

**Biopreparáty, spol. s r.o.**

**We open the door to sustainable crop protection**

# Environmental and socio-economic benefits of establishing a green business

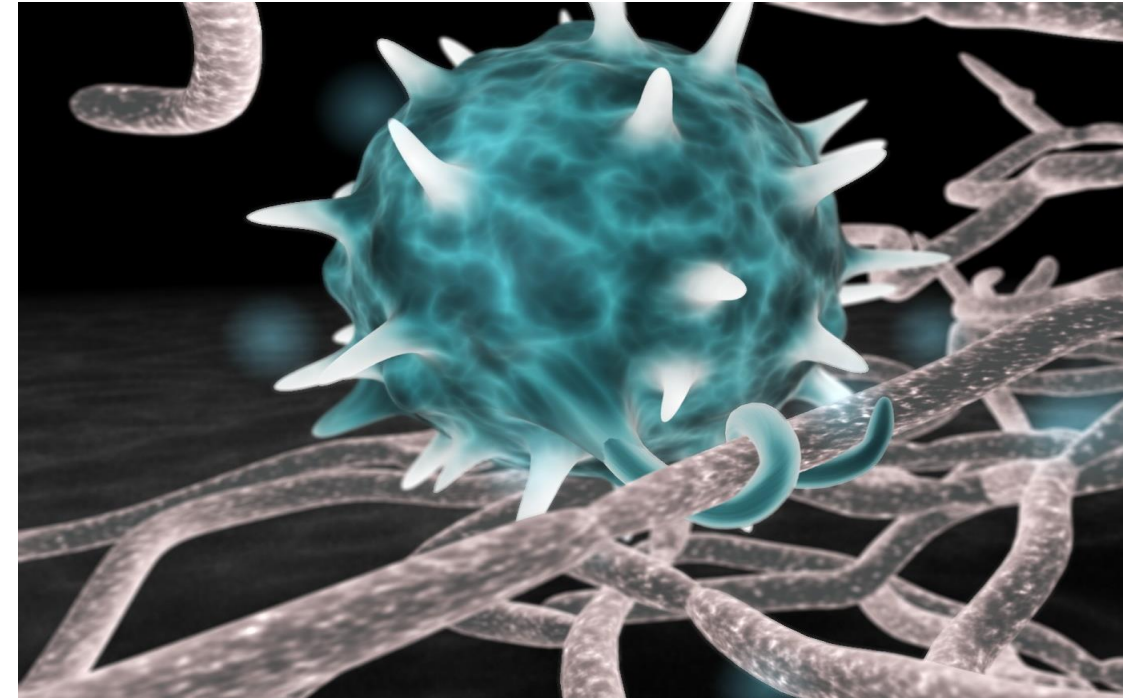
Martin Suchánek

Biopreparáty, spol. s r.o., Czech Republic



## *Pythium oligandrum* - major mechanisms of action

- Mycoparasitism
- Induction of resistance
- Growth stimulation



## Typical target microorganisms (mycoparasitism)

- *Alternaria* spp.
- *Botrytis cinerea*
- *Fusarium* spp.
- *Gaeumannomyces graminis*
- *Phytophthora cactorum*
- *Sclerotinia sclerotiorum*
- *Verticilium dahliae*

## Registration in Czech Republic

- Cereals (wheat, barley, rye, triticale)
- Oilseeds (rape, mustard, radish rape, sunflower, poppy)
- Legumes (peas, lupine, soybean)
- Vegetables (vegetables, brassica vegetables, cucumber, pepper, tomato)
- Strawberry
- Permanent crops (vine, hop)
- Nurseries (nurseries of forest and ornamental trees)
- Lawns (golf and ornamental lawns)

## Efficacy against *Botrytis cinerea* on grape vine

- The effectiveness of a biological plant protection product Polyversum compared with chemical fungicides in efficacy registration trials performed in 2014-2016
- Registration in Southern Zone – Italy, Spain, France  
– May 2017

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## Opening Door for Sustainable Agriculture

### CdS Sagea

Anno 2014 - Cormons (GO)

