

CONSERVATION INNOVATION GRANTS
September 2011 Semiannual Report

Grantee Name: Agflex, Inc.	
Project Title: BMP CHALLENGE Across the Corn Belt and Rapid Adoption of Conservation Tillage in California Through Improved Technical Assistance and Managing Risk	
Agreement Number: 69-3175-9-122	
Project Director: Thomas Green	
Contact Information: 4510 Regent St. Madison WI 53705	Phone Number: 608-232-1528 E-Mail: tom.green@agflex.com
Period Covered by Report: March 1, 2011 – August 31, 2011	
Project End Date: September 2012	

Executive Summary:

Our project is designed to significantly increase the adoption of conservation tillage systems in California's San Joaquin Valley through the use of the voluntary risk mitigation program, the BMP CHALLENGE. Initial emphasis will be placed on silage corn with the goal of expanding the project to include other row crops that exhibit a significant environmental impact in the San Joaquin Valley. Implementation of these practices will occur through a comprehensive outreach and education campaign, spearheaded by project partners in the area including Sustainable Conservation, American Farmland Trust, and the University of California – Davis. In addition to our California operation, we will also continue the expansion of our other BMP CHALLENGE programs across the United States, focusing on documenting effectiveness and long term impacts of the program.

Work completed during the period covered by the report includes:

- Completed eleven California working group calls
- Completed twelve biweekly BMP CHALLENGE calls
- Enrolled four tomato fields in a cost-share guarantee with Campbell's Processing Tomatoes, two in Alternate Furrow Irrigation and two in Efficient Nitrogen Fertilizer Management
- Enrolled 16 fields in California for silage, a total of 925.43 BMP acres
- Developed liquid manure protocol to increase accuracy of results
- Determined a value for pound of nitrogen in manure
- Altered the Grower Agreement, Check Strip Information Form, and Yield Assessment Worksheet to simplify the grower's and crop consultant's workload
- Sent Enrollment Acceptance Forms and BMP CHALLENGE field signs

Over the next six months we will:

- Complete six California working group calls
- Complete twelve biweekly BMP CHALLENGE calls
- Calculate net return assessments for yield harvest information collected
- Calculate nitrogen credit and sediment loss reduction for 2011 fields
- Continue the BMP CHALLENGE program on the current conservation tillage fields by transitioning into winter forage
- Investigate the opportunity to include high-value, specialty crops due to interest from California conservation groups
- Analyze information compiled from the Alternate Furrow Irrigation and Efficient Nitrogen Fertilizer Management tomato trials to generate a base for future guarantee payment
- Study the ten tomato fields participating in cover cropping and strip-tillage with the University of California – Davis to evaluate motivations to implement best management practices without a financial guarantee

Deliverables Proposed

Deliverables Progress

6000 acres in Conservation Tillage or Nutrient Management plans in California	In 2011, 13 farmers on 925.43 BMP acres enrolled in the program. This amounts to 35 farmers on 2411.63 acres enrolled for 2010 and 2011.
7000 acres in Conservation Tillage or Nutrient Management plans across U.S, excluding California.	In 2011, 25 farmers on 2106.2 acres enrolled in the program. This amounts to 43 farmers on 3481.2 acres enrolled for 2010 and 2011.
BMP CHALLENGE expansion into three new crops/cropping practices	Expanded the program to include sweet corn in 2010, and increased enrolled acres in 2011. Growers for Campbell's processing tomatoes currently enrolled in program. Added crop practices include manure injection and post season nitrate testing. Developing a winter forage and conservation tillage program to start this year.
Attend a NRCS CIG showcase or comparable event	Brian Brandt of American Farmland Trust, Ladi Asgill of Sustainable Conservation, Jeff Mitchell of UC-Davis and Steve Schaffer of Environmental Consulting for Agriculture attended World Ag Expo in February 2011 in Tulare, CA. Thomas Green of Agflex, Inc., Brian Brandt and Ladi Asgill attended the SWCS annual meeting in July 2011 in Washington, D.C. Thomas Green presented on the BMP CHALLENGE project. Thomas Green presented a poster at the USDA Water Quality Conference in January 2011, Washington, D.C.
Technical support to BMP CHALLENGE participants	Support of farmers includes a network of crop consultants, project partners and Agflex, Inc. Held calls with crop consultants prior to planting to clarify all technical aspects of the program.
Comprehensive outreach campaign in California	<ol style="list-style-type: none">1. Collected and analyzed results from outreach to 23 farmers over approximately 1700 acres. Holding ongoing discussions with the majority of the program's participants to review the season's performance.2. Distributed newsletters for conservation tillage and nutrient management to 1200 dairy producers in California. The newsletters detailed successful farmers' experiences with implementing best management practices on their farms. The newsletters also provided information about the BMP CHALLENGE.3. Held a series of seminars and one-on-one discussions at the World Ag Expo. Distributed brochures and explained the program to about

