Product Portfolio 2020
More and more consumers ask for food that is free of residues and has been produced according to standards that respect the environment. We at Andermatt Biocontrol Group enable the production of healthy food while maintaining a healthy environment for all. Our R&D, regulatory and technical expertise around the globe provides high-quality products and services to develop alternative solutions to conventional pesticides and fertilisers. Together with you we can make a real change to realise our vision.
Products

Our biocontrol technologies

**Bio-Insecticides**
- Madex
- Madex Twin
- Capex
- Cryptex
- Helicovex
- Spexit
- Tutavir
- Littovir
- Spodovir
- Looxorvir
- Loopex
- Abietiv
- Lymantria dispar MNPV
- Bb-Protec
- Nomu-Protec

**Bio-Fungicides**
- AmyProtec 42
- T-77
- Curatio
- Vitisan

**Biostimulants / Bioinoculants**
- T-Gro
- T-Gro Easy-Flow
- RhizoVital 42 / C5 / P45
- RootWin-S / RootWin-A

**Monitoring systems / Mass trapping**
- Drosal Pro
- DrosaLure
- Rebell
- aPhinity EAB
- PheraNorm

**Rodent control**
- topcat
- topsnap
- topsnap LR
- standby

**Macroorganisms**
- Beneficial insects
- Insect feed
- Insects for research
- Entomopathogenic nematodes

**Diverse products**
- SilicoSec
- InsectoSec

**About us**
- Structure of the Andermatt Holding
- Subsidiaries of Andermatt Biocontrol
- Our suppliers
- Your technical support
Products
Our biocontrol technologies

At Andermatt Biocontrol Group, we offer a large number of biocontrol products against a broad range of different pest insects and diseases.

In 1988, the development and production of highly selective insecticidal viruses laid the foundation of Andermatt Biocontrol in Switzerland. Ever since, our R&D experts around the globe have pioneered in developing novel biological plant protection technologies by adding fungal, bacterial and other biocontrol products, biofertilisers and bioinoculants to our portfolio.

By providing high-quality biological solutions for both organic and conventional farming, the Andermatt Biocontrol Group has evolved from pioneer, to global player, in the agricultural industry. With more than 10 subsidiaries on 4 continents, as well as with local distributors in more than 60 countries, farmers get access to our broad portfolio to address and solve challenges of today’s agriculture.

Our products are approved and listed for the use in organic farming in many countries. We received certificates from the Research Institute of Organic Agriculture (FiBL), OMRI, SGS, BFA, BioGro New Zealand, and others.

We also offer unformulated raw material.
**MADEX**

**Pest**
Codling moth (*Cydia pomonella*) is one of the world’s most serious pests in apples and pears. Since it is able to adapt to various climatic conditions, management strategies need to be adjusted according to its local developmental characteristics.

**Product**
Madex contains a *Cydia pomonella* granulovirus and offers highly effective control of codling moth. Due to the alternative mode of action the product is an excellent tool for the sustainable management of codling moth.

Madex was the first commercially available product based on baculovirus worldwide and has been successfully applied for 30 years. Madex can be used for organic production, but is also an effective product for use in IPM and conventional control programs.

**Madex Max, Madex Plus, Madex Top**
The Madex line includes several products based on different CpGV isolates. They are an important measure to prevent selection of CpGV resistant codling moths. In orchards with resistant codling moth populations, these isolates are effective tools for successful fruit protection.

**PRODUCT FACTS**

<table>
<thead>
<tr>
<th>Against</th>
<th>Codling moth (<em>Cydia pomonella</em>)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active ingredient</strong></td>
<td><em>Cydia pomonella</em> granulovirus (CpGV)</td>
</tr>
<tr>
<td><strong>Formulation type</strong></td>
<td>Suspension concentrate</td>
</tr>
<tr>
<td><strong>Concentration</strong></td>
<td>$3 \times 10^{13}$ GV/liter</td>
</tr>
<tr>
<td><strong>Standard dosage</strong></td>
<td>100 ml per ha</td>
</tr>
<tr>
<td><strong>Crops</strong></td>
<td>Apple, pear, walnut, quince and others</td>
</tr>
</tbody>
</table>

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**Codling moth**

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**MADEX TWIN**

**Pest**

Oriental fruit moth (*Grapholita molesta*) is a serious pest in stone fruit. It frequently migrates to pome fruit orchards in the late season, where it can cause substantial fruit damage before harvest. Oriental fruit moth is able to complete its entire life cycle on alternative hosts such as apple, cherry, plum and quinces.

**Product**

Madex Twin provides a highly specific and residue-free combined control of oriental fruit moth and codling moth. Madex Twin is the right choice for commercial pome fruit orchards with both oriental fruit moth and codling moth infection.

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**PRODUCT FACTS**

- **Against**
  - Oriental fruit moth and codling moth (*Grapholita molesta, Cydia pomonella*)

- **Active ingredient**
  - Cydia pomonella granulovirus (CpGV)

- **Formulation type**
  - Suspension concentrate

- **Concentration**
  - $3 \times 10^{13}$ GV/liter

- **Standard dosage**
  - 100 ml per ha

- **Crops**
  - Peach, nectarine, apple, pear, quince, apricot, almond, cherry, plum and walnut

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CAPEX

Pest
Summer fruit tortrix (Adoxophyes orana) is present in Europe and Asia. The polyphagous caterpillars feed on leaves, buds and fruits, causing serious damage to various crops. In Europe, summer fruit tortrix mostly affects pome and stone fruit production, whereas in Asia this species is also a pest in tea plantations.

Product
Capex offers highly effective and selective control of summer fruit tortrix populations without harming beneficials in the orchards. The infected larvae are killed in the last larval instar. On apples, the early application of Capex on overwintering larvae effectively reduces pest damage.