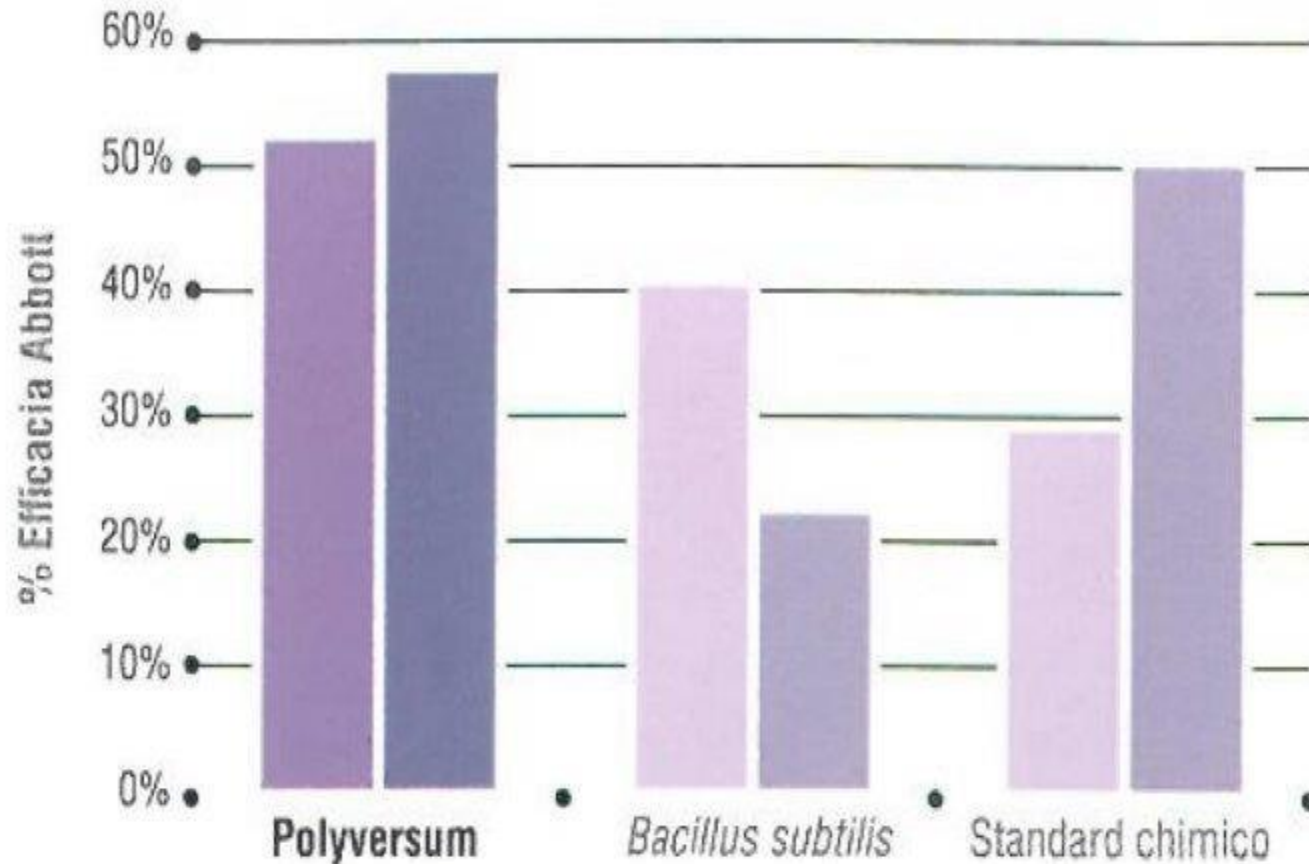
Varietà: Merlot.

Biofungicidi a confronto:  
4 trattamenti ripetuti  
da fine fioritura (20/06)  
a pre-raccolta (26/08).

Standard antibiotritico chimico  
(cyprodinil+fludioxonil):  
2 trattamenti al 20 giugno e 12 agosto.

Rilievi: 17 settembre.

- diffusione  
(testimone = 35% grappoli colpiti)
- intensità  
(testimone = 2% acini attaccati)



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## Opening Door for Sustainable Agriculture

