FINAL

FY2014 Action Plan
December 2013
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UNITED SOYBEAN BOARD/SOYBEAN CHECKOFF
LONG-RANGE STRATEGIC PLAN  2011-2016

After 20 years of steady successes, the checkoff is now facing a worldwide demand that requires a 50 percent increase in protein by 2030.* We must continue striving for even greater yields to meet this growing demand while differentiating our U.S. soy products and services in the global marketplace.

CORE VALUE: The board, with honesty and integrity, collectively and individually, is committed to working within the letter and spirit of applicable law and regulation to achieve maximum value for each soybean farmer’s checkoff dollar.

MISSION: Effectively invest and leverage soybean checkoff resources to maximize profit opportunities for U.S. soybean farmers.

VISION: U.S. soybeans will be the leader of the global oilseed industry.

STRATEGY: Create and maintain partnerships that differentiate and increase the utilization of U.S. soy in a changing global market.

STRATEGIC OBJECTIVES

✓ MEAL: Increase the value of U.S. soybean meal to the entire value chain.

✓ OIL: Increase the value of U.S. soy oil to the entire value chain.

✓ FREEDOM TO OPERATE: Ensure that our industry and its customers have the freedom and infrastructure to operate.
  Measurement: Increase in acceptance of today’s agriculture practices by influencers, customers, regulators and influential consumers.

✓ CUSTOMER FOCUS: Meet our customers’ needs with quality soy products and services to enhance and expand our markets.
  Measurement: Improvement in customer relationships by key segments.

PRIORITY ISSUES

PROTECT AND SUPPORT THE U.S. ANIMAL AGRICULTURE INDUSTRY
  Measurement: Number and size of production facilities by species.

INVESTMENT IN TRANSPORTATION INFRASTRUCTURE
  Measurement: Increase in public and private investment in soy transportation modes.

*United Nations Food & Agriculture Organization

www.UnitedSoybean.org
U.S. soybean farmers helped create the soybean checkoff as part of the 1990 farm bill. The U.S. Department of Agriculture established the farmer-driven United Soybean Board (USB) in 1991.

No other major U.S. row crop has experienced the amount of demand growth over the last two decades as has U.S. soybeans. U.S. Department of Agriculture (USDA) statistics show global demand for U.S. soy has increased more than 140 percent since 1991.

U.S. soybean farmers planted 59 million acres of soybeans in 1991. By 2011, that number increased to 75 million acres. In all, U.S. soybean farmers have produced 50 billion bushels of soybeans over the last 20 years.

The first year farmers formed USB, the price of U.S. soybeans averaged $5.58 per bushel. In 2011, U.S. soybean farmers will likely sell their soybeans for nearly $12-$12.50 per bushel.

When the checkoff began in 1991, the United States exported 684 million bushels of soybeans. In 2011, U.S. soybean farmers helped export 1.45 billion bushels of soybeans, more than double the amount at the start of the soybean checkoff.
<table>
<thead>
<tr>
<th>FY2014 ALLOCATION by Strategic Objective</th>
<th>MEAL</th>
<th>OIL**</th>
<th>FREEDOM TO OPERATE</th>
<th>CUSTOMER FOCUS</th>
<th>PIC and MANAGED*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Opportunities (Food/Feed; Industrial)</td>
<td>7,433,999</td>
<td>9,925,553</td>
<td>3,428,247</td>
<td>4,486,802</td>
<td>2,937,733</td>
<td>28,212,334</td>
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<tr>
<td>International Opportunities (Food/Feed; Industrial)</td>
<td>4,505,543</td>
<td>715,432</td>
<td>2,191,557</td>
<td>4,486,802</td>
<td>11,075,935</td>
<td>22,975,269</td>
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<tr>
<td>Supply**</td>
<td>7,301,756</td>
<td>9,533,070</td>
<td>2,047,673</td>
<td>2,542,520</td>
<td>1,468,867</td>
<td>22,893,886</td>
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<tr>
<td>Communications</td>
<td>986,084</td>
<td>2,046,408</td>
<td>4,223,772</td>
<td>3,439,880</td>
<td>3,029,840</td>
<td>13,724,984</td>
</tr>
<tr>
<td>USB Managed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Committed Allocation to Strategic Objective</strong></td>
<td>20,227,382</td>
<td>22,220,463</td>
<td>11,891,249</td>
<td>14,956,004</td>
<td>4,488,625</td>
<td>4,488,625</td>
</tr>
<tr>
<td>Treasurer Recommendation - add'l allocation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Allocation for FY 2014</strong></td>
<td>20,227,382</td>
<td>22,220,463</td>
<td>11,891,249</td>
<td>14,956,004</td>
<td>24,000,000</td>
<td>92,295,098</td>
</tr>
<tr>
<td>Percent of AT funding</td>
<td>29.19%</td>
<td>32.07%</td>
<td>17.16%</td>
<td>21.58%</td>
<td>N/A</td>
<td>100.00%</td>
</tr>
<tr>
<td>Percent of AT funding (less HOS third party)</td>
<td>33.00%</td>
<td>23.20%</td>
<td>19.40%</td>
<td>24.40%</td>
<td>N/A</td>
<td>100.00%</td>
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<tr>
<td>DST Response</td>
<td>29.48%</td>
<td>24.11%</td>
<td>20.95%</td>
<td>25.46%</td>
<td>N/A</td>
<td>100.00%</td>
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<tr>
<td>DST FY2014 Allocation (less HOS third party)</td>
<td>18,069,795</td>
<td>14,778,248</td>
<td>12,841,323</td>
<td>15,605,732</td>
<td>24,000,000</td>
<td>85,295,098</td>
</tr>
<tr>
<td>Board Straw Poll</td>
<td>29.52%</td>
<td>22.83%</td>
<td>22.49%</td>
<td>25.16%</td>
<td>N/A</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

* Primary Contractor Program Implementation Costs (PIC) are reflected in the applicable Target Area as follows:
  Domestic Opportunities = 2/3 SmithBucklin PIC
  International Opportunities = USSEC PIC (estimated)
  Supply = 1/3 SmithBucklin PIC
  Communications = OsbornBarr PIC

** Includes $8,000,000 in Oil Action Team: Supply Target Area for High Oleic Soy third party obligations in FY2014 vs $4,000,000 in FY2013.
## UNITED SOYBEAN BOARD
### SUMMARY BUDGET
#### FOR FISCAL YEAR ENDING SEPTEMBER 30, 2014

<table>
<thead>
<tr>
<th></th>
<th>Initial FY2014 Budget</th>
<th>July Adjustments</th>
<th>Final FY2014 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BUDGETED REVENUES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QSSB Collections</td>
<td>$93,480,000</td>
<td>(7,790,000)</td>
<td>$85,690,000</td>
</tr>
<tr>
<td>Draw from Designated Reserve - HOS</td>
<td>$8,000,000</td>
<td></td>
<td>$8,000,000</td>
</tr>
<tr>
<td>Release of Designated Reserve - FAS</td>
<td>0</td>
<td>7,699,128</td>
<td>7,699,128</td>
</tr>
<tr>
<td>Carryover Funds (Estimated)</td>
<td>0</td>
<td>7,500,000</td>
<td>7,500,000</td>
</tr>
<tr>
<td><strong>Total Budgeted Revenues</strong></td>
<td>$101,480,000</td>
<td>7,409,128</td>
<td>$108,889,128</td>
</tr>
</tbody>
</table>

|                      |                       |                  |                     |
| **BUDGETED EXPENDITURES** |                       |                  |                     |
| Meal                 | $20,227,382           |                  | $20,227,382         |
| Oil                  | 22,220,463            |                  | 22,220,463         |
| Freedom to Operate   | 11,891,249            |                  | 11,891,249         |
| Customer Focus       | 14,956,004            |                  | 14,956,004         |
| PIC and USB Managed Programs | 23,000,000        | 1,000,000        | 24,000,000         |
| **Total Program Funding** | $92,295,098         | 1,000,000        | 93,295,098         |
| USB Evaluation of Programs | 1,845,902           | 20,000           | 1,865,902          |
| **Total Programs & Evaluation** | $94,141,000        | 1,020,000        | 95,161,000         |
| USDA                 | 300,000               |                  | 300,000            |
| Administrative       | 4,674,000             | (389,500)        | 4,284,500          |
| QSSB Assessment Credits | 25,000            |                  | 25,000             |
| Transfer to Designated Reserve - FAS | 0                   | 7,699,128        | 7,699,128         |
| **Total Budgeted Expenditures** | $99,140,000        | 8,329,628        | 107,469,628        |

Board Unallocated

Board Fund Reserves

Designated Reserve - HOS

Designated Reserve - FAS Contingency (FY2014)

Designated Reserve - FAS Contingency (FY2014)

Collections estimated upon 3.28 billion bushels usage at a $12.00 average price as of 2/2013 board meeting.
Collections estimated upon 3.28 billion bushels usage at a $11.00 average price as of 7/8/2013 board meeting.
Audit and Evaluation Committee Plan
FY2014

AUDIT AND EVALUATION Committee Long-Range Strategic Plan Objective: Effectively invest and leverage soybean checkoff resources to maximize profit opportunities for U.S. soybean farmers.

Budget: $1,845,902

Strategic Direction:
Effectively invest and leverage soybean checkoff resources to maximize profit opportunities for U.S. soybean farmers.

Market Environment:
The Soybean Promotion Research and Consumer Information Act (SPARC), Order and accompanying documents, specifically lay out the fiduciary responsibilities in administering checkoff funds. United Soybean Board (USB) is required by this federal legislation to confirm that all checkoff funds are used in accordance with federal law. Qualified State Soybean Boards (QSSB)s are authorized to collect and expend checkoff funds under the Act and Order and are consistently reviewed for SPARC compliance by USB. Primary contractors and their subcontractors are required to expend funds in accordance with the Act and Order, USB Policy and USDA Guidelines for AMS Oversight of Commodity Research and Promotion (CRP) Programs (USDA Guidelines). In recent years, CRP programs have experienced increased USDA oversight and scrutiny for compliance. As a result, USB’s objective is set the standard for the highest level of compliance in the checkoff industry, thereby confirming compliant investing of the soybean farmer’s dollar through support of strict internal controls. Since investment of millions of dollars from soybean checkoff for the purposes specified in the Soybean Promotion and Consumer Information Act will be made by USB, it is critical USB maintains the maximum integrity in their investment and policy decisions.

USB’s Audit & Evaluation (A&E) Committee commits to a proactive, positive approach in compliance and evaluation on behalf of the soybean checkoff. A&E implements programs to provide compliance education to farmer leaders and staff at the national and the state level. In FY13, A&E will provide outreach through educational programs, resources, and compliance testing to improve compliant investing knowledge thereby developing strong national and state board fiduciaries. Furthermore, A&E will engage third party evaluators to analyze checkoff expenditures and evaluate the effectiveness of USB’s programs in relation to USB’s Long Range Strategic Plan. A&E will confirm USB upholds the highest standards in targeting checkoff investments in programs that will result in the highest return-on-investment through evaluation testing. Evaluations assist farmer leaders and staff in formulating systematic methodologies for decisions on programs, policies and resource allocation.

Goal: Provide consistent education to improve understanding of SPARC and USB compliance requirements.

Audit and Evaluation Committee Plan
Strategies to Achieve Goals:
- Provide accurate compliance guidelines and educational opportunities to all QSSB’s and USB directors annually.
- Maintain Compliance Manual information for additions and deletions as necessary and seek to improve the delivery platform for instant notification of any change for all users.
- Understand SPARC and periodically review Federal Register changes and additions to SPARC for effective communication.
- Provide opportunity to educate, interact and resolve compliance issues.
- Increase transparency in USB policies.

Key Performance Indicators:
- Update and distribute compliance manual content to QSSB’s, staff and USB directors in real time through USB’s website providing the most up to date information and eliminating errors and confusion due to out-of-date information.
- Provide the most accurate timely compliance answers as needed by QSSBs, Staff and USB directors through the use of the Compliance Team.
- Offer a compliance workshop annually for QSSB staff and USB directors and contractors focusing on recent compliance topics. Investigate current compliance and emerging issues by engaging QSSB staff throughout the year and conducting a post-workshop survey. Encourage participation through QSSB agenda topic suggestions and scholarship opportunities.
- Extend education outreach by engaging state board directors through compliance training.

Goal: Verify compliant checkoff expenditures by QSSBs, USB primary contractors, subcontractors and verify Agreement terms and conditions are fulfilled by USB primary contractors and subcontractors.

Strategies to Achieve Goals:
- Perform procedures on five to seven QSSBs annually to test QSSB internal controls regarding governance, investments, collections, disbursements and programs.
- Implementation of scorecards to evaluate compliance throughout the fiscal year.
- Provide personal, reliable education to QSSBs through partnership with USB.
- Test USB’s primary contractors and subcontractors for compliant use of checkoff funds through
- Engagement of third party independent accounting firms to perform Agreed-Upon Procedures.

Key Performance Indicators:
- Compliance reviews of five to seven QSSBs annually on a three year rotation with findings noted, cooperation to attain 100% resolution and concurrence by USDA.
- Personal visits with QSSBs regarding governance, financial internal controls, marketing plans and budgets, conducting compliance orientations for QSSB board members and staff, assisting in conducting assessments of research projects, financial reviews and compliance issue resolution and management tactics that strengthen QSSB compliance understanding and QSSBs relationships with USB.

Audit and Evaluation Committee Plan
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• Engage third party independent accounting firms to perform Agreed-Upon Procedures testing expenditures and agreement provisions of primary contractors and subcontractors.
• Annually test Primary contractors and subcontractors per action team performing procedures and identifying compliance or contractual issues and reaching resolution on all findings with recommendations to policy or funding.
• USB policies periodically reviewed for relevance and parallel to USDA Guidelines, revisions recommended and approved by the full board and USDA-AMS. USB policy revisions will be delivered in real time through USB’s website, eliminating out-of-date and unreliable resource documentation.

**Goal:** Protect the integrity of checkoff funds and achieve maximum value for each soybean farmer’s checkoff dollar.

**Strategies to Achieve Goals:**
• Effectively evaluate and validate the maximum value for each checkoff dollar.
• Objective, independent, evaluations as a decision-making tool to analyze the impact and effectiveness of the Board’s processes, projects and programs.
• Return on Investment evaluation report every five years.
• Evaluation of the *See for Yourself* project for future facilitation of the program. Information compiled from participants pre and post travel surveys verifying increased understanding of the checkoff.
• Educating future soybean leaders through soybean checkoff grassroots supporters.
• Board evaluation tool for allocating funds by target area.
• Creation of strategic objectives baseline measurements for USB’s Long Range Strategic Plan
• Providing reliable third party measurements.

**Key Performance Indicators:**
• Evaluations will be reviewed by related committees and the Board, with recommendations adopted for positive resolution.
• Annual data collection of national and state checkoff expenditures for Return on Investment analysis to increase data integrity and accuracy and reducing costs of the five year analysis.
• Evaluation of USB’s grassroots *See for Yourself* participant responses from pre to post travel showing an overall increased understanding of their soybean checkoff.
• Continue the education and leadership development of the *See for Yourself* participant by creating an ambassador program thereby creating support and education of the checkoff and providing potential future board leadership.
• Consideration of budget allocation evaluation that provides farmer directors with the processes for planning and allocating resources using metrics focusing on USB’s Long Range Strategic Plan providing the ability to evaluate the progress relative to the plans and a means to visualize the progress.
• Create, collect and report baseline measurements for USB’s Long Range Strategic Plan that require investment beyond current measurements enabling the farmer with a more effective process.
• Analyze the effective use of measurement tools.

Audit and Evaluation Committee Plan
Goal: Expand communication of A&E activities with all USB audiences creating positive perceptions of A&E accomplishments through education and information.

**Strategies to Achieve Goals:**
- Effective communication of A&E’s objectives through consistent messages to USB Executive Committee, Board, QSSBs and the soybean farmer.
- Create USB director awareness of the annual Partnership Workshop and provide participation of national and state board leaders in checkoff compliance activities.
- Inform *See for Yourself* program objectives through communication.
- Increase QSSB and USB farmer leader participation.
- Provide consistent messaging for *See for Yourself* program and attendees.