Infected larvae produce large amounts of new viruses, providing a high infection potential for the next generation. Capex can be combined with mating disruption and other insecticides.

PRODUCT FACTS

Against
Summer fruit tortrix (Adoxophyes orana)

Active ingredient
Adoxophyes orana granulovirus (AoGV)

Formulation type
Suspension concentrate

Concentration
$5 \times 10^{13}$ GV/liter

Standard dosage
100 ml per ha

Crops
Apple, pear, rose, plum, cherry, apricot, peach, currant, gooseberry and others
CRYPTEX

Pest
The larvae of the false codling moth (*Thaumatotibia leu- cotreta*) are extremely polyphagous. They are responsible for major damage to citrus in Southern Africa, and to a large number of other crops in Sub-Saharan Africa. False codling moth is also present in Israel where it is causing damage in citrus crops, macadamia, avocado, pomegranates as well as other crops.

Product
Cryptex contains an isolate of *Cryptophlebia leucotreta* granulovirus (CrleGV) which was isolated from a population of false codling moth originating in South Africa.

Cryptex can be applied without additives such as molasses or sugar and prevents damage within the first year of application. Moreover, the use of Cryptex has a long term control effect on false codling moth populations if applied early in the season.

PRODUCT FACTS

Against
False codling moth (*Thaumatotibia leucotreta*, formerly: *Cryptophlebia leucotreta*)

Active ingredient
*Cryptophlebia leucotreta* granulovirus (CrleGV)

Formulation type
Suspension concentrate

Concentration
$2 \times 10^{13}$ GV/liter

Standard dosage
200 ml per ha

Crops
Citrus, avocado, pomegranate, bean, cotton, grape, macadamia, ornamental, corn, pepper, stone fruit, tea and many others
Bio-Insecticides

HELCIOVEX

Pest
The cotton bollworm (Helicoverpa armigera) and other Helicoverpa species belong to the most damaging pests of economic importance on a global level. They are known to gradually develop resistance against several chemical substances. The larvae are extremely polyphagous and feed on many different plant structures including stems, leaves, flower heads and fruits. The adults are known to migrate over long distances.

Product
Helicovex is a tool for the efficient and sustainable control of the cotton bollworm and other Helicoverpa species, such as Helicoverpa zea or Helicoverpa virescens. Considering its favourable toxicological and residue-free profile and the high compatibility with other products, Helicovex is well suited for organic production, integrated plant protection strategies and resistance management programs.

PRODUCT FACTS

Against
Cotton bollworm (Helicoverpa armigera), corn earworm (Helicoverpa zea) and other Helicoverpa species

Active ingredient
Helicoverpa armigera nucleopolyhedrovirus (HearNPV)

Formulation type
Suspension concentrate

Concentration
7.5 × 10¹² NPV/liter

Standard dosage
50 – 200 ml per ha

Crops
Soybean, tomato, sweet pepper, sweet corn, cotton, bean, tobacco, lettuce, sunflower and many others
**SPEXIT**

**Pest**
The beet armyworm (Spodoptera exigua) is one of the most destructive polyphagous pest species of worldwide economic importance. Beet armyworms occur in Mediterranean countries, North America, Asia and Africa, and invade the cooler Northern regions as temperatures permit.

Young beet armyworm larvae feed on the lower surface of leaves. Fully-grown larvae devour foliage completely, leaving only major veins.

**Product**
Spexit is suited for the efficient control of Spodoptera exigua larvae on various crops. The use of Spexit significantly reduces crop damage and pest population. Due to its high selectivity, Spexit is a valuable and efficient tool for integrated pest control programs using beneficial insects.

**PRODUCT FACTS**

**Against**
Beet armyworm (Spodoptera exigua)

**Active ingredient**
Spodoptera exigua nucleopolyhedrovirus (SeNPV)

**Formulation type**
Suspension concentrate

**Concentration**
$3.75 \times 10^{12}$ NPV/liter

**Standard dosage**
200 ml per ha

**Crops**
Sweet pepper, tomato, melon, strawberry, sugar beet, cotton, cabbage, lettuce, sweet corn, onion and many others
**TUTAVIR**

**Pest**
The tomato leafminer (Tuta absoluta) is a key pest in tomato production and shows resistance to several classes of pesticides. Introduced to Spain in 2006, it is now a major issue for European and African tomato producers and is rapidly spreading towards the Far East. Larvae mine into leaves and fruits where they feed and create severe damage.

**Product**
Tutavir contains a Phthorimaea operculella granulovirus for highly effective and selective control of the tomato leafminer. It is well suited for population and damage control. Due to its high specificity, Tutavir is the best candidate for integrated pest management programs, for example in greenhouses where beneficial insects are used. Because of its unique mode of action, Tutavir is an important tool for resistance management in conventional and biological production systems.

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**PRODUCT FACTS**

**Against**
- Tomato leafminer (Tuta absoluta)

**Active ingredient**
- Phthorimaea operculella granulovirus (PhopGV)

**Formulation type**
- Suspension concentrate

**Concentration**
- $2 \times 10^{13}$ GV/liter

**Standard dosage**
- 50 – 200 ml per ha

**Crops**
- Tomatoes and other solanaceous crops
LITTOVIR

Pest
The Egyptian cotton leafworm (*Spodoptera littoralis*; bottom right) and the fall armyworm (*Spodoptera frugiperda*; bottom left) are extremely polyphagous pests that attack more than 180 plant species of economic importance. The Egyptian cotton leafworm is widespread in Africa, Middle East and the countries of the Mediterranean basin. The fall armyworm is widespread in North and South America and is spreading in Asia and Africa.

