network of field trial stations and laboratories for clients’ product development programmes in Europe, North America, Latin America, Africa and Asia-Pacific.

Our experienced interdisciplinary team of agronomists, biologists, chemists, food technologists and geochemists can conduct field trials and laboratory studies to support the screening, development and registration of agricultural and horticultural chemicals, biopesticides, fertilizers and new plant varieties and seeds (including GMO).

With many years of experience in the field of R&D, analytical chemistry, regulatory affairs / registration services and project management, SGS processes laboratory and field studies within the scope of regulatory testing, such as efficacy, residue, biosafety, operator, consumer safety, environmental fate and behaviour of pesticides as well as eco-toxicological testing. The testing is based on international guidelines, including EPPO, OECD, EPA and SETAC and in compliance with GLP (Good Laboratory Practice) or GEP (Good Efficacy Testing).

SGS is the world’s leading inspection, verification, testing and certification company. SGS is recognised as the global benchmark for quality and integrity. With more than 80,000 employees, SGS operates a network of over 1,650 offices and laboratories around the world.
SYNTECH RESEARCH
17745 South Metcalf Avenue
Stilwell KS
USA 66085
enquiries@syntechresearch.com
Contacts: David Marsden (Global Account Manager, Efficacy/GLP), Daniel Mourad (Global Account Manager GLP), Eric Ythier (Global Account Manager Ecotoxicology) or Dr Luke Farno – Global Account Manager Seeds
Email: dmarsden@syntechresearch.com; dmourad@syntechresearch.com; eythier@syntechresearch.com; lfarno@syntechresearch.com
www.syntechresearch.com

SynTech Research delivers competitive advantage to clients by providing R&D and registration services for agrochemicals, biocides and seeds, based on the company’s unparalleled expertise in contract crop production and protection research.

Operating in 29 countries worldwide, we conduct field and laboratory studies for over 100 clients, in bio-efficacy, environmental chemistry and ecotoxicology, in agriculture, horticulture and public health, working to GLP/GE standards.

SynTech Research uses its field stations, regulatory and study director resources, plus its new Environmental Chemistry and Ecotoxicology laboratories in Kansas, to generate studies and submissions of registration dossiers to EPA, EU, PMRA, South America and national regulatory authorities.

TRIALCAMP
Pol. Ind. Les valletes
C/ Artes gráficas
44 Nave 1A
46192 Monserrat (Valencia)
Spain
Tel: +34 96 298 61 43
Fax: +34 96 298 81 42
luisaaznar@trialcamp.es
www.trialcamp.es
Contact: Luisa Aznar

TrialCamp provides expert service for registration studies of agrochemicals and technical support for product development.

The company conducts efficacy and selectivity studies under GEP on a wide range of pests and crops; laboratory and semi-field studies on non-target arthropods, earthworms and honeybees under GLP; and field studies for determination of residues under GLP. Its extensive insect culturing facilities allow a wide range of pest and beneficial species to be held for study.

TrialCamp is a reliable, competitive and fully accountable company with an enthusiastic and young team in which the quality of the service is the main objective.

VIGNA BRASIL
Regulatory Affairs, Market Intelligence and Field Management
Avenida Ipiranga, 318, cj 1601
Bloco A - 16º Andar, Republica,
Sao Paulo-SP, 01046-010
Brazil
Tel: (+5511) 3124.4455
skype: vignabrasil
Email: fabio@vignabrasil.com.br
www.vignabrasil.com.br
Contact: Fabio Domingues

Vigna Brasil is a contract organisation that works as a full services provider in Brazil, including regulatory affairs, field management (R&D), business advisors and market intelligence. We are able to attend companies interested in: Crop Protection, Biopesticides, Adjuvants, Fertilizers, PCO, Public Health, Household, Lubricants, Wood Preservatives, H&G, Aquatics, Food and Food Additives and Cosmetics.

We provide business facilitator services, helping your company to reduce bureaucracy or operational barriers for starting up and maintaining your operations in Brazil.

In 2004, Vigna Brasil was appointed as a leading company in Agrow’s top 30 CROs (Contract Research Organisations) active in the crop protection industry. In 2008 (April issue), Vigna Brasil was again listed as one of the top 15 CROs. We are the unique Latin American company listed in both reports.

VERSUCHWESEN PFLANZENSCHUTZ
Ehlebeck 2
30938 Burgwedel
Germany
Tel: +49 5139 8393
Fax: +49 5139 27095
fieldtrials@versuchswesen.com
www.versuchswesen.com
Contact: Dr. Paul Reh and Kirsten Heitsch

Versuchswesen Pflanzenschutz is an independent and privately-owned company for agricultural field research, with GLP and GEP certification. The firm was founded in 1990 and has since then provided service for the development of agricultural chemistries. We offer the whole project management from planning trials to the preparation of the biological assessment dossier for the Central and South European Registration Zone (zone B and C). We are very experienced in efficacy and selectivity studies as well as in residue, soil dissipation and rotational crop studies. The trials could be carried out in all agricultural and horticultural crops and in orchards, vineyards, ornamentals, forests and non-agricultural land.

