Beneficial microorganisms for crop fertilization

Strains4Plants is a part of the Bacteriology group of ICGEB (Trieste) which provides research and services for improving Plant growth and Plant health to institutes, companies and agricultural consortia.

Our team of specialists is constantly investigating bacterial strains with beneficial properties in order to offer efficient solutions and bio-agents for plant fertilization (biofertilizers/ biostimulants) and plant defense (biopesticides).

LIST OF BACTERIAL STRAINS AVAILABLE
Biopesticides and biofertilizers are derived from natural sources such as bacteria.

Bacteria can act

• as biopesticides, controlling plant pathogens via the production of antimicrobial compounds, induction of resistance in plants and by niche exclusion via the monopolization of essential nutrients,

• as biofertilizers inducing plant growth promotion (PGP) through for example nitrogen fixation, phosphate and mineral solubilization, macromolecule degrading enzymes and the production of phytohormones and volatile growth stimulants.

Consequently the use of microbial products containing bacteria is increasingly used in agriculture to enhance yield of crops and vegetables in order to reduce the use of agrochemicals (e.g. chemical fertilizers and pesticides).

It is expected that the share of the market of bio-/control/fertilizers will increase at an annual average growth rate of approximately 10% over the next three years.

One of the demands in the future will therefore be the identification of bacterial strains tailored for a specific need as biopesticides and/or biofertilizers; we believe that the choice of bacterial strain(s) is of pivotal importance. Strain4Plants focuses on the identification and characterization of harmless and natural bacterial strains to use as probiotics as single strains or part of a microbial consortia.
Technology

- MICROBIAL-DRIVEN FERTILIZATION, STIMULATION & PROTECTION
  - Selection of beneficial microorganisms for a diversity of crops.
  - Creation of customized microbial inoculants for specific agronomic needs.
  - Formulation of effective microbiological-enriched substrates.
  - Development of easy and efficiency applications.
Services

- Isolation of strains for agroindustrial applications
- Characterization of beneficial properties
- Screening tests in plants
- Compatibility tests
- Greenhouse and field trials
- Small-scale formulation
- Consultancy

SUPPORTING DOCUMENTS

- Licensing of strains
- Scientific support
- Confidentiality
- Fees and royalties
<table>
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<th>Pipeline</th>
<th>Collaboration overview</th>
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<tr>
<td>REQUEST</td>
<td>Contact request</td>
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<tr>
<td>AGREEMENT</td>
<td>Research agreement (project, chronogram and costs)</td>
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<tr>
<td>DEVELOPMENT</td>
<td>Installation, execution and monitoring of the experiments. Validations.</td>
</tr>
<tr>
<td>DELIVERY</td>
<td>Final report with organized data, protocols and technical considerations.</td>
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### Sequence of basic processes

Our basic pipeline foresee a series of steps, starting from the initial request to the release of a final report with protocols, processed data and technical considerations.
### Workflow

- **Technical Investigation**
  - Strategy planning to solve agronomic challenges.

- **Project Development**
  - Laboratory screening and experimentations.

- **Validations**
  - Efficacy in greenhouse and field conditions.

- **Final Report**
  - Detailed report with final considerations.

- **Delivery**
  - Delivering of efficient bio-agents.
## Our team of specialists

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Expertise</th>
<th>Email</th>
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</thead>
<tbody>
<tr>
<td>HEAD OF ACTIVITIES</td>
<td>Dr. Vittorio VENTURI</td>
<td>Biologist, PhD in Microbiology, Expert in bacteria-bacteria interactions</td>
<td><a href="mailto:venturi@icgeb.org">venturi@icgeb.org</a></td>
</tr>
<tr>
<td>BIOTECHNOLOGY &amp; RESEARCH COORDINATOR</td>
<td>Dr. Rebeca FUZINATTO</td>
<td>Biologist, PhD in Biotechnology, Expert in agricultural microbiology</td>
<td><a href="mailto:rebeca.fuzinatto@icgeb.org">rebeca.fuzinatto@icgeb.org</a></td>
</tr>
<tr>
<td>LAB. MANAGER &amp; RESEARCH ASSISTANT</td>
<td>Ms. Iris BERTANI</td>
<td>Biologist, Expert in environmental microbiology</td>
<td><a href="mailto:bertani@icgeb.org">bertani@icgeb.org</a></td>
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Collaborations

INSTITUTES

- Development of efficient biofertilizers.

http://www.mathex.es/it/

INDUSTRIES

Publications

- List of recent publications.

Click here to access: link to publications

Products

- Development of efficient biofertilizers.
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<tr>
<th>Name</th>
<th>Position</th>
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<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vittorio VENTURI</td>
<td>Head of Activities</td>
<td>+39-040-3757319</td>
<td><a href="mailto:venturi@icgeb.org">venturi@icgeb.org</a></td>
</tr>
<tr>
<td>Iris BERTANI</td>
<td>Lab. Manager &amp; Res.Assist.</td>
<td>+39-040-3757365</td>
<td><a href="mailto:bertani@icgeb.org">bertani@icgeb.org</a></td>
</tr>
<tr>
<td>Rebeca FUZINATTO</td>
<td>Research Coordinator</td>
<td>+39-040-3757365</td>
<td><a href="mailto:rebeca.fuzinatto@icgeb.org">rebeca.fuzinatto@icgeb.org</a></td>
</tr>
<tr>
<td>Martina VIVIANI</td>
<td>Technology Transfer</td>
<td>+39-040-3757365</td>
<td><a href="mailto:viviani@icgeb.org">viviani@icgeb.org</a></td>
</tr>
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For further information, please contact us.