	<p>60 visitors throughout the three day event.</p> <ol style="list-style-type: none"> 4. Presented the program results to about 150 agricultural industry professionals, producer organizations and farmers at the California Agronomy Society in Fresno, CA. 5. Presented program information to local farmers at the Colusa County Farm Show. 6. Conducted numerous field visits to provide technical and logistical support for existing growers. 7. Received press coverage in Central Valley newspapers on the BMP CHALLENGE. http://www.recorderonline.com/articles/gaining-48969-began-method.html 8. Held public field days on March 18, June 28 and September 8, 2011 in Five Points, CA for tomato fields.
<p>Assess yield and net returns and document effectiveness</p>	<p>Redesigned Yield Assessment Worksheets for better quality control and a more efficient data analysis. Net returns through 2010 on page 6.</p> <p>The University of California Communication Services Division is completing a peer-reviewed article on the economic performance of best management practices for tomatoes.</p>

Project Team as of September 1, 2011

<p>Thomas Green CIG Project Manager IPM Institute of North America and Agflex 4510 Regent St. Madison WI 53705 608-232-1425 Fax: 608-232-1440 Cell: 608-209-8298 tom.green@bmpchallenge.org</p>	<p>Kelly Adams Business Manager CIG Project Financial Reporting IPM Institute of North America 4510 Regent St. Madison WI 53705 608-232-1410 Fax: 608-232-1440 kellyadams@att.net</p>
<p>Gregorio Cruz CIG and Conservation Partnership Initiative Manager USDA-NRCS Financial Assistance Programs Division 14th and Independence Ave SW / Room 5241-S Washington DC 20250 202-720-2335 gregorio.cruz@wdc.usda.gov</p>	<p>David Buland Technical Contact USDA-NRCS, Central NTSC 501 W Felix St., Bldg 23 Fortworth TX 76115 817-509-3577 david.buland@ftw.usda.gov</p>
<p>Rebecca Ressler Project Assistant BMP CHALLENGE 4510 Regent St. Madison WI 53705 608-232-1425 Fax: 608-232-1440 rebecca.ressl@bmpchallenge.org</p>	<p>Steve Shaffer Director Environmental Consulting for Agriculture 714 Falcon Ave. Davis CA 95616 530-758-6943 H/O/F steven.shaffer@sbcglobal.net</p>
<p>Jeff Mitchell Extension Specialist UC Davis – Vegetable Crops 9240 S. Riverbend Ave. Parlier CA 93648 209-891-2660 mitchell@uckac.edu</p>	<p>Brian Brandt Director Agriculture Conservation Innovation Center 5655 N. High St., Suite 203 Worthington OH 43085 614-430-8130 bbrandt@farmland.org</p>
<p>Jim Baird Mid-Atlantic States Director American Farmland Trust 1200 18th St. N.W. Suite 800 Washington DC 20036 202-378-1235 jbaird@farmland.org</p>	<p>Edward Thompson, Jr. California Director American Farmland Trust PO Box 92 Sutter CA 95982 202-309-1162 ethompson@farmland.org</p>
<p>Ladi Asgill Senior Project Manager Sustainable Conservation 201 Needham St. Modesto CA 95354 209-576-7729 lasgill@suscon.org</p>	<p>John Cardoza Project Associate Sustainable Conservation 201 Needham St. Modesto CA 95354 209-576-7731 JCardoza@suscon.org</p>
<p>Kathy Viatella Managing Director of Programs Sustainable Conservation 98 Battery St., Suite 302 San Francisco CA 94111 415-977-0338 ext. 308 KViarella@suscon.org</p>	

Program Tracking

(Note: Does not include 2011 data)