For further information, please contact us: fieldtrials@versuchswesen.com
WILDLIFE INTERNATIONAL

8598 Commerce Drive
Easton MD 21601 US
Tel: +31 575 573848
aleopold@eag.com
www.wildlifeinternational.com
Contact: Annegaike Leopold

Wildlife International, a recognized leader in higher-tier Ecotoxicology and Environmental Fate testing for more than 35 years, is part of Evans Analytical Group (EAG). Together with PTRL-West and PTRL-Europe, Wildlife International offers a full suite of environment testing services. We serve and provide support to a global clientele with GLP studies to meet global regulatory requirements for the testing of agrochemicals, industrial chemicals, pharmaceuticals, biocides and animal health products. Our highly experienced and talented team of scientists and technicians focuses on quality, timeliness, innovation and flexibility to meet the complex needs of diverse markets, each of which are confronted with ever more complex regulations.

HERBISEED

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UK
Tel: +44 118 9349464
Fax: +44 118 9241996
s.morton@herbiseed.com
www.herbiseed.com
Contact: Steve Morton

For over 20 years Herbiseed has been the leading supplier of weed seeds to the agrochemical and agricultural trials industries. The company’s success is based on stocking an outstanding range of over 600 species of the major weeds of world agriculture, together with providing exemplary worldwide delivery times and friendly, effective customer support.

In addition, Herbiseed supplies seeds of unusual herbs, new crops, wildflowers and species for ecological restoration and agri-environment schemes.
ANDERMATT BIOCONTROL AG

Stahlematten 6
Tel: 0041 62 917 51 25
Fax: 0041 62 917 50 06
contact@biocontrol.ch
www.biocontrol.ch

Andermatt Biocontrol was founded in 1988 by Dr. Martin and Dr. Isabel Andermatt. Goal of Andermatt Biocontrol is to replace chemical pesticides with good biological alternatives. Key expertise of Andermatt Biocontrol is the development of new products based on baculoviruses and beneficial insects. Through acquisition a comprehensive knowhow for the development of rodent traps was adopted and developed further. Andermatt Biocontrol is distributing own manufactured products as well as some high-quality trade products all over the world, to more than 150 distributors.

INDUSTRIAS QUÍMICAS DEL VALLÉS

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08100 Mollet del Vallés
Barcelona
Spain
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Fax: +34 93 579 17 22
info@iqvagro.com
www.iqvagro.com

IQV (Industrias Químicas del Vallés, S.A.) offers full toll manufacturing and logistic services. Certified according to ISO 9001, 14001 and EMAS; IQV has been approved by many multinationals and is proud to have them among its customers or partners. IQV produces active ingredients, develops and improves recipes, formulates and conditions both liquid and solid pesticides, and offers purchase of packaging and raw materials, warehousing and distribution services. IQV listens to customers' needs and is completely flexible regarding processes. In its two manufacturing units, IQV deals with more than 100 active ingredients, produces more than 30,000 mt of the different TG copper salts and more than 26,000 mt of ready-to-use formulations.

Recognized world leader in copper fungicides, IQV is involved in the development, production, commercialization and distribution of Plant Protection Products to provide safer products for healthier crops worldwide. IQV has focused, basically but not only, on the development of Copper salts and mixtures thereof as fungicides for crop protection. Other products, sectors, activities, new production facilities, subsidiaries and markets abroad, partners and customers make up for the actual presence of IQV in all continents.

IQV owns around 450 registrations worldwide, mostly straight copper products, mixtures thereof and Metalaxyl-based fungicides.

IQV's most well-known trademarks (Caldo Bordeles Vallés, Curenox, Bordo, Cupertino, Mevaaxil and Armetil) are our cover letter in many countries.

At the EU level, IQV has defended Copper (the three main Copper salts: Bordeaux mixture, Oxychloride and Hydroxide) as member of the European Copper Task Force and Metalaxyl on its own. Both are now included in Annex I. Copper and Metalaxyl are IQV's present and near future bets, while opportunities of new active ingredients are always welcome.
Formulations companies & additives suppliers

**AMEGA SCIENCES**
17 Lanchester Way
Royal Oak Industrial Estate
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NN11 8PH
UK
Tel: +44 1327 704444
Fax: +44 1327 871154
admin@amega-sciences.com
www.amega-sciences.com
Contact: Lynne Farrell

AmegA Sciences is a medium-sized UK manufacturing and marketing company with current sales in Europe and North America. AmegA Sciences has a reputation for the provision of a high quality, reliable service and for developing technically sound and innovative new products.

The main product areas are adjuvants, wetting agents, colourants, bio-stimulants, spray additives, tank cleaners for agriculture, horticulture and amenity turfgrass. Custom manufacturing, contract formulation and packing facilities are available for non-pesticidal product production.

**CRODA**
300A Columbus Circle,
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Tel: 1 732 417 0800
Fax: 1 732 417 0804
Marketing-USA@croda.com,
www.croda.com/cropcare
Contact: Rachel Lafferty

Croda Europe Ltd
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Snaith, Goole
East Yorkshire
DN14 9AA, UK
Tel: & Fax: 01405 860551
cropcare@croda.com
www.croda.com/cropcare
Contact: Claire Lindley

Croda’s Crop Care business supplies formulation aids and adjuvants under respected brand names such as Atlox™ and Atplus™. Our product ranges are engineered to bring value-added benefits to herbicides, fungicides, insecticides, and other crop care products.

Applications include emulsifiable concentrates (EC), microemulsions (ME), suspension concentrates (SC), concentrated aqueous emulsions (EW), soluble liquids (SL), suspoemulsions (SE), water dispersible granules (WG), wettable powders (WP), oil dispersions (OD), and seed coatings.

Both basic and generic producers choose Croda chemistries to improve formulation performance, reduce costs, and minimize the impact of pesticide formulations on our world.