**Key Performance Indicators:**
- Increase internal and external communication efforts through committee liaisons, USB Issues, Beyond the Bean articles, press releases, etc.
- Increase QSSB participation by accommodating their requests for agenda items and increase A&E Committee member participation in Partnership Workshop to assist in building positive relationships with QSSB board members and staff in hopes for future collaboration in projects, activities, and overall SPARC compliance education.
- Increase communication to past and present *See for Yourself* attendees through the Ambassador program. Increase board member and overall awareness of the positive effect of the program by personal messages from the participants. Increase *See for Yourself* participant governance and education post-travel.

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800.989.8721
emailtheuser@unitedsoybean.org
Meal Action Team Plan
FY2014

**MEAL Long-Range Strategic Plan Objective:** Increase the value of U.S. soybean meal to the entire value chain.

**Introduction:**

<table>
<thead>
<tr>
<th>MEAL FY 2014 Budget Allocation</th>
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<tbody>
<tr>
<td>Domestic Opportunities</td>
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<tr>
<td>International Opportunities</td>
</tr>
<tr>
<td>Supply</td>
</tr>
<tr>
<td>Communications</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
</tr>
</tbody>
</table>

**Strategic Direction:**
Work with soybean farmers and industry stakeholders to communicate and differentiate the value, sustainability and competitive advantage of U.S. soybean meal developed through enhanced product composition, new-product innovation and research to improve quality and quantity. U.S. soy is being marketed internationally through research, education, information sharing, trade development and exposure to the advantages of the U.S. value chain through engagement with downstream customers. These efforts largely focus on differentiating the quality of U.S. soybean meal or meal derived from whole U.S. soybean exports. USB is building a preference for U.S. soy through numerous meal-related projects.

In the Supply area, the Meal Action Team identified the following areas of strategic focus within Supply that address market/industry opportunities and issues: 1) Biotic Stress Management; 2) Abiotic Stress Management; 3) Yield Improvement through Breeding; 4) Molecular Genetics; 5) Meal Composition.

**DOMESTIC OPPORTUNITIES**

**Market Environment:**
U.S. soybean meal production for the 2013/14 marketing year is anticipated at 40.2 million short tons, up from 38.9 million short tons last year. Domestic consumption will increase to 30.2 million short tons, exports will increase to 10.2 million short tons and ending stocks are anticipated to stay the same at 300 million short tons.

For the 2012/13 marketing year, soybean meal prices were very high at $425/short ton. In 2013/14, prices will moderate significantly, with USDA estimates at $280-$320 per short ton. This will result in favorable conditions for the livestock and poultry industries to expand production.
According to World Agricultural Supply and Demand Estimates (WASDE), in 2014 U.S. red meat and poultry production is expected to increase above 2013 as higher pork and poultry production increases offset declines in beef production.

**Animal Feed**

The biggest markets for SBM are poultry at 48 percent of the domestic meal market and swine at 25 percent. Poultry and swine nutritionists value SBM for its consistency, availability and balanced amino acid profile. However, SBM use in animal rations remains under pressure.

One leading reason is increased feed efficiency (due to improved genetics and management practices). Data from Agralytica Consulting shows that compared to 2000 it takes about 17 percent less SBM to produce a pound of pork today and about 22 percent less SBM to produce a pound of chicken.

Second, in recent years distillers dried grains (DDGS), canola meal and synthetic amino acids have displaced some SBM in feed rations. Market factors for DDGS are shifting. Additional oil is being extracted, which concentrates protein levels, but reduces its energy value. Plus high corn prices have caused some ethanol plants to go offline, reducing DDGS supply.

Continuing factors include the intensive marketing campaigns, research and falling prices that have increased synthetic amino acid use. Plus canola crush capacity, (thus canola meal supplies) has increased dramatically in Canada and the U.S. with continued expansion expected.

Traditional corn/soy rations are no longer a given. SBM must compete for its place in the ration. Consistent, long-term, ongoing marketing support and direct outreach to nutritionists and purchasers is increasingly important. Current domestic marketing programs have helped drive increases in SBM inclusion in domestic swine grower/finisher diets by almost 4 percent in 2012 and inclusion in domestic broiler grower diets by over 4 percent.

**Meat and Poultry Exports**

One way to increase SBM use is to improve inclusion rates. The other way is to increase animal numbers. And the best way to drive U.S. livestock and poultry production is to grow meat and poultry exports in markets.

In 2012, both U.S. broiler and pork exports set records for volume and value for the second year in a row. 2013 is likely to be another good year for poultry exports. Pork exports will face challenges, mainly due to overproduction in other nations. The South Korean pork industry has rapidly recovered from its foot and mouth disease outbreak causing oversupply. And pork industry subsidies in Russia created an oversupply that caused the government to enact an artificial trade barrier on meat raised using beta-agonists. But expanding economies and free trade agreements in Mexico, Panama and Colombia present very good opportunities.

**Aquaculture**

Aquaculture is the fastest growing animal agricultural industry. While the domestic aquaculture industry represents about one percent of total domestic soybean meal utilization, the potential for market growth could be staggering once hurdles are overcome. National Oceanic and

**Meal Action Team Plan**
Atmospheric Administration (NOAA) data show **domestic aquaculture production rose by 4 percent from 2010 to 2011**. That was during an economic downturn, with seafood being a high cost item for consumers – so the U.S. potential is unmistakable.

Currently the U.S. imports 91 percent of the seafood it consumes. The National Marine Fisheries Service estimates that U.S. demand for seafood products will increase to 8.75 million metric tons by 2025 based solely on population growth.

The White House just released their National Ocean Policy Implementation Plan and aquaculture is mentioned prominently throughout the plan. The White House is now directing federal agencies to develop aquaculture. Soy Aquaculture Alliance (SAA) Executive Director Steve Hart said, “I’ve been doing this for almost 20 years and I’ve never seen the environment as positive as it is right now. We are at a critical juncture, and everyone is looking to soybean groups as leaders for making this happen.”

In addition, a new project by NOAA, the Gulf of Mexico Fishery Management Plan, could allow for aquaculture in federal waters – an opportunity to increase domestic production of shrimp and tilapia. Further, the administration just released their National Ocean Policy Implementation Plan, and within that document the administration clearly guides Federal agencies involved in aquaculture to develop that industry within our coastal communities.

As overseas economies continue to grow, it can be expected that more production will remain local to feed the growing middle class in countries like China and India rather than continuing to flood the export market. Currently, North America is responsible for only 1.2% of aquaculture production worldwide (FAO/SOFIA). Increased U.S. consumption coupled with a decreasing supply of imports will soon result in an entirely different market climate.

Fish farmers were recently surveyed to find out what the major barriers are to aquaculture expansion. After regulations, the next most important issue they cited was the need to drive acceptance of U.S. fish farms and farm-raised seafood consumption. This is where USB has engaged with the National Aquaculture Association and seafood producers to promote the health, economic and environmental benefits of farm raised seafood.

Separately, U.S. aquaculture is finding innovative ways to produce fish in novel land-based systems. Development of technology and production practices that encourage these entrepreneurial operations in diverse environments are needed.

Globally, aquaculture producers everywhere are seeking more efficient and sustainable ways to cultivate healthy finfish and shellfish species. The availability of quality protein ingredients for aqua feeds is a critical concern of aquaculture producers and feed manufacturers. Static supply of fishmeal is insufficient to meet the growing global needs for feed protein, and so the rapidly expanding market for farm-raised fish is providing market opportunities for soybean meal, soybean oil and soy protein concentrate both in the U.S. and overseas.

**Industrial**
At 0.07 million metric tons, industrial use of soybean meal is ¼ of one percent of domestic meal

Meal Action Team Plan

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utilization, but offers excellent growth opportunities. Traditionally, soybean meal has enjoyed only minor use in industrial markets since the 1920s and 1930s, when soy was used to replace animal glue. The introduction of low cost and functionally superior petrochemical adhesives replaced soybean meal in these applications and meal was confined to use as animal feed. The introduction of soy protein isolates saw a small resurgence of soy industrial use beginning in the 1990s with the introduction of soy paper coatings.

Renewed research resulted in the launch of soy flour adhesives for interior grade plywood in late 2006 and additional wood adhesives and thermoplastic applications have emerged. These adhesives are cost competitive and replace formaldehyde containing glues, which are under increasing regulatory pressure. In six years, industrial use of soybean meal has increased from less than 10 million pounds to an estimated 140 million pounds, with an estimated value of over $80 million annually or an increase of $50 million over the comparable use as feed.

The low cost of soybean meal may allow its use as filler in thermoplastic applications, but the majority of research is focused on higher value markets and more concentrated forms of meal such as flour, concentrates and isolates. Two fiber applications, developed with USB support are currently in license negotiations with potential manufacturers, as is a waste water treatment chemical developed by Georgia Tech. The product was developed for use in the paper industry but may have many other potential applications.

The growth of bioprocessing technology offers good potential for the use of the low value non-protein components, such as fermentation of the sugars removed when making protein concentrates into butanol, succinic acid and fumaric acid. This increases the value of these largely indigestible parts of soybean meal from less than $0.04/pound to over $1.00/pound.

**Human Foods:**
Soy protein for human food use accounts for approximately 3% of soy usage. Soyfoods consumption has grown rapidly since the 1999 Soy and Heart Health claim issued by the Food and Drug Administration; however the market has plateaued. Conversely, soy ingredient sales (flour, isolates, concentrates) continue to grow slowly but steadily (1-3% per year). Retail sales are affected by loss of market share in the soy milk segment, where new entries from almond and coconut milk are gaining share.

The importance of soy protein for human use is not about volume, but perception. Because of the soy heart health claim and other health benefits associated with soy protein, a “health halo” exists around all things soy. Our research shows 80% of consumers perceive soyfoods as healthy and nearly half (47%) of those aware of soy’s health benefits seek out products that contain soy. The importance of this “health halo” is it provides us the opportunity to leverage the perceived benefits of soy protein to include soybean oil, such as high oleic; and even provides license for many soy uses, even beyond human consumption.

Negative attacks on soy, primarily, in the social media seem to be “chipping” away at soy’s “health halo.” Though still high, slight slippage in the percentage of consumers viewing soy as

Meal Action Team Plan
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healthy has occurred over the past 3 years (85% down to 80%). Soy food manufacturers have expressed major concern over these attacks, but it is difficult to quantify the effect on their sales.

**DO Ongoing Issues:**
- Taurine use in aquafeeds
- Anti-nutritional factors in SBM for fish and other species
- Genetic selection for soy tolerant fish
- Impacts of soy-based feeds on waste output of fish
- Solubility of cellulosic soy carbohydrates in industrial applications
- Water absorption of meal in certain industrial applications

**DO Emerging Issues:**
- GM labeling of foods
- Development of synthetic amino such as valine and isoleucine that can continue the displacement of SBM

**DO Program Gaps:**
- Research data for hypothyroidism and feminization
- Program Gaps: Lack of funds for soy health research
- Lack of social media presence and response in the realm of soy foods.

**DOMESTIC OPPORTUNITIES Goals:**

**DO 2) Feed: Increase value of soybean meal in domestic feed**

**Strategies to Achieve Goals:**
- Animal Nutrition: Engage and educate animal nutritionists about the value of U.S. SBM
- Animal Nutrition: Make U.S. SBM the protein source of choice for animal ag
- Animal Nutrition: Communicate the quality of U.S. soy as a premium feed ingredient
- Animal Ag: Maintain the animal agriculture sector
- Animal Ag: Support U.S. livestock, poultry and aquaculture with tools and information that enhance operations’ profitability
- Meat and Poultry Demand: Increase demand for U.S. soy consumption by supporting meat and poultry exports
- Domestic Aquaculture: Encourage consumption and support of U.S. farm-raised seafood by educating influencers on the health, environmental and economic benefits of U.S. aquaculture

**Key Performance Indicators:**
- Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016

**DO 4) Industrial: Grow the use of soybean components in industrial applications**

**Strategies to Achieve Goals:**
- New Industrial Uses: Develop, research and commercialize new uses for soybean meal in industrial and other applications

Meal Action Team Plan
• Sustainability of Industrial Products: Demonstrate sustainability, environmental benefits and performance of soy biobased products to government, influencers, producers and end users.

Key Performance Indicators:
• 32 new products/applications (average each year) introduced using a soybean component
• Soybean oil component use in biodiesel and other industrial uses reaches 5.6 billion pounds by 2016
• Soybean meal component use in industrial reaches 81 thousand tons by 2016.

DO 5) Food: Increase the value and consumption of soy components for food use

Strategies to Achieve Goals:
• Maintain the soy health halo
• Leverage USB funds for soy health research

Key Performance Indicators:
• Maintain consumer perceptions of soy as healthy at 80% (+/- survey variance) as determined by the annual USB Consumer Attitudes about Nutrition survey

INTERNATIONAL OPPORTUNITIES

Market Environment:
Strong global demand, particularly in China, and drought-related crop losses in South America and the U.S. have driven high global soybean prices over the last four years. Global soybean production fell by 7.95 MMT from 2007/08 to 2008/09 because of a very poor crop in Argentina and it fell by 24.13 MMT from 2010/11 to 2011/12 because of a poor crop in South America. However, both declines were followed by large increase in the following years due to better weather and higher prices. Fortunately, demand also increased strongly in years of plentiful supplies and the world avoided burdensome stocks.

Both prices and demand could be facing pressure in the near future, though. South America is now harvesting its largest crop in history (148.47 MMT) which is estimated to be 32.26 MMT (27.8%) larger than last year. USDA is forecasting U.S. farmers will plant 77.1 million acres of soybeans in 2013 and harvest 76.2 million acres, with an average yield of 44.5 bushels/acre. Planted and harvested soybean area likely will be even greater because of the late, wet spring. Global ending stocks are likely to rise, so the challenge for the U.S. soybean sector is to minimize the U.S. share of that buildup. History has shown that the prices farmers receive for their soybeans are negatively correlated to the size of ending soybean stocks at the end of each marketing year: the larger the stocks the lower the price and vice versa. Domestic soymeal demand, which drives U.S. crush volume, is expected to grow by 2.7 percent. Assuming the U.S. produces a record soybean crop in 2013 the only way the U.S. will be able to avoid burdensome ending stocks in 2014 is to achieve a high volume of exports of soybeans and soymeal.

The global marketplace is very competitive. To address this market reality, USB has positioned itself well by developing and maintaining customer preference for U.S. soy by differentiating it from competing protein sources and focusing on developing a preference for U.S. Soy from discerning global customers. Growth in soy consumption for animal feed, aquaculture, and Meal Action Team Plan
human use is increasing in rapidly growing international markets and USB, with its vast global footprint, is focused on capturing the highest value for its products.

USB International Opportunities uses a market segmentation matrix to focus resources on the most promising markets. The approach measures individual countries and usage in terms soy use and U.S. accessibility. In addition, individual customer segments are analyzed in terms of where they fit on a buyer’s continuum that ranges from being oblivious to U.S. soy all the way to being a consistent buyer. Differentiation and customer preference programs are executed depending on where customers lie on this continuum. Equally important, this segmentation matrix allows IO to make better decisions on which markets to de-emphasize allowing more efficient use of limited financial and human resources.

**Differentiation:**
This combines these IO Strategies as outlined by the Meal Action Team in February 2013:
- Promote the qualitative and quantitative values of U.S. soy. *(Differentiation)*
- Differentiate U.S. soy from other protein sources. *(Competitiveness)*

Users of U.S. soy in international markets lack an understanding of how to value soybean meal (SBM) on the basis of feed efficiency in terms of amino acid profile and available energy; environmental benefits; sustainability; and food safety advantages which limits the inclusion of U.S. soy in animal and fish diets. These traits are commonly referred to as the intrinsic values of U.S. soy. From year to year crude protein and oil levels will change according to weather patterns. But the profile of essential amino acids, the digestibility and the energy derived from U.S. soy remains relatively constant. International buyers lack an understanding of how to value these traits vs. only valuing crude protein and oil content.

Customers needing assistance in this area will generally range on the buyers continuum from having an awareness of U.S. soy up to and including having a favorable disposition to purchase. They are looking for support in making the decisions to use U.S. soy over the competition by having available scientific peer-reviewed research information, trials and sampling data, and instruction on the economic values associated with using U.S. soy.

