USB Action Plan
FY 2015
FINAL as of
October 1, 2014
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UNIVERSAL 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
# USB Strategic Objectives and Target Area Goals

## Domestic Opportunities
### Meal
- **Increase Value of U.S. Meat**
- **Quality and Component Value:** Ensure quality and quantity of U.S. soybeans to sustainably supply global markets while capturing greater value for all sectors of the soybeans industry.
- **Customer Focus:** Freedom to Operate
- **Feed:** Increase value of soybean meal in domestic feed
- **Industrial:** Grow the use of soybean components for industrial and other new applications.
- **Food:** Increase the value and consumption of soy products for food use.

### Oil
- **Increase Value of U.S. Oil**
- **Customer Focus:** Freedom to Operate
- **Quality and Component Value:** Ensure quality and quantity of U.S. soybeans to sustainably supply global markets while capturing greater value for all sectors of the soybeans industry.
- **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.
- **Market Access:** Develop credible resources and educate foreign governments, influencers and stakeholders to improve market access and resolve trade barriers.
- **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.

## International Opportunities
### Customer
- **Customer Focus:** Ensure Freedom and Infrastructure to Operate
- **Custom Order Preference:** Engage foreign buyers with information and tools that help impact their profitability and drive preference for U.S. soy.
- **Component Value:** Improve seed composition to increase component value of U.S. soybeans ensuring quantity and quality to sustainably supply global markets, including the expansion of the availability of the high oleic (>70%) trait in adapted, high-yielding varieties in all major soybean maturity groups.
- **Yield Research:** Identify molecular techniques and genetic pathways that enhance soybean yield potential and stress resistance.
- **Sustainable Yield Production:** Develop soybean production systems that capture maximum yield potential while achieving continuous improvement against all key production sustainability metrics outlined in the U.S. Soybean Sustainability Protocol.
- **Feed:** Identify and develop measures that characterize and allow value capture of U.S. soybean meal.

## Supply
### Quality/Seed Production, Services to Enhance and Expand Markets
- **Component Value:** Improve seed composition to increase component value of U.S. soybeans ensuring quantity and quality to sustainably supply global markets, including the expansion of the availability of the high oleic (>70%) trait in adapted, high-yielding varieties in all major soybean maturity groups.
- **Yield Research:** Identify molecular techniques and genetic pathways that enhance soybean yield potential and stress resistance.
- **Sustainable Yield Production:** Develop soybean production systems that capture maximum yield potential while achieving continuous improvement against all key production sustainability metrics outlined in the U.S. Soybean Sustainability Protocol.
- **Feed:** Identify and develop measures that characterize and allow value capture of U.S. soybean meal.

## Communications
### Customer Acceptance
- **Customer Acceptance:** Increase acceptance of today’s agriculture by non-ag audiences
- **Customer Awareness:** Grow U.S. farmer understanding of end-use customers and their changing needs
- **Leverage:** Collaborate with QSBs and value chain to ensure consistent messaging and leveraging of resources
- **Farmer Support:** Maintain level of U.S. soybean farmers who see value in the soy checkoff
### DRAFT BUDGET

#### FY15

<table>
<thead>
<tr>
<th>TOTAL PROGRAM FUNDING</th>
<th>ACTION TEAMS</th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>FY2015 ALLOCATION by Strategic Objective</td>
<td>MEAL</td>
<td>OIL</td>
<td>FREEDOM TO OPERATE</td>
<td>CUSTOMER FOCUS</td>
<td>PIC* and USB MANAGED</td>
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<td><strong>Domestic Opportunities (Food/Feed; Industrial)</strong></td>
<td>6,900,070</td>
<td>12,595,688</td>
<td>4,459,878</td>
<td>4,299,577</td>
<td>3,079,990</td>
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<td><strong>International Opportunities (Food/Feed; Industrial)</strong></td>
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<td>2,768,201</td>
<td>4,299,577</td>
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<td><strong>Supply</strong></td>
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<td><strong>Communications</strong></td>
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<td>4,813,593</td>
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<td><strong>Seed Industry Partnership - HOS</strong></td>
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<td>8,000,000</td>
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<tr>
<td><strong>USB Managed</strong></td>
<td></td>
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<tr>
<td><strong>Committed Allocation to Strategic Objective</strong></td>
<td>20,190,790</td>
<td>27,993,156</td>
<td>15,378,892</td>
<td>14,331,923</td>
<td>24,074,307</td>
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<td><strong>Additional Allocation</strong></td>
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<td></td>
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<tr>
<td><strong>Allocation for FY 2015</strong></td>
<td>20,190,790</td>
<td>27,993,156</td>
<td>15,378,892</td>
<td>14,331,923</td>
<td>24,074,307</td>
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<tr>
<td><strong>Percent of AT funding excl. HOS third party</strong></td>
<td>28.89%</td>
<td>28.60%</td>
<td>22.00%</td>
<td>20.51%</td>
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</tbody>
</table>