2000-2010 RESULTS	Nutrient BMP CHALLENGE®	Reduced Tillage BMP CHALLENGE®	Planned Nitrogen Reduction	Totals
Total acres, 2000-2010	4819 acres	2313 acres	9069 acres	16,201 acres
BMP yield, average and range	160.3 bu/acre 56.3-237.0	155.7 bu/acre 31.9-237.0	150.5 bu/acre 55.7-229.4	
Check-strip yield, average and range	167.0 bu/acre 49.8-230.0	165.1 bu/acre 26.2-242.0	162.4 bu/acre 63.1-264.0	
Average farmer net returns after fertilizer or tillage savings	(\$4.86) (\$89.85)-\$109.50	(\$13.48) (\$156.77)-\$130.20	(\$35.29) (\$330.00)-105.24	
Total N use reduction	180,397.9 lbs	-	244,199.1 lbs	424,597.0 lbs
Estimated sediment reduction	-	3469.2 tons	-	3469.2 tons
Estimated P load reduction	-	4625.6 lbs	-	4625.6 lbs
Estimated N ₂ O reduction	3401.8 lbs	-	4604.9 lbs	8006.7 lbs
Estimated CO ₂ reduction	503.5 lbs	1156.4 lbs	681.5 lbs	2341.4 lbs

Project Abstract

Agriculture in California's San Joaquin Valley (SJV) offers new and growing opportunities to contribute towards soil, water and air quality improvement through the adoption of a variety of resource-conserving crop production practices. This region consists of highly diversified and historically very productive farms. Six of the nation's traditionally top ten agricultural counties are found in this region and a sizable portion of California's contribution to national productivity of a number of crops is accomplished in this area. Much of the State's dairy industry, which is ranked first among the US states, is also found throughout this region.

Despite the rather phenomenal historical productive capacity of this region, the economic competitiveness and sustainability of the natural resource base for production throughout the SJV are increasingly being threatened. In recent years, the eight-county SJV region ranked as one of the world's worst air quality basins, remaining out of compliance with the US Environmental Protection Agency air quality standards for PM10. Therefore, since 2004, the US Environmental Protection Agency mandated farmers throughout the region to employ at least five air quality conservation management practices. As PM exceedances typically occur in the fall due to considerable intercrop tillage, "reducing or eliminating the need to disturb the soil" has for the first time in history, been identified as a public policy goal.

Conservation tillage (CT) approaches, requiring fewer tractor operations and less equipment and soil disturbance, would lower fuel needs and overall production costs, while also reducing dust emissions, and potentially improving soil quality. CT, though widely used in several other parts of the US, is currently used on less than 2% of the annual cropland in this region.

Building on the demonstrated success that the "*BMP CHALLENGE™ Program*," (a voluntary, financial risk management program), has achieved in helping farmers adopt BMPs in the Midwest and Mid-Atlantic regions, we propose to introduce this program as a means for significantly increasing adoption of conservation tillage systems in California's SJV. The primary objectives of the proposed project are to: (1) Accelerate the adoption of CT acreage for silage corn in California's Central Valley by providing financial guarantees against the risk of crop losses associated with the transition to a new tillage practice. (2) Expand the BMP CHALLENGE to include CT in other row crops that exhibit a significant environmental footprint in the San Joaquin Valley. (3) Implement a comprehensive outreach and education program to promote the BMP CHALLENGE program to engage and educate farmers and others about appropriate BMPs including CT and nutrient management practices. (4) Document the effectiveness of the BMP CHALLENGE and the comprehensive outreach campaign in promoting the long-term adoption of CT and nutrient BMPs. (5) Expand and continue support of the BMP CHALLENGE CT and Nutrient Management programs already established in the Mid-Western and Mid-Atlantic States.

This proposed project brings together partners from organizations including EQIP-eligible SJV farmers, California's Conservation Tillage Workgroup, Sustainable Conservation, American Farmland Trust and Agflex, Inc., to manage the financial risk in each of the on-farm CT demonstration evaluations. Potential benefits that will be derived from this effort may include: (1) up to 85% reductions in dust emissions and (2) 75% reductions in diesel fuel use and corresponding emissions reductions. In cropping systems in which cover crops will be coupled with CT practices, we further anticipate eventual increases in soil C sequestration (2 – 4 tons/ac) following sustained CT and cover crop management. Additional benefits may include soil conservation due to reduced intercrop soil disturbance, and water conservation due to surface residue accumulation resulting in decreased evaporation.