**Customer Preference:**
This combines these IO Strategies as outlined by the Meal Action Team in February 2013:
- Evaluate and promote newly developed quality traits. *(Quality)*
- Increase demand for U.S. soybeans and soy products globally. *(Demand)*
- Engage and gain support of the entire value chain to enhance the quality and value of U.S. soy. *(Soy value chain)*
- Facilitate the recognition and utilization of U.S. soy attributes. *(Value capture)*

Users of U.S. soy in international markets lack an understanding of the unique opportunities and value U.S. soy offers buyers in terms of programs offered to improve operational efficiencies, the value of working in a stable contract environment, the importance of globally accepted testing and measuring techniques, the peace of mind and financial advantages gained because of superior logistics and shipping options, the financial rewards potential by understanding and implementing proper risk management tools and best in class industry practices, the numerous

Meal Action Team Plan
U.S. government assistance programs, and how to best structure buying programs, thus limiting their confidence in purchasing U.S. soy products.

Customers needing assistance in this area will range on the buyers continuum from having a willingness to try U.S. soy to being consistent purchasers. They require programs that specifically provide them with a greater understanding of the aforementioned areas, thus allowing them to place a company level value on these attributes of U.S. soy, helping them overcome the inevitable seasonal price fluctuations caused by supply and demand, and to consider making purchases of U.S. soy later into the new crop season of the competition.

**IO Ongoing Issues:**
- Sustainability of U.S. soy is not well understood
- Certification requirements being placed on soy
- Growing Middle Class, especially in Asia, and their inability to produce enough protein to satisfy demand
- Political instability in parts of the world
- Industry practice of placing emphasis only on the value on crude protein and oil content
- U.S. meal is undervalued relative to its intrinsic and extrinsic qualities.
- International markets have a wide range of buyers on a scale ranging from a total lack of understanding to being fully aware of the intrinsic and extrinsic values of U.S. soy
- Continued consumer resistance to U.S. biotech products

**IO Emerging Issues:**
- Time necessary to sample, produce peer reviewed papers, and educate the various target audiences on the intrinsic values of U.S. soy
- Uncertainty of FAS funding
- Economics of production
- Competition
- Soybean and meat production increasing in South America
- Volatility of global prices causing buyers to look for alternative sources of protein that might result in a destruction of demand for U.S. soy and soy in general

**IO Program Gaps:**
- Lack of component pricing mechanisms
- Institutionalized and universally acceptable method to value essential amino acid content
- Final implementation of the U.S. Sustainability Protocol [this impacts meal insomuch as it may slow down sales]
INTERNATIONAL OPPORTUNITIES Goals:

IO 1) Sound Science: Increase the awareness of globally recognized, sound science associated with U.S. soy with regard to biotech, food safety and security and sustainability

Strategies to Achieve Goals:
- The ability to differentiate and create a customer preference for U.S. soy is grounded in Sound Science and Sound Science is used to break down Trade Barriers. We will rely on Programs and Projects developed by the Freedom to Operate Team.

Key Performance Indicators:
- Incorporation of key messages on Sound Science included in trade servicing in all regions.

IO 2) Trade Barriers: Develop credible resources and educate foreign governments, influencers and stakeholders to improve market access and resolve trade barriers

Strategies to Achieve Goals:
- The ability to differentiate and create a customer preference for U.S. soy is grounded in Sound Science and Sound Science is used to break down Trade Barriers. We will rely on Programs and Projects developed by the Freedom to Operate Team.

Key Performance Indicators:
- Incorporation of key messages on Trade Barriers included in trade servicing in all regions.

IO 3) Customer Preference: Engage foreign buyers with information and tools that help impact their profitability and drive preference for U.S. soy

Strategies to Achieve Goals:
- Continue with the strategy to distinguish U.S. soy by targeting markets and focusing on customers who can recognize and utilize U.S. competitive advantages, including Product Value, Reliability, U.S. Delivery Capabilities.
- Provide value-added services, such as Technical Assistance, Best Management Practices and International Aquaculture trials and research to customers of U.S. soy.
- Publish monthly analysis showing the economic value of U.S. Meal vs other origin meal and distribute to buyers around the world.

Key Performance Indicators:
- Hold 15 seminars on the differentiated characteristics of U.S. soy, each with at least 100 participants. At least 50% of participants surveyed will indicate that their understanding of the benefits of U.S. soy and preference to purchase U.S. soy was positively influenced by their participation in the seminars.
- Conduct at least 5 feeding trials and publish the results by the end of FY2014.
- By the end of FY 2015, 50% of the target audience surveyed will be aware of the various extrinsic value of U.S. soy.
**IO 4) Differentiate:** Differentiate the value, sustainability and competitive advantage of U.S. soy from other competing products and origins to increase value and/or market share

**Strategies to Achieve Goals:**
- Conduct projects and activities in targeted international markets that continue to differentiate the significant quality advantages of U.S. soy
- Continue to conduct and communicate the findings of nutritional characteristic research of U.S. vs. alternative origins
- Demonstrating performance and economic value of U.S. soy through feeding demonstrations and publishing the results of economic analysis based on characteristic research

**Key Performance Indicators:**
- By the end of FY 2015, 50% of the target audiences will gain knowledge of the relevant intrinsic attributes of U.S. soy which differentiate it from the competing protein sources and from that of other soy exporting countries.

**IO 5) Branding:** Establish a “Buy U.S. Soy” campaign focused primarily on the added value that can be captured from containerized shipments

**Strategies to Achieve Goals:**
- Incorporate strategy into four target area goals that received the highest ranking by USB Directors in July 2012, especially Customer Preference and Differentiate.

**Key Performance Indicators:**
- Incorporation of “Buy U.S. Soy” messages included in trade servicing in all regions.

**IO 6) Reverse Marketing:** Increase domestic consumption in India to reduce competition in markets where U.S. and Indian soy compete

**Strategies to Achieve Goals:**
- Incorporate strategy into four target area goals that received the highest ranking by USB Directors in July 2012, especially Market Access for India.
- Prepare the Asian Subcontinent (India, Sri Lanka, Bangladesh, Pakistan comprising almost 1.5 B people) for its near-term need for imported soy using traditional market development strategies to differentiate and establish a preference for U.S. Soy.

**Key Performance Indicators:**
- India will become a net importer of Soy thus confirming the success of the reverse marketing activities of past several years measured against export/import records
SUPPLY

Market Environment:
The primary use of soybean meal is as a protein source in formulating non-ruminant livestock rations. Protein comprises 36-40% of soybean seed. Soybeans are widely recognized as an excellent source of balanced amino acids, especially the essential amino acids. In recent years, distillers dried grains (DDGS), canola meal and synthetic amino acids have displaced a significant portion of soybean meal in poultry, swine, and ruminant rations. Increased DDGS use has followed intensive marketing campaigns by DDGS suppliers coordinated with research on DDGS nutritional contributions along with certain cost advantages. As a result, domestic DDGS use in the feed industry has risen from approximately 1 million metric tons (MMT) per year in 1999-2000 to 25 MMT per year in 2009-2010.

Typically, and particularly in international settings, the amino acid composition of SBM is not actually measured and is included in rations solely based on a reference value. The same is true for other SBM components, which also leads to frequent undervaluation of the carbohydrate fraction in soybeans. Nearly 30% of the soybean seed is made up of soluble and insoluble carbohydrates. If soybean carbohydrates are not properly valued for their energy contribution to animal performance, then these components simply take up space in rations as filler. Since soybeans are sold and priced as a commodity on a volume basis, yield is of primary importance to the soybean producer. The record average U.S. soybean yield of 44 bu/a was set in 2009, although the world record maximum soybean yield of 160.6 bu/a was set in 2011.

These two values represent the difference between genetic yield potential and achieved yield. In order to continue increasing yield to meet world demand for protein, research and breeding efforts must continue to improve soybean genetic yield potential and also protect and capture more of the currently existing yield potential. The completion of the sequencing of the soybean genome in 2010 has resulted in the ability to better understand genetic control of important traits related to yield and develop markers for important genes. Genetic markers can speed the soybean breeding process significantly by allowing breeders to verify the presence of desired genes without having to grow out seed. Costs for sequencing have dropped significantly as technology has improved so the development of additional reference genomes in addition to the original Williams82 sequence can provide better direction for researchers developing markers for key traits.
A number of key stresses can negatively impact soybean yield regardless of the genetic yield potential of varieties. Last year widespread drought affected early season soybean growth, but late rains rescued much of the crop. Drought negatively impacts both vegetative and reproductive soybean growth. Drought during reproductive growth can result in pod abortion or poor seed fill, both detrimental to yield. Drought tolerance research has focused on the development of soybeans with the ability to survive moisture deficits for longer periods and recover through slow wilting and the ability to continue N fixation under drought conditions.

A variety of biotic pests can attack soybeans, effectively robbing genetic yield potential. Soybean cyst nematodes (SCN) annually reduce soybean yields more than any other pest. In the last year the effectiveness of the major source of SCN resistance, Rhg1, was determined to be due to the presence of multiple copies of the resistance gene. Additional research is identifying new sources of resistance. Efforts to determine the causes of seedling disease that often necessitates replanting of soybean fields have identified a number of important fungal species and provided insight into their biology.

New insect pests including kudzu bug, brown marmorated stinkbug and red banded stinkbug have rapidly expanded their range and drastically impacted soybean production in many areas. Research to understand the biology of these pests in order to develop control measures has been effective, but these and other new pest species must be monitored to ensure they don’t have a major impact on soybean production.

SUPPLY Ongoing Issues:
- Development of higher yielding varieties to meet increased demand for soybean
- Improvement of soybean protein content as yield is increased without loss of oil content

SUPPLY Emerging Issues:
- New pest species including soybean vein necrosis virus (SVNV), kudzu bug, brown marmorated stinkbug, and red banded stinkbug.

SUPPLY Program Gaps:
- Effective genetic resistance to soybean aphid, stinkbugs, nematodes and major disease species

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• Understanding of the genetic basis of yield and how expression of major yield genes is controlled
• Ability to increase soybean protein content while increasing yield without negatively impacting seed oil content

SUPPLY Goals:

SP 1) Yield Production: Increase soybean yield potential and capture a greater proportion of yield potential

Strategies to Achieve Goals:
• Increase soybean yield through breeding, molecular biology and genomics
• Protect existing soybean yield potential from existing, possible and emerging pests including; diseases, nematodes and insects
• Improve soybean tolerance to abiotic stresses including; drought, heat and flooding

Key Performance Indicators:
• Increase average U.S. soybean yield by 36% per acre through translation of research results into higher yielding varieties and better management practices
• Capture 10% more genetic yield potential per acre by 2025 by managing biotic and abiotic stresses that impact yield

SP 2) Quantity and Quality: Ensure quantity and quality of U.S. soybeans to sustainability supply global markets

Strategies to Achieve Goals:
• Research and develop soybeans with superior meal traits for animal feed
• Develop soybean varieties with improved meal composition nutrient value for livestock, poultry and fish

Key Performance Indicators:
• Develop varieties and management practices that result in a 10% increase in combined protein and oil seed content by 2025

SP 3) Yield Research: Identify molecular pathways which enhance yield potential

Strategies to Achieve Goals:
• Adopt new discoveries and technologies to uphold premier status of soybean research

Key Performance Indicators:
• Identify four key transcription factor systems that control expression of genes related to yield, protein composition and oil content by 2020.

COMMUNICATIONS

Market Environment:
More and more U.S. soybean farmers are able to identify their biggest customers. Many of them even know what those customers need from U.S. soybeans. The challenge is none of them are willing to make the changes necessary to meet those customers’ needs, which will help increase

Meal Action Team Plan
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the value of their soybeans. There’s a tremendous opportunity to increase U.S. soybean farmer awareness of why soy quality is important. If farmers can improve their quality to meet the needs of their biggest customers, animal ag for soybean meal and the food industry for soybean oil, then the overall quality of U.S. soy will increase.

The animal ag industry, both domestic and international combined, uses nearly 98 percent of U.S. soybean meal. Animal producers need higher levels of protein in soybean meal in order to more efficiently feed their poultry and livestock. Available data seem to indicate that farmers understand who their customers are and why they’re important. Now it’s time to connect that knowledge to how it impacts their profitability by linking soy quality.

**Economic Overview:**
An economic analysis of the communications industry is not relevant to the work of the Action Team. Instead, the communications Target Area uses the economic insights of all other Target Areas to best support the work of the board.

**Ongoing Issues:**
Based on farmer insights from USB’s most recent Producer Attitudes Survey (Feb. 2013), we found that:

- Nine out of 10 farmers don’t know the protein content of their beans, steady with recent years.
- A total of eight out of 10 farmers say that protein content is either less important than yield or not important at all.
- Farmers believe they’ll be able to sell all of their soybeans every year regardless of protein content.
- Nearly half of farmers know livestock feed is their No. 1 customer after the elevator. Another quarter answered “export markets.”
- If a major export market like China demanded higher-quality beans, 90 percent of farmers said they’d be at least somewhat willing to make changes. A third said they’d be “extremely” or “very” likely to make changes.
- Eighty-seven percent of farmers believe every effort should be made by the soybean industry to support the animal ag industry’s growth since livestock and poultry are so important to soybean markets.
- Two-thirds of farmers would favor a component-pricing system that would pay farmers based on the quality levels of their soybeans.

**Emerging Issues:**
There is still work to be done to get soybean farmers to support animal agriculture. But the next call to action is to grow soybean varieties that will produce higher levels of protein to meet animal producers’ needs. These varieties exist now. Data show farmers have more control over quality through variety selection than they have over yield. Animal producers have choices when it comes to feed ingredients and there’s no question DDGS are soybean meal’s biggest competition. Internationally, competition comes from South America, particularly the farmers in Brazil and Argentina. Some data show higher levels of protein in Brazilian soybeans.

Meal Action Team Plan
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COMMUNICATIONS Goals:

C 1) Leverage: Collaborate with Qualified State Soybean Boards (QSSBs) and value chain to ensure consistent messaging and leveraging of resources with QSSBs and value chain

Strategies to Achieve Goals:

- Provide QSSBs and soy value chain consistent messages regarding the importance of their biggest customer – animal agriculture
- Provide QSSBs and soy value chain consistent messages regarding the importance of U.S. soybean meal quality

Key Performance Indicators:

- Engage with at least 15 QSSBs regarding meal-related communications focused on animal agriculture and the link to quality
- Host at least two elevator events, leveraging value chain and QSSB partnerships, to educate farmers on the importance of meeting customer needs through growing high-quality soy.

C 2) Customer Awareness: Grow U.S. farmer understanding of end-use customers and their changing needs

Strategies to Achieve Goals:

- Educate farmers on the needs of the animal agriculture industry regarding soybean meal quality
- Continuing to increase farmer knowledge of animal ag as the biggest customer.

Key Performance Indicators:

- Increase knowledge of soy quality as a driver of soy value because quality drives demand.
- Increase farmer awareness of protein content of their soybeans, which currently stands at 10 percent according to the bi-annual survey.

C 4) Tools and Information: Engage U.S. soybean farmers with information and tools that help impact their profitability

Strategies to Achieve Goals:

- Increase soy farmer knowledge of the connection between soybean meal quality and profitability potential.

Key Performance Indicators:

- Provide soybean farmers at least five pieces of content (including fact sheets, infographics, brochures, etc.,) to help make the connection between the protein content of their meal and profit potential.

C 5) Stakeholder Awareness: Capture and maximize opportunities to deliver all information produced by USB to relevant stakeholders

Strategies to Achieve Goals:

- Increase outreach to stakeholders on the importance of animal agriculture to U.S. soy’s profitability
Key Performance Indicators:

- Engage at least two organizations not currently working with USB about increasing the value of U.S. soybean meal.
Oil Action Team Plan
FY2014

**OIL Long-Range Strategic Plan Objective:** Increase the value of U.S. soybean oil to the entire value chain.

**INTRODUCTION**

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* This excludes the special allocation to support High Oleic.

**Strategic Direction:**
The Oil Action Team identified food and industrial uses as key focus areas.

**Food:** Food is the largest global consumer of U.S. soybean oil. Long term, the United Soybean Board (USB) needs to stabilize and grow global soybean oil markets and identify and grow new markets where feasible. The high oleic soybean program is one new market entry that aims to reconquer the vegetable oil market in the United States, while ensuring that U.S. commodity soybean oil remains a viable and important product throughout the world.