* Program Implementation Cost (PIC) amounts based on FY2014 actual balances for illustration purposes only.
## UNITED SOYBEAN BOARD
### AS OF JULY 16, 2014
#### FOR FISCAL YEAR ENDING SEPTEMBER 30, 2015

### BUDGETED SOURCES

<table>
<thead>
<tr>
<th>Source</th>
<th>FY2015 APPROVED BUDGET</th>
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<tbody>
<tr>
<td>QSSB Collections</td>
<td>$82,768,750</td>
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<tr>
<td>Investment Income</td>
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<td>Draw from Funded Future Obligations - HOS</td>
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<td>Release of Action Team Unallocated (est)</td>
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<tr>
<td>Release of Designated Reserve - Contingency</td>
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<td>FROE Funds (est)</td>
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<tr>
<td>Carryover Funds (est)</td>
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</table>

**Total Budgeted Sources**

|                                | $118,768,750 |

### BUDGETED EXPENDITURES

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Amount</th>
</tr>
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<tbody>
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<td>Meal</td>
<td>$20,190,790</td>
</tr>
<tr>
<td>Oil</td>
<td>19,993,156</td>
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<tr>
<td>Freedom to Operate</td>
<td>15,378,892</td>
</tr>
<tr>
<td>Customer Focus</td>
<td>14,331,923</td>
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<tr>
<td>Seed Industry Partnership - HOS</td>
<td>8,000,000</td>
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<tr>
<td>Allocations to Strategic Objectives</td>
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<tr>
<td>USB Managed - Program Implementation</td>
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<tr>
<td>USB Managed - Other Programs</td>
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</tr>
</tbody>
</table>

**Total Program Funding**

|                                | $101,969,068 |

| USB Evaluation of Programs                      | 2,039,381    |

**Total Programs & Evaluation**

|                                | 104,008,449  |

| USDA                                             | 300,000      |
| Administrative                                   | 4,138,438    |
| QSSB Assessment Credits                          | 25,000       |
| Transfer to Funded Future Obligations - HOS      | 8,000,000    |

**Total Budgeted Expenditures**

|                                | $116,471,887 |

| Board Unallocated                | 2,296,863    |

*Collections estimated upon 3.3 billion bushels usage at a $10.25 average price as approved by board on 2/5/2014*
Market Environment

The United Soybean Board (USB) enters its 2015 fiscal year with historically high demand for U.S. soy at home and abroad, and record soybean acres to meet it. Despite a turbulent year marked by record-high soybean exports and imports and historically tight stocks-to-use ratios, the demand for U.S. soybeans is strong at home and abroad and expected to remain so for the near future. As one soybean expert said as he summed up the current global market environment for U.S. soy: “We’re in a real sweet spot.”

Challenges remain, however. In animal feed, U.S. soybean meal continues to face steady competition from synthetic amino acids. On the human-use side, soy faces challenges in consumer perception and potential U.S. government action that could affect demand. In addition, checkoff research shows that U.S. soybean farmers do not know as much as USB would like regarding the meal and oil composition of their soybeans. These are a sampling of challenges that surfaced through interviews with USB subject-matter experts in May and June.

Signs of Bullish Demand

The U.S. Department of Agriculture projects total soy exports, including soybeans, meal and oil, at more than 60 percent of total 2013 production. China’s soy consumption for fish and livestock feed continues to grow at an annual rate of 9-10 percent and the country’s ability to produce food-grade soy cannot keep pace with demand. U.S. soy-meal exports to the European Union now stand at three times the average of the last decade. India’s increased soy consumption is fueling growth in U.S. soy exports to Southeast Asia. Free trade agreements are helping to drive growth in Central and northern South America. And European poultry and swine producers continue to move away from specifying non-GM meal in their rations.

One of the most notable shifts in the domestic market for U.S. soybean meal involves an increase in demand for human-use protein coupled with increases in meat and poultry exports. The Millennial Generation (people between 18 and 37 years old) is starting to drive an increase in domestic demand for protein-based foods. (For example, General Mills repositioned Cheerios with a high-protein, soy version of the iconic brand.) New research shows that food-label protein claims have risen 54 percent over the past five years. Millennials are also driving an increase in smaller meals and snacking, including snack wraps that emphasize meat, according to one leading food-trend analyst. In addition, one study found that more than half of all U.S. adults want more protein in their diets, supporting domestic soy-meal consumption for human use, which currently accounts for 3 percent of U.S. soybean meal production.

Foreign demand for meat and poultry stands at or near record highs. Through March 2014, year-to-date U.S. broiler exports were up 4 percent by volume. Pork export value per head slaughtered set a record of $69.93 in March 2014, topping $60 for the first time. Shifts in foreign demand for U.S. soy are also emerging; for example, by May 2014, U.S. soy meal exports to the EU totaled more than 1.3 MMT, more than all U.S. soy shipped to EU customers during all of 2012/13.

