

To: BMP CHALLENGE Project Team and Advisors
From: Maggie Westaby BMP CHALLENGE Program Assistant, Agflex, Inc.
Re: Ninth Quarterly Report: BMP CHALLENGE and Water Quality Trading

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Executive Summary

Our project is designed to meet water resource quality goals by promoting and supporting innovative strategies including the BMP CHALLENGE net returns guarantee and water quality credit trading. We will build broad awareness of these tools and competence in their use by developing and distributing a curriculum and support tools, and training in-state trainers to support conservation district, crop advisory professionals and others who work with farmers. We will manage the BMP CHALLENGE for corn farmers reducing nutrient use and tillage in CA, DE, IA, ID, IL, IN, MD, MI, MN, MO, NC, NE, OH, PA, VA, WI. Water quality credit trading objectives will focus on MN and PA. Pennsylvania trading activities are limited to preparation of a trading template by Kieser and Associates, due by end of 2008. A draft template was distributed in August 2008. The document will be used to document credits created by BMP CHALLENGE participants.

Since our December 2008 quarterly report, we have:

- Circulated the updated BMP CHALLENGE brochure to remaining 2,083 of the contacts. All contacts received a cover letter directed towards agricultural professionals.
- Collected and analyzed 2008 BMP CHALLENGE results.
- Sent out compensation to growers in the 2008 CHALLENGE who lost yield in their BMP acres.
- Continued expansion of BMP CHALLENGE to California.
- Created 2009 BMP forms for California and a web page on the BMP CHALLENGE website.
- Updated all BMP forms for 2009.
- Recruited acres for 2009.
- Completed one monthly project team conference call as well as bi-weekly BMP CHALLENGE team conference calls.
- Set the next quarterly advisory committee call date as March 12 2009.
- Sent out compensation to certified crop advisors who worked for growers during the 2008 season.

Over the next quarter we will:

- Collect payment from growers who accumulated a surplus on their BMP acres during the 2008 season.
- Revise and reprint the MN Water Quality Credit Trading brochure.
- Complete a second mailing to MN point sources.
- Continue recruiting 2009 acres including follow up with previous participants and new leads generated by mailing.
- Plan workshop for point sources in Minnesota for July 2009.
- Plan/hold annual advisory meeting.
- Publish BMP CHALLENGE email newsletter edition, circulate to approximately 8400 contacts.
- Continue to interact with Minnesota state agencies and other interested parties on water quality credit trading rule development, and pursue additional funding to meet our match requirement.

This project is funded by USDA NRCS with matching funds from the Minnesota River Board and Kieser & Associates for Minnesota activities, Bush Foundation for trading development in Minnesota and PA DEP for activities in Pennsylvania, .