CONSERVATION INNOVATION GRANTS
March 2011 Semiannual Report

Grantee Name: Agflex, Inc.	
Project Title: BMP CHALLENGE Across the Corn Belt and Rapid Adoption of Conservation Tillage in California Through Improved Technical Assistance and Managing Risk	
Agreement Number: 69-3175-9-122	
Project Director: Thomas Green	
Contact Information: 4510 Regent St. Madison WI 53705	Phone Number: 608-232-1528 E-Mail: tom.green@agflex.com
Period Covered by Report: September 2010-March 2011	
Project End Date: September 2012	

Executive Summary:

Our project is designed to significantly increase the adoption of conservation tillage systems in California's San Joaquin Valley through the use of the voluntary risk mitigation program, the BMP CHALLENGE. Initial emphasis will be placed on silage corn with the goal of expanding the project to include other row crops that exhibit a significant environmental impact in the San Joaquin Valley. Implementation of these practices will occur through a comprehensive outreach and education campaign, spearheaded by project partners in the area including Sustainable Conservation, American Farmland Trust, and the University of California – Davis. In addition to our California operation, we will also continue the expansion of our regular BMP CHALLENGE programs across the United States, focusing on documenting effectiveness and long term effects of the program.

Work completed during the period covered by the report includes:

- Completed eight California working group calls
- Completed eight biweekly BMP CHALLENGE calls
- Calculated net return assessments for yield harvest information collected
- Analyzed results for effectiveness of program and redesigned protocol for the upcoming growing season
- Finalized collaboration from Campbell's and Morning Star tomato processing companies
- Created a recruitment plan
- Expanded guaranteed best management practices (BMP) to include reduced tillage, basic nutrient management, pre-side dress nitrate test, corn stalk nitrate test, minimum disturbance incorporation, manure injection, nitrogen inhibitor, sensor-based variable rate application and phosphorus reduction
- Distributed 1,200 nutrient management and conservation tillage newsletters to California dairy producers

Over the next quarter we will:

- Commence recruitment of fields
- Complete six California working group calls
- Complete twelve biweekly BMP CHALLENGE calls
- Collect Grower Agreements and send Enrollment Acceptance Forms

Deliverables Proposed

Deliverable Progress

6000 acres in CT or Nutrient Management plans in California	In 2010, 22 farmers on 1486.2 acres enrolled in the program. Eight farmers on 624.3 acres effectively completed the program.
7000 acres in CT or Nutrient Management plans across U.S, excluding California.	In 2010, 18 farmers on 1375 acres enrolled in the program. 13 farmers on 892 acres completed the program.
BMP CHALLENGE expansion into three new crops/cropping practices	Conducted trial acres of sweet corn, manure injection and PSNT practices in the 2010 season. Enrolling processing tomatoes through projects with Campbells and Morningstar for 2011.
Attend NRCS CIG showcase or comparable event	Brian Brandt of American Farmland Trust, Ladi Asgill of Sustainable Conservation, Jeff Mitchell of UC-Davis and Steve Schaffer of Environmental Consulting for Agriculture attended World Ag Expo in February 2011 in Tulare, CA.
Technical support to BMP CHALLENGE participants	Support of farmers includes network of crop consultants, project partners and Agflex, Inc.
Comprehensive outreach campaign in California	<ol style="list-style-type: none">9. Collected and analyzed results from outreach to 23 farmers over approximately 1,700 acres. Holding ongoing discussions with the majority of the program's participants to review the season's performance.10. Distributed BMP newsletters for conservation tillage and nutrient management to 1,200 dairy producers in California. The newsletters detailed successful farmers' experiences with implementing BMPs on their farms. The newsletters also provided information about the BMP CHALLENGE.11. Held a series of seminars and one-on-one discussions at the World Ag Expo. Distributed brochures and explained the program to about 60 visitors throughout the three day event.12. Presented the program results to about 150 agricultural industry professionals, producer organizations and farmers at the California Agronomy Society in Fresno, CA.13. Presented program information to local farmers at the Colusa County Farm Show.14. Conducted numerous field visits to provide technical and logistical support for existing growers.
Assess yield and net returns and document effectiveness	Completed harvest yields and net returns for 2010. See Table 2 for results.

