



**CURATIO<sup>®</sup>**  
**SilicoSec<sup>®</sup>**  
**VitiSan<sup>®</sup>**  
**InsectoSec<sup>®</sup>**

**BIOFA**  
**EXPORT**  
**PRODUCTS**



# BIOFA

## EXPORT PRODUCTS

<b>CURATIO<sup>®</sup></b>	LIME SULPHUR	page 4
<b>SilicoSec<sup>®</sup></b>	DIATOMACEOUS EARTH	page 6
<b>VitiSan<sup>®</sup></b>	POTASSIUM BICARBONATE	page 8
<b>InsectoSec<sup>®</sup></b>	DIATOMACEOUS EARTH	page 10

# BIOFA AG

LEADING COMPANY IN ORGANIC PLANT PROTECTION



**BIOFA AG is a medium-sized company in the South-West of Germany dedicated to organic agriculture**

Founded in 1982, we provide our customers and partners with a full range of plant protection products, plant strengtheners, fertilisers and beneficials for organic and integrated farming (IP). As result of our market presence and a quarter of a century of experience in sales and registration of biological solutions, we are well known to almost all organic growers in Germany.

BIOFA AG has grown in line with the expansion of organic farming in Germany and sells only products approved for organic farming in compliance with EC-Regulation No. 834/2007. As the leading provider of the German biological plant protection sector we have excellent connections with research institutes and registration authorities. Thanks to our long-standing experience and good reputation we have established a leading position in the European biopesticide market in the last few years.

## BIOFA goes Europe

**BIOFA AG is conducting EU-level registrations for biopesticides with the following active substances:**

**LIME SULPHUR**

**DIATOMACEOUS EARTH**

**POTASSIUM BICARBONATE**



# CURATIO®

Active ingredient: Calcium polysulphide (Lime sulphur)

## CURATIO® for curative scab control in organic apple production - biological fungicide with vital importance for organic fruit growing

CURATIO® is used for controlling fungal diseases like scab, sooty blotch and powdery mildew, especially in organic orchards. Particularly in years with heavy rainfall and continuing leaf wetness, fungal diseases including apple scab (*Venturia inaequalis*) can develop to a level where they threaten economic viability. Contact fungicides lose their effectiveness as their contact layer is washed off during rain. Therefore the use of a curative fungicide is essential. CURATIO® with its unique mode of action is the only curative fungicide in organic fruit production, which is able to protect apples during long-lasting rainfalls.

### Mode of action CURATIO®

The alkaline reaction of CURATIO® causes the hydrolysis of lipids in the fungal cells and thus facilitates a better permeation through the cell wall. In the cell the active ingredient hinders the normal metabolism and interferes with the citric acid cycle. This effect is caused not only by the active ingredient, but also by its metabolite elemental sulphur, which is a well known and effective fungicide.

### Application CURATIO®

#### Curative treatment with CURATIO®

CURATIO® is applied as a stop treatment into the germinating window of primary apple scab infection. For this purpose CURATIO® should be applied onto the wet leaf up to 300°h (degree hours; base 0°C) after beginning of rainfall and start of infection.

**CURATIO®:**  
curative apple scab control  
residue-free  
no risk of resistance

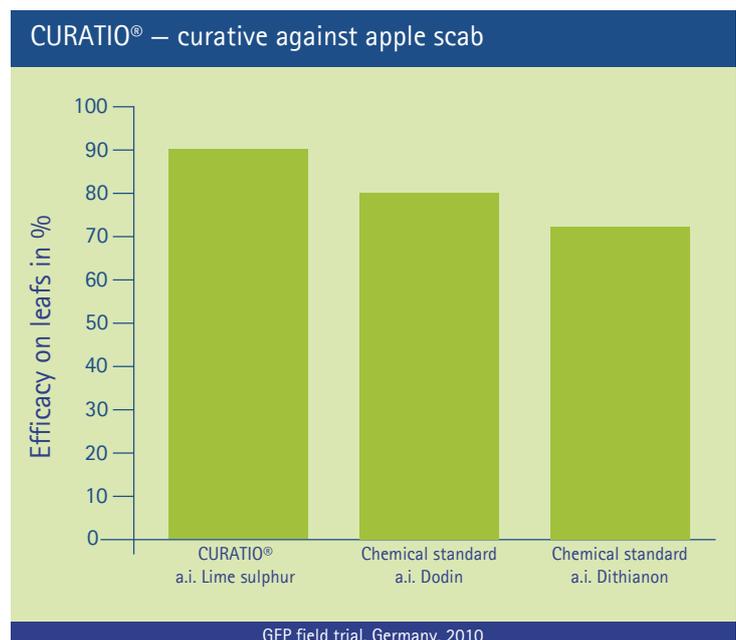




#### Application details pip fruit (scab)

- pre-flowering: 8 l/ha and m crown height (mCH)
- during and after flowering: 4–6 l/ha and mCH for secondary phase of infections

CURATIO® can be used as a thinning agent in pip and stone fruits. Monilia and sooty blotch can also be controlled effectively with CURATIO®.