I. Deliverables Update

<p>1. WQ trading and BMP CHALLENGE curriculum delivered to MN state agency, conservation districts, crop advisors and others to equip them to offer these opportunities to their producer clientele.</p>	<p>a. Calendar of industry and extension meetings has been created and continually modified with contact information for meeting organizers.</p> <p>b. BMP CHALLENGE and WQCT meetings and conferences, 1,541 participants to date: -March 21, 2009, New Ulm, MN, 60 participants; -September 2008-March 2009, MN River and Cannon River Basin, MN, 40 participants; -March 5, 2009, Columbus, NE, 38 participants; -March 4, 2009, Wisner, NE, 48 participants; -February 23, 2009, New Lenox, IL, 38 participants; - February 18, 2009, Harrisburg, PA, 16 participants; -February 16, 2009, Harrisburg PA, 10 participants; -February 11, 2009, Saint Louis, MO, 48 participants; -January 2009, Albuquerque, NM, 40 participants; -December 9, 2008, Duluth, MN, 30 participants; -December 8, 2008, St. Paul, MN, 98 participants; - August 5, 2008, Saint Cloud, MN, 23 participants; - July 29, 2008, Tucson, AZ, 50 participants; -April 16, 2008, Redwing MN, 148 participants; - April 1, 2008, Sauk Center, MN, 15 participants; -March 31, 2008, Faribault, MN, 28 participants; -March 28, 2008, Emmetsburg, IA, 48 participants; -March 24, 2008, Fairmont, MN, 30 participants -March 14, 2008, Marion, IA, 40 participants; -March 3, 2008, Napoleon, OH, 23 participants; -February 27, 2008, St. Paul, MN, 78 participants; -January 14, 2008, Sidney, OH, 60 participants; -January 10, 2008, Redwood Falls, MN, 35 participants; -January 7, 2008, Cannon Falls, MN, 28 participants; -December 18, 2007, Alexandria, MN, 26 participants; -November 26, 2007, Owatonna, MN, 16 participants; - August 30, 2007, New Haven, IN, 30 participants; -August 17, 2007, Huron County, OH, 48 participants; -August 10, 2007, Crawford County, OH, 48 participants; -July 27, 2007, Toledo, OH, 28 participants; -March 29, 2007, Shelbyville, MI, 7 participants; -January 11, 2007, New Ulm, MN, 42 participants; -2007, Rochester, MN, 38 participants; -December 7, 2006, Harrisburg, PA, 18 participants; -December 2006, Madison WI, 50 participants; -September 27, 2006, Lancaster County, PA, 28 participants; -September 15, 2006, Stark County, OH, 20 participants; -September 11, 2006, Cross Plains WI, 50 participants; -August 24, 2006, Champaign County, OH, 20 participants</p> <p>c. Tom Green, Brian Brandt and Maggie Westaby updated the BMP CHALLENGE brochure and composed a cover letter directed towards agricultural professionals. Brochures were circulated to 10,499 contacts between December 2008 and January 2009.</p>
<p>2. Support package of existing tools for trainers, subset to be used as handout for seminars and available online.</p>	<p>a. Trainer curriculum and support materials package currently includes 2009 BMP CHALLENGE enrollment and implementation forms, presentation PowerPoint files and print-outs, curriculum outline with notes, water quality trading references, BMP CHALLENGE FAQ sheets and additional BMP information (i.e. alternative credit generating BMPs and management information). These materials were reviewed at a MN Trainer meeting in November 2007.</p> <p>b. Website updated regularly, with current documents and information. Recent updates include the addition of a webpage dedicated to the</p>

	<p>California BMP CHALLENGE and the addition of the 2009 forms for the Nutrient, Reduced Tillage and the California Reduced Tillage CHALLENGE.</p>
<p>3. Preparing three MN public agency/NGO trainers to train others on BMP CHALLENGE and WQ credit trading.</p>	<p>a. Three trainers have been identified for Minnesota: - Shannon Fisher, MN River Board and Water Resources Center - Ed Hohenstein, Seven Mile Creek Watershed Project - Russ Derickson, MN Dept of Agriculture In addition to these three, a number of other collaborators including several professionals on our advisory committee are gaining competency in addressing water quality trading and the BMP CHALLENGE with others.</p> <p>b. Upcoming summer Minnesota meetings: - Work is being done to obtain invitations to present at existing meetings. - One or two dedicated workshops may be planned for the summer of 2009.</p>
<p>4. Inventory of potential point and non-point source traders, trades, values, credits, rates, forms, implementation and verification procedures.</p>	<p>The draft MN State rules for water quality trading are now available.</p>
<p>5. 95,000 brochures, 1,000-1,500 farmer inquiries generated to state agencies, crop advisors, watershed groups on BMP CHALLENGE and WQ credit trading. Approximately 50 inquiries have been made from agricultural professionals since the Dec 08/Jan 09 mailing.</p>	<p>a. 60,000 BMP CHALLENGE brochures were printed with approx. 49,500 distributed to date.</p> <p>b. Mailing of 1,150 brochures to 21 agricultural professionals regarding their request to promote the CHALLENGE since recruitment mailing of December 2008 and January 2009.</p> <p>c. Per the 2008 Outreach plan, a brochure and electronic newsletter schedule with designated dates of dispersal and topic outlines has been developed. Potential future E-newsletter topics include: Update on the Farm Bill, EPA Non-point Source Outreach Toolbox, implications of the EPA CO₂ regulation mandate for BMP CHALLENGE, a highlight on a main contact for a particular region, fall applications/tillage info, and updates on upcoming workshops, enrollment procedures, etc.</p> <p>d. Electronic newsletter mailing: March E-news, April 15, 2008 to 5240 contacts; Iowa BMP CHALLENGE workshop, February 28, 2008 to 1702 contacts; Redwood Falls Workshop Announcement, January 3, 2008 to 814 contacts; BMP CHALLENGE- Owatonna Workshop, November 13, 2007 to 975 contacts; MN BMP CHALLENGE/WQT Workshops-Owatonna, October 10, 2007 to 817 contacts; Owatonna Workshop "Save the Date" September 26, 2007 to 820 contacts; BMP CHALLENGE July 27, 2007, August 7, 2007 to 2451 contacts and August 27, 2007 to an additional 1670 contacts; April BMP CHALLENGE Update, April 20, 2007 to 2438 contacts; November BMP CHALLENGE Update, November 15, 2006 to 943 contacts; August BMP Performance Guarantee Update, August 8, 2006 to 832 contacts; Resend of August BMP Performance Guarantee Update, August 9, 2006 to 11 contacts; BMP Performance Guarantee Update, November 29, 2005 to 340 contacts.</p>
<p>6. Ten point sources in MN prepared to trade, list of trades completed, acres, practices, credits, estimated resource improvements.</p>	<p>a. Keiser & Associates have contacted and identified ethanol plants in the MN River watershed, which are currently willing to use the point-point trading permit system, but are not at this time committed to using the more desirable point-nonpoint trading system. The new 2008 CIG was funded to work with several watersheds to implement</p>