Project Team as of March 23, 2011

<p>Thomas Green CIG Project Manager IPM Institute of North America and Agflex 4510 Regent St. Madison WI 53705 608-232-1425 Fax: 608-232-1440 Cell: 608-209-8298 tom.green@bmpchallenge.org</p>	<p>Kelly Adams Business Manager CIG Project Financial Reporting IPM Institute of North America 4510 Regent St. Madison WI 53705 608-232-1410 Fax: 608-232-1440 kellyadams@att.net</p>
<p>Gregorio Cruz CIG and Conservation Partnership Initiative Manager USDA-NRCS Financial Assistance Programs Division 14th and Independence Ave SW / Room 5241-S Washington DC 20250 202-720-2335 gregorio.cruz@wdc.usda.gov</p>	<p>David Buland Technical Contact USDA-NRCS, Central NTSC 501 W Felix St., Bldg 23 Fortworth TX 76115 817-509-3577 david.buland@ftw.usda.gov</p>
<p>Rebecca Ressler Project Assistant BMP CHALLENGE 4510 Regent St. Madison WI 53705 608-232-1425 Fax: 608-232-1440 rebecca.ressl@bmpchallenge.org www.bmpchallenge.org</p>	<p>Steve Shaffer Director Environmental Consulting for Agriculture 714 Falcon Ave. Davis CA 95616 530-758-6943 H/O/F steven.shaffer@sbcglobal.net</p>
<p>Jeff Mitchell Extension Specialist UC Davis – Vegetable Crops 9240 S. Riverbend Ave. Parlier CA 93648 209-891-2660 mitchell@uckac.edu</p>	<p>Brian Brandt Director Agriculture Conservation Innovation Center 5655 N. High St., Suite 203 Worthington OH 43085 614-430-8130 bbrandt@farmland.org</p>
<p>Jim Baird Mid-Atlantic States Director American Farmland Trust 1200 18th St. N.W. Suite 800 Washington DC 20036 202-378-1235 jbaird@farmland.org</p>	<p>Edward Thompson, Jr. California Director American Farmland Trust PO Box 92 Sutter CA 95982 202-309-1162 ethompson@farmland.org</p>
<p>Ladi Asgill Senior Project Manager Sustainable Conservation 201 Needham St. Modesto CA 95354 209-576-7729 lasgill@suscon.org www.suscon.org</p>	<p>John Cardoza Project Associate Sustainable Conservation 201 Needham St. Modesto CA 95354 209-576-7731 JCardoza@suscon.org</p>
<p>Kathy Viatella Managing Director of Programs Sustainable Conservation 98 Battery St., Suite 302 San Francisco CA 94111 415-977-0338 ext. 308 KViarella@suscon.org</p>	

Table 1: Program Tracking for 2000-2010

2000-2010 RESULTS	Nutrient BMP CHALLENGE®	Reduced Tillage BMP CHALLENGE®	Planned Nitrogen Reduction
Total acres, 2000-2010	5,242.7 acres	2,312.8 acres	9,069.1 acres
BMP yield, average and range	162.1 bu/acre 50.9-248.3	155.7 bu/acre 31.9-237.0	150.5 bu/acre 55.7-229.4
Check-strip yield, average and range	166.7 bu/acre 46.9-257.0	165.1 bu/acre 26.2-242.0	162.4 bu/acre 63.1-264.0
Average farmer net returns after fertilizer or tillage savings	\$6.10 (\$139.97)-\$668.26	(\$13.48) (\$156.77)-\$130.20	(\$35.29) (\$284.00)-\$105.24
Total N use reduction (lbs)	210,385.5	-	242,312.7
Estimated sediment reduction (tons)	-	3,469.2	-
Estimated P load reduction (lbs)	-	4,625.6	-
Estimated N2O reduction (lbs)	3,967.3	-	4,569.3
Estimated CO2 reduction (lbs)	587.2	1,156.4	676.3

Table 2: 2010 BMP CHALLENGE Results

	Nitrogen Reduction	Phosphorus Reduction	Sweet Corn	Manure Injection	Reduced Tillage	Planned Nitrogen Reduction
Average BMP Yield	188.4 bu/acre	134.5 bu/acre	172.9 bu/acre	158.2 bu/acre	150.1 bu/acre	143.0 bu/acre
Average Check-Strip Yield	184.5 bu/acre	126.8 bu/acre	46.9 bu/acre	156.6 bu/acre	154.7 bu/acre	154.9 bu/acre
Average Net Return after Fertilizer or Tillage Savings	\$59.78	\$53.08	\$668.26	\$3.48	\$21.24	(\$38.21)
Total N Use Reduction	19,164.2 lbs	-	2,400.0 lbs	-	-	51,961.3 lbs
Total P Use Reduction	-	2071.1 lbs	-	-	522.0 lbs	-
Total Sediment Reduction	-	-	-	-	391.5 tons	-
Total CO2 Reduction	53.5 lbs	-	6.7 lbs	-	130.5 lbs	145.0 lbs
Total N2O Reduction	361.4 lbs	-	45.3 lbs	-		979.8 lbs