**EXWOLD TECHNOLOGY LIMITED**
PO Box 270
Brenda Road
Hartlepool
TS25 2BW
UK
Tel: 0044 1429 230340
www.exwold.com
email: sam@exwold.com
Contact: Sam Price

Exwold Technology Ltd is a contract processing and formulation company dedicated to servicing the Crop Protection & Speciality Chemical markets. We are recognised as specialists in the formulation and supply of low pressure extruded granules primarily for use as WDGs in the agrochemical market & have recently extended our capabilities in High Potency Herbicide formulation. We also supply a wide range of powder and granule processing technologies including granule impregnation and coating, compaction granulation and powder blending.

We provide a trusted, fast and flexible service to companies around the world. With our pilot facilities, we are able to support our customers through product development and finding solutions and are proud to be partners in chemical processing.
SBM-FORMULATION
C.S. 621 – Z.I. Avenue Jean Foucault
34535 Béziers Cedex
France
Tel: +33 4 91 24 44 35
denis.barlet@sbm-formulation.com
www.SBM-formulation.com
Contact: Denis Barlet
General Manager

SBM-Formulation is a leading European toll formulation company providing an extended range of sophisticated technologies, including WG using fluidised bed or extrusion, RB or GB by wet processing, EW, SE, SC with a dedicated line for FS. SBM provides services to a wide range of crop protection companies including many of the majors.

SBM offers a full formulation and packing service through from early development stage. The main manufacturing and packaging plant is ISO 9001 is ISO and OHSAS 18001-certified.

SBM pays special attention to safety, environment and housekeeping aspects through a policy of continuous investment.

Iris, sister company of SBM-Formulation, is specialized in toll-packing for small packs (from 1g/mL to 1kg/L) for Ag. or Home and garden Business.

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crop@taminco.com
www.taminco.com
Contact: Guy Van Den Bossche

Taminco’s Crop Protection business unit offers clients 25 years’ experience in toll processing of WDG. The company’s processing technique, registered under the trade name Granuflo®, is based on the ‘spray-dry’ method and produces the best quality water-dispersible granules available on the market. Taminco has also invested in the production of flowable formulations both for seed treatment and for foliar uses. By making use of our Granuflo or flowable technology, clients can outsource their existing or develop their own WG, FS or SC formulation. The process includes an in-line filling system into the end users’ packaging, such as boxes, bags, drums or cans. For new contracts, tailor-made formulations are developed in Taminco’s laboratory and trial quantities can be obtained within three months from their pilot plant.

Taminco is also a leading supplier in specialized niche markets of soil fumigation and foliar fungicides. Contact us or check our website for more info.
Intermediate suppliers

LANXESS DISTRIBUTION GmbH
Kaiser-Wilhelm-Allee 40,
51369 Leverkusen
Germany
Tel: +49 (0) 214 30 69005
+49 (0) 2173 203391 158
Ralf.Bogan@lanxess.com
www.lanxess-distribution.com
Contact: Ralf Bogan
LANXESS Distribution is a sales and distribution company within the LANXESS Group. LANXESS Distribution holds worldwide registrations for Diuron applications in crop protection. This business is supported by an OECD standard data package and integrated production with raw material from the LANXESS group. The company’s offpatent product portfolio includes further active ingredients and formulated products with proprietary registrations from well-known manufacturers.

BHARAT GROUP
sng@bharatgroup.co.in
sanjaygupta@bharatgroup.co.in
www.bharatgroup.co.in
Contact: Mr SN Gupta,
CMD/Mr Sanjay Gupta,
Sr GM-International Business
Established three decades ago, Bharat Group is a multi-product, multi-locational and one of India’s leading Manufacturers and Exporters of large range of Pesticides Technical, their Formulations and Intermediates for Crop Protection, Public Health, Veterinary and Pharma Industry. Our motto of complete customer satisfaction has enabled us to reach turnover of USD 110 Millions. All of our Group Companies are ISO 9001:2008 and ISO 14001:2004 certified.

Bharat Rasayan Ltd., the flagship company of the Group manufacturing Technicals and Intermediates, has the capacity of 25000MT per annum (A new State of Art Manufacturing Plant at Dahej, Gujarat of capacity 15000MT/annum has commenced production recently). It is also a Govt. Recognized Star Export House.

Our Registration Department has ready dossiers for all products with full toxicology informations and thus the helping our customers in all possible means. GLP data is also available for Alphacypermethrin, Lambda Cyhalothrin, Cypermethrin, Permethrin, Ciodinafop Propargyl, Bifenthrin, Ethion, Metribuzin & Chlorpyrifos. Data for other molecules can also be generated. Further our Technicals Lambda Cyhalothrin, Alpha cypermethrin and Chlorpyrifos are WHOPES approved.

Some of our competitive products are: A) Synthetic Pyrethroids: Cypermethrin, Permethrin, Bifenthrin, Fenvalerate, Lambda Cyhalothrin, Chlorpyrifos, Chlordane and Ciodinafop Propargyl.

B) Intermediates: MPBD, MPBAL and many more.

GLP data is also available for Alphacypermethrin, Lambda Cyhalothrin, Cypermethrin, Permethrin, Ciodinafop Propargyl, Bifenthrin, Ethion, Metribuzin & Chlorpyrifos. Data for other molecules can also be generated. Further our Technicals Lambda Cyhalothrin, Alpha cypermethrin and Chlorpyrifos are WHOPES approved.