In addition to food markets, high oleic soybean varieties must be developed that perform the same as or better than current varieties. The Oil Action Team’s work will help expand varietal development to maturity groups I to V, including partnerships with seed technology companies. Farmer adoption of high oleic soybean varieties remains a top strategy for the Oil Action Team, as without the commitment from farmers, the production and corresponding customer commitment will lag.

**Industrial:** The Oil Action Team plans to grow the use of soybean oil in industrial applications through a variety of strategies. By partnering with others in the industry, USB will develop research and commercialize new uses for soybean oil with companies that operate globally. USB plans to collaborate amongst the domestic and international programs to successfully advance soy’s industrial-use presence.

In addition to researching and commercializing new industrial uses, USB will continue to grow the use of soybean oil through biodiesel market development in education and technical support. USB will also work to re-energize farmers in biodiesel conversations, asking them to feel proud of the investment in the industry they created and want to protect the soybean oil demand that biodiesel creates.

Oil Action Team Plan
DOMESTIC OPPORTUNITIES

Market Environment:
In 2012, soybeans were planted on 77.2 million acres producing 3.015 billion bushels of soybeans with an average yield of only 39.6 bu/acre due to severe widespread drought. The average price paid to farmers was $14.30 per bushel. During this time, soybean oil prices averaged 49 cents/lb., down from 51.90 cents/lb. from the 2011/12 marketing year and in the same range of anticipated 2013/14 prices between 47 and 51 cents/lb.

The U.S. soybean oil market consists primarily of human food and industrial use. Industrial use can be broken out by biodiesel (including Bioheat®) and other industrial applications such as paints, coatings, resins and plastics. Currently, 70 percent of domestic soybean oil use goes to food markets, primarily as salad and cooking oil, while a whopping 22 percent is used to produce biodiesel and about 8 percent is made into biobased products.

Although soybean oil represents only about 19 percent of the volume of the soybean, its many uses in food and industrial applications allow soybean oil to claim between 40-50 percent of the total value of the bean after crushing, making strong oil markets critical to farmer profitability.

Human Foods
Soybean oil demand in the foods market peaked at over 17 billion pounds in 2005, much of which was partially hydrogenated. In 2006, soybean oil demand was decimated by trans fat labeling requirements, causing the loss of about 4 billion pounds annually in edible oil utilization. Non-hydrogenated commodity soybean oil remains a market leader and accounts for nearly 9 billion pounds of oil usage, primarily, in the home cooking oils, salad dressings and margarines.

To address the trans fat issue, low-linolenic soybean varieties were introduced in 2004. Low-linolenic soybean oil, which can be used in light commercial frying, represented the first strategy in providing solutions to the trans fats issue. Without low-lin soybean oil in the marketplace, producers would have suffered a $700 million loss with market share going to competitive oils. But low-lin was only a “Band-Aid” to help stop the bleeding of market share.

The heavy commercial frying and baking industries need more stable oil and USB, working with QUALISOY, will continue to help introduce increased oleic oil in 2014. Farmers will be encouraged to grow these new soybean varieties to ramp up the increased oleic oil supply to meet end user’s needs which is estimated to be up to 12 billion pounds annually by 2023. The USB Value Chain Analysis projects that high oleic soybean oil will add $4 billion annually to producer income when it fully penetrates the market.

Oil Action Team Plan
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The primary reason for the development of high oleic soybean varieties is to introduce soybean oil with higher heat stability, greater shelf life and a more healthful fatty acid profile than commodity soybean oil. This is essential if soybean oil is to compete; particularly in the 6 billion pound market represented by the food service industry. Functionality and taste testing of high oleic soybean oil has demonstrated its superiority to commodity soybean oil and competitive oils in these critical areas. High oleic soybean oil demonstrated these advantages in food service functionality testing:

- 90+ hours of fry life
- Improved flavor in fried foods
- Extended shelf life for baked goods
- 0g trans fats per serving and 20% less saturated fat (vs. commodity oil)
- Resistance to odors, off-flavors & rancidity

The importance of these “advantages” to high oleic soy cannot be overstated. These benefits will form the core messages to be conveyed to food industry professionals over the next year as HOSBO becomes available.

Biodiesel and Bioheat
The U.S. biodiesel industry produced more than 1.1 billion gallons of biodiesel in 2012. Approximately 50% of the biodiesel production is made from virgin soybean oil utilizing 4 billion lbs. of U.S. soybean oil.

Biodiesel is the first and only commercial-scale fuel used across the U.S. to meet the Environmental Protection Agency’s (EPA) definition as an Advanced Biofuel (reducing greenhouse gas emissions by a minimum of 50% over that of petroleum). It is estimated the biodiesel industry supports 39,000 American jobs.

The EPA has authority to increase the biomass-based diesel category each year and, in fact, it has increased the 2013 volume requirement to 1.28 billion gallons. As an advanced biofuel, biodiesel also qualifies for the Advanced Biofuel category. This is an additional 4 billion gallon market opportunity for biodiesel in the RFS2.

According to the Centrec Consulting Group, biodiesel increased net returns to soybean farmers by $2.7 billion dollars over a five-year period (MY2005-09), while at the same time reducing the cost of meal $16 to $48 a ton for livestock producers. Biodiesel also serves as an effective hedge against energy inflation for farmers as the price of soybean oil now moves in conjunction with the price of crude oil.

Bioheat® is a 7 billion gallon market and is used as a primary heat source throughout 23 states in the Northeast. The number one heating oil market is New York City which has passed a B2 Bioheat mandate and is now considering expanding it to a B5 mandate. In addition to the NYC Bioheat mandate, the state of New York is also considering implementing a B5 Bioheat mandate as well. At the same time, the state of New York just extended the Oil Action Team Plan

Bioheat® Potential in the Northeast:
2% Blend Bioheat = 140 million gallons
5% Blend Bioheat = 350 million gallons
15% Blend Bioheat = 1 billion gallons (by 2020)
state income tax credit to people who use Bioheat. Vermont just passed a Bioheat mandate and if Rhode Island passes their Bioheat mandate that will make five Northeastern states to pass Bioheat mandates. Refer to the graph for the potential for Bioheat in the northeast.

The soybean checkoff was instrumental in developing the biodiesel industry – and a good thing, too. Soy biodiesel can be credited with absorbing the excess food market soybean oil left on the market due to trans fat labeling beginning in 2006. Without the biodiesel industry, the profitability of the soybean industry would be reduced.

**Industrial Uses**

In 2012, non-biodiesel industrial use of soybean oil was more than 1.3 billion lbs. Soybean oil, and its by-products soapstock and glycerin, have long been used in industrial applications. The history of the oleochemical industry is as old as the first use of soap. Prior to 2000, however industrial use of soybean oil was still in its infancy. The decade from 2000 to 2010 saw a fivefold increase in soybean oil use in industry and growth has continued.

Growth of soybean oil’s new uses was a product of both new technologies and the rapid rise of the cost of the petrochemicals that soy products can replace. In 2003, the cost of a barrel of crude oil was the equivalent of 126 lbs. of soybean oil. By 2006 the price of crude had risen much faster and was now equivalent to 255 lbs. of soybean oil.

Since 2000, industrial use of soybean oil and its co-products of soapstock and glycerin have increased from less than 200 million pounds to over 1.3 billion lbs. This is largely due to growth in plastic applications including epoxidized soybean oil, soy polyols, soy unsaturated polyesters and others, which add significant value over the soybean oil. Epoxidized soybean oil used as a secondary plasticizer currently sells for about $0.90 per pound while soy polyols are more at $1.10-$1.35 per pound.

Soy use is also growing in paints and coatings, with partnership with companies like Sherwin Williams and RustOleum. Another area of growth is the use of co-products such as soapstock and glycerin from biodiesel production. In 2012, ADM completed its first full year of production for propylene glycol from glycerin, with a plant capacity of 220 million pounds per year. This has helped raise the market price of crude glycerin from soy biodiesel from less than a dime per pound to over $0.25 per pound and improved the economics of biodiesel production.

**DO Ongoing Issues:**
- Farmer acceptance of high oleic soybean oil
- Increasing reactivity and functionality in industrial applications
- Modification of SBO to create direct petrochemical replacements for industrial chemicals

Oil Action Team Plan
DO Program Gaps:
- Soy-based product demonstrations outside the U.S.

DOMESTIC OPPORTUNITIES Goals:

**DO 4) Industrial: Grow the use of soybean components in industrial applications**

**Strategies to Achieve Goals:**
- Biodiesel: Leverage increased market share of soybean oil in biodiesel as an advanced biofuel
- Biodiesel: Expand the market potential for Bioheat®
- Biodiesel: Assure high quality fuel for distribution to the marketplace
- Biodiesel: Provide technical support to drive industry acceptance
- New Industrial Uses: Develop, research and commercialize new uses for soybean oil in industrial and other applications.
- New Industrial Uses: Leverage soybean checkoff resources with industry and other institutions to develop new markets for soybean oil
- New Industrial Uses: Diversify the demand base for soybean oil beyond traditional markets to reduce market vulnerability

**Key Performance Indicators:**
- 32 new products/applications (average each year) introduced using a soybean component
- Soybean oil component use in biodiesel and other industrial uses reaches 5.6 billion pounds by 2016
- Soybean meal component use in industrial reaches 81 thousand tons by 2016.

**DO 5) Food: Increase the value and consumption of soy components for food use**

**Strategies to Achieve Goals:**
- Food Industry Outreach: Provide information on enhanced trait soybean oils with increased functionality and health benefits leading to trial and use
- Food Industry Outreach: Stabilize soybean oil market share to begin reversal of five year trend loss
- Health Professionals Outreach: Provide health professional support for soybean oils and dispel misconceptions to support new product development and consumer use

**Key Performance Indicators:**
- Stabilize soybean oil share of vegetable oil market at 61%
- Achieve a 67% or higher perception of soybean oil as healthy among health professionals
- 83% awareness of enhanced soybean oil among food service operators

Oil Action Team Plan
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INTERNATIONAL OPPORTUNITIES

Market Environment:
Strong global demand, particularly in China, and drought-related crop losses in South America and the U.S. have driven high global soybean prices over the last four years. Global soybean production fell by 7.95 MMT from 2007/08 to 2008/09 because of a very poor crop in Argentina and it fell by 24.13 MMT from 2010/11 to 2011/12 because of a poor crop in South America. However, both declines were followed by large increase in the following years due to better weather and higher prices. Fortunately, demand also increased strongly in years of plentiful supplies and the world avoided burdensome stocks.

Both prices and demand could be facing pressure in the near future, though. South America is now harvesting its largest crop in history (148.47 MMT) which is estimated to be 32.26 MMT (27.8%) larger than last year. USDA is forecasting U.S. farmers will plant 77.1 million acres of soybeans in 2013 and harvest 76.2 million acres. It is forecasting an average yield of 44.5 bushels/acre. Planted and harvested soybean area likely will be even greater because of the late, wet spring.

USDA is forecasting U.S. soy oil exports in 2013 will reach 998,000 MT, up from 664,000 MT in 2011/12. Exports are certain to slow down the remainder of this year bowing to large competitive supplies from South America and greater domestic consumption for biodiesel production. Expectations are that the U.S. crush will feel a sharp decline through the end of the 2012/13. USDA’s 2013/14 forecast for oil exports is 0.59 MMT due to pressure from increased world soybean supplies as well as improved competing oilseed production. Palm oil alone is forecasted to gain 5% in 2013/14, pegging out at 58.1 MT.

Sales of U.S. soy oil for human consumption continue to come up against stiff competition from non-trans fat oils such as palm and canola. The U.S. industry responded to the global consumer’s desire for low trans fats oils by developing a high oleic soybean. The goal for production is to reach 20-25 million acres by 2023. As domestic marketing efforts targeting the industrial utilization of soy oil show success and commercial opportunities are identified in foreign countries, programs have expanded outside the United States. Currently international marketing efforts are limited to the natural oil polyols, polyurethane trade.

The international market place is very competitive. To address this market reality, USB has positioned its self well by developing and maintaining customer preference for U.S. soy oil, by differentiating it from competing oil origins and sources, and focusing on developing a preference for U.S. soy oil from discerning global customers based on sound science. USB International Opportunities uses a market segmentation matrix to focus resources on the most promising markets. The approach measures individual countries and usage in terms of oil use and U.S. accessibility. In addition, individual customer segments are analyzed in terms of where they fit on a buyer’s continuum that ranges from being oblivious to U.S. soy oil, all the way to being a consistent buyer. Differentiation and customer preference programs are executed depending on where customers lie on this continuum. Equally important, this segmentation matrix allows International Opportunities to make better decisions on which
markets to de-emphasize allowing more efficient use of limited financial and human resources.

**Customer Preference:**
- This combines the following IO Strategies as outlined by the Oil Action Team in February 2013:
  - Consider the emerging issue of market access by competing oils.
  - Overcome any export market entry obstacles.
  - High oleic export market preparations.
  - Run programs that allow for the smooth transition of U.S. High Oleic soy into foreign markets, commensurate with U.S. High Oleic export supply.

Technical and marketing staff among global food manufacturers and the soybean oil distribution chain lack an understanding of the value of optimizing soybean oil refining operations; improving packaging to enhance flavor and shelf-life of bottled soybean oil; product versatility; the health benefits; and the benefits of the U.S. soy value chain. These factors prevent them from using more U.S. soybean oil in manufactured foods.

Customers needing assistance in this area will range on the buyers continuum from having a willingness to try U.S. soybean oil, to being consistent purchasers. They require programs that specifically provide them with a greater understanding of the aforementioned areas, thus allowing them to place a company level value on these attributes of U.S. soybean oil; helping them improve their operational efficiency; and enhance their product quality and positioning. International soybean crushers and oil refiner top management and supply chain top management, lack knowledge on high oleic soybean oil’s economic benefits (new product, higher value for crushers) and the health/functional benefits (attractive lower saturated fat solution, stability, and lack of the need for partial hydrogenation). This will prevent them from rapidly adopting high oleic soybean oil once it becomes commercially available.

Customers needing assistance in this area will range on the buyers continuum from being oblivious to the product, up to and including having knowledge of the attributes of high oleic soybean oil. They require programs that specifically provide them with a greater understanding of the aforementioned areas, thus allowing them to place a company level value on the attributes of U.S. high oleic soybean oil and of being either favorably disposed toward the product and/or willing to commit to a trial use.

**Differentiation:**
- This combines the following IO Strategies as outlined by the Oil Action Team in February 2013:
  - Emphasize programs for those countries that are rapidly growing.
  - Maintain Latin American market – the largest U.S. soybean oil customers.
  - High value/new uses of soybean oil outside the United States

Current and prospective users of U.S. soybean oil products in the international markets lack an understanding of the opportunities that the U.S. soy industry provides to enhance their operations including a reliable and sustainable supply, favorable logistics, risk management...
opportunities, and U.S. government export incentive programs. This can limit their confidence in requesting trial samples of U.S. soybean oil or derivatives; purchasing U.S. soybean oil; or expanding their use of U.S. soy.

Customers needing assistance in this area will generally range on the buyers continuum from having an awareness of U.S. soybean oil, up to and including being consistent purchasers. They are looking for support in making the decisions to use U.S. soy over the competition by having available scientific research information, access to samples, and instruction on the economic values associated with using U.S. soybean oil or soybean oil derivatives.

**IO Ongoing Issues:**
- Competing against soy from other origins
- Competing against palm and canola oils
- Argentine DETs
- Soybean oil as food and fuel versus food or fuel

**IO Emerging Issues:**
- Sustainability
- Lack of a CODEX/CCFO product category for high oleic oil and soybeans
- Competing NOP Polyols
- Uncertainty of future FAS funding

**IO Program Gaps:**
- Need for national product category for high oleic oil and soybeans
- Mechanism for gathering high oleic international sales/export data
- Lack of a sampling and analysis scheme for soybean oil of various origins

**INTERNATIONAL OPPORTUNITIES Goals:**

**IO 1) Sound Science: Increase the awareness of globally recognized, sound science associated with U.S. soy with regard to biotech, food safety and security and sustainability**

**Key Performance Indicators:** *(KPIs listed are in draft stage and require further refinement)*
- By the end of FY 2015, XX% of the target audience surveyed will be aware of the sound science as presented by USB. Percentage of markets maintained based on acceptance of the documented U.S. soy.