	<p>trades.</p> <p>b. James Klang, PE, and Brian Brandt have released a white-paper to help clarify how point and non-point perspectives view trading by interviewing potential buyers and sellers. The white paper was released in May 2008.</p> <p>c. Educational efforts have initiated conversations with numerous water quality trading participants. Possible work within two watersheds is waiting for TMDL approval for 2009.</p>
<p>7. Inventory of BMP CHALLENGE guarantees implemented, acres, practices, improvements.</p>	<p>a. Nutrient BMP guarantees have been implemented on approximately 100 farmer fields, resulting in an average 22.5% reduction in nitrogen fertilizer use.</p> <p>b. Reduced tillage was implemented in 2006 and since then 36 fields have been enrolled.</p> <p>c. With the goal of expanding the Enhanced Nutrient option, which, refers to an additional 15% reduction in BMP rates for nitrogen fertilizer use. In 2008 approximately 960 acres were enrolled with the hopes of expanding to over 1,000 acres in 2009.</p> <p>d. All results are recorded in a database.</p> <p>e. From 2000-2008, 4626.28 acres, 1905.8 acres and 4660.6 acres were enrolled in the Nutrient BMP, Reduced Tillage BMP and Enhanced Nutrient BMP respectively.</p>
<p>8. Reductions of 760K lbs of N use, 40K lbs. P loading; 30K tons sediment loading; 25 K lbs. NO₂; 5K tons CO₂ from nutrient and tillage reduction on approximately 34K acres in MN and PA.</p>	<p>a. See tracking, attached.</p>
<p>9. Funding development including \$759,464 in matching non-federal funding, \$170,500 in program income and \$944,400 in-kind. Additional funding for program expansion.</p>	<p>a. Current grants amounting to \$1,998,000:</p> <ul style="list-style-type: none"> - 2006 Conservation Innovation Grant to Agflex, NRCS, \$683,000 - 2007 Bush Foundation Grant to AFT, \$75,000 - 2007 Pennsylvania Dept. of Environmental Protection (to IPM Institute, \$225,000 - 2007 Pennsylvania State Conservation Commission to IPM Institute, \$20,000 - 2007 Chesapeake Bay Commission to IPM Institute, \$25,000 - 2008 Pennsylvania Dept. of Environmental Protection to IPM Institute, \$50,000 - 2008 Bush Foundation Grant to AFT, \$270,000 - 2008 Conservation Innovation Grant to AFT, \$650,000 - 2008 Conservation Innovation Grant to Minnesota River Board, 999,993.60. Accomplished 1,000,006.21 match funds (accommodation of in kind and match).
<p>10. Quarterly and final progress reports including conference call and advisory meeting minutes.</p>	<p>a. Advisory conference calls and meetings scheduled for Dec, Jan and Mar through Aug 2009, including one in-person meeting per year.</p> <p>b. BMP CHALLENGE Project team (Brandt, Green, Westaby, and contractors) meets at least twice monthly by conference call to manage BMP CHALLENGE acreage recruitment and implementation.</p> <p>c. MN BMP CHALLENGE and WQ Credit Trading team (Fisher,</p>

	Green, Kieser & Associates, and Westaby) meets monthly by conference call, second Thursday of each month at 8:30am CST. Advisors welcome to participate. Call agenda and post-call notes circulated to project team and advisors.
11. Other	a. CA expansion is in progress. Alan Forkey with NRCS will be sending a letter of review to make it eligible. Planning on having up to 10 farmers and 1,000 acres using conservation tillage for 2009.