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B) Intermediates: MPBD, MPBAL and many more.
Biopesticides

Andermatt Biocontrol was founded in 1988 by Dr. Martin and Dr. Isabel Andermatt. Goal of Andermatt Biocontrol is to replace chemical pesticides with good biological alternatives. Key expertise of Andermatt Biocontrol is the development of new products based on baculoviruses and beneficial insects. Through acquisition a comprehensive knowhow for the development of rodent traps was adopted and developed further. Andermatt Biocontrol is distributing own manufactured products as well as some high-quality trade products all over the world, to more than 150 distributors.

LKC SWITZERLAND LTD
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Basel Land
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Fax: +41 61 906 8509
LKC@lkc-ltd.com
www.LKC-ltd.com
Contact: Dr David Kane

LKC offer experience and strategic advice to clients who want to be successful in Europe. Development and Registrations of Crop Protection Products, Biocides, Veterinary Medicines, Pharmaceuticals and specialized chemicals (REACH) are handled by our scientific experts. We have technical and regulatory expertise to contract and monitor studies including higher tiered studies; to interpret the findings; to prepare the appropriate risk assessments and compile regulatory dossiers in both paper and electronic formats. We engage in dialogue with Regulatory Authorities and work with a network of global affiliates to provide a ‘big picture’ perspective for our clients.

Staphyt is the company you can rely on to succeed in your trials, their management and registration issues. These key points show our commitment to provide the best quality within agreed deadlines:
• 25 years experience
• 240 experts
• 22 countries covered
• Access to 67 field trial stations in Europe
• Access to all crops
• GEP & GLP accredited

We have the expertise you need to succeed at all stages from screening through to registration. Staphyt offers the most complete area of expertise:
• GEP trials (efficacy & dose response, crop safety, practical value, rotational, drift studies, …)
• GLP studies (residue, OPEX, soil dissipation and accumulation, DFR…)
• Screening trials in field and glasshouse
• Biocontrol screening/testing and consulting
• Sales support and development trials
• Seed variety testing on all crops, including silage & compositional analysis
• Processing laboratory (100 different processes available)
• Ecotox field & tunnel studies for honey/bumble bees
• Research studies (rain fastness…)
• Fungi resistance monitoring for pre and post registration purpose

Staphyt regulatory & consulting also offers services in the EU, for Chemical, biocontrol products, fertilisers and growth media, and adjuvants:
• Consulting and strategy
• Pan-European registration program
• Building-up complete Annex II & III Dossiers & submission (Study management, write up of dossier’s according to dRR format including Risk Assessments and BADs)
• Mutual recognition, Bis application, Second trade name…
• Direct contact with National Authorities in Europe
• Trial permits

Contact LKC to see how we can find solutions to your regulatory challenges.

STAPHYT
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Tel:+33.3.21.21.45.21
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Contacts:
Business Development Manager: Yves Coconnier
(ycoconnier@staphyt.com)
Regulatory Affairs & Consulting Manager: Benoit Delcour
(bdelcour@staphyt.com)

Staphyt is the company you can rely on to succeed in your trials, their management and registration issues. These key points show our commitment to provide the best quality within agreed deadlines:

Contact Staphyt to see how we can find solutions to your regulatory challenges.
A leading European regulatory consulting company, TSGE’s scientific, regulatory and registration specialists are actively engaged in obtaining and defending product registrations across Europe.

With offices located in the UK, Germany, Spain, Slovenia and Poland, our specialists can prepare active substance and product dossiers including lower to higher tier risk assessments in the areas of plant protection, biocides, animal health, REACH, cosmetics, food contact and consumer products. TSGE also successfully participates in and manages task forces and consortia.
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Biopesticides continue to be an area of intense interest for all big players of the crop protection industry. Sanjiv Rana examines the developments over the past year.

Quite a lot has happened in the two years preceding this third instalment of Agrow’s annual biopesticide special issue. At the time of the first issue in March 2012, most industry players were still building a case for biopesticides as an important sector of the crop protection industry, most bigger players were making guarded statements about their intentions in the sector, and the headline proclaimed that biopesticides were no longer a fringe sector. Within months, the larger companies started getting seriously involved through acquisitions and licensing deals. The second special issue that came out in 2013 gauged the momentum that the sector quickly achieved and it was becoming clear that biopesticides would figure in the plans of most of the big crop protection companies.

The momentum that started in 2012 was sustained throughout 2013 and the first four months of 2014 in the forms of deals as well as acquisitions. The Europe-based majors consolidated the acquisitions made during the previous year and went about submitting registration dossiers for the acquired products and formulating business plans incorporating biopesticides into their overall strategy (during 2012, BASF acquired US specialty products company Becker Underwood, Bayer CropScience acquired US biopesticide company AgraQuest and German biopesticide company Prophyta, and Syngenta acquired US biopesticide company Pasteuria Bioscience).

In 2013, big US-based companies became active. Monsanto acquired US agricultural biotechnology company, AgrEvo, which has a collection of thousands of plant-associated micro-organisms; formed a partnership with Danish company Novozymes to develop and commercialise biopesticides worldwide; and supported the establishment of a US company, Preceres, aimed at the development of delivery methods for RNAi-based biopesticides. FMC entered into an exclusive global collaboration with the Danish bioscience company, Chr Hansen, to develop and commercialise biopesticides. It also acquired the US-based Center for Agricultural Environmental Biosolutions, which has a discovery platform focused on endophytic micro-organisms and their plant/host interactions.