While young larvae cause feeding damage to leaves, older caterpillars defoliate plants completely, bore into young stalks, buds, fruits and bolls. Due to their biology and the risk of developing resistance against chemical insecticides, the control of *Spodoptera littoralis* as well as *Spodoptera frugiperda* is challenging and demands new solutions.

Product
Littovir is a highly selective larvicide against the Egyptian cotton leafworm and the fall armyworm. Littovir offers residue-free and effective control, resulting in more flexibility when included in existing pest control and resistance management strategies.

PRODUCT FACTS

<table>
<thead>
<tr>
<th>Against</th>
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<tbody>
<tr>
<td>Egyptian cotton leafworm</td>
</tr>
<tr>
<td>(<em>Spodoptera littoralis</em>)</td>
</tr>
<tr>
<td>and fall armyworm</td>
</tr>
<tr>
<td>(<em>Spodoptera frugiperda</em>)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Active ingredient</th>
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</thead>
<tbody>
<tr>
<td><em>Spodoptera littoralis</em> nucleopolyhedrovirus (SpliNPV)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Formulation type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspension concentrate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5 \times 10^{11}$ NPV/liter</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 ml per ha</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Crops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn, strawberry, lettuce, tomato,</td>
</tr>
<tr>
<td>sweet pepper, cotton, cabbage,</td>
</tr>
<tr>
<td>potato, melon, cocoa, rice, soybean,</td>
</tr>
<tr>
<td>wheat and many others</td>
</tr>
</tbody>
</table>
**SPODOVIR**

**Pest**
The fall armyworm (*Spodoptera frugiperda*) is a highly polyphagous lepidopteran pest, feeding on at least 180 plant species from over 40 families. It is causing major damage to economically important crops such as corn, sorghum, rice and soybean. *Spodoptera frugiperda* has its origin in the Americas and was first detected in Africa in 2016. Since then, fall armyworm has been spreading rapidly across the African continent and cleaves its way East into Asia, where it is already present on the Indian subcontinent.

**Product**
Spodovir is a highly effective larvicide against the fall armyworm based on the *Spodoptera frugiperda* nucleopolyhedrovirus (SfMNPV). It offers farmers a safe and highly efficient tool against one of today’s most destructive and fast spreading agricultural pests.

**PRODUCT FACTS**

<table>
<thead>
<tr>
<th>Against</th>
<th>Fall armyworm (<em>Spodoptera frugiperda</em>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active ingredient</td>
<td><em>Spodoptera frugiperda</em> nucleopolyhedrovirus (SfMNPV)</td>
</tr>
<tr>
<td>Formulation type</td>
<td>Wettable Powder (WP)</td>
</tr>
<tr>
<td>Concentration</td>
<td>$6 \times 10^9$ NPV/g</td>
</tr>
<tr>
<td>Standard dosage</td>
<td>25 – 100 g per ha</td>
</tr>
<tr>
<td>Crops</td>
<td>Corn, sorghum, rice, soybean and many others</td>
</tr>
</tbody>
</table>
LOOPOVIR

Pest
The soybean looper (Chrysodeixis includens) can be found on the American continent from Argentina to Canada. Its wide distribution and its polyphagous behavior, feeding on plants in 28 families, underlines the importance to develop adequate control tools and strategies. Although soybean looper is feeding on a wide range of host plants, it is generally considered to be a major pest of soybean and tomato. On soybean, larvae start feeding on foliage in the lower canopy, once totally defoliated, pods are attacked.

Product
Loopovir is a highly effective biological tool to control soybean looper (Chrysodeixis includens). Loopovir also offers the farmer an important resistance management tool that can be included in every Integrated Pest Management program (IPM).

PRODUCT FACTS

Against
Soybean looper (Chrysodeixis includens)

Active ingredient
Chrysodeixis includens nucleopolyhedrovirus (ChinNPV)

Formulation type
Suspension concentrate

Concentration
$5 \times 10^{11}$ NPV/liter

Standard dosage
50 – 200 ml per ha

Crops
Soybean, tomato and others
**LOOPEX**

**Pest**
The cabbage looper (*Trichoplusia ni*) is a highly migratory and destructive pest of various crops, especially in greenhouses in North America, but it is also widely distributed in the tropics and subtropics. Cabbage loopers can severely defoliate plants. Early instar larvae feed on the lower surfaces of leaves, while larger caterpillars cause more conspicuous damage. Resistances to various insecticides have become a severe problem in cabbage looper control.

**Product**
Loopex offers highly efficient biological control of *T. ni* larvae, by preventing damage and control *T. ni* populations. Loopex is a valuable tool that can be included in any pest control program, especially as an additional resistance management tool and for the control of insecticide resistant populations. Due to its high selectivity, Loopex is a safe option for cabbage looper control in production systems using beneficial insects.
Baculovirus products for forest pests

**Abietiv**
The balsam fir sawfly (*Neodiprion abietis*) is a native sawfly species that occurs throughout North America. Its larvae are a significant defoliating pest of balsam fir (*Abies balsamea*). *Neodiprion abietis* nucleopolyhedrovirus (*NeabNPV*) is a naturally occurring biocontrol agent for aerial application, isolated from sawfly populations in Newfoundland, Canada.

<table>
<thead>
<tr>
<th>PRODUCT FACTS</th>
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</thead>
<tbody>
<tr>
<td><strong>Against</strong></td>
</tr>
<tr>
<td>Balsam fir sawfly (<em>Neodiprion abietis</em>)</td>
</tr>
<tr>
<td><strong>Active ingredient</strong></td>
</tr>
<tr>
<td><em>Neodiprion abietis</em> nucleopolyhedrovirus (<em>NeabNPV</em>)</td>
</tr>
<tr>
<td><strong>Application area</strong></td>
</tr>
<tr>
<td>Balsam fir (<em>Abies balsamea</em>)</td>
</tr>
</tbody>
</table>

**Lymantria dispar MNPV**
The gypsy moth (*Lymantria dispar*) is present in North America, Europe, North Africa and Asia. Its larvae feed on developing leaves of more than 300 tree species causing significant growth loss in forested ecosystems. *Lymantria dispar* MNPV (*LdMNPV*) is a baculovirus product for efficient control of the gypsy moth larvae. *LdMNPV* is the specific solution for interfering in a complex and diverse ecosystem.

