Environmental and socio-economic benefits of establishing a green business

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Pythium oligandrum - major mechanisms of action

• Mycoparasitism
• Induction of resistance
• Growth stimulation
Typical target microorganisms (mycoparasitism)

- *Alternaria* spp.
- *Botrytis cinerea*
- *Fusarium* spp.
- *Gaeumannomyces graminis*
- *Phytophtora 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**
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 antibiotico chimico
(cyprodinil+fludioxonil):
2 trattamenti al 20 giugno e 12 agosto.

Rilievi: 17 settembre.

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

% Efficacia Abbott

- Polyversum
- Bacillus subtilis
- Standard chimico
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
Costumers 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, alfalfa 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: oildseed 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
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