The bullish environment also applies to high oleic soybean oil; however, not without minor challenges in the 2013/14 marketing year, including a slightly longer-than-anticipated timeline for global approvals. DuPont Pioneer and Monsanto expect EU approval for their single high oleic traits by October 2014. EU stack approval is expected in 2015. And Monsanto expects to
gain China’s approval in 2015, as well. Subject-matter experts expect a bump in farmer pick-up once global approvals come through.

On the positive side, acres planted to high oleic jumped from fewer than 50,000 in 2013 to about 170,000 in the current marketing year, and the industry’s goal of 18 million acres planted to high oleic by 2023 is not seen as threatened. If this goal is met, high oleic soybeans will be the fourth-largest crop in the United States.

Industrial use of soybean oil for non-biodiesel purposes continues to grow. These uses have more than doubled over the last decade, equating to a nearly 9 percent annual compound growth rate since 2004. Goodyear’s new soy-based tire is on track for commercialization in 2015. When fully commercialized, this tire alone will use up to 50 million pounds of soybean oil annually. About 7 percent of soybean oil crushed in the United States is used for non-biodiesel industrial purposes. Industrial use of soybean meal in applications such as adhesives and paper coatings also continues to grow. New technology could add value to soybean meal by utilizing the non-digestible carbohydrates for industrial chemicals and biomaterials while enhancing the protein content and digestibility, providing greater feed value and availability for the aquaculture and young-animal markets.

This year has seen significant movement in the development of new genetic technologies, as well, involving gene modification and overcoming the soybean’s inherent resistance to transformation. A new genomics tool that allows for targeted gene modification achieved a 95 percent success rate in soy. This promises to drastically speed incorporation of new traits into soybeans at a lower cost.

Challenges on the Horizon

On the international front, the increasing approval time for U.S. biotech traits in China has resulted in grain-trade disruptions (not affecting soy). We are also seeing increased stalling of U.S. grains and soy shipments at the Mexican border, due to Mexico’s “zero tolerance” of soil in the shipments.

As soy continues to battle synthetics for inclusion in animal-feed rations, it becomes increasingly important for U.S. soybean farmers to serve their No. 1 customer by selecting seeds that produce optimal levels of protein, digestible amino acids and oil. USB surveys show that this awareness is improving, if only slightly. About 90 percent of soybean farmers participating in the 2013 Winter Producers Attitude Survey did not know the protein and oil content of their soybeans, and 79 percent said protein content is not as important as yield. While these numbers improved by 2 percentage points each in the 2014 winter survey, there is ample opportunity for improvement. Another challenge is a possible tarnishing of the “health halo” of soy for human consumption. Only 74 percent of consumers responding to USB’s 21st Annual Attitudes about Nutrition study rate soy products as healthy, continuing a decline from the 84 percent in the same study in 2010.

Upcoming demand for biodiesel and commodity soybean oil could be impacted by potential U.S. government action. Biodiesel’s record 2013 production (utilizing 5.5 billion pounds of soybean oil) could be impacted if RFS2 requirements remain stagnant and blender tax credits eliminated. Additionally, about 2 billion pounds of commodity soybean oil could be impacted annually if the
U.S. Food and Drug Administration revoke the GRAS (generally recognized as safe) status of partially hydrogenated oil, as it indicated it might.

Monsanto deployed BT soybeans in South America in 2013, and the company is addressing regulatory hurdles to deploy them in the southern United States. This technology will provide another tool to help farmers manage leaf-eating insects that can reduce yield.

Public Issues

U.S. soybean farmers continue to feel disconnected from non-farm consumers, as evidenced by the 2014 Winter Producers Attitudes Survey. Some 81 percent of respondents said they believe their freedom to operate is increasingly threatened every year. Likely contributing to this impression is the persistent GMO-labeling issue, which continues to gain momentum. Not only did Vermont become the first state to pass a mandatory GMO-labeling law, USB research revealed an increase in consumer support for such a requirement (71 percent in USB’s 2014 nutrition study compared to 61 percent the year before).

U.S. agriculture continues to look to the expansion of the Panama Canal and the need for U.S. port improvements to accommodate larger ships. The signing of the Water Resources Reform and Development Act in 2014 provides increased funding for harbor maintenance that could be available soon so the U.S. soy industry can leverage efficiencies the expanded canal will offer.

As the worldwide sustainability trend continues, Unilever and Nestle set tangible sourcing goals in 2014 involving the sustainability of soybean oil. This comes at a time when the U.S. Soy Sustainability Assurance Protocol is getting off the ground, attracting the expected challenges by NGOs but otherwise meeting with approval and acceptance a marketplace increasingly focused on sustainability.

Public concern over the plight of honeybees and other pollinators has resulted in widespread support for efforts to protect pollinators. Recently, the formation of a Honey Bee Health Coalition was announced. The coalition includes representation of the Agricultural Retailers Association, Almond Board of California, American Seed Trade Association, Crop Life America, Crop Life Canada, the U.S. Canola Association, and the United Soybean Board, with the goal of working together to identify mutually acceptable solutions to the pollinator issues.