<table>
<thead>
<tr>
<th>PRODUCT FACTS</th>
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</thead>
<tbody>
<tr>
<td><strong>Against</strong></td>
</tr>
<tr>
<td>Gypsy moth (<em>Lymantria dispar</em>)</td>
</tr>
<tr>
<td><strong>Active ingredient</strong></td>
</tr>
<tr>
<td><em>Lymantria dispar</em> multiple nucleopolyhedrovirus (<em>LdMNPV</em>)</td>
</tr>
<tr>
<td><strong>Application area</strong></td>
</tr>
<tr>
<td>Mainly on deciduous hardwood trees (oak, maple, elm and many more)</td>
</tr>
</tbody>
</table>
BB-PROTEC

Bb-Protec contains the insect-pathogenic fungus *Beauveria bassiana* strain R444 which infects and controls whitefly, spider mite, mealybug, and various other agricultural insect pests. Bb-Protec’s unique formulation prevents the fungal spores from drying out and enhances penetration and infection of the pest.

The active ingredient *Beauveria bassiana* R444, is a naturally-occurring, soil-borne entomopathogenic fungus. *Beauveria bassiana* spores attach to and penetrate through the “skin” or cuticle of the insect. Once inside the insect, the fungus grows and multiplies. Death is caused by internal tissue destruction. In numerous greenhouse and field trials Bb-Protec proved to be highly effective against mealybug, woolly aphid, spider mite, whitefly, false codling moth and other pests on a variety of crops.

**Advantages**
- Unique formulation
- Control of a broad spectrum of insect pests
- No residues and no withholding period after application
- Effective against all stages of the life cycle of most pests

**PRODUCT FACTS**

<table>
<thead>
<tr>
<th>Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various agricultural insect pests such as mealybug, woolly aphid, whitefly, spider mite, false codling moth, citrus red mite, and other insect pests</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Active ingredient</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Beauveria bassiana</em> strain R444</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formulation type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wettable powder</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ $2 \times 10^9$ spores/g</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Standard dosage</th>
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</thead>
<tbody>
<tr>
<td>300 – 1000 g/ha as a full cover spray or drench into soil</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide range of crops</td>
</tr>
</tbody>
</table>
NOMU-PROTEC

Nomu-Protec contains the insect-pathogenic fungus *Metarhizium rileyi*\(^1\) strain PHP1705 which infects and controls pests from the Noctuidae family. Nomu-Protec’s unique formulation prevents the fungal spores from drying out and enhances penetration and infection through the “skin” or cuticle of the insect.

Once inside the insect, the fungus grows and multiplies. Death is caused by internal tissue destruction. Sporulation and further spread of *Metarhizium rileyi* in the field is possible.

**Advantages**
- Unique formulation
- Control of various lepidopteran pests, especially Noctuids
- No residues and no withholding period after application
- Compatible with baculoviruses

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**PRODUCT FACTS**

<table>
<thead>
<tr>
<th>Against</th>
<th>Helicoverpa spp., Spodoptera spp., Chrysodeixis spp. and various other Noctuids</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active ingredient</strong></td>
<td><em>Metarhizium rileyi</em> strain PHP1705</td>
</tr>
<tr>
<td><strong>Formulation type</strong></td>
<td>Wettable powder</td>
</tr>
<tr>
<td><strong>Concentration</strong></td>
<td>≥1 × 10^9 spores/g</td>
</tr>
<tr>
<td><strong>Standard dosage</strong></td>
<td>300–600 g/ha as a full cover spray</td>
</tr>
<tr>
<td><strong>Crops</strong></td>
<td>Wide range of crops</td>
</tr>
</tbody>
</table>

\(^1\) Previously known as *Nomuraea rileyi*
AMYPROTEC 42

Protects your root system
AmyProtec 42 is a biological soil fungicide, containing spores of the naturally occurring soil bacteria *Bacillus velezensis*. In the root zone, the bacteria outcompete soil-borne pathogens, such as Rhizoctonia and Erwinia, by accessing space and nutrients and creating a disease-inhibiting protective shield. AmyProtec 42 activates the plant’s natural defence mechanisms through induced systemic resistance. Enhanced root growth allows the plant to escape the susceptible state faster before plant emergence. These elements combined prevent from damping-off and stem infections caused by soil-borne pathogens.

AmyProtec 42’s unique mode of action helps the plant to build stronger and healthier roots and to improve its tolerance towards biotic (pathogens) and abiotic (water deficiency, salinity) stress.

A perfect tool for integrated programs
AmyProtec 42 can be mixed with almost all agrochemicals, using a wide range of application methods. Start treatments in early plant development and use AmyProtec 42 as an efficient part of integrated plant protection programs, as residue free resistance management tool and to reduce the use of conventional fungicides.

PRODUCT FACTS

**Key benefits**
Pathogen displacement and induction of systemic resistance

**Active ingredient**
*Bacillus velezensis* (synonym *Bacillus amyloliquefaciens* spp. *plantarum*) FZB42

**Formulation type**
Suspension concentrate

**Concentration**
$>2.5 \times 10^{10}$ CFU/ml

**Standard dosage**
0.5 – 2 l/ha depending on crop and application method

**Application methods**
Seed treatment, drenching, soil-spraying, injection into hydroponics, in combination with agrochemicals, etc.
T-77

T-77 contains the beneficial fungus *Trichoderma atroviride* strain 77B, a very effective aerial *Trichoderma* strain. The *Trichoderma* fungus colonises any plant wound or senescing plant tissue, and prevents pathogens such as Botrytis and trunk diseases (e.g. *Eutypa lata*) from penetrating the plant. Thus, T-77 is effective against Botrytis on stems, leaves, flowers and fruits. In the same way, pruning wounds on grapevines and other fruit trees are protected against the entrance of pathogens. Grapevine trials have shown that the protecting fungus may still be present one year after application. Furthermore, T-77 also has the ability to parasitise and destroy fungal pathogens.

