Ecofriendly synergists for insecticide formulations

Fact Sheet

Project information

ECOSYN

Grant agreement ID: 605740

Project website

Status
Closed project

Funded under:
FP7-SME

Overall budget:
€ 1 323 100

EU contribution
€ 887 000

Coordinated by:
ENDURA SPA
Italy

Start date
1 October 2013

End date
31 December 2015

Objective

Insect pests cause significant damage to agricultural crops and transmit several important diseases of humans and animals. Chemical insecticides have been used to control insect pests for many decades and remain essential to ensure a supply of affordable food and as part of disease vector control for the foreseeable future. Unfortunately, the world-wide use of synthetic insecticides over many years has led to increased resistance to insecticides and contributed to environmental contamination. One way to reduce insecticide use without compromising control is to use a synergist in combination with an insecticide. synergists are themselves nontoxic but act by increasing the effectiveness of the insecticides they are used with. They do this by inhibiting the metabolic systems in insects that detoxify insecticides. The goal of this project is to develop ecofriendly synergists for use in formulations with insecticides, both in agriculture and in Public Health, enabling a reduction in the amount of insecticidal active applied, and thereby reducing the adverse effects of these insecticides on beneficial insects such as bees. On the basis of in-depth experimental analyses of the interactions of the known synergist piperonyl butoxide with metabolic enzymes in pest insects, new molecular structures will be designed, synthesized and evaluated on pest and beneficial species using laboratory bioassays and field trials. In addition, the synthesis process to manufacture these synergists will be evaluated with the aim of achieving an industrially and economically feasible process. Finally strategies will be developed that use the novel synergists to enhance the control
of insect pests while preserving beneficial insects. As such this research has significant scientific, economic, and social impact as part of sustainable food production and disease control and will enhance the partners’ competitiveness in this important industry by means of global patent and license agreements.

Field of Science

/medical and health sciences/health sciences/public and environmental health
/agricultural sciences/agriculture, forestry, and fisheries
/agricultural sciences/agriculture, forestry, and fisheries/agriculture
/agricultural sciences/agriculture, forestry, and fisheries/agriculture/plant breeding/crops
/natural sciences/biological sciences/biochemistry/biomolecules/proteins/enzymes

Programme(s)

FP7-SME - Specific Programme "Capacities": Research for the benefit of SMEs

Topic(s)

SME-2013-1 - Research for SMEs

Call for proposal

FP7-SME-2013

See other projects for this call

Funding Scheme

BSG-SME - Research for SMEs

Coordinator
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Country</th>
<th>EU Contribution</th>
<th>Address</th>
<th>Activity type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENDURA SPA</td>
<td>Italy</td>
<td>€ 522 071</td>
<td>Viale Pietramellara 5 40121 Bologna</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>DEWAR CROP PROTECTION LIMITED</td>
<td>United Kingdom</td>
<td>€ 56 916</td>
<td>Drumlanrig Great Saxham Ip29 5jr Bury St Edmunds</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>ANKARA ILERI TEKNOLOJI YATIRIMLARI ANONIM SIRKETI</td>
<td>Turkey</td>
<td>€ 39 618</td>
<td>Ankara Universitesi Teknoloji Gelisim Bolgesi B Blok Kat 1 No 4 06830 Ankara</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>Organisation</td>
<td>EU Contribution</td>
<td>Address</td>
<td>Activity type</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>ROTHAMSTED RESEARCH LIMITED</td>
<td>€ 64 000</td>
<td>West Common, Al52jq Harpenden</td>
<td>Research Organisations</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITA CATTOLICA DEL SACRO CUORE</td>
<td>€ 24 200</td>
<td>Largo Agostino Gemelli 1, 20123 Milano</td>
<td>Higher or Secondary Education Establishments</td>
<td></td>
</tr>
<tr>
<td>AGCHEMACCESS LIMITED</td>
<td>€ 47 895</td>
<td>Thorpe Road Cedar House 41, Nr1 1es Norfolk</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td></td>
</tr>
</tbody>
</table>

Administrative Contact:
- Chris Bass (Dr.)
- Cristina Bricchi (Ms.)
- Mone Sharma (Mr.)
<table>
<thead>
<tr>
<th>Organisation</th>
<th>EU Contribution</th>
<th>Activity type</th>
</tr>
</thead>
<tbody>
<tr>
<td>VÝZKUMNY USTAV VCELARSKY SRO</td>
<td>€ 11 400</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>BABOLNA KORNYEZETBIOLOGIAL KOZPONT KFT</td>
<td>€ 120 900</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
</tbody>
</table>