**IO 2) Trade Barriers: Develop credible resources and educate foreign governments, influencers and stakeholders to improve market access and resolve trade barriers**

**Key Performance Indicators:** *(KPIs listed are in draft stage and require further refinement)*
- By the end of FY 2015, XX% of new international customers trained will begin sourcing U.S. soy.
- By the end of FY 2015, XX% of existing customers will increase the share of U.S. soy they purchase.
IO 3) Customer Preference: Engage foreign buyers with information and tools that help impact their profitability and drive preference for U.S. soy

Strategies to Achieve Goals:
- Continue with the strategy to distinguish U.S. Soybean oil by targeting markets and focusing on customers who can recognize and utilize U.S. competitive advantages, including reliability and sustainability, U.S. delivery capabilities, providing services, such as technical/marketing assistance and best management practice.

Key Performance Indicators: (KPIs listed are in draft stage and require further refinement)
- By the end of FY 2015, XX% of new international customers trained will begin sourcing U.S. soy.
- By the end of FY 2015, XX% of existing customers will increase the share of U.S. soy they purchase.

IO 4) Differentiate: Differentiate the value, sustainability and competitive advantage of U.S. soy from other competing products and origins to increase value and/or market share

Strategies to Achieve Goals:
- Continue with the strategy to differentiate U.S. soy by designing and delivering programs that provide information aimed at making buyers aware, knowledgeable of attributes, and therefore create a favorable disposition for them to purchase U.S. soy. The ability to differentiate is grounded in the employment of sound science and sound science is used to help break down trade barriers. These work in harmony and are essential if we are to achieve our goals with regard to differentiation.
- Promote projects and activities in targeted international markets (more than 80 countries) that continue to differentiate the significant quality advantages found in U.S. soybean oil, for example, product versatility as well as health benefits of low trans fatty acids content, high polyunsaturated fatty acids content, and high vitamin E content.

Key Performance Indicators: (KPIs listed are in draft stage and require further refinement)
- By the end of FY 2015, XX% of the target audience surveyed will be aware of favorable attributes of U.S. soy that differentiate it from soy originating in other countries or other sources

SUPPLY

Market Environment:
Soybeans are a unique oilseed, unlike other oilseeds such as rapeseed or sunflower that primarily stores protein in its seed. The soybean is unique because it also stores significant levels of oil, in addition to storing large amounts of seed protein. Long term analysis of the U.S. soybean crop has indicated little change in either oil or protein content, while yield has increased by approximately 0.4 bu/a each year.

Oil Action Team Plan
These yield improvements gained through plant breeding and improved production practices have ultimately resulted in greater production of both oil and protein per acre.

Soybean oil contains approximately 55% linoleic acid, an 18 carbon fatty acid with two double bonds. This level of unsaturation results in poor oil functionality in high heat applications like baking and frying and poor shelf-life due to rapid oxidation. To overcome this processors partially hydrogenate soybean oil to improve functionality and shelf-life. Partial hydrogenation results in the formation of trans-bonded fats that have been associated with heart health risks. The implementation of trans fat labeling by the U.S. FDA resulted in the loss of nearly 4 billion lbs. of market share for U.S. soybean oil.

To overcome this loss, soybean breeding efforts were established to develop soybeans with >75% oleic acid oil, which has better functionality and shelf-life. Normal soybean oil contains only 24% oleic acid and over 60% of the polyunsaturated fatty acids, linoleic and linolenic. Increasing the oleic acid content through plant breeding or blocking the expression of genes responsible for the conversion of oleic acid to linoleic and linolenic acids can improve soybean oil quality. Both Monsanto and DuPont Pioneer have developed transgenic high oleic soybean varieties that will soon be on the market.

In order to capture the value of these oil improvements it is necessary to preserve the identity of these soybeans throughout processing. The same is true of improvements in meal quality. If soybeans with reduced oligosaccharides that result in increased digestible energy are mixed with conventional soybeans, then the potential value is lost. Combining improved meal traits with the high oleic trait would allow the expense of identity preservation to be shared between the oil and meal enterprises.

Typical soybean composition is 36% protein and 19% oil. This roughly 2:1 ratio of protein to oil carries through if composition modifications are made through plant breeding. In other words, if breeding efforts result in a 1% increase in seed oil content, typically a 2% reduction in protein content results. Better understanding of the metabolic pathways controlling oil synthesis and storage along with the gene systems that control these pathways may allow for the modification of gene expression such that this link can be broken allowing for the development of high oil soybeans with acceptable protein levels. For soybeans to be economically competitive, both the oil and protein content must be at levels that are acceptable to the industry. Oil content must be competitive with other oilseeds, while protein content must be sufficient to allow for the manufacture of 48% protein soybean meal.

SUPPLY Ongoing Issues:
- Development of adapted high oleic soybean varieties in order to recapture market share lost due to trans fat labeling
- Improvement of soybean oil content without loss of protein content

SUPPLY Emerging Issues:
- Development of soybean germplasm with specific functional traits such as increased omega 3 fatty acids, increased stearic acid content, and reduced saturated fats.

Oil Action Team Plan
SUPPLY Program Gaps:
- Availability of adapted, high yielding high oleic soybean varieties in a wide range of soybean maturity groups
- Soybean germplasm with a combination of improved meal and oil traits
  Ability to increase soybean oil content without negatively impacting seed protein content

SUPPLY Goals:

SP 2) Quantity and Quality: Ensure quantity and quality of U.S. soybeans to sustainably supply global markets

Strategies to Achieve Goals:
- Improvement of overall value of soybeans by increasing metabolizable energy available in soybean while increasing value of soybean oil by raising oleic acid content
- Expansion of high oleic soybean trait to capture 30% of soybean acreage to recapture lost soybean oil market share

Key Performance Indicators:
- High oleic soybean grown on 30% of U.S. soybean acreage by 2023.

SP 5) Composition: Improve component value of U.S. soybeans for all sectors of the soybean community

Strategies to Achieve Goals:
- Identification of gene systems responsible for controlling oil synthesis and storage metabolic pathways and modification of these systems to develop new improved quality soybean germplasm

Key Performance Indicators:
- Genetic modification of soybean oil synthesis and storage gene systems resulting in development of soybean germplasm with seed oil content above 20% without reducing seed protein content below 36%

COMMUNICATIONS

Economic Overview
An economic analysis of the communications industry is not relevant to the work of the Action Team. Instead, the Communications Target Area uses the economic insights of all other target areas to best support the work of the board.

COMMUNICATIONS Ongoing Issues:

It has been a communications goal for many years to get farmers to think beyond the
elevator. The elevator may write farmers’ checks, but demand for specific products drives the value of U.S. Soy and the price paid for each bushel.

One of those specific products is biodiesel. After its twenty years of existence, the biodiesel industry has had its dips but production currently is at an all-time high. The Oil Action Team recognized that farmers’ pride in biodiesel may have dwindled with some of those dips. The action team set a priority to re-energize farmers with biodiesel conversations.

Biodiesel continues to be one of the programs farmers recognize as a checkoff accomplishment. USB can help increase support for the biodiesel industry with our farm audience by promoting its successes and the impact it has had on on-farm profitability.

Another way that farmers can think beyond the elevator is with new industrial uses. Farmers love to hear about the different uses of soy and industrial use for soybean oil has grown substantially in the last 10 years. From tires and insulation to paints and coatings, new industrial uses for soy continue to grow demand and soybean farmers’ profit potential.

The largest user of soy, the food industry, represents a critical customer for U.S. soybean farmers. Connecting farmers to end-use customers and their needs helps them think of soy as producing products. This opportunity is especially important with the introduction of high oleic soybeans.

High oleic soy represents the opportunity for U.S. soybean farmers to regain lost market share in the food industry and capitalize on new markets where soy previously fell flat. Connecting this opportunity of meeting customers’ needs to farmers’ increased profit potential continues to be a challenge.

COMMUNICATIONS Emerging Issues:
High oleic soybeans are reaching commercialization. As they become available, USB would like to see quick and rapid adoption. Sharing accurate information on performance and agronomic packages, as well as contract availability, will be critical to this success.

COMMUNICATIONS Goals:

C1) Leverage: Collaborate with Qualified State soybean Boards (QSSBs) and value chain to ensure consistent messaging and leveraging of resources with QSSBs and value chain.

Strategies to Achieve Goals:
- Educate soybean farmers on opportunity with high oleic soybeans
- Re-engage soybean farmers in biodiesel conversation

C 2) Customer Awareness: Grow U.S. farmer understanding of end-use customers and their changing needs

Strategies to Achieve Goals:
- Educate soybean farmers on opportunity with high oleic soybeans
- Re-engage soybean farmers in biodiesel conversation

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COMMUNICATIONS Key Performance Indicators

- Increase acreage of high oleic soybeans
  - *Contract goals fulfilled at 80%*
- Create three or more value chain partnerships
  - *At least four meetings with industry partners to collaborate on high oleic soybeans*
- Farmer sentiment regarding biodiesel industry
  - *Xx percent answer affirmatively on annual Producers’ Attitude Survey*
- Increase partnerships with QSSBs
  - *At least eight QSSBs partner for media coop or use materials*
- Placements in ag publications
  - *Twenty placements in publications totaling at least 100,000 impressions*
Freedom to Operate (FTO) Action Team Plan
FY2014

FREEDOM TO OPERATE Long-Range Strategic Plan Objective: Ensure that our industry and its customers have the freedom and infrastructure to operate.

Introduction:

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Strategic Direction:
In February 2013, the FTO Action Team identified the following areas of strategic focus addressing market/industry issues and opportunities. This direction was a result of a multi-day strategic planning process including target area work group sessions. Every category crosses target areas and directs FTO staff to develop programs and projects in a collaborative manner across contractor groups.

**Water** - Increase general understanding of water issues and cooperation among farmers/QSSBs and across commodity groups. Improve public perception of production agriculture related to water issues, with proactive ‘success’ communications. Develop soy production best practices for water use and quality.

**Biotechnology** - Increase acceptance of biotech benefits/safety. In addition to biotechnology issues programs will also address specific market access and trade issues impacting import of U.S. soy.

**Sustainability** – Increase acceptance of sustainability of U.S. soy, and improve farmers’ economic/social/environmental performance

**Transportation/infrastructure** - Support and communicate issues related to soy transportation infrastructure in order to ensure efficient transportation for the agriculture industry.
Animal agriculture - Provide leadership in building/maintaining strong industry coalitions to improve perception of U.S. Animal Agriculture and support domestic animal agriculture groups to compete in international markets with improved market access

Longevity of the industry - Support education programs for trained farm labor and encourage next generation of soybean researchers.

DOMESTIC OPPORTUNITIES

Market Environment:
Animal Agriculture
Livestock and poultry production remain soybean farmers’ number one customer, consuming roughly 97 percent of U.S. soybean meal consumed in the U.S. Without a strong livestock industry, domestic crush will continue to contract and the price of U.S. soybeans will collapse.

With less than 2 percent of the U.S. population engaged in the agriculture industry, consumers are generations removed from the farm and have many misconceptions about how their food is grown and raised. Many factors contribute to those misconceptions.

Multiple Non-governmental Organizations (NGOs) that focus on animal agriculture, the food production system and sustainability have increased activities and developed sophisticated strategies in recent years. Examples include the Humane Society of the United States (HSUS), STOP Foodborne Illness, Center for Science in the Public Interest, Animal Legal Defense Fund and many, many, many more. The animal agriculture industry is being forced to implement practices defined as sustainable by forces outside the industry, putting additional strain on an already challenged industry.

Transportation/Infrastructure
On the domestic front, regulatory burdens and a declining transportation system are impacting the competitiveness of U.S. agriculture. The U.S. soy industry should continue to develop strong partnerships with relevant U.S. agricultural organizations and industry. Change will come slowly in these sectors so a united and coordinated approach to solutions is required for progress.

Biotechnology
Whether or not to require labeling of genetically engineered (GE) foods is a key issue in the ongoing debate over the risks and benefits of food crops produced using biotechnology. Bills requiring mandatory labeling have been introduced in Congress and in a few state legislatures. There have also been attempts to place citizens’ initiatives on statewide and local ballots.

Sustainability
Overshadowing the entire agricultural industry, including all aspects of soybean production and all markets for soybean products, is the emerging issue of “sustainability.” Sustainability is quickly becoming a food industry mainstay, driven by consumer expectations, political ambitions, and industry desire to not be left behind. Mega food corporations are driving down

Freedom to Operate Action Team Plan
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sustainability practices as directed by top-level leadership. Suppliers are being held accountable for sustainable practices, and agriculture is frequently targeted as the biggest culprit in environmental impacts.

The U.S. soybean industry will be forced to document and show ongoing improvement in sustainable practices if it does not set the facts straight, develop its own standards and document continuous improvements using methodologies that makes sense for U.S. producers. The scope of “sustainability” is huge, and impacts every USB Action Team and Target Area.

**DO Ongoing Issues:**

- **U.S. Ports Need Dredging and Proper Funding**
  - Most U.S. ports are not prepared to serve the new, larger boats with 45-foot drafts that will be able to move through the expanded Panama Canal. An inability to use these boats, which can haul 300,000 more bushels than ships currently traversing the Canal, will hurt the U.S. transportation advantage over South America.

- **Payment for Environmental Services**
  - Tougher regulations regarding water quality – and the potential for even tougher regulations to come in the near future – are leading point source polluters to look for alternatives to expensive retrofits of existing treatment facilities. Nutrient trading is an area of opportunity for producers who are able to demonstrate that they are exceeding their own water quality requirements. Other models for remunerating farmers for environmental services are also developing – biodiversity, soil quality, and energy. These systems may require some direction from U.S. soybean producers to ensure they are viable revenue opportunities.

- **Sustainability in Industrial Products**
  - Advances in life cycle modeling present challenges to clearly articulating the environmental and social benefits of soy-based industrial products when compared to alternative products. New impact assessments that quantify advanced social indicators, and more sophisticated methodologies for evaluating environmental impacts, mean that life cycle modeling for soy-based industrial products must be smarter and more nimble.

- **Customer Demands for Sustainable Ingredients**
  - While domestic customer demand for sustainable oils is nothing new, there continues to be greater interest on the animal protein side for sustainable feed ingredients. Perdue is developing specifications for certified Palm Oil in its supply chain, and quantities of sustainably certified canola are coming on the market in Canada. It will be important to continue collaborating with all domestic customers to identify and meet their needs moving forward.

- **Sufficient and Efficient U.S. Transportation Infrastructure for U.S. Agriculture in Domestic Operations and Export Facilities**
  - Analyze and address river system lock and dam system and suggest solutions to improved repair and replacement in coordination with multiple agriculture and industry organizations. Analyze overall U.S. transportation system for opportunities and constraints to overall transportation of U.S. agricultural
products in coordination with industry partners. Analyze and address U.S. and
global transportation infrastructure and its impact on export opportunities for U.S.
soy and agricultural products.

- **Industry’s Ability to Operate in Productive and Cost Efficient Manner Within A Fair Regulatory System Without Undue Liability**
  - Analyze U.S. regulatory system impact on U.S. agriculture and new regulations under consideration. Analyze and address farmer liability concerns in regard to new seed varieties, chemical applications, coexistence, and other agriculture related issues.

**DO Emerging Issues:**

- **State Initiatives to Label GM Food**
  - Following the defeat of Proposition 37 in California in November 2012, proponents of GM labeling have vowed to continue pressing for GM labeling. Initiatives in Oregon and Washington are two such examples.

- **Individual Farm Sustainability Certification**
  - Sustainability requirements for biofuel feedstocks in Europe are indirectly impacting soybean farmers’ domestic markets. In order to meet European sustainability requirements, the U.S. ethanol industry has embraced individual farm certification against those requirements, including a farm audit. Many of these certifications are whole farm (not crop specific), meaning that producers who submit to certification audits for the ethanol market are also being certified for their soybean crop. As the number of certified sustainable soybean acres increases, domestic customers will demand preferred access to these beans, which could lead to widespread certification requirements.