# SilicoSec®

Active ingredient: Diatomaceous earth

## Insecticide for stored grain: SilicoSec® controls all kind of insects and mites in stored grain and empty storage rooms

### Mode of action SilicoSec®

SilicoSec® contains 100% natural diatomaceous earth, which is a fossilized deposit of diatom algae. SilicoSec® particles are trapped by the bodies of the pests as they walk over it. The effect of the contact insecticide SilicoSec® is based on absorption of the lipid layer, which is covering arthropods' chitin exoskeletons. By destructing the natural water barrier SilicoSec® is leading to death of the target organism through desiccation.

### Application rate:

Preventive: 1 kg/t

Curative: 2 kg/t

### Application details empty storage rooms

Application with compressed air pistol

Application rate: 10 g/m<sup>2</sup>

### Application SilicoSec®

#### Application details stored grain

To treat stored grain, SilicoSec® is added technically into moving grain streams.

### SilicoSec®:

curative and preventive control of pests

long lasting bio-physical effect

no risk of resistance



wheat treated with SilicoSec® - mortality of grain pests





# VitiSan®

Active ingredient: Potassium bicarbonate

## Effective disease control in viticulture and pip fruit – biological fungicide for organic growers and residue-free growing systems (IP)

VitiSan® is an effective fungicide based on potassium bicarbonate with compelling advantages against powdery mildew and botrytis in grapes. VitiSan® also controls powdery mildew in vegetables as well as scab and sooty blotch in apples.

### Mode of action VitiSan®

VitiSan® has a multiplex principle of operation, acting through a combination of several effects. The working effects are: pH-value, osmotic pressure and specific ion effects of bicarbonate. VitiSan® sets up a barrier for newly germinating spores of powdery mildew. The hyphae burst and desiccate in consequence of the retardation of mycelium forming. Finally VitiSan® causes a total collapse of spores and mycelium of the susceptible fungi. As VitiSan® acts through a multiple mode of action there is no risk of resistance even with frequent applications.

### VitiSan®:

effective protection against fungal diseases

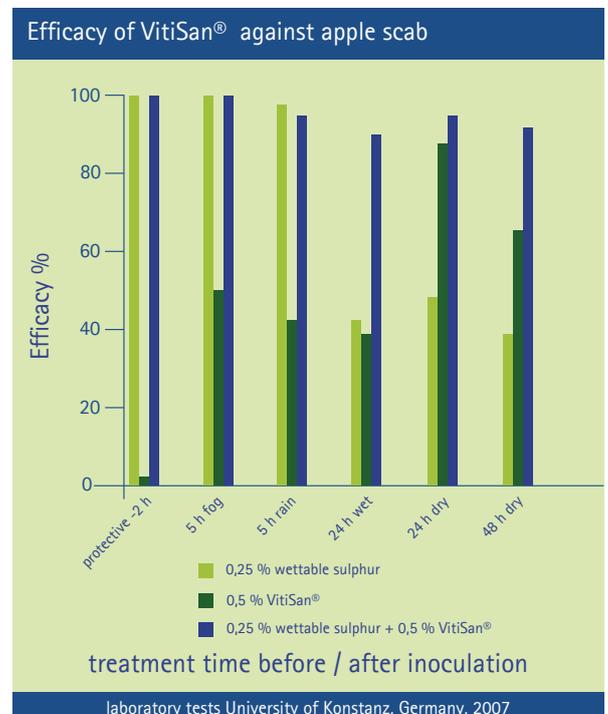
no pre-harvest interval

residue-free

### Application VitiSan®

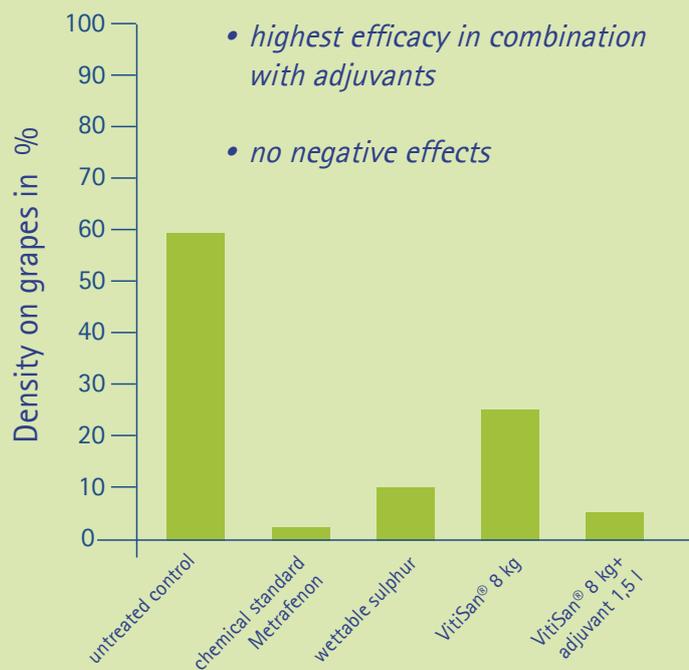
Application details viticulture  
powdery mildew, botrytis: 8-10 kg/ha