### CdS CRPV-Astra Innovazione Anno 2016 - Faenza (RA)

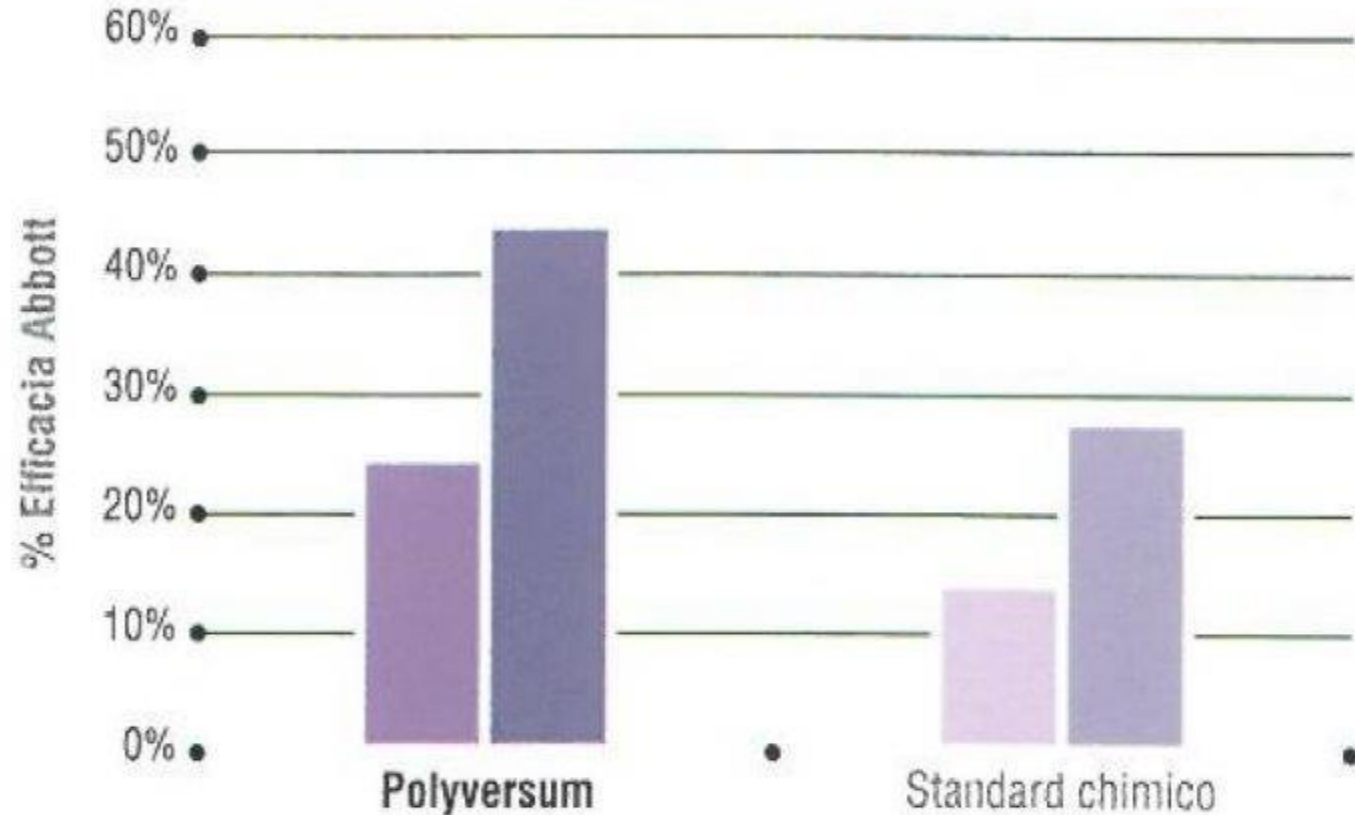
Varietà: *Trebbiano*.

2 trattamenti: 9 e 19 settembre.

Rilievi: 28 settembre.

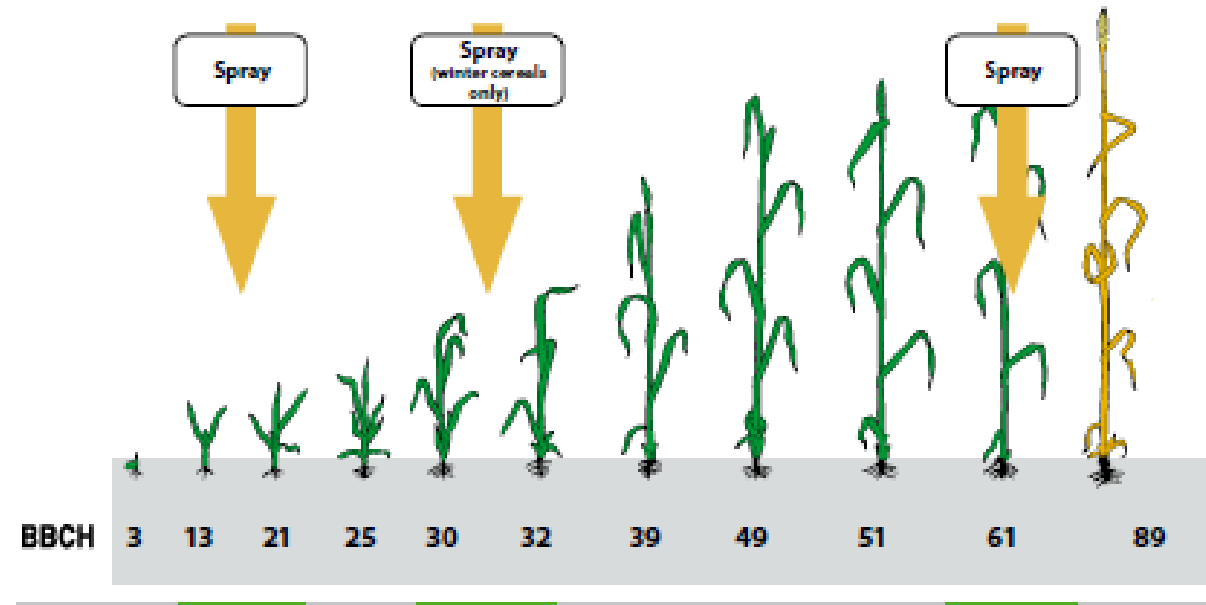
Standard antibiotritico chimico:  
*cyprodinil+fludioxonil*

