

# Rapeseed and Mustard Meals as Biopesticides

Matt Morra

Soil & Land Resources Division



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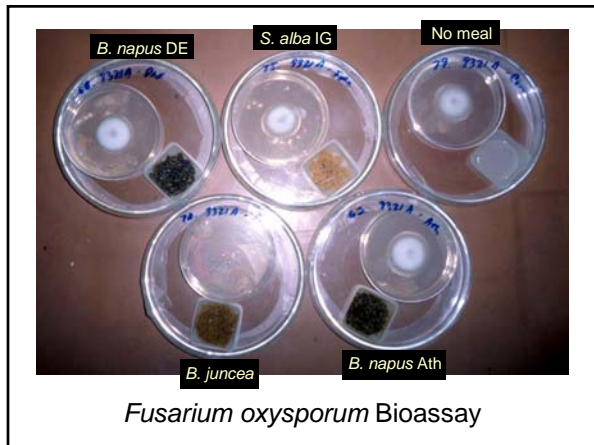
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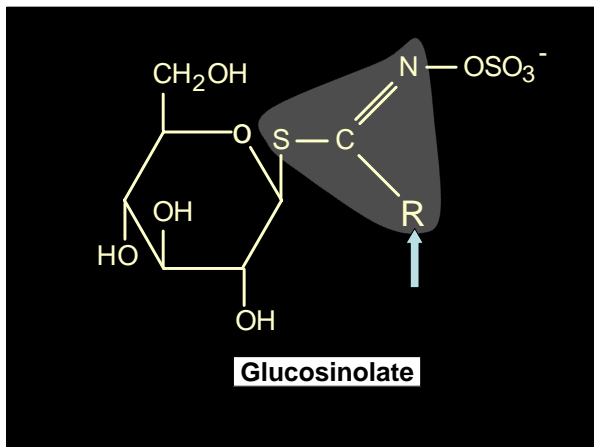
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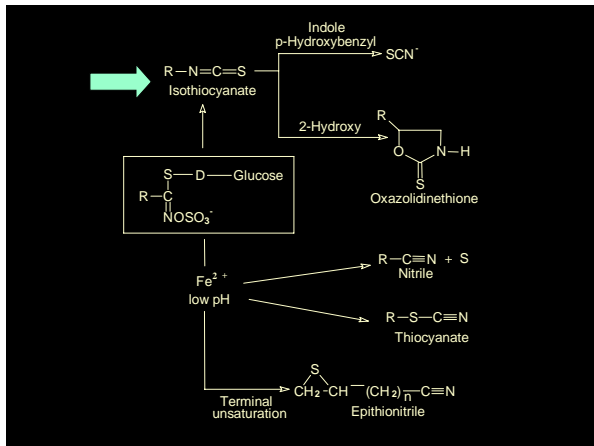
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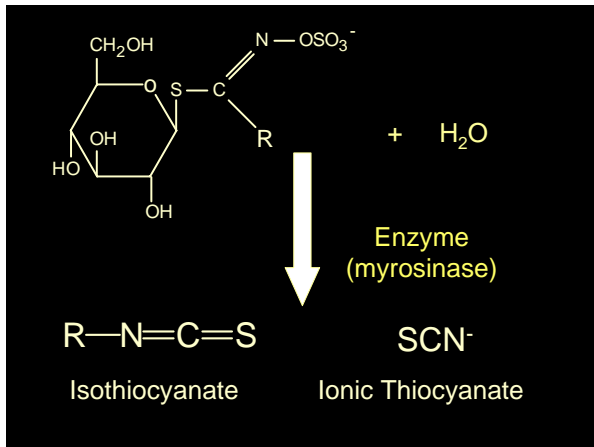
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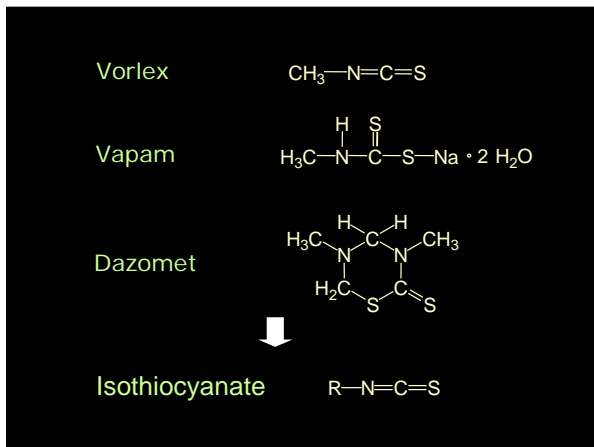
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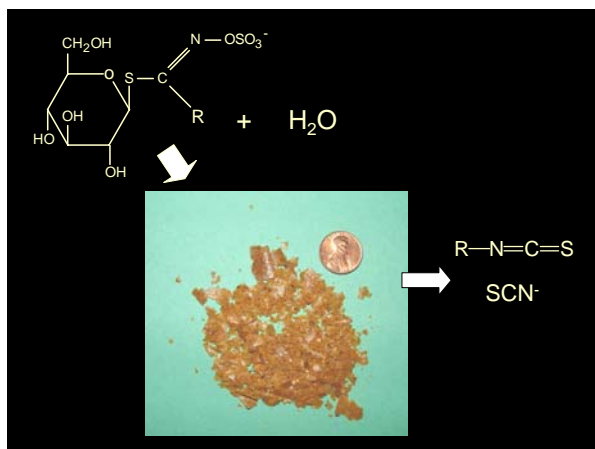
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### Important !!!!