Conclusion

The above analysis represents a sampling of the major issues from FY2014 that USB subject-matter experts view as most impactful, and is not meant to be a definitive summary of all checkoff activities or areas of focus. Any additional insight, including access to the sources used in this analysis, can be obtained at any time from the contractors or staff of the relevant subject area. USB directors with questions are welcome to notify Communications Target Area Staff Lead Susan Luke at 314-919-6769.
MEAL

**Target Area Goals and Measurements Addressed by Meal Action Team**

**Quality** (DO1): Key component measurement scheme is identified and shared with industry by 2025

Feed (DO2): 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 percent by volume from 3.1 million metric tons by 2015
- U.S. broiler exports increase 7 percent by value from $3.6 billion by 2015
- U.S. pork exports increase 12 percent by volume from 2.3 million metric tons by 2015
- U.S. pork exports increase 15 percent by value from $6.1 billion by 2015
- U.S. turkey exports increase 7 percent by volume from 319 thousand metric tons by 2015
- U.S. turkey exports increase 10 percent by value from $599 million by 2015

**Industrial** (DO 3): Soybean meal component use in industrial uses reaches 0.081 million metric tons by 2016

Food (DO 4): Raise consumer perceptions of soy as healthy from 75% to 80% by 2018.

**Customer Preference** (IO1): Net Promoter Score

**Differentiate** (IO2): Valuation of U.S. Soy & Extrinsic Differentiators

**Sound Science** (IO 4): Positive media

**Component Value** (S1): Increase the combined seed content of protein and oil by 10 percent by 2025

**Yield Research** (S2): Identify four key transcription factor gene systems that control expression of genes related to yield, protein composition and oil content by 2020

**Sustainable Yield Production** (S 3): Increase average U.S. soybean yield by 36 percent per acre

**Customer Awareness** (C2): Percentage of U.S. soybean farmers willing to grow varieties with higher protein and oil content to meet customer demand

**Leverage** (C3): Ten percent growth in leveraged dollars with QSSBs

**Farmer Support** (C4): Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers

**Constraints/Opportunities Addressed by Meal Action Team in Priority Order**
Animal Feed: Use of soybean meal in the global animal agriculture industry, the number one customer of U.S. soybean meal, is under competitive pressure. There is opportunity to further engage and educate animal nutritionists, livestock producers, soybean farmers, and other decision makers about the value of U.S. soybean meal to increase inclusion rates in animal rations, develop products with improved composition and create a preference for U.S. soy.

Yield Improvement through Breeding: The lack of modern methods and genetic markers for use by genetic researchers and breeders, constrains the development of high yield varieties that would enable soybean farmers to enhance the value of their crop. A key way in which growers can maximize profits is to grow soybeans that yield more without requiring greater inputs.

U.S. Meat & Poultry Demand: Profit potential for U.S. soybean farmers can be increased by strengthening demand for U.S. meat and poultry internationally, which is a key component to increasing U.S. soybean meal consumption.

Soy in Aquaculture: Soybean farmers can increase value of U.S. soybean meal by establishing soybean meal as a preferred protein ingredient to replace fish meal in global aquaculture feeds. This preference will be based on research and utilization of best management practices to maximize the inclusion of U.S. soybean meal and protein concentrate in aquaculture feed in high demand global markets, while encouraging consumption and support of farm-raised seafood by educating influencers on the health, environmental and economic benefits of soy fed fish.

Pest & Disease Management: Lack of understanding of the biology of pest organisms constrains the development of best management practices by researchers and development of improved varieties by breeders. Soybean growers cannot maximize the yield potential of soybeans without protecting from losses due to existing and emerging diseases, nematodes and insects.

New Industrial Uses Development: Soybean farmers can increase the value of U.S. soybean meal by developing new processes to utilize the low value, indigestible components in meal, capitalizing on its low cost, consistent availability, and low carbon footprint. Through research, market and economic analyses, the functional advantages of using soy are addressed. Therefore, product development and commercialization strategies can be implemented.

Environmental Stress Management: U.S. soybean farmers are limited in the extent to which they can exploit the soybean yield potential because the lack of understanding and measurement of the physiological pathways involved in stress tolerance. Under perfect growing conditions, soybeans have the potential to yield over 150 bushels per acre. This potential is rarely achieved and can be dramatically reduced due to drought, heat, flooding and other environmental fluctuations.
OIL

**Target Area Goals and Measurements Addressed by Oil Action Team**

**Industrial** (DO3): 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.

Food (DO4): Soy oil usage for food will reach 14 billion pounds by 2020.

**Customer Preference** (IO 1): Net promoter score.

**Differentiate** (IO 2): Percent of target that understands how to value U.S. soy's competitive advantage with regard to transparency, supply, contractual issues and risk reduction. (Net differentiation score)

**Market Access** (IO3): Progress in addressing of Barriers to Trade of U.S. Soy

Component Value (S1): 18 million acres of high oleic soybeans by 2023; Increasing oil content conforms with the Target Area Goal of increasing combined seed content of protein and oil 10 percent by 2025.

Customer Awareness (C2): High oleic processors meet 80 percent of contract goals annually.

Leverage (C3): Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million.