T-77 can either be applied as full cover spray or as a directed spray on pruned surfaces.

**Advantages**
- Prevents pathogen infection in senescing or damaged plant tissues
- Efficient Botrytis protection in greenhouses and open fields
- Fewer plant and yield losses
- Vineyard’s productive life is extended as a result of disease prevention (e.g. *Eutypa lata*)
- Increased postharvest shelf life

**PRODUCT FACTS**

**Key benefits**
Colonises damaged or senescing plant tissues and prevents pathogen infection, such as Botrytis spp., trunk diseases (e.g. *Eutypa lata*), *Monilinia* spp., etc.

**Active ingredient**
*Trichoderma atroviride* strain 77B

**Formulation types**
Wettable powder

**Concentration**
≥ $2 \times 10^9$ spores/g

**Standard dosage**
250–750 g/ha

**Crops**
Grape, tomato, onion, strawberry, nectarine, soybean, etc.
**CURATIO**

Curatio is based on the active ingredient lime sulphur and is suited for controlling fungal diseases like scab, sooty blotch, Marssonina and powdery mildew. Curatio with its unique mode of action is a curative and preventive fungicide which is able to protect apples during long-lasting rainfalls without risk of resistance development.

**PRODUCT FACTS**

- **Active ingredient**: Calcium polysulphide (Lime sulphur)
- **Standard dosage**: 4 – 8 l/ha
- **Crops**: Pome fruit, stone fruit, grape, etc.

**VITISAN**

Vitisan is a contact fungicide with preventive and curative effects against a wide range of fungal diseases. The effective fungicide is based on potassium bicarbonate with compelling advantages against Oidium and Botrytis in grapes. Vitisan also controls powdery mildew and Botrytis in vegetables, soft fruits and ornamentals as well as scab and sooty blotch in pome fruits.

**PRODUCT FACTS**

- **Active ingredient**: Potassium bicarbonate
- **Standard dosage**: 5 – 10 kg/ha
- **Crops**: Grape, stone fruit, tomato, berries, etc.
T-GRO

T-Gro contains spores of Trichoderma asperellum strain kd, a soil-borne strain selected through extensive research. Trichoderma spores germinate in the soil and colonise the root zone of the plant. T-Gro enhances nutrient mobilisation and plant resistance to stress caused by sub-optimal conditions, such as waterlogging, drought or others. Thus, T-Gro supports the plant to develop a larger, healthier and more effective root system and can be applied to most crops.

Good results have been achieved on various crops, including potatoes, vegetables, nursery crops, pastures, fruit trees and turf. The method of application is flexible and depends on the crop type. T-Gro can be applied as a seed treatment, as an in-furrow spray or as a soil drench.

Advantages
- Enhanced nutrient mobilisation
- Increase in crop quality and yield possible
- Improved tolerance to abiotic stress
- Versatile application methods
- Fully compatible with organic and residue free production

PRODUCT FACTS

Key benefits
Improved nutrient mobilisation and tolerance towards abiotic stress

Active ingredient
Trichoderma asperellum strain kd

Formulation type
Wettable Powder

Concentration
≥ 2 × 10⁹ spores/g

Standard dosage
250 – 500 g/ha

Crops
Wide range of crops
T-GRO EASY-FLOW

T-Gro Easy-Flow is a specially formulated *Trichoderma asperellum* product on a graphite and talc-based carrier. It is the perfect seed flow lubricant to use with mechanical planters. T-Gro Easy-Flow improves nutrient mobilisation and helps buffering stress caused by extreme conditions such as waterlogging, drought or others. The formulation offers additional benefits to planting efficiency, such as a more even plant stand, no more skipped or doubled seeds, and more seeds planted per hectare.

The powder can be sprinkled on top of the seed in the seed hopper and stirred into the top seed layers. As the tractor moves, the agitation of the seed hopper ensures even distribution of the powder throughout the hopper. T-Gro Easy-Flow is the perfect Trichoderma seed treatment for broad acre crops like corn or wheat.

**PRODUCT FACTS**

**Key benefits**
- Specially designed to use with mechanical planters, more even plant stand, enhanced nutrient mobilisation, improved tolerance towards abiotic stress and improved seed flow

**Active ingredient**
- *Trichoderma asperellum* strain kd

**Formulation type**
- Graphite and talc based dry powder formulation

**Concentration**
- $\geq 2 \times 10^9$ spores/g

**Standard dosage**
- 1–40 g/kg seed (depending on seed size)

**Crops**
- For crops sown with mechanical planters
RHIZOVITAL 42 / C5 / P45

The next generation plant inoculant

The product line RhizoVital offers a range of biostimulating microbial inoculants, containing spores of the naturally occurring soil bacteria *Bacillus velezensis* or *Bacillus atrophaeus*. The bacteria germinate in the soil and release enzymes which stimulate nutrient mobilisation. RhizoVital supports the availability of plant nutrients which can lead to yield increase. Tolerance to stress caused by unfavourable climatic conditions and field management can be improved. Use RhizoVital as an integral part of a future-oriented production strategy.