**DO Program Gaps:**

- **Indirect Land Use Change (Sustainability) –** Better science and modeling is required to respond to challenges that using soybeans in any industrial application leads to new land coming into soybean production (assumed to be from the Amazon biome). Indirect land use change is becoming a larger issue in California and will continue to be an area where soybean producers want to help develop to ensure markets stay profitable.

**Domestic Opportunities Goals:**

- **Quality:** Ensure quantity and quality of U.S. soybeans to sustainably supply global markets
- **Feed:** Increase value of soybean meal in domestic feed
- **Industrial:** Grow the use of soybean components in industrial applications
- **Food:** Increase the value and consumption of soy products for food use

Freedom to Operate Action Team Plan
**Strategies to Achieve Goals:** (Reference FTO Program Briefs for complete descriptions)

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Freedom to Operate Action Team projects in the Domestic Opportunities Target Area will help increase the acceptance of today’s agriculture practices by influencers, customers, regulators and influential consumers. They will do this by leveraging prior investments by USB, collaborating closely with external stakeholders, creating industry partnerships, and focusing on key issues such as water, biotechnology, sustainability, transportation, animal agriculture and longevity of the industry.

**Key Performance Indicators:** KPIs listed are in draft stage and require further refinement

- Potential oil, protein and other component level targets are identified by USB and stakeholders and documented.
- Key component measurement scheme is identified and shared with industry.
- Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016.
- U.S. broiler exports increase 5% by volume from 3.1 million metric tons by 2015.
- U.S. broiler exports increase 7% by value from $3.6 billion by 2015.
- U.S. turkey exports increase 7% by volume from 319 thousand metric tons by 2015.
- U.S. turkey exports increase 10% by value from $599 million by 2015.
- U.S. pork exports increase 12% by volume from 2.3 million metric tons by 2015.
- U.S. pork exports increase 15% by value from $6.1 billion by 2015.
- Soybean meal component use in industrial uses reaches 0.081 million metric tons by 2016.
- Soybean oil component use in biodiesel and other industrial uses reaches 5.6 billion lbs by 2016.
- 32 new products/applications (average each year) introduced using a soybean component.
INTERNATIONAL OPPORTUNITIES

Market Environment:
Foreign countries limit market access for a variety of reasons such as protectionism, consumer concern, and political influence. A combination of education, government discourse, and local stakeholder support is utilized to improve trade opportunities for U.S. soy and agriculture exports. Sound science information on a variety of technical issues is shared with global industry and government officials to enable science based regulations and solutions to ongoing trade barriers or to prevent future trade disruptions.

Biotechnology
Individual country governments around the world have or are considering regulations governing the import and production of biotechnology enhanced agricultural products including soybeans. Limited biotech soybean varieties have been introduced during the last 15 years; however the pipeline of biotech soybean varieties is moving fast toward commercialization of numerous biotech events. This sets the global stage for disruption of soy trade due to unapproved soybean biotech events in several major importing countries if full import authorization is not granted. In addition, an estimated 100 new biotech events for a number of agriculture commodities are moving toward commercialization in the next five years. This greatly increases the possibility of finding unapproved biotech trace elements (low level presence) of other agriculture commodity such as corn in shipments and increases the chance of costly trade disruptions.

Sustainability
Sustainability is now an important element of several large companies or organizations marketing program to customers. Companies such as Unilever and trade associations such as FEFAC (Europe feed industry) set goals for sustainability sourced ingredients/products. This is forcing suppliers to not only become sustainable producers but also be able to prove their sustainability. Sustainability is primarily driven by European companies but is a global issue that must be addressed in all markets.

Although sustainability can be seen as just another trade barrier – it does present the U.S. soy industry with a competitive advantage over other major soy exporting countries. The long history of U.S. soy farmer conservation, governmental environmental regulation and financial conservation incentives, and strong labor and community laws position the U.S. as the most sustainable producer of soy.

Market Access Opportunities and Threats
While many trade barriers still exist around the world, the U.S. is negotiating several Free Trade Agreements such as Trans Pacific Partnership (TPP) which includes Japan and Vietnam and the Transatlantic Trade and Investment Partnership (TTIP) which includes Europe and they offer increased export opportunities for several U.S. agricultural products such as soy, corn, wheat, pork, beef, and chicken. In addition to FTAs, opportunities exist in countries such as China to partner with U.S grains, meat, poultry, and dairy organizations in foreign countries to build in-country goodwill for overall U.S. agriculture industry exports.

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Market access threats take many forms and are constantly evolving requiring persistent focus/analysis and detailed attention to sound science. Threats to soy exports include farm chemical applications, classification of food grade mineral oil, differential export taxes, and European Renewable Energy Directive.

Transportation and Infrastructure
The actions/messages for the U.S. transportation and infrastructure are twofold. First, analyze and communicate various ways for U.S. soy transportation infrastructure improvements to be achieved.

Second, that transportation is a competitive advantage for the U.S. soy export industry. In the international marketplace the U.S. is seen as the global leader in efficient and reliable transportation and inspection. This message of complete delivery confidence should be highlighted to international customers.

**IO Ongoing Issues:**
- Help reduce barriers to U.S. soy and soy products market penetration (e.g. trade agreements/tariffs, government restrictions, biotech acceptance and approval, DETs, U.S. soy sustainability)
- Coordination of soy crushers in several countries such as Korea, Thailand, Turkey to address negative impact of Argentina Differential Export Taxes (DET$s$) which provides Argentina crush industry a significant global competitive advantage. Argentina DET$s$ cost the global crush industry an estimated $1.6 billion for the eleven countries plus EU that were analyzed.
- Increase the awareness of globally-recognized sound science associated with U.S. soy with regard to food safety
- Partnership with U.S. poultry, meat, dairy, grains trade associations (FAEA) to provide detailed information to government officials in countries such as Vietnam and China of establishment of food safety regulations
- Foreign team visit to U.S. to meet with U.S. regulators to help develop foreign government regulatory food safety system
- Support testing of U.S. soybeans for exports by GIPSA to ensure that U.S. soy exports meet global maximum residue limits (MRL$s$) for numerous agricultural chemicals and appropriate overseas approvals are sought as U.S. agriculture chemical usage evolves.
- Increase the awareness of globally-recognized sound science associated with U.S. soy with regard to biotech.
- Educate stakeholders on impact of poorly constructed biosafety regulations such as completing analysis of economic impact of Turkish biotech regulations on local industry valued at $800 million annually
- Joint mission to Europe or other key markets with U.S. and South American soy growers to promote sound science of biotech soy with unified soy farmer voice

Freedom to Operate Action Team Plan
• On-site farm visits to see the sustainability practices of U.S. farmers by U.S. soy importers and consumers

IO Emerging Issues:
• Development and implementation of U.S. sustainability certification system based on U.S. Soy Sustainability Assurance Protocol
• Increase the awareness of globally-recognized sound science associated with U.S. soy with regard to sustainability.
• Education on technical issues such as the use of food grade mineral oil as a dust suppressant in U.S. elevators which can disrupt U.S. export opportunities due to lack of scientific definition
• U.S. is negotiating several Free Trade Agreements (FTAs) such as Trans Pacific Partnership (TPP) which includes Japan and Vietnam and the Transatlantic Trade and Investment Partnership (TTIP) which includes Europe
• Europe and Argentina filed complaints at the WTO against each other addressing two long term trade issues. Europe is addressing the use of Differential Export Taxes by the Argentina soy industry with focus on biodiesel and Argentina is addressing Europe’s biofuel requirements. The U.S. soy industry continues to address these market access issues and views the WTO interaction as very positive.
• The U.S. soy industry has opportunity to promote the “Complete Delivery Confidence” provided by the U.S. export infrastructure, inspection, and contracting systems.

IO Program Gaps:
• The U.S. Soy Sustainability Assurance Protocol is almost ready for full implementation and will require additional U.S. and international agriculture industry advertising and promotion for it to become an industry standard.
• In addition to new FTAs, ongoing Agreement enforcement is a concern

INTERNATIONAL OPPORTUNITIES Goals:

• Sound Science: Increase the awareness of globally recognized, sound science associated with U.S. soy with regard to biotech, food safety and security and sustainability
• Trade Barriers: Develop credible resources and educate foreign governments, influencers and stakeholders to improve market access and resolve trade barriers
• Customer Preference: Engage foreign buyers with information and tools that help impact their profitability and drive preference for U.S. soy
• Differentiate: Differentiate the value, sustainability and competitive advantage of U.S. soy from other competing products and origins to increase value and/or market share
Strategies to Achieve Goals: (Reference FTO Program Briefs for complete descriptions)

- **Water (Public Perception)** - Improve public perception of production agriculture related to water issues, with proactive ‘success’ communications. - page 2.
- **Biotechnology and Market Access Issues** - Increase acceptance of biotech benefits/safety. Ensure farmers have future opportunities to utilize biotech products. Manage the communications process with consistent messaging and tools, for effective and timely response to emerging issues. In addition to biotechnology issues this program will also address specific market access and trade issues impacting import of U.S. soy. – page 4
- **Sustainability (Public Perception)** - Increase acceptance of sustainability of U.S. Soy. Create a preference for U.S soy and its derivative products. – page 5
- **Transportation / Infrastructure** - Support and communicate issues related to soy transportation infrastructure working to ensure efficient transportation for the agriculture industry. Promote complete delivery confidence of U.S. soy to international customers. – page 7
- **Animal Ag (International)** - USB-IO international staff will collaborate with U.S grains, meat, poultry, and dairy organizations in foreign countries to build in-country goodwill for overall U.S. agriculture industry. Partnership programs will identify and support common interests such as food safety, and build relationships with key industry and government officials to help support U.S. agriculture. – page 9

Key Performance Indicators: KPIs listed are in draft stage and require further refinement

- By the end of FY 2015, 50% of the target audience (individuals or entities with influence over market access decisions) will gain knowledge of the relevant attributes of U.S. soy which effect access to markets as determined through actions, writings or inquiry of those individuals or entities.
- Categorization and prioritization of those issues influencing the U.S. soybean industry will be developed and will document what should or can be done to affect them to the U.S. soybean industry’s benefit.
- By the end of FY 2015, 50% of the target audience surveyed will be aware of the sound science as presented by USB.
- Programs conducted with partner organizations to improve U.S. agricultural transportation and export opportunities will have measurable impact

SUPPLY

Market Environment:
Weed control is one of the most important management practices employed in soybean production systems. It is also one of the most expensive and time consuming management practices after seeding and harvest. If not effectively controlled, weed infestations can significantly reduce yield. The introduction of glyphosate as a non-selective herbicide improved weed management in burn down situations, especially for problem perennial weeds like...
Johnsongrass. The introduction of glyphosate tolerant crops in the mid-1990s changed the landscape of weed management. The ease and simplicity of using this post emergence weed control system drove the adoption of glyphosate tolerant soybeans to represent over 90% of total soybean acreage within ten years. This resulted in a reduction in use of other herbicide modes of action, ultimately decreasing the total amount of herbicide applied, but increasing the reliance on glyphosate, often as the sole herbicide mode of action used.

Although the reduction in total amount of herbicide applied provides environmental benefits, the reliance on a single herbicide mode of action led to a strong selection pressure for the development of resistant weed populations. Resistant populations of glyphosate-resistant marestail (Conyza canadensis) were identified in 2000. Although often touted as a herbicide to which weeds could not develop resistance, reports of rigid ryegrass (Lolium rigidum) resistance to glyphosate surfaced as early as 1996 in Australia.

Since first being observed in major field crops in the U.S., glyphosate resistant weed populations have expanded their range to more than 25 states. More than six weed species have exhibited resistance to glyphosate. Many of these weed species have also developed resistance to other major herbicide modes of action. This raises concern that control of resistant weed populations may require the implementation of mechanical controls which could result in increased soil erosion.

**SUPPLY Ongoing Issues:**

- **Next Generation of Soybean Researchers** — Encouraging the next generation of soybean researchers is an ongoing and continuing issue that will persist in being a need to ensure continued competitiveness of the U.S. soybean industry. FTO can work to increase the number of K-12, undergraduate and graduate students with interest in soy science.

- **Managing Abiotic Stress** -- Developing soybean varieties with greater resilience and resistance to abiotic stresses remains important. Soybean varieties that can handle heat stress, water stress (too much or too little) and other climate-related stresses will be important for U.S. soybean producers.
  - **Herbicide Resistance Management** -- One of the key issues impacting farmers’ continued ability to produce soybeans is the development of weed populations with resistance to the major available herbicides.
SUPPLY Emerging Issues:

- General issues related to water quality and the water supply have become more visible and more critical in recent years and agriculture is often involved in these issues in ways that are both real and perceived by the public. This is likely to lead to more scrutiny by regulators, agencies and the media for farmers and agriculture groups. For this reason, the time is right for proactive and thoughtful review and improvement in farm practices related to water. These improvements will be a continued effort to engage in improvements and solutions as the issues and the conversation evolves.

- Support education programs for trained farm labor. Work toward the end result of effective training programs for technically competent farm labor. Provide knowledge resources to existing training programs; connect training programs with cutting-edge research that supports increased soybean yields.

SUPPLY Program Gaps:

In addition to concerns over controlling glyphosate resistant weeds and the potential environmental impacts that alternate control measures may have, there is a need to focus on the development of weed management systems that prevent the development of herbicide resistance. The continuous use of one herbicide mode of action without rotation to other weed control practices has been the primary cause of weed resistance development.

SUPPLY Goals

- **Yield Production**: Increase soybean yield potential and capture a greater proportion of yield potential

- **Sustainability**: Achieve continuous improvement against all key sustainability production performance metrics

Strategies to Achieve Goals (Reference FTO Program Briefs for complete descriptions):

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Freedom to Operate Action Team projects in the Supply Target Area will help increase the acceptance of today’s agriculture practices by influencers, customers, regulators and influential consumers. They will do this by leveraging prior investments by USB, collaborating closely with external stakeholders, creating industry partnerships, and focusing on key issues such as water, biotechnology, sustainability, and longevity of the industry.

Freedom to Operate Action Team Plan

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Key Performance Indicators: KPIs listed are in draft stage and require further refinement
- Increase average U.S. soybean yield by 25% per acre through translation of research results into new higher yielding varieties and better management practices. (USDA-NASS) Baseline of 44 bu/a in 2009 per USDA-NASS figures.
- Capture 20% more genetic yield potential per acre by 2020 by managing biotic and abiotic stresses that impact yield. (USDA-NASS, USDA Advanced Yield Trials) Genetic yield potential baseline of 160 bu/a, Kip Culler’s 2010 World Record.
- Soybean production systems require 10% less inputs (fuel, fertilizer, pesticides) resulting in 10% increase in on-farm profitability by 2020. (Field to Market metrics)

COMMUNICATIONS

Market Environment:
An economic analysis of the communications industry is not relevant to the work of the Action Team. Instead, the communications target area uses the economic insights of all other target areas to best support the work of the board.

COMMUNICATIONS Ongoing Issues:
- The issue of consumer acceptance of production agriculture, and specific FTO issues, continues to be a critical concern for soy and for agriculture. The increasing trend toward organic and local food and distrust of science and technology in food has increased attacks on today’s farming practices, specifically on animal agriculture, biotechnology and sustainability. The focus now is on connecting influential consumers with real farmers and powerful information to build trust and support. This is done by a combination of humanizing agriculture, showing a willingness to be open and transparent and by providing credible scientific and economic data as well. The task of reaching influencers and consumers is so broad, collaboration across commodities and various stakeholders is more important than ever.
- While the U.S. transportation system is still a benefit for U.S. soy when compared to our competition in other countries, transportation infrastructure concerns still remain high when looking into the future of a healthy soy industry here in the United States. The industry is only as strong as its ability to reliably transport soy around the country and to the rest of the world. Communication is important with this issue because of the need to educate key influencers on the threat to agriculture and the economy should this issue be ignored.
- The sustainability of U.S. soy continues to be a critically important communications issue for the industry. U.S. soy farmers’ conservation and sustainability practices are a solution to market place demands for a sustainable supply. These U.S. production practices combined with U.S. laws, regulations, and environmental government
incentives provide the U.S. a competitive advantage over countries in the export marketplace. Building an understanding on this topic, among our customers and other influencers, will open doors and increase opportunities for the industry in coming years and generations.