Table 3: BMP CHALLENGE Grant Summary for 2010

Grant	Acres		Farmers	
	Enrolled	Completed	Enrolled	Completed
Agflex 2009 CIG	2,493.2	1,272.8	33	17
MN Riverboard CIG	273	40	4	1
American Farmland Trust	2,092.1	2,092.1	23	23

Project Abstract

Agriculture in California's San Joaquin Valley (SJV) offers new and growing opportunities to contribute towards soil, water and air quality improvement through the adoption of a variety of resource-conserving crop production practices. This region consists of highly diversified and historically very productive farms. Six of the nation's traditionally top ten agricultural counties are found in this region and a sizable portion of California's contribution to national productivity of a number of crops is accomplished in this area. Much of the State's dairy industry, which is ranked first among the US states, is also found throughout this region.

Despite the rather phenomenal historical productive capacity of this region, the economic competitiveness and sustainability of the natural resource base for production throughout the SJV are increasingly being threatened. In recent years, the eight-county SJV region ranked as one of the world's worst air quality basins, remaining out of compliance with the US Environmental Protection Agency air quality standards for PM10. Therefore, since 2004, the US Environmental Protection Agency mandated farmers throughout the region to employ at least five air quality conservation management practices. As PM exceedances typically occur in the fall due to considerable intercrop tillage, "reducing or eliminating the need to disturb the soil" has for the first time in history, been identified as a public policy goal.

Conservation tillage (CT) approaches, requiring fewer tractor operations and less equipment and soil disturbance, would lower fuel needs and overall production costs, while also reducing dust emissions, and potentially improving soil quality. CT, though widely used in several other parts of the US, is currently used on less than 2% of the annual cropland in this region.

Building on the demonstrated success that the "*BMP CHALLENGE™ Program*," (a voluntary, financial risk management program), has achieved in helping farmers adopt BMPs in the Midwest and Mid-Atlantic regions, we propose to introduce this program as a means for significantly increasing adoption of conservation tillage systems in California's SJV. The primary objectives of the proposed project are to: (1) Accelerate the adoption of CT acreage for silage corn in California's Central Valley by providing financial guarantees against the risk of crop losses associated with the transition to a new tillage practice. (2) Expand the BMP CHALLENGE to include CT in other row crops that exhibit a significant environmental footprint in the San Joaquin Valley. (3) Implement a comprehensive outreach and education program to promote the BMP CHALLENGE program to engage and educate farmers and others about appropriate BMPs including CT and nutrient management practices. (4) Document the effectiveness of the BMP CHALLENGE and the comprehensive outreach campaign in promoting the long-term adoption of CT and nutrient BMPs. (5) Expand and continue support of the BMP CHALLENGE CT and Nutrient Management programs already established in the Mid-Western and Mid-Atlantic States.

This proposed project brings together partners from organizations including EQIP-eligible SJV farmers, California's Conservation Tillage Workgroup, Sustainable Conservation, American Farmland Trust and AgFlex, to manage the financial risk in each of the on-farm CT demonstration evaluations. Potential benefits that will be derived from this effort may include: (1) up to 85% reductions in dust emissions and (2) 75% reductions in diesel fuel use and corresponding emissions reductions. In cropping systems in which cover crops will be coupled with CT practices, we further anticipate eventual increases in soil C sequestration (2 – 4 tons/ac) following sustained CT and cover crop management. Additional benefits may include soil conservation due to reduced intercrop soil disturbance, and water conservation due to surface residue accumulation resulting in decreased evaporation.