**Farmer Support** (C4): Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers.

**Constraints/Opportunities Addressed by Oil Action Team in Priority Order**

**High Oleic Soybean Program**: U.S. Soybean farmers have the opportunity with high oleic soybeans to regain some of the lost edible oil demand and expand U.S. soy oil demand into other markets. The success of the program is constrained by availability of high oleic soybean varieties; farmer hesitation toward adoption; initial value chain education and commitment; and timely end-user incorporation into products.

**Biodiesel Market Development**: U.S. soybean farmers are constrained by the drag soybean oil has on the price they are paid per bushel and the volatility of the biodiesel market due to shifting requirements. U.S. soybean farmers have an opportunity to expand biodiesel markets by providing technical support and expertise to industry and end users, while marketing this high quality fuel and capitalizing on the fact that biodiesel is classified by EPA as an Advanced Biofuel.

**New Industrial Uses Development**: Soybean farmers will benefit from increased value of U.S. soybean oil by investing in the development of preference for soybean oil as a
feedstock/ingredient among manufacturers of high value, high volume industrial products and applications and their customers. This preference will result from USB-funded research and development support that identifies enhanced functional performance and commercialization opportunities including appreciation of its low carbon footprint compared with competing petrochemicals or other vegetable oils.

Commodity Soy Food Oil Program: Low awareness of the many attributes of soybean oil (health benefits, reliability of supply, neutral taste profile, etc..) a consumer lack of awareness that generic vegetable oil is usually soy oil, as well as a lack of understanding of the intrinsic and extrinsic values of U.S. soy oil over competing vegetable and soy oils of other origins, is limiting the expansion of U.S. soybean oil consumption.

Increasing Soybean Oil Content: Higher percent oil content in soybean varieties presents an opportunity to increase the perceived value of soybean to domestic processors and to the export market.
FREEDOM TO OPERATE

Target Area Goals and Measurements Addressed by Freedom to Operate Action Team

Quality and Component Value (DO1): Fifteen brands endorse a USB-supported sustainable soybean sourcing program by 2020.

Feed (DO2): 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 percent by volume from 3.1 million metric tons by 2015. U.S. broiler exports increase 7 percent by value from $3.6 billion by 2015.
U.S. turkey exports increase 7 percent by volume from 319 thousand metric tons by 2015. U.S. turkey exports increase 10 percent by value from $599 million by 2015.
U.S. pork exports increase 12 percent by volume from 2.3 million metric tons by 2015.
U.S. pork exports increase 15 percent by value from $6.1 billion by 2015.

Food (DO 4): Raise consumer perceptions of soy as healthy from 75% to 80% by 2018.

Customer Preference (IO1): Net Promoter Score

Differentiate (IO2): Percent of target that understands how to value U.S. soy’s competitive advantage with regard to transparency, supply, contractual issues and risk reduction. (Net differentiation score.)


Sound Science (IO4): Targeted buyers rating of effectiveness of U.S. Soy in contributing to their country/region food safety and security. Percent improvement in Global Biotechnology Environment Scan. Volume of “Certified Sustainable” U.S. Soy exported. Number of neutral to positive articles appearing in the International trade/consumer media about the U.S. soybean industry.

Sound Science (IO4): Targeted buyers rating of effectiveness of U.S. soy in contributing to their country/region food safety and security

Sustainable Yield Production (S3): Increase average U.S. soybean yield by 35 percent per acre through (A) translation of research results into new higher yielding varieties and better management practices and (B) capturing 10 percent more genetic yield potential per acre by 2025 by managing biotic and abiotic stresses that impact yield.

Consumer Awareness (C1): Percentage of consumers who believe today’s ag is moving in the right direction increases from 43 percent to 47 percent. Percentage of influencers who are ‘comfortable’ with the way that meat, grains and produce are grown and raised increases from 54 percent to 56 percent.

Leverage (C3): Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million.
Constraints/Opportunities Addressed by Freedom to Operate Action Team in Priority Order

**Sustainability:** Market share for U.S. soy is being eroded because we haven’t credibly demonstrated a level of sustainability performance that mitigates stakeholders’ risk exposure regarding sustainable sourcing. U.S. soy producers have the opportunity to communicate the very positive sustainability and conservation message of the last 75 years and the comprehensive and widespread agriculture conservation programs used in U.S. agriculture and captured in the U.S. Soy Sustainability Assurance Protocol.

**Water:** Producers face risk of reduced profit potential due to external (stakeholder, regulatory) and agronomic pressures related to water use and stewardship. This risk is due to several factors: limited availability of water for irrigation; ineffective water quality protection; lack of awareness about agriculture’s positive impacts on water among key influencers of U.S. public opinion; and limited coordination among all rotation crops to address these issues.

Biotechnology: The freedom to utilize biotechnology is being threatened for U.S. farmers due to a lack of education and understanding about modern technology. This lack of education reduces opportunities for U.S. soy farmers to use varieties that support the health of the soy industry.