Arysta LifeScience consolidated its presence in the sector by acquiring French sustainable agricultural technology company Goëmar. Meanwhile, ChemChina subsidiary Adama Agricultural Solutions (formerly Makhteshim-Agan Industries) entered the field by signing an agreement with Israeli technology transfer company Yissum Research Development to develop and commercialise a biopesticide for use on a range of plants.

Let’s examine the portfolios and plans of some of the big crop protection companies and niche biopesticide players.

BASF’s biologicals portfolio consists of bacteria, fungi and beneficial nematodes used to control pests or diseases and nematicides to control parasitic nematodes. The company claims to have dozens of biopesticides in its portfolio for use on a wide variety of crops and geographies. It is planning to expand its offer in terms of broadening the uses for existing products and introducing new products in coming years.

BASF will continue to focus its research and development in seed treatments and foliar applications. Apart from the Biostacked technology platform for seed treatment that includes biofungicides, the company’s biopesticides for field use include: the bioinsecticide, BroadBand (Beauveria bassiana strain PPRI 5339), which is registered for the control of red spider mites (Tetranychus spp), thrips, whiteflies (Bemisia tabaci) and diamondback moths (Plutella xylostella) on specified field crops; and the bionematicide, PL Gold (Paecilomyces lilacinus strain BCP2), a second-generation ovicide product for the control of parasitic nematodes.

“In general, we see high potential for innovations in the area of biologicals for a range of uses, from additional seed treatment and specialty crop uses to broader use in row crops,” says senior vice-president of the Functional Crop Care global business unit Juergen Huff. Bayer’s portfolio includes the biopesticides, Serenade (Bacillus subtilis strain QST 713), Kodiak (B. subtilis GB 03), Sonata (B. pumilus QST 2808), Requiem (extract of Chenopodium ambrosioides), Contans (Coniothyrium minitans), BioAct (Paecilomyces lilacinus 251), Esquive (Trichoderma atroviride), Votivo (B firmus + clothianidin), and Flocter (B firmus), and the pheromone, Charane (codlemone).
Bayer believes that biologicals will provide new growth opportunities in agriculture. "We are looking at market opportunities in all crops, primarily in fruits and vegetables, but also in broad-acre crops such as soybeans and oilseed rape, including seed treatment applications," says vice-president of global marketing of the Biologics division Ashish Malik. The company is also investigating additional facilities to support the needs of its crop protection business, and these will be added as the business grows and evolves.

Monsanto is focused on two main areas in its agricultural biological platform – BioDirect and microbials. The company considers its investment in the research and development of agricultural biological technologies another step in its quest for meeting growing demand in a sustainable way. It sees an increasing opportunity for farmers to use biologicals in a broader way.

BioDirect aims at exploring product concepts that bring together Monsanto's genome and chemistry expertise. The company currently has four BioDirect projects in its research and development pipeline: BioDirect Virus Control; Tospovirus Control (Phase 1); BioDirect Insect Control: Colorado Potato Beetle (Phase 1); BioDirect Weed Control: Palmer amaranth + Waterhemp (Phase 1); and BioDirect: Bee Health (Phase 1). It aims to commercialise one BioDirect product by the end of this decade.

Through the formation of the BioAg Alliance with Novozymes, Monsanto acquired a portfolio that includes two key families of products – including the biofungicide, Actinovate (Streptomyces lydicus WYEC 108), and the bioinsecticide, Met-52 (Metarhizium anisopliae strain F52). The BioAg Alliance is making significant investments in developing products that complement Monsanto’s other technologies.

Syngenta gained access to Pasteuria spp-based bioematicides when it acquired Pasteuria Bioscience in 2012. The company has since launched the P nishizawai-based bioematicide, Clariva, in the US. It estimates peak sales potential for the product at over $200 million.

Arysta LifeScience claims a biopesticide portfolio comprising approximately 30 products. It consists of an IPM range of natural enemies and complementary technologies in Japan, the codling moth control bioemesticide, Carmorvirus (Cydia pomonella granulositis virus), and the Laminaria digitata algae-derived vaccine to stimulate the natural defence of plants, Vacciplant (laminarin). The company plans to continue research in the area following the Gøemar acquisition as Gøemar is committed to the research of new biocontrol products from natural resources. Arysta produces a portion of the portfolio in-house (Carmorvirus and Vacciplant), while sourcing other elements of the portfolio, such as its IPM range in Japan, from key partners.

US biopesticide company Marrone Bio Innovations (MBI) launched its bioinsecticide/acaricide/nematicide, Venerate (Burkholderia spp strain A396 94.5%), in the US earlier this month. The product is MBI's second bioinsecticide, following the introduction of Grandevo (Chromobacterium subtusguse strain PRAA4-1T) in 2011. The company expects to see expansion of its US business this year in maize and soybeans with the biofungicide, Regalia (Reynoutria sachalinensis extract). It has received registration for Regalia in Peru, bringing approvals in Latin America to six, and anticipates getting one in Brazil before the end of the year.

MBI is continuing the building of its Michigan facility in the US to produce not only existing products but one or two new products per year that it plans to introduce over the next several years. It will start with Regalia and this will soon be followed by Grandevo and by the water treatment molluscicide, Zequanox (Pseudomonas fluorescens) later this year.

