



## CLEARFIELD® Wheat Best Practices

The CLEARFIELD® Production System for wheat is a novel technology that allows wheat producers to control many problematic grass and broadleaf weeds. It was developed using enhanced, traditional plant breeding techniques and requires that growers sign a stewardship agreement that requires them to follow stewardship guidelines.

We hope that growers respect and follow the stewardship recommendations in order to support the success of the wheat industry. Here you'll find information and resources to help in managing wheat acres to their fullest potential. If you have any questions about how to work with CLEARFIELD wheat, contact your local BASF representative.

Learn more about potential CLEARFIELD Wheat return on investment at:

<http://agproducts.basf.us/products/research-library/clearfield-wheat-roi-tib.pdf>

## CLEARFIELD PRODUCT INFORMATION

### It's In The Genes

BASF researchers identified a gene naturally occurring in wheat that provides tolerance to imazamox, the active ingredient in Beyond® herbicide. Today, this tolerance gene is called the CLEARFIELD trait.

By using the CLEARFIELD Production System, growers can achieve high yielding, clean fields. The CLEARFIELD system:

- Provides broad-spectrum grass and broadleaf weed control, resulting in cleaner fields and greater yields.
- Reduces dockage due to presence of weed seed (i.e. jointed goatgrass) in the harvested grain.
- Reduces the potential for grain discounts by helping manage feral rye leading to lower foreign matter percentage in the grain.
- Helps manage contrasting wheat classes (non-herbicide tolerant wheat) in wheat fields.

Learn more at: <http://agproducts.basf.us/products/research-library/clearfield-wheat-production-system.pdf>



### System Use Requirements

As listed in the CLEARFIELD Stewardship Agreement, growers must purchase new seed (registered or certified) every year from an authorized CLEARFIELD seed retailer. This means that saving seed to plant next year's crop is not allowed (NO "brown-bagging" or "bin-running"). Seed increase fields (foundation, registered, and certified) can be grown following strict guidelines to ensure that fields are free of noxious weeds and "off-type" wheat.

Use of registered or certified seed ensures proper herbicide tolerance to Beyond herbicide and prevents contamination from a non-CLEARFIELD variety. Proof-of-purchase records for CLEARFIELD wheat seed and Beyond herbicide must be provided prior to servicing of any claim by BASF. If the grower uses an imidazolinone herbicide, the grower agrees to use Beyond herbicide, in accordance with the product label, including stated label rate and timing.

### CLEARFIELD Wheat Stewardship Guidelines

CLEARFIELD Wheat growers are advised to:

- Avoid continuous use of CLEARFIELD wheat on the same land, as this can lead to resistance issues.
- Reduce reliance on single modes-of-action, which selects for herbicide resistant weed biotypes.
- Utilize crop rotation.
- Rotate CLEARFIELD wheat with non-CLEARFIELD spring crops such as corn, sorghum, sunflowers, soybeans, dry beans or peas – this breaks the cycle of winter annual weeds.
- Use herbicides with different modes of action.
- Limit reliance on ALS-inhibiting herbicides; no more than 2 out of 4 years unless other control practices are implemented on target weeds.
- Where applicable, use sequential or tank-mix partner herbicides with multiple modes-of-action on target weed species.
- Properly manage weeds in wheat-fallow-wheat rotations. In the fallow year, control weeds (especially winter annuals) before they set seed. Control should be obtained through the use of burndown (non-ALS) herbicides or tillage.

Download the 2010 Stewardship Guide at: <http://agproducts.basf.us/products/research-library/cl-wheat-stewardship-tib-2010.pdf>

## UNIVERSITY CORNER

### Quality Certified Seed a Worthwhile Investment

Gregory Vollmer is a wheat research assistant at the Oregon State University Office of Technology Transfer. The team at OSU manages contracts related to CLEARFIELD, and provides information about stewardship and seed quality to Oregon growers.

"Growers who purchase Certified Seed can expect strong performance through genetic improvements by plant breeders," Vollmer said. "The result of their work is seed of known quality that reflects the genetic complement developed by the plant breeder, and that works very well with CLEARFIELD technology from BASF."

Vollmer notes that plant breeders must multiply seed through several generations before there is an adequate supply for growers. Seed certification verifies planting stock eligibility for each generation and applies genetic and purity standards through third party inspections of production fields and harvested seed.

Oregon growers with questions about certified seed can contact their local extension agents for localized information.



## GROWER REWARDS

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### Anderson Wheat Farms Sees Excellent ROI

Northeast Colorado grower Dan Anderson has been using the CLEARFIELD Production System for wheat since it first became available in the state, and has seen a big return on the investment. In his mind, growers get a good value for what they spend on certified seed each year.

“A good, clean certified seed is worth purchasing every year,” he said. “It is a good combination to use to fight jointed goatgrass and downy brome, and has helped us grow more bushels of cleaner wheat, with less dockage.”

### Mike Gartner Gets Results

CLEARFIELD wheat grower Mike Gartner of Bismarck, ND is pleased with his results after his first season of planting CLEARFIELD spring wheat. He tells local media that by using Beyond herbicide, Gartner eliminated grasses and had an option for post-emergence spraying.

Read more of the story at: [http://www.kfyrtv.com/news\\_stories.asp?news=41694&yr=](http://www.kfyrtv.com/news_stories.asp?news=41694&yr=)

## STEWARDSHIP NEWS

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### Washington Growers Lead in Stewardship

Two Washington state growers were recently cleared of any stewardship violations after an investigation into chemical purchases and seed varieties. This is a great reminder to follow the CLEARFIELD Stewardship Agreement and to keep purchase receipts and planting records.

### Nebraska Settlement Donated to UNL

After an investigation conducted by BASF, a grower in Nebraska was recently fined for saving and replanting seed, a clear violation of the CLEARFIELD Stewardship Agreement. Protecting the integrity of the CLEARFIELD Production System is the most important reason for BASF to enforce the Stewardship Agreement. In order to use this situation to benefit the wheat industry, BASF donated the fee paid by the grower to the University of Nebraska wheat research program.

## NEWS YOU CAN USE

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### The Co-Op Communicator

CLEARFIELD is not Roundup Ready!  
<http://www.wellingtoncoop.com/index.php?page=newsletter.php>

### Capital Press

New CLEARFIELD Wheat Variety  
Topples Longtime Oregon Favorite  
<http://www.capitalpress.com/idaho/mw-Wheat-varieties-2010-073010-art-w-sidebar>



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Always read and follow label directions.