



Financial Safety Net for Corn Farmers: Emerging Educational Tool to Increase Adoption of Nutrient and Other BMPS

BMP CHALLENGE™

www.bmpchallenge.org

Inputs used to manage risk

- *40% of fertilizer applications are not needed.* - Babcock & Blackmer 1992
- *Average corn farmer in Wisconsin applies 38# extra N and 75# extra P annually.* - Shepard et al. 2000
- EPA, National Academy of Sciences, and more than 20 other studies identify **ECONOMIC RISK** as a major culprit



A farmer's perspective...

“We’ve used a crop consultant in the past...”

...if he’s wrong, the cost of him being wrong is much more than the cost of that additional insecticide or herbicide.”



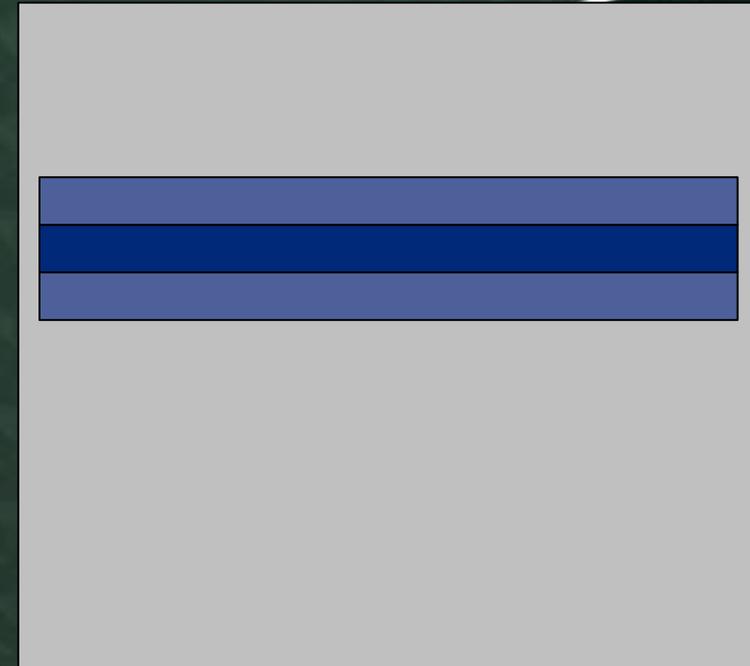
2005 corn farmer survey

- 500 farmers across corn belt, each planting 850 acres of crops per year on average
- Some progress
 - 54% have reduced fertilizer applications over past five years, 18% by 15% or more
- Enormous potential for basic and advanced practice adoption
 - 25% do not credit nutrients in manure
 - 16% do not credit N from soybeans
 - 67% do not use variable rate applications
 - 88% do not use in-season testing/application
- 46% want to see proof before changing
- 80% would be interested in reducing fertilizer rates if income were guaranteed



Mechanics: Nutrient BMP Challenge

- Farmer enrolls one or more fields
- Crop advisor prepares N, P, K recommendation
- Farmer applies recommended rate to field, traditional rate to check strip
- Farmer and crop advisor assess yield, farmer paid if yield loss, minus fertilizer savings



Example from 2002: N only

| | Conventional | BMP |
|-----------------|---------------------------|---------|
| Total Nutrients | 208# N | 168# N |
| Fertilizer Cost | \$40.56 | \$32.76 |
| Planning Cost | \$0 | \$0 |
| Savings | \$7.80/acre, 40# N | |

| | | |
|-------------------------|------------------|--------------|
| Yield | 87.1 bu/acre | 87.9 bu/acre |
| Value (\$2.25/bu) | \$195.75 | \$197.56 |
| Yield Gain (loss) | \$1.81/acre, <1% | |
| Guaranty payment | \$0 | |

| | | |
|-----------------------|----------------------|----------------------|
| FARMER NET | \$155.19/acre | \$164.80/acre |
| 100 acre field | | +\$967.00 |

Example from 2003: N, P, K

| | Conventional | BMP |
|------------------|--|-----------|
| Total Fertilizer | 180-90-60 | 120-30-15 |
| Fertilizer Cost | \$67.24 | \$41.57 |
| Planning Cost | \$0 | \$0 |
| Savings | \$25.67/acre, 60# N, 60 #P, 45# K | |

| | | |
|-------------------------|-------------------------------|---------------|
| Yield | 206.1 bu/acre | 187.9 bu/acre |
| Value (\$2.25/bu) | \$463.73 | \$422.78 |
| Yield Gain (loss) | (\$40.95/acre, 9% yield loss) | |
| Guaranty Payment | \$15.28/acre | |

| | | |
|-------------------|-----------------|-----------------|
| FARMER NET | \$396.49 | \$396.49 |
|-------------------|-----------------|-----------------|

Results 2002 to date

- *Average farmer benefit from BMP: (\$0.51) per acre*
 - *46 replicates, seven states*
- *Cost for Nutrient BMP Guaranty: \$14/acre*
- *Average fertilizer savings*
 - *24% or 40# N/acre*
- *2004: Corn Rootworm IPM Challenge*
- *2005: First <BMP rate fields*



Plans

- **2006**
 - *Nutrient BMP Challenge (incl. new Midwest recs)*
 - *Conservation Tillage Challenge*
 - *Corn Rootworm IPM Challenge*
 - *Survey past participants*
 - *Did experience change behavior?*
 - *Guaranty link to WQ trading*
 - *Farmer income assured*
 - *Credits verified*
 - *Farmers anonymous*
 - *Credits defray guarantee cost*
 - *Guaranty program aggregates credits*
- **2007**
 - *Pre-sidedress N Test*
 - *Variable Rate*



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Outgrowth of project by partners:

- *American Farmland Trust's Agricultural Conservation Innovation Center*
- *IPM Institute of North America, IPM Works LLC, Agren Inc.*
- *Agflex: Iowa corporation, "bank" for reserves to make payments to farmers*

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Seven Mile Creek Watershed Project

USDA Small Business Innovative Research Program

USDA Natural Resources Conservation Service

USDA Risk Management Agency

**Partners
Wanted!**

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