- diffusione  
(testimone = 69% grappoli colpiti)
- intensità  
(testimone = 11% acini attaccati)



## Winter wheat

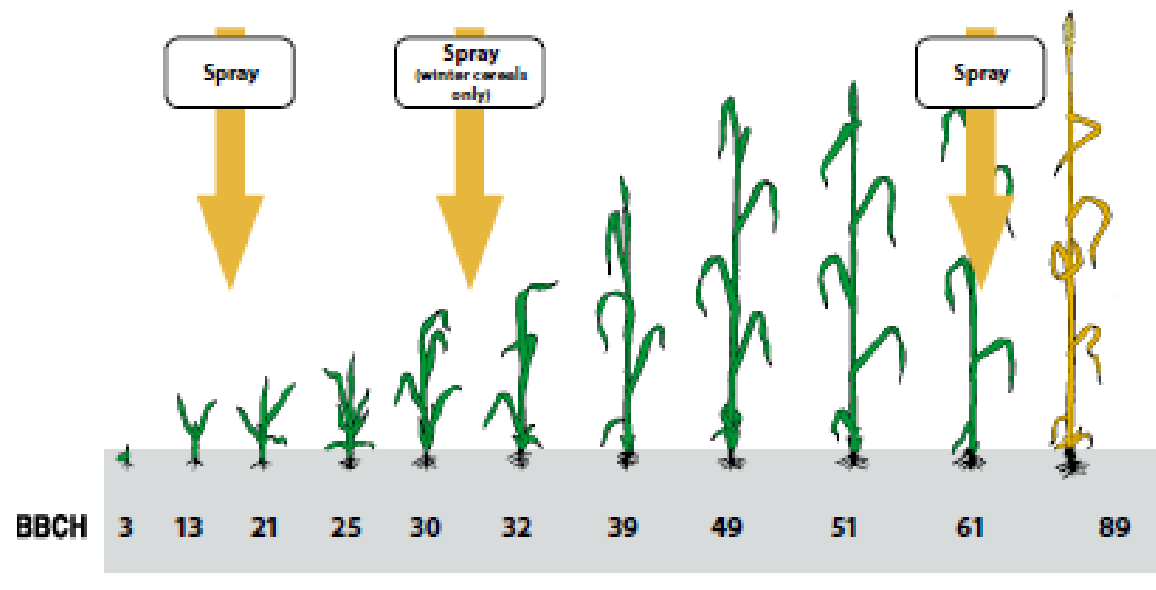
- Against Fusarium head blight
- Confirmed efficacy against rusts, take all, snow mold and septorioses)
- **APPLICATION:**
- 100 g/ha in the stages:





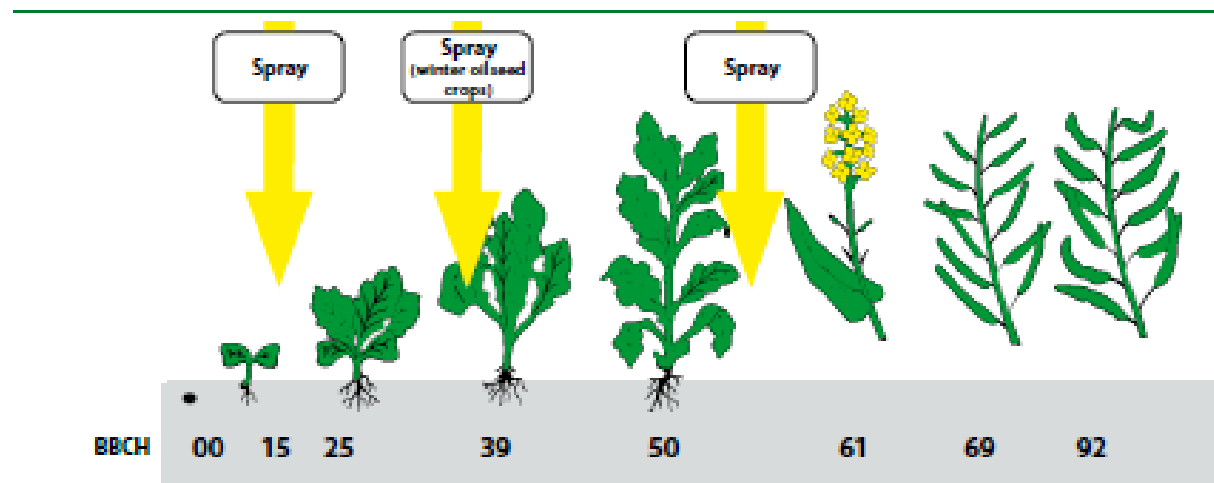
## Spring barley

- Against Fusarium head blight
- **APPLICATION:**
- 100 g/ha in stages:



## Oilseed rape

- Against sclerotinia and phoma
- Confirmed efficacy against alternaria leaf spot, gray mold, verticillium wilt, clubroot)
- **APPLICATION:**
- 100 g/ha in stages:



## Polyversum – registration in EU

- Czech Republic 1107/2009
- Slovakia 1107/2009
- Poland 91/414
- Hungary 91/414
- France 1107/2009
- UK 1107/2009
- Romania 1107/2009





## Customers in Czech Republic

- We have more than 400 customers managing over 40.000 hectares of arable land in the Czech Republic.
- Polyversum is selling mostly for foliar application in these crops:
  - Cereals
  - Oil seed rape
  - Sunflower



## Co-operative farm Žichlínek

- Total acreage is 7.000 hectares agricultural land
- Altitude: 348 meters above sea level
- Crop composition : winter wheat 4.500 ha, spring and winter barley 870 ha, oilseed rape 1.000 ha, peas 100 ha, poppy 50 ha
- Polyversum – 5 years on poppy, barley and oilseed rape
- Yields 2015: wheat 8 t/ha, barley 8 t/ha, oilseed rape 4.7 t/ha, peas 3 t/ha, poppy 0.6 – 0.8 t/ha
- **Consumption of Polyversum kg/year - 520 kilograms = 5.200 hectares (saving around 5.200 liters of chemical fungicides)**

## Václav Novák - Kobylníky

- Total acreage is 3.500 hectares agricultural land
- Altitude: 262 meters above sea level
- Crop composition : winter wheat 1.400 ha, spring barley 400 ha, corn 600 ha, oilseed rape 530 ha, sugar beet 180 ha, alfalfa 300 ha
- Polyversum – 4 years on wheat and barley
- Yields 2015: wheat 9.3 t/ha, barley 7.3 t/ha, corn 6 t/ha, oilseed rape,4 t/ha, sugar beet 95 t/ha, alfaalfa 6.8 t/ha
- Tank mix: herbicide
- **Consumption of Polyversum kg / year - 120 kg = 1.200 hectares (saving around 1.200 liters of chemical fungicides)**

## Zeva Bečov – Aleš Charvát

- The total area is 700 hectares of farmland
- Crops: 82 ha rapeseed, 400 ha winter wheat, sunflowers 73 ha, 90 ha of spring barley
- Polyversum used from 2011 on all crops for rapeseed and sunflower state subsidies
- Revenue: oilseed rape - 4.1 t / ha, winter wheat - 7.5 t / ha, spring barley - 5.1 t / ha, sunflower - 2.5 t / ha
- **Consumption of Polyversum kg / year - 130 kg = 1.300 hectares (saving around 1.300 liters of chemical fungicides)**
- **5 YEARS NOT chemical fungicide !!!**

**DON'T WORRY, BAN THE AZOLS AND  
OTHER DANGEROUS FUNGICIDES**

**ADEQUATE SUBSTITUTES EXIST**

Thank you for your attention  
Martin Suchánek CEO

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