Animal Ag (Domestic): Because domestic animal agriculture (our number 1 customer) faces challenges that limit its ability to operate and expand, soybean farmers are confronted with greater risk of reduced soybean meal demand.

**Transportation / Infrastructure:** In order to ensure efficient transportation for the agriculture industry, USB supports and communicates on issues related to the soy transportation infrastructure. This includes managing the communications process with consistent messaging and tools for effective and timely response to emerging issues.

**Market Access:** Opportunity to increase U.S. soy exports to global markets by reducing market access trade barriers or addressing trade issues such as differential export taxes, chemical maximum residue limits, use of food grade mineral oil as dust suppressant, and analysis of possible Free Trade Agreements. This focuses on non-biotech related market access issues.

Animal Ag (International): U.S. soy, grain, and meat and poultry market access is impeded in some international markets because of concerns over food security and safety.

Longevity of the **Industry (Next Generation):** Budget cuts and reduced awareness of the career opportunities in agriculture among young scientists constrain the potential for continuous improvement in soybean production. In today’s standard curriculum; K-12, undergraduate and graduate students are not encouraged to pursue educational tracks that train them in soybean sciences and lead them to become the next generation of soybean researchers.
CUSTOMER FOCUS

Target Area Goals and Measurements Addressed by Customer Focus Action Team

Quality and Component Value (DO 1): Key component measurement scheme is identified and shared with industry by 2015; A component value marketing platform for U.S. is established by 2016; 15 brands endorse a USB-supported sustainable soybean sourcing program by 2020.

Feed (DO 2): Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016.

Industrial (DO 3): 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 pounds by 2016.

Food (DO 4): Raise consumer perceptions of soy as healthy from 75% to 80% by 2018; Soy oil usage for food will reach 14 billion pounds by 2020.

Customer Preference (IO 1): Net Promoter Score

Differentiate (IO 2): Percent of target that understands and acts on the value of U.S. soy on the basis of digestible protein, amino acid profile and energy; percent of target that understands how to value U.S. soy's competitive advantage with regard to transparency, supply, contractual issues and risk reduction. (Net differentiation score)

Market Access (IO 3): Progress in addressing barriers to trade of U.S. soy

Sound Science (IO 4): Targeted buyers rating of effectiveness of U.S. soy in contributing to their county/region food safety and security; number of neutral to positive articles appearing in the international trade/consumer media about the U.S. soybean industry.

Component Value (S1): Increase domestic use of U.S. soybeans by the animal feeding industry by 25 percent by 2025

Yield Research (S2): Identify four transcription factor gene systems that control expression of genes related to yield, protein composition and oil content by 2020.

Sustainable Yield Production (S3): Increase average U.S. soybean yield by 36 percent per acre by 2025.

Feed (S4): 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. soybeans and soybean meal compared to South American competitors by 2015.

Consumer Acceptance (C1): Percentage of influencers who are ‘comfortable’ with the way that meat, grains and produce are grown and raised increases from 54 percent to 56 percent.

Customer Awareness (C2): Percent of U.S. farmers willing to plant higher quality beans because of customer demands grows from 32 to 35 percent.
Leverage (C3): Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million; Increase the number of QSSB partnerships from 27 to 30.

Farmer Support (C4): Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers

Constraints/Opportunities Addressed by Customer Focus Action Team in Priority Order

Customer Understanding of Biotechnology Benefits: Downstream customers’ lack of information about the critical role biotechnology has in human nutrition and food security (abundance of supply) are impeding USB’s goal of meeting the worldwide demand that requires a 50 percent increase in protein by 2030. Many domestic and international influencers of end-user consumers are not aware of the benefits of genetically modified soy in the production of food products allowing anti-biotech propaganda to create a bias against soy.

Customer Outreach and Education: Global customer segments, specifically in the animal and aquaculture sectors, lack knowledge and full understanding of quality benefits of U.S. soy, benefits of using soy-optimized feed as opposed to other ingredients, and a general understanding of what the U.S. soybean industry has to offer. Through this lack of knowledge, relationships are hindered and therefore a customer preference of U.S. soy is lacking.

Globally Accepted Analytical Standards: The lack of globally accepted analytical techniques and standards for all major soybean compositional components inhibits the development of a market that fully reflects the value of the soybeans sold by U.S. farmers. Customers also lack understanding of how to value and capture the full value of the quality advantages of U.S. soybeans and soybean products.

Biobased Products: Lack of industry and government recognition of economic, functional and marketing benefits of soy-based technologies limits the market for soy based products, including biodiesel. Soybean farmers can increase the value of U.S. soybean oil and meal by supporting technology transfer activities for soy-derived biobased products.

Research Coordination: The lack of coordination of research and market development work among the various soybean interest groups reduces research effectiveness, efficiency of research funding and technology transfer, and the potential return on farmer investment, as well as our ability to supply customer needs.

U.S. Soybean Industry Value: U.S. soybean markets are limited by the customer segments’ lack of understanding of the benefits offered by the U.S. soy industry. Without realizing the benefits which the U.S. soybean industry has to offer, our customer segments and customers markets are not getting the full advantage.