<table>
<thead>
<tr>
<th>RhizoVital 42</th>
<th>RhizoVital P45</th>
<th>RhizoVital C5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bacteria species</strong></td>
<td><em>Bacillus velezensis</em> (synonym <em>amylolyticus</em> spp. <em>plantarum</em>)</td>
<td><em>Bacillus atrophaeus</em></td>
</tr>
<tr>
<td><strong>Strain</strong></td>
<td>FZB42</td>
<td>FZB45</td>
</tr>
<tr>
<td><strong>Key properties</strong></td>
<td>Increased plant nutrient mobilisation</td>
<td>Increased phytase-production favours P-mobilisation</td>
</tr>
<tr>
<td><strong>Temperature range for spore germination</strong></td>
<td>12–45 °C</td>
<td>8–42 °C</td>
</tr>
<tr>
<td><strong>Formulations</strong></td>
<td>SC (liquid suspension concentrate) 2.5 × 10⁹ cfu/ml</td>
<td>TB (talcum based dry powder) 1 × 10⁸ cfu/g</td>
</tr>
<tr>
<td><strong>Shelf life</strong></td>
<td>2 years, when stored &lt;25 °C, dry and protected from sunlight</td>
<td></td>
</tr>
<tr>
<td><strong>Compatibility</strong></td>
<td>Compatible with fungicides and other plant protection products</td>
<td></td>
</tr>
</tbody>
</table>

All Bacillus strains are also available as raw material e.g. for the formulation with fertilisers, seed coatings, etc.
ROOTWIN-S / ROOTWIN-A

Crop specific Rhizobium strains guarantee a maximum level of N₂-fixation. Both products contain bacterial cells of specific nitrogen fixing Rhizobium strains with high nodulation and fixation abilities. The unique granular formulation offers high concentration of bacterial cells within protective fibres giving the products natural sticking properties for seed treatments.

Advantages
- Easy to use and compatible with standard seed treatment equipment
- Increased yields and improved crop uniformity
- N-fertiliser application is not needed
- No additional stickers required
- High nodulation and N₂-fixation

1 RootWin PLUS – Best results are obtained in combination with T-Gro (Trichoderma asperellum, page 23): The RootWin PLUS Packs provide a unique combination of both microbial innoculants in one pack.

PRODUCT FACTS

Key benefits
Nitrogen fixation through root nodulation

Active ingredient
RootWin-S for soybean: Bradyrhizobium japonicum WB74;
RootWin-A for lucerne/alfalfa: Sinorhizobium meliloti RF14

Formulation type
Wet granular formulation

Standard dosage
50 g RootWin-S per 50 kg soybean seed; 50 g RootWin-A per 25 kg alfalfa seed

Crops
Soybean and lucerne/alfalfa
DROSAL PRO

Drosal Pro is a cup trap system suited to be a component in an integrated control strategy against spotted wing drosophila (Drosophila suzukii).

The cups can be filled with specific lures for spotted-wing drosophila. The lures attract spotted-wing drosophila into the body of the trap, where they drown. The cup trap system can be reused for several years.

DROSALURE

DrosaLure is a highly attractive and stabilised attractant for spotted-wing drosophila. It is composed of cider vinegar, red wine, sugar and natural flavours and can be used as a lure to the Drosal Pro cup trap or any other kind of liquid trap system.
# REBELL – Coloured sticky traps

<table>
<thead>
<tr>
<th>Trap</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rebell amarillo</td>
<td>Yellow traps for reliable monitoring or mass trapping of fruit flies</td>
</tr>
<tr>
<td>Rebell bianco</td>
<td>Monitoring of sawflies and for the control of raspberry beetles</td>
</tr>
<tr>
<td>Rebell blu</td>
<td>Monitoring of thrips</td>
</tr>
<tr>
<td>Rebell giallo</td>
<td>Monitoring of white flies, leafminers, sciarid flies, etc.</td>
</tr>
<tr>
<td>Rebell orange</td>
<td>Monitoring of carrot flies</td>
</tr>
<tr>
<td>Rebell rosso</td>
<td>Monitoring or mass trapping of shothole borers in orchards and vineyards</td>
</tr>
<tr>
<td>Glurex forte</td>
<td>Biodegradable solvent for the cleaning of Rebell traps</td>
</tr>
<tr>
<td>Tangle-Trap glue</td>
<td>Insect glue for the reuse of Rebell traps</td>
</tr>
</tbody>
</table>

## ADVANTAGES OF REBELL TRAPS

- ✔ Specific, cadmium-free colours ensure high reliability and low by-catches
- ✔ Integrated UV filter assuring long-lasting colour fastness
- ✔ Strong polypropylene protects the traps from deformation
- ✔ Very strong glue performs even under severe weather conditions
- ✔ Possible to clean and re-use

## APHINITY EAB

Combination of a pheromone and a host leaf volatile, together with a green sticky trap for monitoring and early detection of Emerald Ash Borer (*Agrilus planipennis*).
PHERONORM

Andermatt Biocontrol offers a large range of lures for monitoring of economically important pest species:

<table>
<thead>
<tr>
<th>Lure</th>
<th>Pest Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrolepiopsis assectella</td>
<td>Leek moth</td>
</tr>
<tr>
<td>Adoxophyes orana</td>
<td>Summer fruit tortrix</td>
</tr>
<tr>
<td>Agrilus planipennis</td>
<td>Emerald ash borer</td>
</tr>
<tr>
<td>Agrilis ipsilon</td>
<td>Black cutworm</td>
</tr>
<tr>
<td>Agrilis segetum</td>
<td>Turnip moth</td>
</tr>
<tr>
<td>Anarsia lineatella</td>
<td>Peach tree borer</td>
</tr>
<tr>
<td>Anthanomus rubi</td>
<td>Strawberry blossom weevil</td>
</tr>
<tr>
<td>Autographa gamma</td>
<td>Sylver-Y moth</td>
</tr>
<tr>
<td>Bactrocer a oleae</td>
<td>Olive fly</td>
</tr>
<tr>
<td>Byturus tamentosus</td>
<td>Raspberry beetle</td>
</tr>
<tr>
<td>Cameraria ohridella</td>
<td>Chestnut leafminer</td>
</tr>
<tr>
<td>Ceratitis capitata</td>
<td>Medflies</td>
</tr>
<tr>
<td>Contarinia nasturtii</td>
<td>Swede midge</td>
</tr>
<tr>
<td>Cossus cossus</td>
<td>European goat moth</td>
</tr>
<tr>
<td>Cryptoblephia leucotreta</td>
<td>False codling moth</td>
</tr>
<tr>
<td>Cydia nigricana</td>
<td>Pea moth</td>
</tr>
<tr>
<td>Cydia pomonella</td>
<td>Codling moth</td>
</tr>
<tr>
<td>Cydia splendana</td>
<td>Chestnut tortrix</td>
</tr>
<tr>
<td>Dasineura gledichiae</td>
<td>Honey locust pod gall midge</td>
</tr>
<tr>
<td>Diabrotica virgifera</td>
<td>Western corn rootworm</td>
</tr>
<tr>
<td>Diaphania perspectalis</td>
<td>Box tree moth</td>
</tr>
<tr>
<td>Enarmonia formosana</td>
<td>Cherry bark tortrix</td>
</tr>
<tr>
<td>Eupoecilia ambiguella</td>
<td>European grape berry moth</td>
</tr>
<tr>
<td>Grapholitha funebrana</td>
<td>Plum fruit moth</td>
</tr>
<tr>
<td>Grapholitha labarzewskii</td>
<td>Small-fruittortrix</td>
</tr>
<tr>
<td>Grapholitha molestis</td>
<td>Oriental fruit moth</td>
</tr>
<tr>
<td>Halyomorpha halys</td>
<td>Brown marmorated stink bug</td>
</tr>
<tr>
<td>Helicoverpa armigera</td>
<td>Cotton ballworm</td>
</tr>
<tr>
<td>Helicoverpa virescens</td>
<td>Tobacco budworm</td>
</tr>
<tr>
<td>Leucoptera scitella</td>
<td>Pear leaf blister moth</td>
</tr>
<tr>
<td>Lobesia botrana</td>
<td>Grapevine moth</td>
</tr>
<tr>
<td>Lygus rugulipennis</td>
<td>European tarnished plant bug</td>
</tr>
<tr>
<td>Lymantria dispar</td>
<td>Gypsy moth</td>
</tr>
</tbody>
</table>

**ADVANTAGES OF PHERONORM**

- ✔ Continuous, reliable quality for successful monitoring
- ✔ Available as single lures or as trap sets
- ✔ Standard monitoring system used by research institutes and advisory services all over the world

Lures for other pest species available on demand.
Smart solutions for efficient rodent control

topcat – The vole trap.
The internationally patented topcat-trap is a very efficient, high-quality trap for catching voles from both tunnel directions. topcat is characterised by its sensitive release mechanism and its ability for above ground control of capture.

topsnap – The clever mousetrap.
topsnap’s tunnel-like body awakens the natural curiosity of mice. It is the environmental- and user-friendly alternative to toxic bait, for long-term use in indoor and outdoors areas.

NEW topsnap LR – The clever mousetrap with remote signaling.
topsnap LR is an advancement of our topsnap. The trap is equipped with a LoRaWAN antenna, magnetic and temperature sensors. After the simple setup in the WebApp, a message is sent every time the trap has been triggered. Thus, expenses for the usual trap checks can be reduced.

standby – The vole fence.
The internationally patented standby system is an easy and effective tool to prevent (re-)immigration of voles into a valuable area. Once installed, the reliable and proven system is self-governed. Natural predators (foxes, cats and others) empty the live-catch traps along the fence by lifting the flip-top of the traps.

ADVANTAGES OF THE TOPCAT-TRAP
- High quality product made of stainless steel (rust-free)
- Quick and easy handling
- Catches from both tunnel directions
- Very sensitive release mechanism
- Can be used against voles, field mice, etc.

ADVANTAGES OF THE TOPSNAP-TRAP
- Innovative two-sided trapping system against small mice moving above ground
- High quality product made of stainless steel and solid plastic
- Easy, fast and secure activation of the trap from the outside
- Contact-free release of catch
- Safe for users, infants and domestic animals
Beneficial insects

*Adalia bipunctata* against aphids and *Phytoseiulus persimilis* against spider mites.

Insect feed

*Ephestia kuehniella*
Frozen eggs of *Ephestia kuehniella* serve as a main food source in the production of many different beneficial insects.

Insect diet
Artificial diet for the rearing of insects.

Insects for research

<table>
<thead>
<tr>
<th>Insect Name</th>
<th>Species Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer fruit tortrix</td>
<td><em>Adoxophyes orana</em></td>
</tr>
<tr>
<td>Codling moth</td>
<td><em>Cydia pomonella</em></td>
</tr>
<tr>
<td>Oriental fruit moth</td>
<td><em>Grapholita molesta</em></td>
</tr>
<tr>
<td>Cotton bollworm</td>
<td><em>Helicoverpa armigera</em></td>
</tr>
<tr>
<td>Potato tuber moth</td>
<td><em>Phthorimaea operculella</em></td>
</tr>
<tr>
<td>Diamondback moth</td>
<td><em>Plutella xylostella</em></td>
</tr>
<tr>
<td>Beet armyworm</td>
<td><em>Spodoptera exigua</em></td>
</tr>
<tr>
<td>African cotton leafworm</td>
<td><em>Spodoptera littoralis</em></td>
</tr>
<tr>
<td>Tomato leafminer</td>
<td><em>Tuta absoluta</em></td>
</tr>
</tbody>
</table>

PRODUCT FACTS

Andermatt Biocontrol has many years of experience in the production of beneficial insects.