CONSERVATION INNOVATION GRANTS

September 2010 Quarterly Report

Grantee Name: Agflex, Inc.	
Project Title: BMP CHALLENGE Across the Corn Belt and Rapid Adoption of Conservation Tillage in California Through Improved Technical Assistance and Managing Risk	
Agreement Number: 69-3175-9-122	
Project Director: Thomas Green	
Contact Information: 4510 Regent St. Madison, WI 53705	Phone Number: (608) 232-1528 E-Mail: tom.green@agflex.com
Period Covered by Report: June 2010 - September 2010	
Project End Date: September 2012	

Executive Summary:

Our project is designed to significantly increase adoption of conservation tillage systems in California's San Joaquin Valley through use of the voluntary risk mitigation program, BMP CHALLENGE. Initial emphasis will be placed on silage corn with the goal of expanding the project to include other row crops that exhibit a significant environmental impact in the San Joaquin Valley. Implementation of these practices will occur through a comprehensive outreach and education campaign, spearheaded by project partners in the area including Sustainable Conservation, American Farmland Trust, and University of California – Davis. In addition to our California operation, we will also continue expansion of our regular BMP CHALLENGE programs across the United States, focusing on documenting effectiveness and long term effects of the program.

Work completed during the period covered by the report includes:

- Three California working group calls
- Six biweekly BMP CHALLENGE calls
- Field information for all participants collected
- Net returns assessments begun for yield harvest information collected
- Discussions with Campbell's and Morning Star regarding processing tomato collaboration

Over the next quarter we will:

- Complete 2010 net returns assessments
- Begin analyzing results for effectiveness of program
- Publish a conservation tillage newsletter
- Commence recruitment of processing tomato fields
- Hold three California working group calls
- Finalize commitment for collaboration from tomato processing companies

Deliverables Proposed**Deliverable Progress**

6000 acres in CT or Nutrient Management plans in California	Twenty two farmers on 1347 acres are enrolled in California for 2010.
7000 acres in CT or Nutrient Management plans across U.S.	Seventeen farmers on 1328 acres are enrolled for 2010.
BMP CHALLENGE expansion into three new crops/cropping practices	Trials acres of sweet corn as well as manure injection and PSNT practices were conducted in the 2010 season. Enrollment of processing tomatoes scheduled for 2011.
Attend NRCS CIG showcase or comparable event	Thomas Green of Agflex, Inc. and several partners presented at 4 th annual NRCS CIG Showcase, July 2010 in St. Louis.
Technical support to BMP CHALLENGE participants	Support of farmers includes network of crop consultants, project partners and Agflex, Inc.
Comprehensive outreach campaign in California	Sustainable Conservation outreach effort, including mailings to over 50 conservation officials and publication of CT newsletters.
Assess yield and net returns and document effectiveness	Harvest yields and net returns for 2010 are currently being collected. Overall program effectiveness is included below.

Project Team – As of 11.1.10**Thomas Green**

CIG Project Manager
 IPM Institute of North America and
 Agflex
 4510 Regent St.
 Madison WI 53705
 608-232-1425
 Fax: 608-232-1440
 Cell: 608-209-8298
tom.green@bmpchallenge.org

Matt Anderson

Project Assistant
 BMP CHALLENGE
 4510 Regent St.
 Madison, WI 53705
 608 232-1425
 Fax: 608 232-1440
matt.anderson@bmpchallenge.org
www.bmpchallenge.org

David Buland

Technical Contact
 USDA-NRCS, Central NTSC
 501 W Felix St, Bldg 23
 Fortworth TX 76115
 817-509-3577
david.buland@ftw.usda.gov

Gregorio Cruz

CIG and Conservation Partnership
 Initiative Manager
 USDA-NRCS
 Financial Assistance Programs Division
 14th and Independence Ave SW
 Room 5241-S
 Washington DC 20250
 202-720-2335
gregorio.cruz@wdc.usda.gov

Kelly Adams

Business Manager
CIG Project Financial Reporting
IPM Institute
4510 Regent St.
Madison WI 53705
608-232-1410
Fax: 608-232-1440
kellyadams@att.net

Brian Brandt

Director
Agriculture Conservation Innovation
Center
5655 N. High St., Suite 203
Worthington, OH 43085
(614) 430-8130
bbrandt@farmland.org

Ladi Asgill

Senior Project Manager
Sustainable Conservation
201 Needham Street
Modesto, CA 95354
(209) 576-7729 - Phone
lasgill@suscon.org
www.suscon.org

Jeff Mitchell

Extension Specialist
UC Davis – Vegetable Crops
9240 S. Riverbend Ave.
Parlier, CA 93648
(209) 891-2660
mitchell@uckac.edu

Steve Shaffer

Director
Environmental Consulting for
Agriculture
714 Falcon Ave.
Davis, CA 95616
530 758 6943 H/O/F
steven.shaffer@sbcglobal.net

Jim Baird

Mid-Atlantic States Director
American Farmland Trust
1200 18th St N.W.
Suite 800
Washington, DC 20036
(202) 378-1235
jbaird@farmland.org

Edward Thompson, Jr.