Development of Efficient Soybean Production Systems: U.S. soybean farmers lack well-developed and effectively communicated best management practices, which hinders the application of more efficient soybean production systems and reduces the value of the soybean crop to farmers.
Economic Information and Market Data: Soybean farmers and their industry partners lack comprehensive market data and economic analysis to develop effective strategies to enhance the value of the soybean crop.

Raise Awareness and Understanding of Nutritional & Quality Benefits of U.S. Soy: Key customers’ and influencers’ lack of understanding of the nutritional and quality benefits of U.S. soy oil and protein limits soy products acceptance and soy’s market value. Continuing investment in educating on the quality attributes, as well as, scientific research on the nutritional and health benefits of U.S. soy and its components would help maintain and expand the leveraging of soy protein’s health benefits (health halo) and drive demand and the value of the soybean crop.

Soy Human Health Myth Busting: Our customers lack knowledge to accurately articulate the benefits of soy which hampers the global expansion of U.S. soy consumption. Domestically, most negative publicity on soy starts on social media. Both end use customers (such as retailers) and consumers need accurate information on the benefits of soy to counter unsubstantiated negative attacks on soy and its components. Outside the U.S. both social media and the news are creating a negative perception.

Farmer Engagement: U.S. soybean farmers lack knowledge of actions they can take to meet customers’ needs, which hinders our markets; and U.S. soybean farmers lack knowledge of the specific activities and value of checkoff. A program to address these constraints through farmer outreach, education and engagement presents the opportunity to address changing trends, meet customer needs and boost U.S. soybean farmer profitability.

Processor Education: Processors across the globe lack knowledge of modern soy processing techniques, and therefore cannot deliver to their customers the value that U.S. soy offers.
USB Action Team
Program Briefs
FY15
USB FY15 Program Brief – Meal
Animal Feed

1. **Program overview**: Use of soybean meal in the global animal agriculture industry, the number one customer of U.S. soybean meal, is under competitive pressure. There is opportunity to further engage and educate animal nutritionists, livestock producers, soybean farmers, and other decision makers about the value of U.S. soybean meal to increase inclusion rates in animal rations, develop products with improved composition and create a preference for U.S. soy.

2. **Meal Action Team ranked** 1 out of 8 constraints/opportunities

3. **Which target area goals and measurements does this program impact?**
   Feed (DO2): Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016; Component Value (S1): Increase the combined seed content of protein and oil by 10 percent by 2025; Quality (DO1): Key component measurement scheme is identified and shared with industry by 2025; Component Value (DO3): A component value marketing platform for U.S. is established by 2016; Customer Awareness (C2): Percentage of U.S. soybean farmers willing to grow varieties with higher protein and oil content to meet customer demand; Leverage (C3): Ten percent growth in leveraged dollars with QSSBs; Farmer Support (C4): Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers; Customer Preference (IO1): Net Promoter Score; Differentiate (IO2): Valuation of U.S. Soy & Extrinsic Differentiators

4. **What target areas are funded with this program?** Domestic Opportunities, Supply, Communications, International Opportunities

5. **What is the desired impact and what is USB’s ability to achieve this impact?** U.S. soybean growers maintain or increase inclusion rates and market share of U.S. Soy in animal feed by developing better products, demonstrating and communicating the benefits and supporting the global animal agriculture industry. Improve the quality of U.S. soy by improving metabolizable energy and amino acid balance through plant breeding and other technologies.

6. **What does USB’s involvement (level of effort) look like?** Support research to develop and test soybean germplasm with improved feed qualities. Test and analyze soy samples from the U.S. and other countries. Provide the domestic and international livestock and poultry industries with tools and information to improve their operational knowledge and enhance profitability through marketing campaigns, technical symposia, demonstrations, trade shows and web-based outreach, ensuring consistent messaging on the value of U.S. soybean meal.

7. **Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?** University/USDA researchers, QSSBs, Foreign Ag Service and commercial companies. Animal Nutrition Working Group partners (including Tyson Foods, JBS Pilgrim’s Pride, Perdue Farms, ADM, JBS United, Cargill, Hanor Companies, Land O’Lakes Purina Feeds), national
organizations such as National Pork Board, U.S. Poultry and Egg Association, and American Feed Industry Association.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? Emerging pressures continue from new, cheaper synthetic amino acids and other protein sources (i.e. new high protein, low-fiber canola meal) and variances in the quality of the US and non US crops each year.

USB FY15 Program Brief – Meal
Yield Improvement through Breeding

1. Program overview: The lack of modern methods and genetic markers for use by genetic researchers and breeders, constrains the development of high yield varieties that would enable soybean farmers to enhance the value of their crop. A key way in which growers can maximize profits is to grow soybeans that yield more without requiring greater inputs.

2. Meal Action Team ranked 2 out of 8 constraints/opportunities

3. Which target area goals and measurements does this program impact?
Yield Research (S2)
Identify four key transcription factor gene systems that control expression of genes related to yield, protein composition and oil content by 2020.