PRODUCT FACTS

In the course of the production of baculovirus products, Andermatt Biocontrol has an interesting range of insects on offer for research purposes.
Entomopathogenic nematodes occur naturally in the environment as parasites of many insect larvae. The mass release of these nematodes provides an efficient and curative control of key insect pests in a wide range of crops. Once released, nematodes actively seek out their hosts and penetrate into the insect releasing symbiotic bacteria that multiply and rapidly kill the insect.

### Heterorhabditis bacteriophora
- Black vine weevil larvae (*Otiorhynchus ssp.*)
- Garden chafer (*Phyllopertha horticola*)
- Welsh chafer (*Hoplia philantus*)
- Hazelnut borer (*Cucujus naticus*)
- Western corn rootworm (*Diabrotica virgifera*)

### Steinernema carpocapsae
- Chestnut moth (*Cydia splendana*)
- Cutworm (*Agrotis ssp.*)
- European pepper moth (*Duponchelia fovealis*)
- Flat-headed root borer (*Capnodis tenebrionis*)
- Leatherjacket (*Tipula paludosa*)
- Mole cricket (*Gryllotalpa gryllotalpa*)
- Palm weevil (*Rhynchophorus ferrugineus*)

### Steinernema feltiae
- Codling moth (*Cydia pomonella*)
- Oriental fruit moth (*Grapholita molesta*)
- Plum fruit moth (*Grapholita inunguis*)
- Fungus gnat (*Lycoriella ssp.*, *Bradysia ssp.*)
- Leafminer (*Liriomyza ssp.*)
- Mushroom sciarid (*Lycoriella ssp.*)
- Tomato leafminer (*Tuta absoluta*)
- Western flower thrips (*Frankliniella occidentalis*)

**ADVANTAGES**

Entomopathogenic nematodes are a natural product and safe for users, consumers and the environment.

Andermatt Biocontrol has been developing and marketing beneficial nematode products for over 20 years.

Easy application with AquaNemix.
Diverse products

SILICOSEC

SilicoSec is a non-chemical natural alternative for the control of insects in stored grains and storage rooms. SilicoSec is a contact insecticide, active against all kinds of crawling insects and moth larvae. It is applied to the preferred hiding places and travel routes of the insects.

INSECTOSEC

InsectoSec is a natural dustable powder which controls effectively the red fowl and all kind of hygiene pests such as ants, silver fish, cockroaches and woodlice can be controlled with InsectoSec effectively. The effect is based on absorption of the lipid layer, of the arthropod chitin exoskeletons. By destroying the natural water barrier InsectoSec is leading to death of the harmful insects through desiccation.

PRODUCT FACTS

**Active ingredient**
Kieselgur (diatomaceous earth)

**Standard dosage**
1 – 2 kg/t

**Crops**
Stored grain

PRODUCT FACTS

**Active ingredient**
Silicium dioxide / Kieselgur (diatomaceous earth)

**Standard dosage**
30 – 50 g/m²

**Application**
Biocide for poultry farmers and professional pest control
About us

Andermatt Biocontrol is certified according to ISO 9001:2015
Andermatt Biocontrol is embedded in the family- and employee-owned Andermatt Holding and has shareholding in a number of subsidiary companies (outlined below), totalling in over 200 highly motivated employees worldwide.

**Structure of the Andermatt Holding**

A member of the Andermatt Group

Sustainable Agriculture

A member of the Andermatt Group
Subsidiaries of Andermatt Biocontrol

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Madumbi East Central Africa
Mauritius
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Madumbi Kenya
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contact@andermattuk.com

Andermatt France
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Biofa AG
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Andermatt Nederland bv
Netherlands
www.andermattnederland.nl
contact@andermattnederland.nl
Our suppliers

Andermatt Biocontrol has an international network of high-quality oriented manufacturers of bio-rational products. Through these partnerships and shareholdings, we can deliver sustainable agricultural solutions around the globe. Due to significant R&D resources, technical expertise and a constant exchange with our customers we successfully fulfil the demands and needs of the market.

Andermatt Biocontrol Suisse AG was founded by Martin and Isabel Andermatt in 1988. With more than 30 years of experience in the development, formulation and production of virus-based biocontrol products, Andermatt Biocontrol Suisse is a global leader in Baculovirus production.
www.biocontrol.ch
www.andermattbiocontrol.com

Plant Health Products (PHP) was initiated in 1998 by Prof. Mark Laing and Dr. Mike Morris in KwaZulu-Natal, South Africa. The company specialises in the production of biocontrol products, particularly fungal based products for pest and disease control. Furthermore, PHP is a founding member of SABO, the South African Bioproducts Organisation.
www.plant-health.co.za

Biofa AG joined the Andermatt Biocontrol Group in 2018. Originally founded in 1979, Biofa has its roots in the distribution of plant additives for organic farmers and has grown to become the largest supplier and manufacturer of biocontrol and bio-fertiliser products in Germany.
www.biofa-profi.de

ABiTEP GmbH is a German biotech company specialised in the development of products for agriculture and horticulture based on naturally-occurring soil bacteria and other microorganisms. ABiTEP has a strong R&D focus with more than 30 years of experience working with beneficial Bacillus species.
www.abitep.de

Sylvar Technologies Inc. was established in 2006 and joined the Andermatt Biocontrol Group five years later in 2011. The company is a North American leader in the development, production and commercialisation of Baculovirus based products for agriculture and forestry. Besides the development of bio-insecticides, Sylvar also acts as a distributor of biocontrol products in the Canadian forest and agricultural market.
www.sylvar.ca
Your technical support

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