COMMUNICATIONS Emerging Issues:
- While water quality and conservation issues are not new to agriculture, they are increasingly important to farmers’ freedom to operate. Recent droughts and floods around the country have put water in the headlines and those stories often lead back to farming. In some parts of the country, water is a very high strategic priority for commodity groups, in other places the issues are on the horizon. Whichever the case, there is a growing sentiment that it is time for the soy industry to work with other commodity groups to find solutions.
- The benefits of biotechnology to agriculture are not new and even the controversy surrounding biotechnology has been around for years. Yet the issue has taken center stage in the past 2 years because of a consumer movement calling for labeling of all foods containing ingredients enhanced with biotechnology. This movement has raised awareness and fear of what are commonly called GMO foods. In November 2012, Prop 37, calling for the labeling of all GMO foods in California, was defeated. Still, the movement is alive and well and as many as 20 states are facing proposed legislation or initiative on the subject. This increased attention on the issue is an opportunity for the soy industry to speak up about the benefits of biotechnology.

COMMUNICATIONS Program Gaps:
- There is an ongoing need for continuity among messages reaching target audiences. The more we can share data, collaborate on language and agree upon communications priorities, the more impactful we can be in our efforts to increase acceptance of today’s farm practices. It is also critically important that we are certain that our efforts are actually reaching, and influencing our target audiences. It is not enough to create great information if it does not reach the audience in a way that engages them.

COMMUNICATIONS Goals:
- Collaborate with various partners including QSSBs, USFRA, CFI and others to leverage the resources, knowledge and access of those groups. This collaboration will also ensure consistent messaging and greater impact in our outreach efforts.
- Increase acceptance of today’s agriculture by non-ag audiences by creating open and transparent conversations and engagement between farmers and influencers and by providing engaging tools and credible information supporting today’s production agriculture practices.
- Create engaging and informative communications tools to reach our audiences with relevant information on today’s farming. These tools range from research and key insights to websites and videos. We must creatively connect with our various audiences in appealing ways or we risk wasting our investment in telling our story.

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• Make certain that all USB stakeholders are informed and aware of pertinent actions and information related to the activities serving the FTO strategic objectives.

**Strategies to Achieve Goals:** (Reference FTO Program Briefs for complete descriptions)

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USB’s Freedom to Operate communications activities will address the strategies listed above in 3 primary ways. The first is through thoughtful outreach to consumers and influencers to increase trust and understanding of production agriculture. This touches on the issues of biotechnology, water, sustainability, and animal agriculture. Secondly, the activities will focus on supporting outreach to key industry partners and customers in areas that relate to Freedom to Operate. These activities will touch the topics of sustainability, biotechnology and animal agriculture, domestically and internationally. The third way is in outreach and collaboration with our partners inside of agriculture and related groups. These collaborations will lead to development of programs that have potential for more impact and more value to all. These activities will serve the strategic issues of water, transportation, animal agriculture and others.

**Key Performance Indicators:** KPIs listed are in draft stage and require further refinement

- Increase the number of partnerships with QSSBs
- Create three or more value chain partnerships
- Increased agreement among targeted influencer audiences that today’s agriculture is moving in the right direction
- Increase in the number of targeted influencers who trust soybean farmers and the rest of agriculture
- Increase in the number of targeted influencers who view farmers and ranchers as credible thought leaders
Customer Focus Action Team Plan

FY2014

CUSTOMER FOCUS Long-Range Strategic Plan Objective: Meet our customers’ needs with quality soy products and services to enhance and expand markets.

INTRODUCTION

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Strategic Direction:
Customer Focus Strategic Objective – Meet our customers’ needs with quality soy products and services to enhance and expand our markets.

The Customer Focus Action Team works to meet the demands of U.S. soybeans, soybean meal and soybean oil customers around the globe. It starts by monitoring and understanding customer needs, and continues through providing quality products and services to address their needs.

At the core of the work, the action team aims to start, maintain or improve relationships with the people or organizations who buy U.S. soy. A positive relationship can be formed many ways, such as by serving as a resource to answer questions or by providing data or technical support, and can lead to a positive opinion of U.S. soy. And while the customer relationship is meaningful, even more important is how USB and the soy checkoff deliver quality products and services to enhance and expand our markets.

The Customer Focus Action Team has prioritized the board’s target area goals to help affect the overall Customer Focus Strategic Objective. Many of the goals tie together to work toward the objective. For example, the top ranked goal of driving preference for U.S. soy connects to the second-ranked goal of ensuring U.S. farmers produce the quantity and quality of U.S. soybeans needed to sustainably supply global markets. We need quality products to ensure customer preference. The Action Team will move forward in FY 2014 with a plan to address the relevant target area goals to help achieve the Customer Focus strategic objective and contribute to the overall USB strategic plan.
DOMESTIC OPPORTUNITIES

Market Environment:
Soybeans were planted on 77.2 million acres in 2012 producing 3.015 billion bushels of soybeans with an average yield of only 39.6 bu/acre due to severe widespread drought. The average price paid to farmers was $14.30 per bushel.

As of May 14, USDA estimates the 2013 U.S. soybean crop will increase 12 percent to a record 3.39 billion/bu. Crush is forecast up 60 million bu. to 1.695 billion bu., with a lower average farm price between $9.50 and $11.50 per bu. due to increasing global soybean supplies.

The U.S. soybean customer base consists of three markets: human foods, animal feed and industrial uses. An untapped market is use of soy for medical devices, nutraceuticals and dermatologicals. The animal feeds market represents the number one domestic market for U.S.-produced soybeans, consuming 76% of total soybean crush domestically. The human foods market is next at 18% of the market. And industrial uses rounds things off at 6% of the domestic market, due largely to increases in biodiesel production.

This Action Plan will address USB’s CUSTOMER FOCUS strategy as it applies to the supply chain as well as its three main markets of human food, animal feed and industrial applications. Within the structure of the Board, Domestic Opportunities tactics under the Customer Focus umbrella consist of 1) documenting and improving the quality of U.S. soybeans and components, 1) serving as the resource for all USB economic and market data, and 3) marketing of biobased products, farm-raised seafood and soy food products to buyers and consumers.

Soybean Quality
The majority of U.S.-produced soybeans are sold on the commodity market, which compensates growers based on market price/bushel x volume. U.S. soybean producers, accustomed to receiving revenue based on yield, are generally unaware of the negative market response due to lower/declining protein levels. Early USB efforts to address declining U.S. oil and protein levels and help U.S. farmers remain competitive in the global market have evolved over time, and now many of USB’s quality improvement responsibilities fall under the Customer Focus Action Team as well as the Value Task Force which is working with industry to address quality/value recognition for the U.S. soybean crop.

As a result, it remains critically important to continue documenting the quality of U.S. soybeans so that important value characteristics such as oil, protein percentage, amino acid profile, energy contribution and other aspects of the soybean can be tracked. This also implies a foundational ability to measure soybean quality using methodology that is accepted industry wide.

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Market Data
The Customer Focus Action Team maintains responsibility for researching, collecting, and analyzing global economic and market data for soybean supply, use and markets. This involves not only historical market data, but also anticipating ever-shifting market scenarios based on emerging trends and global issues. Examples of such work have included in-depth analysis of the food use of soy protein market, the potential economic impact of increasing regulations on the animal agriculture industry and, most recently, an assessment of the economic impact to farmers of the Food Safety Modernization Act (FSMA).

The FSMA report was completed in 2012. However, because delays in the rule-making and implementation of the Food Safety Modernization Act, which will ultimately determine how significantly they will impact soybean farmers, processors and downstream customers, the economic scenarios developed for the report are more general in nature. A follow up study may be considered once the rule making is complete.

An interesting facet of the soybean industry is that soybean markets measure and value the various components using different units. Until USBs development of the Market View Database in 2006, there were no existing “apples to apples” comparisons of soybean oil, meal and whole beans. USSEC and SmithBucklin have worked together to provide a global data perspective, and this information serves as USB’s official data source for market information. The data allows analysis of market trends and progress over time, and is the reference for Decision Support Tool results.

Unfortunately, with Federal budget cuts, two key data sources for the Market View Database have been discontinued. Reports M311J and M311K that had been prepared by the U.S. Commerce-Census Bureau were central to providing public information regarding the volume of U.S. Domestic Oilseed Crush and Fats and Oils Production, Consumption and Stocks. These reports were terminated in July 2011, and since then limited information has been available to assess the oilseed processing industry.

Looking forward, USDA-NASS has included funding in the President’s FY2014 Budget Request to re-establish the reports of critical oilseed processing data as a portion of their Census of Agriculture authorities. However, even when that information becomes available, a gap in data and analysis will exist between July 2011 and when the reports begin again.

Although the National Oilseed Processors Association (NOPA) collects crush data, they are now sharing that data through subscription service only. The lack of broad public information for critical market analyses has led USB to explore alternatives to replace data from the M311J and M311K reports.

Biobased Products
Since 2000, industrial use of soybean oil (not including biodiesel) and its co-products of soapstock and glycerin have increased from less than 200 million pounds to well over a billion pounds annually. USDA estimates nearly 3,100 U.S. companies produce more than 25,000

Customer Focus Action Team Plan

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biobased products, including those using soy. The federal government, which purchases over $500 billion in goods and services annually, serves as a leader for state and local governments, as well as the private sector, in the recognition and use of biobased products.

The Federal Procurement Preference “Biopref erred” program calls for all government agencies to purchase biobased products unless they are not readily available, cost competitive, or perform as well as traditional products. The Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) reinforces and strengthens USDA’s BioPreferred Program for listing biobased products eligible to receive federal purchasing preference (including ways to accelerate the listing of finished products that use intermediate biobased ingredients and/or biobased components). In the process, minimum biobased content standards are established for each product category.

USB promotes the use of soy-biobased products to government audiences and helps manufacturers identify government sales and marketing opportunities. There are also many opportunities to promote soybased products in major cities in the US. In fiscal year 201 the City of New York procured almost $15 billion of supplies, services and construction. With an annual average of $20 billion invested in public purchasing contracts of goods and services in New York, the area offers a prime opportunity for advancing the use of soy biobased products to help purchasers meet sustainability and other goals.

Human Food Use
Soy for human consumption is the soy farmer’s second largest customer. Human food accounts for nearly 18% of soy use with most of that usage soybean oil related. Soybean oil typically provides from 35 to 45 percent of the value of the bean.

Soybean oil market share has dropped to 61% over the past 6 years due to the need to hydrogenate soybean oil for many uses (baking and frying), thus creating trans fats. Soybean oil food use peaked at just over 17 billion pounds in 2005 and currently accounts for about 12.2 billion pounds. High oleic canola and palm oil have replaced about 4 billion pounds of hydrogenated soybean oil. High oleic soybean oil is expected to enter the commercial market in 2014 and is projected to regain a large portion of lost market share. According to the USB Value Chain Analysis, HOSBO will add $4 Billion to producer value, annually, by 2023.

However, the non-hydrogenated commodity soybean oil market remains strong and accounts for 9 billion (of the 13 billion used) pounds of human soybean oil consumption, primarily in cooking oil, salad dressings and margarines.

Soybean oil for home cooking use is marketed at the retail level as vegetable oil which makes it particularly interesting that 68% of consumers perceive soybean oil as healthy, though they do not know they are buying soybean oil. This perception of soy’s healthfulness compares favorably to canola oil (69%). This point leads us to a discussion of soy protein and the soy “health halo.”

Soy protein only accounts for about 3% of the soybean meal use. However, the protein market is a high value market and more importantly is the reason for the soy “health halo” resulting in 80% of consumer perceiving soy as healthy. Transference of the soy health halo to oil and other

Customer Focus Action Team Plan
soy components is important to industry success and even positively affects perceptions in the new uses segment. Soy food sales have been flat the past year and some categories, soy milk, have declined due to intense competition.

**DO Ongoing Issues:**
- Establishing enhanced trait oils in the marketplace to regain food use market share.
- Negative attacks on soy foods, particularly in the social media, on soy’s healthfulness.
- Increasing interest in renewable biobased products to replace petroleum products

**DO Emerging Issues:**
- GM labeling of foods
- Growing anti-biotech sentiment among consumers in the U.S.

**DO Program Gaps:**
- Lack of health research funding for soy foods
- No current USB programs exploring or addressing pharmaceutical/nutraceutical applications
- Investment opportunities and education of soy biobased product benefits
- Replacing market data no longer available from Census

**DOMESTIC OPPORTUNITIES Goals:**

**DO 1) Quality:** Ensure quantity and quality of U.S. soybeans to sustainably supply global markets

*Strategies to Achieve Goals:*
- Document the quality of U.S. soybeans and understand variety, regional, environmental and management practice variations in quality
- Engage with industry to find ways to advance soybean quality
- Provide technical expertise needed to achieve USB’s quality and market objectives
- Improve the quality of U.S. soybeans and support the Value Task Force

*Key Performance Indicators:*
- Potential oil, protein and other component level targets area identified by USB and stakeholders and documented.
- Key component measurement scheme is identified and shared with the industry.

**DO 2) Feed:** Increase value of soybean meal in domestic feed

*Strategies to Achieve Goals:*
- Capitalize on the fact that 85% of seafood consumed in the U.S. is through restaurant and food service by educating chefs on the quality and availability of farm-raised seafood
- Correct misperceptions about farm raised seafood through outreach to culinary schools, chef organizations and retail/food service professionals. Focus on health, environmental and economic benefits of farm-raised seafood.

Customer Focus Action Team Plan
Key Performance Indicators:
- Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016

**DO 3) Component Value: Capture greater value from U.S. soybeans for all sections of the soybean community**

**Strategies to Achieve Goals:**
- Provide USB with economic data and analysis to support all programs
- Collect and maintain data to be used as USB’s official source of soybean supply and consumption by region and market segment

**Key Performance Indicators:**
- A component value marketing platform for the U.S. is established by 2016

**DO 4) Industrial: Grow the use of soybean components in industrial applications**

**Strategies to Achieve Goals:**
- Transfer new soy-based technologies to industry
- Elevate and expand the image of soy and soy products among influencers
- Educate biobased markets on high oleic soybean oil

**Key Performance Indicators:**
- 32 new products/applications (average each year) introduced using a soybean component
- Soybean oil component use in biodiesel and other industrial uses reaches 5.6 billion pounds by 2016
- Soybean meal component use in industrial reaches 81 thousand tons by 2016.

**DO 5) Food: Increase the value and consumption of soy components for food use**

**Strategies to Achieve Goals:**
- Maintain the soy health halo
- Leverage USB funds for soy health research
- Gain awareness, trial and adoption of soy components by end-use customers

**Key Performance Indicators:**
- Maintain consumer perceptions of soy as healthy at 80% (+/- survey variance) as determined by the annual USB Consumer Attitudes about Nutrition survey
- Maintain current research program ROI of $24 to $1
- Stabilize soybean oil market share at 61%; begin reversal of market share decline.

**DO 6) New Market Development: Pharmaceutical and Nutraceutical – Identify growth opportunities for the use of soybean components in these high-value, low-volume applications**

**Strategies to Achieve Goals:**
- Investigate opportunities for soy in the Pharmaceutical/Nutraceutical arena
- Conduct market/economic assessment of this market

**Key Performance Indicators:**
- At least one opportunity in this arena is considered for USB investment
- Decision is made as to Boards interest in engaging with this market

Customer Focus Action Team Plan
INTERNATIONAL OPPORTUNITIES

Market Environment:

Markets
Strong global demand, particularly in China, and drought-related crop losses in South America and the U.S. have driven high global soybean prices over the last four years. Global soybean production fell by 7.95 MMT from 2007/08 to 2008/09 because of a very poor crop in Argentina and it fell by 24.13 MMT from 2010/11 to 2011/12 because of a poor crop in South America. However, both declines were followed by large increase in the following years due to better weather and higher prices. Fortunately, demand also increased strongly in years of plentiful supplies and the world avoided burdensome stocks.