II. Results Table

2000-2008 RESULTS	Nutrient BMP	Reduced Tillage	Enhanced Nutrient Management
Total acres, 2000-2008	4,332 acres	1,700 acres	4,659 acres
BMP yield, average and range	158.16 bu/acre 59 - 220	156.78 bu/acre 72-233	129.38 bu/acre 55-217
Check-strip yield, average and range	164.94 bu/acre 49-230	166.93 bu/acre 110-227	137.79 bu/acre 63-238
Farmer net returns after fertilizer or tillage savings	(\$4.94) (\$89) - \$81	(15.34) (\$156) - \$130	(\$22.90) (\$141) - \$105
Total N use reduction	146,272.30 lbs N	-	124,239 lbs N
Estimated sediment reduction	-	2,550.75 tons	-
Estimated P load reduction	-	3,401 tons	-
Estimated N ₂ O reduction (lbs)	2758.28	-	2342.80
Estimated CO ₂ reduction		850.25 tons	

II. Project Team, Advisors and Trainers – As of 03/11/2009

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Advisory Group

Participation is invited on monthly conference calls and requested for quarterly conference calls and one in-person meetings per year. Role includes reviewing plans and progress, responding to requests for information/assistance from project team.

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Trainers

Three Minnesota and three Pennsylvania public agencies or NGO professionals who will be trained to offer the BMP CHALLENGE and WQ Credit Trading curriculum developed as part of this project. Goal is to identify individuals whose current role would be enhanced by this capacity. ***Pennsylvania Trainers yet to be determined.***

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III. Project Summary from Original Proposal to NRCS CIG

Our project will build capacity by creating broad awareness and teaching in-state personnel to support CD, crop advisory professionals and others who work with farmers to meet conservation goals using new, innovative strategies. We will highlight, teach and implement BMP performance guarantees for corn farmers reducing both nutrient use and tillage in DE, IA, IL, IN, MD, MI, MN, NC, NE, OH, PA, VA, WI and point-nonpoint water quality credit trading in MN and PA.

BMP performance guarantees will focus on 51 million acres of corn in these 13 states. Our *BMP Challenge* has delivered a 24% nutrient use reduction in seven states over the past four years. We provide a financial safety net for farmers who reduce nutrient and sediment pollution using practices developed and recommended by land-grant scientists and state agencies. These practices save farmers money over time, but in any one year may result in lower yields and income. The program uses a side-by-side comparison in the farmer's field of his or her conventional practice on a "check" strip vs. reduced nutrient or tillage practice on the balance of the field. We compensate the farmer if net income declines as a result. Our 2005 survey indicates that 42% of corn farmers would try these new practices if guarantees were available.

Water quality credit trading is a new opportunity in the Susquehanna and Potomac River Watersheds in PA and the Minnesota River Watershed in MN. Point sources such as wastewater treatment facilities have greatly reduced nutrient emissions over the past 30 years and face very high costs for incremental gains. These funds can be more efficiently invested in improvements by farmers. Adequate controls are needed to ensure water quality goals are met. Accurate and effective education, training and technical support are needed to implement trading effectively.

Our experienced and nationally recognized team will work with state agencies and others to develop and implement a training curriculum, support tools and outreach for these innovative approaches, and work with conservation districts, crop consultants and other key influencers to equip them to competently offer and manage these opportunities with their client farmers. Support tools will include both new and existing materials and trained in-state technical support to help these professionals efficiently identify the best opportunities, calculate economic benefits to farmers and estimate water quality improvements, and verify and report implementation of conservation practices. Outreach will focus on CDs, crop consultants, Extension, agricultural organizations and other key influencers to drive farmer interest and inquiries to trained CD staff and crop consultants.

We will ease farmer recruiting to trading using our proven model of enlisting crop consultants, Extension and CD staff as recruiters, on-site BMP overseers and/or third-party verifiers for our guarantee program; assure farmers with yield/income guarantees so that they can put a comfortable value on their participation in trades, e.g., farmers are reluctant to trade nutrient use reductions for cash because they can't predict the yield impacts; verify/document credit production by farmers and so provide point-sources/regulators with the assurance they need; discover and institutionalize locally-acceptable credit estimation tools to provide certainty for participants; track multiple environmental benefits/environmental services; aggregate credits from multiple farmers to create a reserve pool such that if any one farmer cannot deliver promised credits for any reason, other credits are available to fill in; and offer this model as a turn key service solution to trading projects in other states as they begin to get ready for trading.