Technical information

Target pest
*Spodoptera littoralis*, common name: African cotton leafworm and *Spodoptera frugiperda*, common name: Fall armyworm.

Crops
Corn, Sorghum, Cocoa, Coffee, Strawberry, tomato, pepper, lettuce, eggplant, cabbage, alfalfa, groundnuts, clover, cotton, tea, sugar beet, potato and many more.

Formulation
Suspension concentrate containing > $5 \times 10^{11}$ SpliNPV (*Spodoptera littoralis* nucleopolyhedrovirus) per liter.

Standard dosage
50 – 200 ml/ha, depending on crop and application strategy.

Timing
For optimal results, the first application should cover the eggs and be timed right before the hatching of first larvae.

Water volume
200 – 1600 l/ha. This should be adjusted according to leaf area index and spraying equipment.

Standard interval between sprays
Generally repeat in 8 days interval. This can be adjusted depending on the specific pest control strategy.

Pre-harvest and re-entry interval (PHI, REI)
Leaves no residues. Minimum PHI and REI are defined according to national registration regulations.

Toxicity profile
Product contains no chemical ingredients and complies with organic farming. No chemical residues on the crop. No side effects on mammals, beneficial insects, bees, aquatic organisms and other non-target organisms. No maximum residue levels (MRLs) are defined for Littovir®.

Compatibility
Compatible with most insecticides, fungicides and fertilizers. A pH level between 5 and 8.5 in the tank mix has to be respected.

Storage
Excellent storage stability: > 2 years at −18 °C, 2 years at 5 °C, 1 month at 25 °C. Avoid temperatures above 40 °C.

Rainfastness
Good rain resistance as soon as product has dried on the leaves.
LITTOVIR® efficacy trials

Control of *Spodoptera littoralis* in lettuce, Sicily, Italy 2011
3 treatments, 8 days interval, GEP trial

![Chart showing leaf damage percentages for different treatments.](chart1.png)

(Source: CBC Biogard, Italy)

Control of *Spodoptera littoralis* in pepper, Sicily, Italy, 2011
3 applications, 8 days interval, GEP trial

![Chart showing leaf damage percentages for different treatments.](chart2.png)

(Source: CBC Biogard, Italy)
Control of *Spodoptera littoralis* in strawberry, Basilicata region, Italy 2011

3 applications, 8 to 9 days interval for Littovir and Spinosad, 7 days interval for Btk

<table>
<thead>
<tr>
<th></th>
<th>Leaf damage [%]</th>
<th>Number of larvae</th>
<th>Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus thuringiensis kurstaki</td>
<td></td>
<td>b</td>
<td>78.6%</td>
</tr>
<tr>
<td>LITTOVIR 100 ml</td>
<td></td>
<td>b</td>
<td>71.4%</td>
</tr>
<tr>
<td>LITTOVIR 200 ml</td>
<td></td>
<td>b</td>
<td>78.6%</td>
</tr>
<tr>
<td>Spinosad</td>
<td></td>
<td>b</td>
<td>83.3%</td>
</tr>
<tr>
<td>Untreated control</td>
<td></td>
<td>a</td>
<td></td>
</tr>
</tbody>
</table>

(Source: CBC Biogard, Italy)

Control of *Spodoptera frugiperda* in corn, Brazil, 2017

21 days after 3rd application

<table>
<thead>
<tr>
<th>Number of larvae per plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated check</td>
</tr>
<tr>
<td>Bta (500g / ha)</td>
</tr>
<tr>
<td>Littovir (50ml / ha)</td>
</tr>
</tbody>
</table>
**LITTOVIR®: Swiss quality**

Littovir® is produced by Andermatt Biocontrol in Switzerland. The company Andermatt Biocontrol is certified according to ISO 9001:2008.

Andermatt Biocontrol is committed to highest quality of its products. Every produced batch of Littovir® undergoes a systematic bioassay process. The virulence of each batch is tested against the standard reference batch within the Andermatt Biocontrol laboratories. Only batches that fulfil the high quality standards will be released into the market.

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