Both prices and demand could be facing pressure in the near future, though. South America is now harvesting its largest crop in history (148.47 MMT) which is estimated to be 32.26 MMT (27.8%) larger than last year. USDA is forecasting U.S. farmers will plant 77.1 million acres of soybeans in 2013 and harvest 76.2 million acres. It is forecasting an average yield of 44.5 bushels/acre. Planted and harvested soybean area likely will be even greater because of the late, wet spring.

Global ending stocks are likely to rise, so the challenge for the U.S. soybean sector is to minimize the U.S. share of that buildup. History has shown that the prices farmers receive for their soybeans are negatively correlated to the size of ending soybean stocks at the end of each marketing year: the larger the stocks the lower the price and vice versa. Domestic soymeal demand, which drives U.S. crush volume, is expected to grow by 2.7 percent. Assuming the U.S. produces a record soybean crop in 2013 a key way the U.S. will be able to avoid burdensome ending stocks in 2014 is to achieve a high volume of exports of soybeans and soymeal.

The global market place is very competitive. To address this market reality, USB uses a market segmentation matrix in IO allowing it to approach markets in a more informed manner. The approach measures individual countries and markets in terms of market potential and U.S. accessibility. In addition, individual customer segments are analyzed in terms of where they fit on a buyer’s continuum that ranges from being oblivious to U.S. soy all the way to being a consistent buyer. Customer preference programs are administered depending on where the customers are positioned on this continuum. Equally important, this segmentation matrix allows IO to optimize the use of available financial and human resources.

USB IO efforts in this area will include a number of programs bringing buyers and sellers together in settings to discuss overarching issues of supply chain management, risk management and trade servicing. Trade teams coming to the United States and Grower leaders going to the international markets is a key component as well. Through these programs, a solid data base is developed that cuts across the soy value chain further linking the industry together and enhancing its ability to share critical data and information on timely topics of quality and service. The USB global footprint includes 5 regions covering nearly

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80 countries allowing for maximum exposure of U.S. soy. All combined these activities position U.S. soy to be marketed as offering the highest overall customer satisfaction and value.

Customers
Users of U.S. soy in international markets lack an understanding of the unique opportunities and value U.S. soy offers buyers in terms of programs offered to improve operational efficiencies, the value of working in a stable contract environment, the importance of globally accepted testing and measuring techniques, the peace of mind and financial advantages gained because of superior logistics and shipping options, the financial rewards potential by understanding and implementing proper risk management tools and best in class industry practices, the numerous U.S. government assistance programs, and how to best structure buying programs, the sustainability advantage of U.S. soy from other competing products and origins to increase value and/or market share, thus limiting their confidence in purchasing U.S. soy products. Potential and current users of U.S. soy in international markets lack an understanding of High Oleic soybean oil economic benefits, preventing them from rapidly adopting the high oleic soybean oil once commercially available.

Investors, the soy and aquaculture production and supply chains, and seafood consumers lack awareness of the opportunities that the U.S. soy industry provides to enhance the global seafood supply quantitatively and qualitatively. This limits aquaculture expansion and acceptance, thus limiting demand for U.S. soy-based feed.

Customers needing assistance in these areas will range on the buyers continuum from having awareness of U.S. soy to being consistent purchasers. They require programs that specifically provide them with a greater understanding of the aforementioned areas, helping them overcome the reasons which prevented them from being consistent buyers to consider making purchases of U.S. soy.

IO Ongoing Issues:
- Competition by origin
- Competition by other protein sources, such as synthetic amino acids, fishmeal, canola
- New soy technologies (e.g. High Oleic)
- Building a brand for U.S. soy
- Growing middle class especially in Asia and the Indian Sub-Continent and their inability to produce enough protein to satisfy demand
- Economics
- Funding uncertainties

IO Emerging Issues:
- Leveraging existing customer relationships to examine the potential/risks of introducing new biotech events in the market (e.g. High Oleic Oil)
- Emphasize the total quality experience of U.S. soy
- Joint research with importing & exporting country academics to validate the research results

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• The absence of a “soy ambassadors” program to place informed and convincing farmer spokesmen/women at international venues

**INTERNATIONAL OPPORTUNITIES Goals:**

**IO 1) Sound Science**: Increase the awareness of globally recognized, sound science associated with U.S. soy with regard to biotech, food safety and security and sustainability

**Strategies to Achieve Goals:**
• Rely on Programs and Projects developed by the Freedom to Operate Team
• Incorporate key messages on sound science in trade servicing in all regions

**IO 2) Trade Barriers**: Develop credible resources and educate foreign governments, influencers and stakeholders to improve market access and resolve trade barriers

**Strategies to Achieve Goals:**
• Rely on Programs and Projects developed by the Freedom to Operate Team
• Incorporate key messages on sound science in trade servicing in all regions

**IO 3) Customer Preference**: Engage foreign buyers with information and tools that help impact their profitability and drive preference for U.S. soy

**Strategies to Achieve Goals:**
• Focus resources on the highest market opportunities for, growth, value and accessibility.
• Continue to meet international market needs with quality soy products and services to enhance and expand our markets.
• Promote projects and activities in targeted international markets such as:
  • Trade servicing
  • Collecting data, developing and interpreting market intelligence.
• Represent U.S. Soy with human resources with relevant language, cultural and local market knowledge and credibility.

**IO 4) Differentiate**: Differentiate the value, sustainability and competitive advantage of U.S. soy from other competing products and origins to increase value and/or market share

**Strategies to Achieve Goals:**
• Focus resources on the highest opportunity customers (current, former and potential) in international markets.
• Meet international customer needs with quality soy products and services to enhance and expand our markets.
• Improve risk management, investment and operational efficiency training for target customers.
• Develop and promote data related to the differentiated quality of U.S. soy.
• Connect international buyers with U.S. suppliers and growers, especially USSEC members.
• Represent U.S. Soy with human resources with relevant language, cultural and local market knowledge and credibility. (This is a key point of differentiation from South American soy competition)

**IO 5) Branding:** Establish a “Buy U.S. Soy” campaign focused primarily on the added value that can be captured from containerized shipments

**Strategies to Achieve Goals:**
• Incorporate strategy into four target area goals that received the highest ranking by USB Directors in July 2012, especially Customer Preference and Differentiate.

**IO 6) Reverse Marketing:** Increase domestic consumption in India to reduce competition in markets where U.S. and Indian soy compete

**Strategies to Achieve Goals:**
• Incorporate strategy into four target area goals that received the highest ranking by USB Directors in July 2012, especially Market Access for India.
• Prepare the Asian Subcontinent (India, Sri Lanka, Bangladesh, Pakistan comprising almost 1.5 B people) for its near-term need for imported soy using traditional market development strategic approaches of differentiate and establish a preference for U.S. Soy.

**Key Performance Indicators:**
• Conduct at least 20 feeding trials and publish results on USSEC Websites globally
• Prepare and submit at least 5 papers in the peer-reviewed literature
• Hold at least 10 seminars, conferences and trade shows in all regions with a minimum of 100 participants at each conference on the differentiated characteristics of U.S. Soy. Measure effectiveness of seminars, conferences and trade shows via customer surveys, including information on behavioral changes arising from participation in the conferences.
• Arrange for at least 10 in-bound trade teams from all regions with a minimum of 7 participants in each to maintain customer preference for U.S. Soy and differentiate the intrinsic and extrinsic value of U.S. Soy. Measure effectiveness of in-bound trade teams via customer surveys, including information on behavioral changes arising from participation in the trade visits.
• Arrange for at least 20 United Soybean Board Directors to participate in seminars, conferences and trade shows in all regions. Measure effectiveness of United Soybean Board Directors participation via surveys, including increased knowledge and importance of USB IO’s activities in export markets.
• By the end of FY 2015, 50% of the target audiences will gain knowledge of the relevant extrinsic attributes of U.S. soy which differentiate it from the competing protein sources and from that of other soy exporting countries.

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- Move from a moderately to highly effective cooperator as determined by USDA’s Foreign Agricultural Service.

**SUPPLY**

**Market Environment:**
The maximum U.S. average soybean yield of 44 bu/a was achieved in 2009. The World Soybean yield record of 160.6 bu/a was achieved in Missouri in 2010. The 4X disparity in these yields relates to the capture of existing yield potential through the implementation of best management practices.

Although not all management practices that resulted in the world record are economically viable, increased adoption of better management practices will increase the proportion of genetic yield potential that is captured by U.S. producers.

A number of factors influence the ability of U.S. farmers to capture yield potential including climatic stresses, varietal adaptation and pest pressure. Appropriate management practices can help alleviate these stresses and allow producers to increase yields with existing soybean varieties. Examples of practices that can increase yield include proper plant population and row spacing to better capture available sunlight, optimization of fertilizer inputs and protection of plants from pests through appropriate timing of pesticide applications.

In order for customers using U.S. soybeans to capture the full value of soy products analytical techniques that accurately characterize soybean composition are needed. In the case of sugars and amino acids, current analytical techniques are inadequate due to problems during sample digestion that often destroy key soy compositional components. Less caustic, more effective analytical methods are needed to better describe the content of these components in soybeans and soybean meal. In addition, different customers currently utilize different standards, often resulting in conflict between supplier and customer. Globally accepted uniform standards would alleviate these problems.

A recent “research gap” analysis funded by the USB Audit and Evaluation Committee and conducted by Bryant-Christie identified several key needs in soybean research. Chief among these in view of shrinking public research budgets is the need to better coordinate research activities both nationally and regionally. The goal of this coordination should be to use standard criteria for the development and evaluation of research proposals to identify potential synergies that can be obtained through collaboration among states, USB and industry. Improved coordination should also reduce research redundancies.

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SUPPLY Ongoing Issues:
- Need for best soybean production systems that implement best management practices that capture a higher proportion of genetic yield potential
- Development of globally accepted analytical techniques and standards for all major soybean compositional components including sugars, fiber, amino acids and fatty acids.

SUPPLY Emerging Issues:
- Better coordination of checkoff research activities to capture inherent synergies and reduce redundancy in research efforts, especially in view of shrinking public research budgets. Includes the need to coordinate research activities with private industry.

SUPPLY Program Gaps:
- Optimum soybean production systems to capture maximum proportion of genetic yield potential
- Globally accepted analytical techniques and standards to accurately characterize the full value of U.S. soybeans
- Coordination of soybean research efforts among USB, QSSBs and industry to capture synergies and reduce redundancy

SUPPLY Goals:

**SP 1) Yield Production: Increase soybean yield potential and capture a greater proportion of yield potential**

**Strategies to Achieve Goals:**
- Identify soybean best management practices that optimize use of production inputs in soybean production systems.
- Develop soybean production systems that incorporate best management practices including optimum variety/maturity group deployment, plant population and row spacing to capture more yield potential.

**Key Performance Indicators:**
- Increase average U.S. soybean yield by 36% per acre from 44 bu/a to 60 bu/a by 2025 through translation of research results into new higher yielding varieties and better management practices.

**SP 2) Quantity and Quality: Ensure quantity and quality of U.S. soybeans to sustainability supply global markets**

**Strategies to Achieve Goals:**
- Coordination of research activities among USB, QSSBs, industry and other commodity groups to better address key strategic issues related to soybean yield and quality.

**Key Performance Indicators:**
- Match key soybean meal traits including amino acid levels and digestible energy to nutrient needs of key livestock classes to increase domestic utilization of U.S. soybeans by the animal feeding industry by 25% by 2025.
- Development of an annual USB/QSSB joint strategic research planning session to identify opportunities

**SP 4) Feed: Identify and develop measures that characterize and allow value capture of U.S. soybean meal**

**Strategies to Achieve Goals:**
- Development of globally accepted analytical techniques and standards for all major soybean compositional components including amino acids, sugars, fiber and fatty acids.

**Key Performance Indicators:**
- Standard analytical measures for digestible amino acids developed by 2020
- Standard analytical measures for metabolizable energy accepted worldwide by 2016
- Document the composition profile and resulting value of U.S. soybean and soybean meal compared to South American competitors by 2015
- Achieve certification of 25 laboratories for analysis of digestible amino acids and metabolizable energy in soybeans and soybean meal by 2020

**COMMUNICATIONS**

**Market Environment:**
According to the February 2013 Producer Attitudes Survey, 76 percent of soybean farmers support the checkoff. Years of data have shown that the more familiar a soybean farmer is with the details and specifics of the soy checkoff, the more supportive he or she is of the checkoff. Sixty four percent of soybean farmers believe the checkoff has at least a medium impact on their bottom line profitability, while only 14 percent believe the checkoff has no impact on their profitability. Forty-eight percent of soybean farmers indicate animal ag as their number one customer beyond the elevator, with 27 percent that name exports. In 2008, only 14 percent of soybean farmers named animal ag as their number one customer beyond the elevator, and 25 percent could only name the elevator.

Aside from statistics, soybean farming continues to be full of challenges. Many farmers across the country have faced weather related challenges, such as too much water, that have impacted planting. In 2012, many farmers were negatively impacted by the drought. Herbicide resistant weeds are becoming more of a challenge in some growing regions. Diseases and insects threaten farmers’ yields. Input costs are high. It’s important for USB to keep these challenges in mind as the organization communicates to soybean farmers, whether it’s about customer needs, checkoff accomplishments or tools and information that can impact a farmer’s profitability.

**COMMUNICATIONS Economic Overview:**
- An economic analysis of the communications industry is not relevant to the work of the Action Team. Instead, the communications target area uses the economic insights of all other target areas to best support the work of the board.

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COMMUNICATIONS Ongoing Issues:
- USB and the soy checkoff will continue to push farmers to think about their customers beyond the elevator. Research shows that farmers consistently select varieties with yield in mind and not necessarily their customers’ needs. With a growth in farmer recognition of animal ag as soy’s number one customer, messaging will evolve in FY 2014.
- USB invests in a variety of strategies to maximize soybean farmers’ profit opportunities. The board will continue to share relevant and timely information about its investments to U.S. soybean farmers.

COMMUNICATIONS Emerging Issues:
- Farmers in select geographies can choose to grow high-oleic varieties, which help to meet the needs of their food industry customers.
- The spread of herbicide resistant weeds across the country threaten farmers’ yield potential. A study funded by USB indicates that while 38 percent of farmers think herbicide resistant weeds are a significant problem, 45 percent see it as a future problem and 16 percent don’t see it as a real problem. The study also reveals that farmers think herbicide resistance is more of a problem on their neighbor’s farm than their own. USB, 15 extension agents and 6 herbicide manufacturers have united to educate farmers on how they can take action against herbicide resistant weeds.
- Finally, 2014 marks the timeframe for the next Request for Referendum period for the soy checkoff. USB will continue to communicate its accomplishments to farmers, especially prior to this period.

COMMUNICATIONS Program Gaps:
- While the Customer Focus Communications Target Area allocation focuses on reaching U.S. soybean farmers, the other target areas address communicating to other relevant audiences for the Customer Focus Action Team.

COMMUNICATIONS Goals:

C 1) Leverage: Collaborate with Qualified State Soybean Boards (QSSBs) and value chain to ensure consistent messaging and leveraging of resources with QSSBs and value chain

Strategies to Achieve Goals:
- QSSB Partnerships – Partner with QSSBs to communicate with farmers.
- Value Chain Partnerships – Partner with Value Chain to amplify consistent messaging.

C 2) Customer Awareness: Grow U.S. farmer understanding of end-use customers and their changing needs

Strategies to Achieve Goals:
- Farmer Engagement: Increase farmer understanding of end-use customers.
C 4) Tools and Information: Engage U.S. soybean farmers with information and tools that help impact their profitability

Strategies to Achieve Goals:
- Production Technology and Best Practices Transfer: Equip farmers with production information, tools and best management practices.

C 6) Checkoff Awareness: Increase the number of U.S. soybean farmers that know at least two soy checkoff-funded activities

Strategies to Achieve Goals:
- Farmer Engagement: Increase farmer understanding of the checkoff.

Key Performance Indicators
- Partner with all 31 QSSB partnerships.
- Benchmark value chain extension of messages and increase.
- Create three or more value chain communications partnerships.
- Percentage of U.S. soybean farmers who know animal ag is their number one customer increases from 45 percent to 48 percent.
- Increase awareness by U.S. soybean farmers in key geographies of opportunities to grow trait-enhanced varieties.
- Increase percentage of U.S. soybean farmers who believe Beyond the Bean magazine is as or more useful than other magazines received from 77 to 80 percent.

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