US company BioConsortia, which has been established by BioDiscovery New Zealand, appointed former chief executive officer of AgraQuest and head of strategy and business management for Bayer Biologics Marcus Meadows-Smith as CEO. The company expects its first products to be on the market in 2016 after it has completed two years of field trials in the relevant country. "It is possible that we might have products in some markets by the end of 2015, as we are just completing the second year of field trials in New Zealand," says Mr Meadows-Smith.

Israeli biopesticide company Stockton’s biofungicide, Timorex Gold, which is based on Melaleuca alternifolia extract, is sold in 15 countries. It is registered for sale in 26 countries with approvals expected in the US and Brazil this year. The company has received EU approval for the active ingredient and expects to commence sales in Europe in 2016-17.

**Impact of MNC entry...**

MBI views the entry of multinational pesticide companies in the biopesticide market as a positive development overall, and not a threat. "Their entries give more credibility and visibility to the biopesticide product category and that helps us all," says MBI founder and CEO Dr Pamela Marrone. MBI’s strategy is to team up with large companies where appropriate, as there are some segments that it will not be able to reach as well alone, she adds. Dr Marrone feels that her company is uniquely positioned to...
Stockton CEO Ziv Tirosh also views the entry of the bigger players favourably. He says that as agriculture is a conservative industry, it is not easy to change work habits. “The big players, who dominate over 80% of the crop protection market are the best and fastest avenue to create wide acceptance of biopesticides by farmers and distribution chains around the world,” Mr Tirosh says. Entry of biopesticides into conventional spraying programmes around the world demands market education plus technical support in fitting the biopesticides into spraying programmes – the big players have the knowledge and abilities to bring this change about the fastest, he adds. He points out that this is also in the best interest of the big players, as biopesticides act as “new molecules” in their portfolios and are also effective resistance management tools.

Cayman Islands-based biopesticide company Oro Agri believes that the entry of the Big Six companies to the biopesticide market has added validity to it. The past view of biopesticide companies as “snake-oil” producers is no longer valid and new modes of action and agronomical practices are being explored and revered. “The tightening of regulatory requirements, reduction of available chemistries and resulting resistance management requirements, paired with reduced registration costs makes biopesticides a very viable market,” says Europe general manager Carol Pullen.

But Ms Pullen also feels that smaller companies like hers now have opportunities to work with even smaller companies who have registration limitations yet have excellent niche markets within their limited territories. “With Oro having a full-time registration team and extensive coverage globally, we are still small enough to make decisions much faster and have far less ROI [return on investment] required compared with the bigger manufacturers,” she adds.

Senior associate at pest management consultancy Xenex Associates Peter May feels that smaller biopesticide companies will always struggle to raise funds to operate and support product and market development activities. “The interest in biopesticides by the multinational companies will assist the SME [small and medium enterprise] business model by increasing the confidence in the minds of small company owners/management and investors that an exit strategy involving an acquisition of technology or company is a real possibility” he points out. Biopesticide SMEs with an exit strategy in mind need to focus on development of intellectual property in technology and brands, regulatory packages and targeted distribution to establish the efficacy and market value of their products and to essentially “de-risk and build value” so as to maximise the return on investment to stakeholders, adds Mr May.

registration of biopesticides . . .

The biopesticide industry has been asking for years for a simpler approval process for biopesticides compared with conventional pesticides. Things do not seem to have changed much during the last year.

BASF says that when biopesticides are used for crop protection against pests and diseases, they fall under the plant protection product laws. It says that some regulatory approaches allow for products to be more quickly available to growers. As an example, it says that if a naturally occurring product has been already investigated and has a non-toxic mode of action, authorities can rely on existing information. Consequently, less time is needed to produce all of the data which may be required for a new chemical crop protection product. “Further, in some countries such as Brazil, regulation supports a faster review time for biopesticides,” adds Mr Huff.

Dr Marrone feels that the regulatory process is becoming more difficult for a number of reasons. The number of biopesticide submissions has significantly increased while staffing levels at the regulatory agencies have been reduced, making the whole process slower and more cumbersome. Secondly, regulators are still gaining experience and getting comfortable in how to handle and regulate new species and killed microbes as ais, resulting in the approval process, for the time being, taking longer than it probably will in the future. Thirdly, the honey bee crisis has triggered more in-depth non-target and beneficial organism toxicology requirements and testing. The fourth reason she gives is of a very short ten-day window to respond to submission
Storage stability has always been an issue with biopesticide BioSolutions portfolio. To develop and commercialise innovative formulations for its investigate new technologies and to work with industry leaders stability and product viability. The company will continue to technologies to address the unique challenges of long-term variety of weather conditions.

Arysta says that many biopesticides require novel formulation available for farmers to use them in the field, in storage and in a field conditions. “We are working to ensure our products are formulations to make them practical for farmers to use under Monsanto believes that biopesticides require unique biologicals, and we will continue to expand our technology base in this area,” says Mr Huff.

BASF highlights the difference in properties and stability between different biopesticides. It says that some, such as its biofungicide, Subtilex (Bacillus subtilis), are extremely stable. Others require some special handling, such as temperature-controlled environments for storage and transport. The company continues working on ways to extend the shelf life and performance of biologicals in order to extract their full potential in integrated pest management.

Bayer says that it is working with a unique and patented solid-state fermentation system, which enables the company to produce pure fungal spores either as a spore suspension or as a spore powder. “These pure spore products, which then get used as the ai in different biocontrol formulations, are extremely clean and therefore do not cause any problems due to any fermentation,” says Mr Malik. The technology also provides a very high spore yield, which makes the whole process cost effective and enables the company to produce highly competitive products, he adds.

