Financial Safety Net for Corn Farmers: An Emerging Educational Tool to Increase Adoption of Nutrient and other BMPs

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"We've used a crop consultant in the past, but if he's wrong, the cost is much more than the cost of the pesticide."

Economic Risk as a Barrier to BMP Adoption

Historically, farmers have over-applied pesticides and fertilizers as an "insurance" strategy to guaranty maximum yields. Over the past 30 years, a large public investment has created hundreds of Best Management Practices (BMPs) designed to help farmers apply these inputs only when they will generate an economic return. BMPs, including Integrated Pest Management (IPM) techniques, improve farm profits and reduce pollution.

Potential BMP savings to producers are at least $8 billion annually. BMPs are not adopted, however, in large part due to risk. BMPs can reduce yields in years when rare and unpredictable weather events occur. Many farmers will not accept those occasional losses, even though BMPs will save them money over time.

More than TWENTY STUDIES over the past thirty years cite risk as a major barrier to BMP adoption including reports from the National Academy of Sciences, the US General Accounting Office and the USDA Economic Research Service.

About AGFLEX

AGFLEX is new company formed to make BMP risk protection broadly available to farmers and farm input and service providers. AGFLEX developed from a multi-party collaboration including Agren, American Farmland Trust, the IPM Institute and IPM Works LLC, with funding from state and federal agencies and private foundations.

The AGFLEX Mission

To develop and deliver financial products and services to agricultural professionals to reduce risks associated with BMP systems.

Visit us at www.agflex.com

Why Economic Protection for Nutrient BMPs?

Nutrient BMPs, recommended by university experts, extension and state agencies, are designed to maximize economic returns to farmers over time, but in any one year they may result in lower yields. Excessive spring rains can cause nutrient loss through leaching and runoff, or bumper crop conditions may cause the crop to draw more nutrients than provided by BMP rates.

In large part due to the risk of lower yields, farmers over-fertilize. In Wisconsin, the average corn farmer applies 38# N and 75# P more than recommended. In most years, excess nutrients are not used by the crop, and can end up in ground and surface water. Crop insurance deductibles too high for most BMP-related losses.

AGFLEX's performance guarantee program allows corn farmers to try the practice on their own acreage and observe results first hand, without risk of yield loss.

2002-2003 RESULTS

- Simulation analysis applied to yield response studies from throughout the corn belt predicts average BMP losses of $10 per acre, with average losses in some years as high as $19 per acre.
- In 27 field trials in four states for nitrogen BMPs, actual payouts to participating farmers are averaging $6.25 per acre. Net benefit to participating farmers has averaged $2.25 per acre.
- Fertilizer reductions have averaged 24% (range 16% to 33%).

Here are two examples. The conventional rates are those traditionally used by the farmer and applied to the check strip.

	Conventional	BMP
Total Fertilizer	208# N	168# N
Fertilizer Cost	$40.56	$32.76
Planning Cost	$0	$0
BMP 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%	
Guarantee Payment	**$0**	
NET RETURN	**$155.19/acre**	**$164.80/acre**
100 acre field		+$967.00

In the 2002 example above, the farmer saved $7.80 per acre in fertilizer costs, and had no yield reduction. In the 2003 example below, growing conditions were ideal. Check strip yields were 53 bushels higher than average production history for this field. BMP yield was down 9%, but the guarantee payment made up the income shortfall.

	Conventional	BMP
Total Fertilizer	180-90-60	120-30-15
Fertilizer Cost	$67.24	$41.57
Planning Cost	$0	$0
BMP 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)	
Guarantee Payment	**$15.28/acre**	
NET RETURN	**$396.49**	**$396.49**

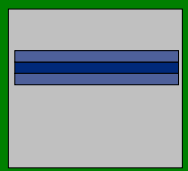
How Nutrient BMP Protection Works

STEP 1:

- The farmer works with a certified crop advisor to draft a nutrient BMP plan
- The plan must follow the state-recommended BMP for N, P and K.
- The nitrogen BMP credits legume and manure N, plus any commercial N applied after March 1.
- The phosphorus and potassium BMPs use soil tests: If soil P tests high or very high, no additional P is applied.

STEP 2:

- The crop advisor sets out a "check" or comparison strip, to be fertilized at a greater rate – one the farmer is comfortable will produce a good yield.
- The check strip is 40' to 60' wide, and runs the length of the field.



At harvest, yield from the check strip (dark blue) is compared to yield from adjacent strips fertilized at the lower, BMP rate.

STEP 3:

- At maturity, the farmer can harvest one pass through the check strip, and one through an immediately adjacent strip, which was fertilized at the BMP rate.
- If the BMP portion yields less than the check strip the farmer may request a formal yield assessment.

STEP 4:

- If a formal yield assessment is requested, an Agflex representative will travel to the field to observe the harvest of the check and adjacent strips.
- Harvested grain is weighed, and if the BMP return is less than the check – minus the savings in fertilizer - the farmer receives a payment to make up the difference.

Corn Rootworm IPM, Conservation Tillage Risk Protection Programs Also Available

Contact AGFLEX at (608) 232-1528, or info@agflex.com for more information.

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