California Director
American Farmland Trust
PO Box 92
Sutter, CA 95982
202-309-1162
ethompson@farmland.org

Program Tracking

(note: does not include 2010 data)

2000-2009 RESULTS	Nutrient BMP	Reduced Tillage	Planned Nitrogen Reduction
Total acres, 2000-2009	4,836.94 acres	2,051 acres	7,071.95 acres
BMP yield, average and range	160.3 bu/acre 59 - 220	156.13bu/acre 32-237	153.5 bu/acre 55-229
Check-strip yield, average and range	166.9 bu/acre 49-230	165.86 bu/acre 26-242	163.9 bu/acre 63-238
Farmer net returns after fertilizer or tillage savings	(\$4.86) (\$89) - \$109	(\$13.49) (\$156) - \$130	(\$33.75) (\$284) - \$105
Total N use reduction	187,212 lbs	-	190,351.45 lbs
Estimated sediment reduction	-	3,077.7 tons	-
Estimated P load reduction	-	4,103.6 lbs	-
Estimated N ₂ O reduction (lbs)	3,530.29 lbs	-	3,589.48 lbs
Estimated CO ₂ reduction		1,025.9 lbs	

Project Abstract

Agriculture in California's San Joaquin Valley (SJV) has new and growing opportunities to contribute to soil, water and air quality improvement through adoption of a variety of resource-conserving crop production practices. This region consists of highly diversified and historically very productive farms. Six of the nation's traditionally top ten agricultural counties are found in this region and a sizable portion of California's contribution to national productivity of a number of crops is accomplished in this area. Much of the State's dairy industry, which is ranked first among US states, is also found throughout this region.

Despite the rather phenomenal historical productive capacity of this region, the economic competitiveness and sustainability of the natural resource base for production throughout the SJV are increasingly being threatened. In recent years, the eight-county SJV region has been one of the world's worst air quality basins and has been out of compliance with US Environmental Protection Agency air quality standards for PM₁₀. Because PM exceedances typically occur in the fall when considerable intercrop tillage is done, since 2004 farmers throughout the region have been mandated to employ at least five air quality conservation management practices and for the first time in history, "reducing or eliminating the need to disturb the soil" has been identified as a public policy goal.

Conservation tillage (CT) approaches, requiring fewer tractor operations and less equipment and soil disturbance, would lower fuel needs and overall production costs, while also reducing dust emissions, and potentially improving soil quality. CT, however, though widely used in several other parts of the US, are currently used on less than 2% of the annual cropland in this region.

Building on the demonstrated success that the “*BMP Challenge Program*,” (a voluntary, financial risk management program), has achieved in helping farmers adopt BMPs in the Midwest and Mid-Atlantic regions, we propose to introduce this program as a means for significantly increasing adoption of conservation tillage systems in California’s SJV. The primary objectives of the proposed project are to: (1) Accelerate the adoption of CT acreage for silage corn in California’s Central Valley by providing financial guarantees against the risk of crop losses associated with the transition to a new tillage practice. (2) Expand the BMP challenge to include CT in other row crops that exhibit a significant environmental footprint in the San Joaquin Valley. (3) Implement a comprehensive outreach and education program to promote the BMP Challenge program to engage and educate farmers and others about appropriate BMPs including CT and nutrient management practices. (4) Document the effectiveness of the BMP Challenge and the comprehensive outreach campaign in promoting the long-term adoption of CT and nutrient BMPs. (5) Expand and continue support of the BMP Challenge CT and Nutrient management programs already established in Mid-Western and Mid-Atlantic States.

This proposed project brings together partners including EQIP-eligible SJV farmers, California’s Conservation Tillage Workgroup, Sustainable Conservation, American Farmland Trust and AgFlex, which will manage the financial risk in each of the on-farm CT demonstration evaluations. Potential benefits that will be derived from this effort may include: (1) up to 85% reductions in dust emissions and (2) 75% reductions in diesel fuel use and corresponding emissions reductions. In cropping systems in which cover crops will be coupled with CT practices, we further anticipate eventual increases in soil C sequestration (2 – 4 tons/ac) following sustained CT and cover crop management. Additional benefits may include soil water conservation due to reduced intercrop soil disturbance and decreased soil evaporations due to surface residue accumulation.