**storage and transport . . .**

MBI claims that all its products offer very stable shelf life and do not require special transportation or storage. “All MBI products are sold through traditional ag chemical distribution channels,” says Dr Marrone.

Arysta says that a portion of its biopesticide portfolio requires special handling and storage capabilities. “These are common requirements in the biopesticides segment and therefore we do not view these as a barrier to success since many companies and distributors are already prepared to handle the products appropriately,” adds Ms Pinto.

Stockton claims that unlike most biopesticides, its products
have a normal shelf life and are stored and transported as easily as agrochemical products, with no problems. “We also have no formulation issues and no up scaling issues,” says Mr Tirosh.

Mr May explains that storage stability remains an issue for some biopesticides, but this has become less about time from manufacture to market than about conditions in storage and transport and potential impact on product stability. The need for special packaging and storage can add to the cost of a product but is not generally considered a block to commercial success, he adds.

future trend of corporate activity . . .

BASF plans to continue considering potential acquisitions for its Functional Crop Care business unit. The company would also look at broadening its interdisciplinary work within R&D as well as leverage external partnerships.

Bayer says that its acquisitions have established the company as a leader in the growing market for biological crop protection products. “We will however continue looking for opportunities, both external and internal, that can complement and/or accelerate the development of solutions that meet our customers’ needs,” says Mr Malik. He points to the recent acquisition of Argentine seed treatment business Biagro, which has a portfolio of seed-applied inoculants and plant growth-promoting micro-organisms based on bacterial and fungal strains. “Our aim is to further expand our global SeedGrowth business by offering an attractive and high-quality on-seed portfolio based on products, coatings, equipment and services,” says Mr Malik.

Monsanto points out that it invests significantly in its pipeline. “Additionally, to accelerate the introduction of new technologies to agriculture, we also make investments and form alliances with other innovators to deliver solutions for our farmer customers.” This is something the company will continue to explore to ensure continued growth of its pipeline. It is focused on delivering products for a broad range of crops, including specialty crops and row crops such as maize and soybeans.

Syngenta feels that biologicals can complement its crop protection portfolio and are expanding the scope of its integrated offering across numerous crops. “We continuously scout for new early-stage technologies or products, and then work with selected third parties to evaluate performance in the field.” With its broad knowledge of crop systems and programmes combined with “excellent product development capabilities (such as field development, formulation), we then develop new commercial biological products”, it adds.
Mitsui & Co subsidiary Certis USA granted exclusive marketing rights for eight biopesticides in Mexico to Sumitomo Corporation subsidiary Summit Agro Mexico.

Arysta LifeScience acquired French sustainable agricultural technology company Goëmar from parent companies BeCapital and Pechel Industries.

Monsanto supported the establishment of a new US company, Preceres, aimed at the development of new delivery methods for RNAi-based biopesticides.

BioDiscovery New Zealand established a US parent company, BioConsorthia, and appointed Marcus Meadows-Smith as chief executive officer.

Bayer CropScience agreed to acquire Argentine seed treatment business Biagro Group.

Sumitomo Chemical’s US-based subsidiary, Valent BioSciences Corporation, and Spanish marine biotechnology company Biomar Microbial Technologies agreed to collaborate on the development of biopesticides and biorational products.

Sumitomo Corporation subsidiary Summit Agro Chile gained exclusive rights to sell Chilean biopesticide supplier BioAgro's products worldwide excluding Spain and the US.

Dutch bioproducts company Koppert Biological Systems acquired German biopesticide distributor Welte-Nutzlinge.

The Canadian government awarded the Canadian biopesticide company, AEF Global, a Can$100,000 (US$91,280) loan through Canada Economic Development’s Quebec programme.

Monsanto and Danish company Novozymes formed a partnership to develop and commercialise biopesticides and other microbial products worldwide.

US biopesticide company Marrone Bio Innovations signed a research agreement with the New Zealand Institute for Plant and Food Research for the development of biopesticides and plant health products.

FMC entered into an exclusive global collaboration with the Danish bioscience company, Chr Hansen, to develop and commercialise biopesticides. It also acquired the US-based Center for Agricultural Environmental Biosolutions, which has a discovery platform focused on endophytic micro-organisms and their plant/host interactions.

ChemChina subsidiary Adama Agricultural Solutions (formerly Makhteshim-Agan Industries) signed an agreement with the Israeli technology transfer company, Yissum Research Development, to develop and commercialise a biopesticide for use on a range of plants.

French crop protection company De Sangosse agreed a global co-operation deal with Spanish agrochemical company Servalesa for the development and commercialisation of three biofungicides.

French crop protection company De Sangosse and Czech biopesticide firm Biopreparáty signed an exclusive contract for the development and distribution of the Czech company’s biofungicide, Polyversum (Pythium oligandrum M1).
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Biopesticide patent applications 2013-14

There was a total of 42 patent applications published by the US Patent and Trademark Office, European Patent Office and World Intellectual Property Organization in the field of biopesticides in the 13 months to April 2014, from a total of 31 assignees. Applications related to fungicides were most prevalent (14), followed by insecticides (8), multi-purpose biopesticides (6), nematicides (4), herbicides and plant growth regulators (3 each), viricides (2) and a molluscicide.