- Myrosinase is necessary to produce meal as a biopesticide
- You must not deactivate the enzyme during oil extraction
- High temperatures and solvent extraction are likely to decrease enzyme activity
- Cold pressing is probably the best option for preserving myrosinase activity

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Species	Variety	4-OH Benzyl glucosinolate μ mol / g
<i>S. alba</i>	IdaGold	172.63
<i>S. alba</i>	IdaGold	202.40
<i>S. alba</i>	IdaGold	139.15
<i>S. alba</i>	IdaGold	171.54
<i>S. alba</i>	IdaGold	176.06
<i>S. alba</i>	IdaGold	161.60
<i>S. alba</i>	IdaGold	134.68
<i>S. alba</i>	IdaGold	129.05
<i>S. alba</i>	IdaGold	126.17

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Blend batches to assure minimum glucosinolate concentration




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1 – 2 tons/acre



Complete label recommendations are needed for use in specific crops

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Meal may be phytotoxic to crop

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**U.S. Environmental Protection Agency**

**Pesticides: Regulating Pesticides**

[Home](#) • [Pesticides](#) • [Regulating Pesticides](#) • [Pesticides Products](#) • [Regulating Pesticides](#)

**Regulating Biopesticides**

Before a pesticide can be marketed and used in the United States, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requires that EPA evaluate the proposed pesticide to assure that its use will not pose unreasonable risks of harm to human health and the environment. This regulation involves an extensive review of health and safety information.

**Highlights:**

- [U.S. Regulatory Agencies Launch United Biotechnology Website](#)
- [Fact Sheet for First Stacked PIP](#)
- [Highlights Archive](#)

**Quick Resources:**

- [New 2003 Biopesticide Ingredients](#)
- [What are Biopesticides?](#)
- [Biopesticides](#)
- [Biopesticides](#)
- [Biopesticides](#)
- [Biopesticides](#)

**Biopesticide Registration Tools**

The federal pre-marketing approval of pesticides - termed Registration - is a complex process. From this page, you can suggest the general registration process as they relate specifically to the registration of biopesticides.



**Minimum time of 18 months  
Cost?????**

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**Summary**

Meal Production

- Don't destroy enzyme during oil extraction
- Keep the meal dry
- Segregate meals
- Assure quality control of final product

Marketing Needs

- Label use recommendations
- EPA registration

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<http://www.ag.uidaho.edu/biofumigation/>

**Second International Biofumigation Symposium**

University of Idaho  
School of Agriculture

University of Idaho, Moscow, Idaho USA June 25 - June 29, 2006

Home • Registration • Abstract Submission • Program • Accommodations • Transportation • Sponsors

Abstracts now available for viewing. [Follow this link.](#)

A detailed program is now available as a pdf file. [Follow this link.](#)

Brassicaceae plants have tremendous potential to be used in crop rotations as a natural pesticide source, thereby decreasing our dependence on synthetic chemicals. Various research groups around the world have been exploring the prospective use of these plants to control insects, nematodes, weeds, and fungal pathogens. The goal of this Symposium is to bring together chemists, agronomists, entomologists, nematologists, plant biochemists, plant pathologists, and soil scientists to comprehensively address issues critical to successful application and adoption of biofumigation in managed ecosystems. A field tour in the Palouse region of northern Idaho is to be held on the last day of the conference.

Looking for a roommate? Check the message board here.

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