Application details pip fruit  
scab, sooty blotch, powdery mildew:  
2.5 kg / ha and m crown height,  
beginning after flowering



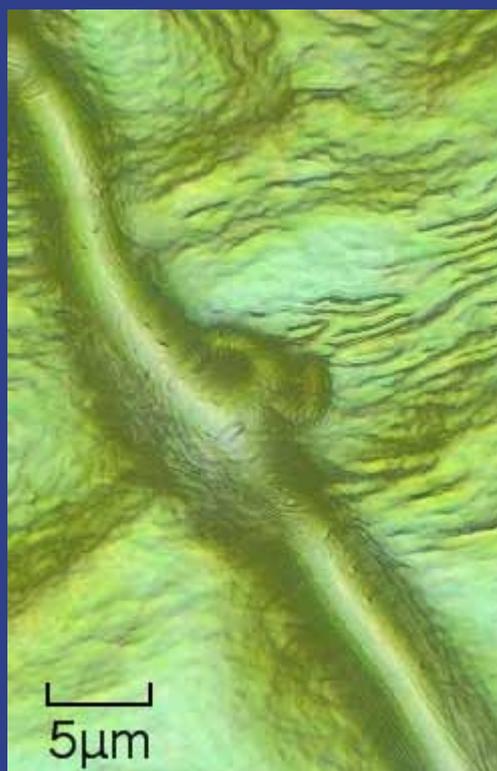
*VitiSan® shows its highest efficacy against apple scab in combination with wettable sulphur, even if applied 24 h after infection occurred*

## Efficacy of VitiSan® against powdery mildew on vine



## Effect of VitiSan® on powdery mildew

Vital hypha of powdery mildew with appressorium



untreated

Dried up hypha after treatment with VitiSan®



treated



# InsectoSec®

Active ingredient: Diatomaceous earth

## InsectoSec® for effective red fowl mite control - a natural biocide for poultry farmers and professional pest controllers

InsectoSec® is a natural dustable powder which controls effectively the red fowl mite. Beside of red fowl mites all kind of hygiene pests and pest infestations, like ants, silver fish, cockroaches and woodlice can be controlled with InsectoSec® effectively. As a biocide it can be used in poultry keeping and other stables as well as in domestic environment, in processing industry, in bakeries and mills. It contains 100% natural diatomaceous earth, which is a fossilized deposit of diatom algae.

### Mode of action InsectoSec®

InsectoSec® particles are trapped by the bodies of the pests as they walk over it. The effect of the biocide InsectoSec® is based on absorption of the lipid layer, which is covering arthropods' chitin exoskeletons. By destructing the natural water barrier InsectoSec® is leading to death of the harmful insects through desiccation.

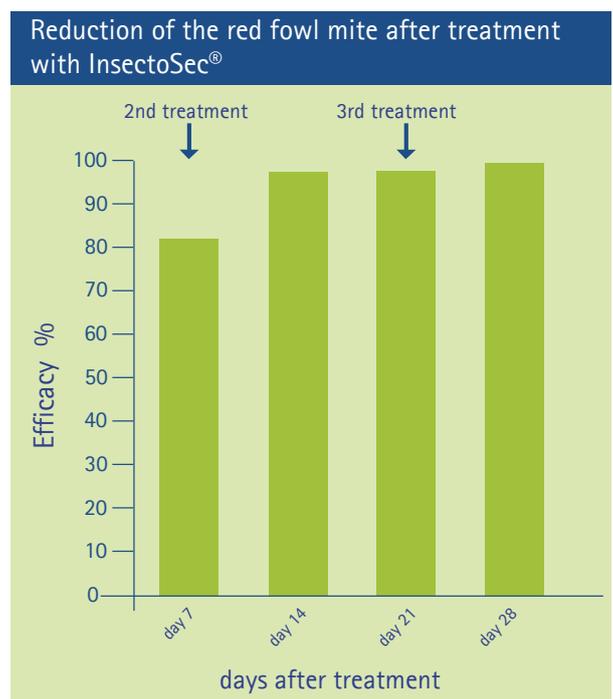
### InsectoSec®:

highly effective against red fowl mites  
can be used in fully utilised stables  
no risk of resistance

### Application InsectoSec®

#### Application details red fowl mites in poultry keeping

InsectoSec® can be applied with a easy-to handle bottle, a manual pump duster, a compressed air pistol or with electrostatic application with corona charging (professional application in poultry houses).





### **InsectoSec® for effective control of the red fowl mite:**

Control of the red fowl mite (*Dermanyssus gallinae*) is a challenge for organic and conventional egg producers. The red fowl mite is considered as the most important external parasite of laying hens in European egg production. The blood-sucking mite is a nocturnal feeder and spends the day in the surroundings of the hens. At high population densities red fowl mites can cause severe anaemia. Already low mite populations irritate the hens with negative effects on the laying performance.

Practical experience has shown that effective control of the red fowl mite is achieved with InsectoSec®. Already after the first treatment with InsectoSec® the red mite population is reduced significantly as InsectoSec® causes rapid mortality of mites through desiccation. After the 3rd treatment with the diatomaceous earth product InsectoSec® the red fowl mite population is totally exterminated.



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