US company Marrone Bio Innovations (MBI) was by far the most prolific applicant, having five applications covering a diverse range of purposes, including a biomolluscidic and a dual purpose nematicide/fungicide. MBI was followed by Bayer CropScience, Chr Hansen, Syngenta, the University of Saskatchewan, the USDA and the Republic of Korea Rural Development Administration each submitting two applications.

The split between publicly funded institutions and the private sector was nearly 50:50, with 19 and 23 applications, respectively.

Taking into account multi-purpose biopesticides, the number of biohematicides rises to eight. This reflects the agrochemical sector’s response to the growing problem of nematode resistance, and to the increased demand for a more diverse portfolio of nematicidal treatments to supplement existing chemical management programmes, or as stand-alone treatments where few effective compounds remain.

Of particular interest is the application by the Japanese Hiroshima University for the preventative fungicidal treatment of bacterial wilt disease, which affects some 3.7 million acres (1.5 million ha) of potatoes globally, with estimated annual losses of more than $950 million. The disease has traditionally been treated with chloropicrin and methyl bromide, the latter of which has been largely banned in developed countries since 2005.

The invention is able to confer pathogenic resistance in potatoes, tomatoes and peppers, amongst others, via utilisation of a wilt bacterium (Ralstonia solanacearum) infected with øRSM1/øRSM3-type phages.

There was a total of 18 applications for biofungicides/viricides and seven for bioinsecticides referencing at least one specific plant pathogenic target organism, but not necessarily to the exclusion of broad-spectrum activity.

Notable applications include: Japanese Iwate University’s method for controlling zucchini yellow mosaic virus (ZYMV), cucumber mosaic virus (CMV) and soybean mosaic virus (SMV) using genetically modified apple latent spherical virus (ALSV); Syngenta’s use of modified Cry3A/Vip3 proteins for the control of Colorado potato beetles (Leptinotarsa decemlineata) and corn rootworms (Diabrotica spp); and the USDA’s use of a novel nucleic acid sequence having effective viricidal activity against beet curly top virus (BCTV).

The detailed list of patents is available at: https://www.agra-net.net/agrow/agrow/databases/agrow-intelligence-patent-watch/
Who's Who in CROs?

Dr. Wolfgang Völkel
Wolfgang has a PhD in chemistry from the Technical University of Munich, Germany and two decades of experience as a study director for e-fate studies in contract research organizations (RCCHarlan, IES). Wolfgang's expertise covers different types of chemicals and he has managed the delivery of testing programs which meet all aspects of regulatory requirements for product registration. As Chief Scientific Officer he is responsible for maintaining the top scientific level of IES Ltd.

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Dr. Stefan Höger
Stefan studied Biology at the University of Constance with focus on developmental neurobiology, immunology, behaviour biology and ecotoxicology. During his PhD he focused on the issues of drinking water treatment of cyanobacterial-loaded surface waters and the consequences for human health. During these international studies Stefan investigated the efficiency of treatment techniques in several drinking water treatment plants in Switzerland, Germany and Australia. After completing his PhD he coordinated the toxicological section of the EU project PEPCY-Toxic and Bioactive PEPtides in CYanobacteria with partners in several European countries.

Stefan has several years of experience in the CRO industry. His field of expertise covers ecotoxicology, toxicology, biodegradation, analytical chemistry and also regulatory know-how (agrochemicals, biocides, chemicals and pharmaceuticals). He previously worked as a study director, team coordinator, team leader, department head and GLP- test facility manager in academia and industry. Since 2014, Stefan is the COO of IES Ltd.

Dr. Marco Candolfi
Marco did his PhD in Entomology and Plant Physiology at the ETH in Zürich. From 1994 until 2010, Marco worked for several contract research organizations and international agrochemical companies in Switzerland, Germany, United Kingdom and India. He is specialized in ecotoxicology, environmental and ecological risk assessment and regulatory affairs. Functions included Team and Group Leader Ecotox, Head Global Terrestrial Ecology, Global Head Insecticide Regulatory Affairs, Global Head Business Unit Agro & Biocides and Managing Director. Since 2010, Marco is the Chief Executive Officer at IES Ltd.

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Dipl. Env. Sci. Dominik Reinhard
Dominik studied environmental sciences at the University of Koblenz-Landau with focus on aquatic ecotoxicology and graduated in 2007. He did his diploma thesis on endocrine disruption in collaboration with BASF in Ludwigshafen and was, thereafter, managing research projects on alternative testing methods for REACH. In 2009 he joined Harlan Laboratories in Switzerland and gained significant experience in project management, business development and marketing. Since 2012 he is Chief Marketing Officer at IES Ltd.

Dipl. Env. Sci. Dominik Reinhard
Dominik studied environmental sciences at the University of Koblenz-Landau with focus on aquatic ecotoxicology and graduated in 2007. He did his diploma thesis on endocrine disruption in collaboration with BASF in Ludwigshafen and was, thereafter, managing research projects on alternative testing methods for REACH. In 2009 he joined Harlan Laboratories in Switzerland and gained significant experience in project management, business development and marketing. Since 2012 he is Chief Marketing Officer at IES Ltd.
Dr. Joachim Winkler has 40 years of agrochemical experience in R&D at different positions. Since 1992 he has been Managing director, head of the GLP testing facility and the responsible biosafety officer for GMO trials.

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Gernot Renner joined BioChem agrar in 1992 as study director for ecotox and field trials. Since 1999 he is leading BioChem’s GEP/GLP European wide field section including crop residue-, processing-, variety- and marketing trials. Beside this he is deputy of the Managing director and focused on company strategy.
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