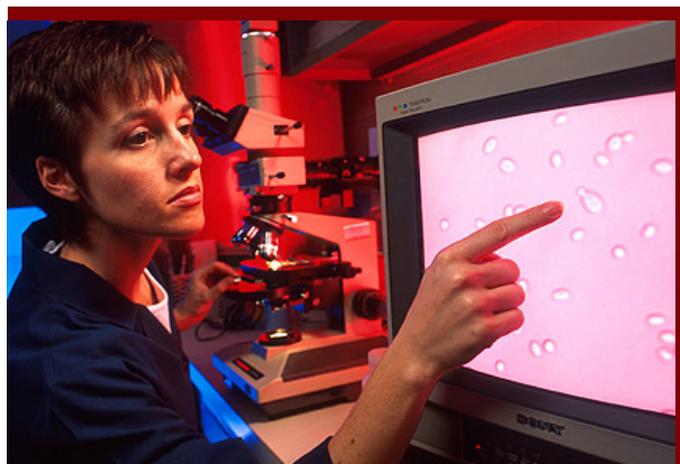


# Wheat Disease Control

## What is this technology?

Yeast and bacterial biocontrol agents that are effective in combating the disease Fusarium head blight (FHB) when applied to wheat heads.



## What problem does it address?

Wheat represents a top agricultural export for the US; 2.34 billion bushels were produced in the United States in 2003.

- Losses of 50% and more are caused by FHB during epidemic years in wheat growing regions of the US.
- FHB causes severe losses (\$3 billion in the 1990s to the US) to farmers who raise wheat and barley across the globe.

The fungus that causes FHB may:

- Destroy yields
- Produce a mycotoxin which can drastically reduce grain quality and price.

**Control options for this devastating disease are virtually non-existent**

## Who could use this technology?

Wheat and barley farmers of the United States and Canada would be end users of this biocontrol product.

- The US Wheat and Barley Scab Initiative (USWBSI) was founded to seek research-based technologies to reduce the impact of FHB, and has supported this technology more than any other biological control technology.
- A durum wheat grower group has also directly supported this research.

## How is this technology unique?

- There are no effective, non-toxic FHB disease biocontrol products currently in the marketplace.
- Technology discovered and developed at NCAUR represents the only biological control ready for commercialization as a tool to combat FHB.
- Currently, the only disease control product commercially available is a chemical fungicide. The biocontrol technology compares favorably in efficacy to this fungicide and does not create potential toxic residue problems in harvested grain.

## Licensing Opportunity

This technology needs a licensee and manufacturing partner. Enhanced demand for green technologies, coupled with the lack of control options for FHB, create the ideal position of immediate acceptance by the wheat and barley farming communities for this biocontrol technology.

## Stage of Development

- Protocols for pilot-scale mass production of our most effective agent (yeast *Cryptococcus nodaensis* OH 182.9) have been successfully developed.
- A frozen concentrate product composed of strain OH 182.9 reduced FHB in field trials conducted at 15 sites across the U.S. wheat growing area.
- Preliminary results from 2004 field trials indicate that an economically feasible air-dried formulation of OH 182.9 reduced FHB in field trials conducted in Illinois and Ohio.

## IP Status

Awarded U.S. Patent 6,312,826

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