Natural soil stimulation

Solagra is a soil stimulant based on the soil bacteria Pseudomonas putida, strain i-4613. It works via enzymatic activity to improve soil structure and assimilation of nutrient by the plant.

- Increases soil humification
- Stimulates rhizosphere activity
- Improves nutrient assimilation
- Synthesizes biologically active substances
- Improves soil water balance
- Increases the availability of nutrients

1. Solagra increases soil humification which improves soil structure resulting in increased:
   - water infiltration
   - water retention
   - soil aeration
   - drainage

2. Solagra solubilizes nutrients thereby allowing easier assimilation by the plant.

3. Solagra improves soil water balance by maintaining water reserves at a more balanced level, thereby reducing plant stress in summer months.

4. Solagra is active in the rhizosphere, the area immediately around the root.

5. Solagra produces plant hormones, such as IAA, stimulating plant growth and improving root development.

6. Solagra increases the soil ion concentration, thereby increasing the availability of soil nutrients

<table>
<thead>
<tr>
<th>Target Crops</th>
<th>Timing</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize, Potatoes, Sugar Beet,</td>
<td>Feb-May or Aug-Nov</td>
<td>0.8 – 1.0kg/Ha</td>
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<tr>
<td>Orchards, Vines</td>
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</table>

Application

- Solagra is intended to condition the soil, apply in the autumn or spring, or both.
- Additive improvements in yield have been seen following year-on-year applications.
- All crops in the rotation will benefit from the improvements in soil structure.
- Spray onto the soil in wet conditions following heavy rain, dew or irrigation. Alternatively incorporate mechanically after application.

PRODUCTS FOR PROFESSIONALS USE. READ THE ENTIRE LABEL BEFORE USE, AND INFORMATION RELATING TO THE PRODUCT. Solagra WP – Contains Pseudomonas putida, strain i-4613—Follow the instructions for use in order to avoid risks to human health and the environment. Do not pollute water with the product or its packaging. Marketed by Gemini Agriculture Ltd.
Improved soil structure benefits plant health

Visual observations in other studies have revealed significant improvements in soil structure when treated with Solagra. Soil is darker, has a greater proportion of fine soil aggregate and is more crumbly. This indicates increased soil humification, balanced moisture availability and improved aeration.

**Improved soil structure** improves rooting potential, in addition, the increased solubilisation of nutrients allows for greater uptake by the plant thereby increasing yield and quality.

**2018 Sugar Beet field trial - Doncaster**

<table>
<thead>
<tr>
<th>Yield (tn/Ha)</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
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</thead>
<tbody>
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<tr>
<td>Solagra</td>
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</table>

**Yield and sugar content comparison**

- 6.5t/ha increase in yield,
  - equating to 7.4% increase.
- 0.43 increase in percentage sugar content.
- Solagra applied at 1kg/Ha on the 3rd May 2018, 1 day after planting.

**2018 Potato field trial - Nottingham**

<table>
<thead>
<tr>
<th>Yield (tn/Ha)</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
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<tr>
<td>Solagra</td>
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</table>

**Yield comparison**

- 3.2t/ha increase in yield,
  - equating to 12% increase.
- Solagra applied at 1kg/Ha on the 21st May 2018, pre-planting.
- Trials have also shown Solagra to reduce the % of small tubers produced and increase the % of marketable fraction.

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