4. What target areas are funded with this program?
Supply

5. What is the desired impact and what is USB’s ability to achieve this impact?
Identify genes related to soybean yield potential and the factors that control their expression and inheritance. Develop genetic markers for improved soybean yield. These impacts are readily achievable through funding public research.

6. What does USB’s involvement (level of effort) look like?
In cooperation with industry partners fund research to (a) identify molecular and genetic pathways and controls that can be harnessed to increase soybean yield (b) apply molecular and traditional methods to cutting edge breeding programs to develop adapted, higher yielding soybean varieties with improved composition.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
Universities, USDA, commercial partners. Research is being conducted to identify genes involved in controlling yield potential and develop markers for those genes.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
Improvement in yield requires ongoing research and breeding efforts.
USB FY15 Program Brief – Meal
U.S. Meat & Poultry Demand

1. **Program overview**: Profit potential for U.S. soybean farmers can be increased by strengthening demand for U.S. meat and poultry internationally, which is a key component to increasing U.S. soybean meal consumption.

2. **MEAL Action Team ranked** 3 out of 8 constraints/opportunities

3. **Which target area goals and measurements does this program impact?**
   - Feed (DO 2): 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 percent by volume from 3.1 million metric tons by 2015.
   - U.S. broiler exports increase 7 percent by value from $3.6 billion by 2015.
   - U.S. pork exports increase 12 percent by volume from 2.3 million metric tons by 2015.
   - U.S. pork exports increase 15 percent by value from $6.1 billion by 2015.
   - U.S. turkey exports increase 7 percent by volume from 319 thousand metric tons by 2015.
   - U.S. turkey exports increase 10 percent by value from $599 million by 2015.
   - 10 percent growth in leveraged dollars with QSSBs.
   - Customer Preference (IO 1): Net Promoter Score; Differentiation: (IO 2): Valuation of U.S. Soy
   - Leverage (C3): Ten percent growth in leveraged investments. Farmer Support (C4): Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers.

4. **What target areas are funded with this program?** Domestic Opportunities, International Opportunities, Communications

5. **What is the desired impact and what is USB’s ability to achieve this impact?** U.S. soybean farmers will capitalize on increased foreign demand for U.S. meat and poultry through increased exports of U.S. meat, poultry and soy over the next decade by collaborating with partners on marketing and communications activities. USB’s ability to impact this area is high.

6. **What does USB’s involvement (level of effort) look like?** Partner with leading meat and poultry export organizations and economic analysis firms to identify key markets, support marketing and communications strategies, address trade barriers and collaborate with U.S. stakeholders, including meat and poultry producers, traders and other companies. Use consistent messages in communications to boost meat and poultry consumption internationally.

7. **Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?** USB is partnering with QSSBs, state corn boards, USDA, Pork Board, National Chicken Council, National Turkey Federation, Foreign Ag Service and industry partners in support of USMEF and USAPEEC programs.
8. **Where are** we in the cycle of this issue, e.g., is this an **emerging** issue? This is an ongoing opportunity with excellent prospects for growth. Independent economic research anticipates double digit export growth for the pork, chicken and turkey sectors over the next five to ten years.

**USB FY15 Program Brief – Meal**

**Soy in Aquaculture**

1. **Program overview:** Soybean farmers can increase value of U.S. soybean meal by establishing soybean meal as a preferred protein ingredient to replace fish meal in global aquaculture feeds. This preference will be based on research and utilization of best management practices to maximize the inclusion of U.S. soybean meal and protein concentrate in aquaculture feed in high demand global markets, while encouraging consumption and support of farm-raised seafood by educating influencers on the health, environmental and economic benefits of soy fed fish.

2. **Meal Action Team ranked** 4 out of 8 constraints/opportunities

3. Which **target area goals** and **measurements** does this **program impact**?
   
   - Feed (DO2): Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016; Customer Preference (IO1): Net Promoter Score  

4. What **target areas are funded** with this program? Domestic and International Opportunities

5. What is the **desired impact** and what is USB’s ability to achieve this impact? The desired impact is to grow the market for soybeans as preferred ingredient in farm-raised seafood production. USB can provide tools and resources to help aquaculture producers address challenges and operate more efficiently, provide marketing support for farm-raised seafood products, educate key audiences on the health, environmental and economic benefits of farm-raised seafood, collect and disseminate data and information. This includes supporting research to optimize the use of soy based ingredients in feed rations for selected species and supporting research addressing related aquaculture production issues. USB can also impact the production technologies used by producers which provide a more sustainable product and in turn drive up the demand for soy-based feeds.

6. What does USB’s involvement (level of effort) look like? Research is supported at institutions with recognized expertise. Research results are distributed via feed mills, feeding demonstrations, technical servicing, industry trade shows, and various other communication channels. USB works with feed and aquaculture producers to educate them on the best feed formulations and best practices through feeding trials, seminars and one-on-one consulting.

7. Who is already **working** on this issue, what are they **addressing**, and what are the opportunities for **partnerships** to **leverage** this investment? Partners include QSSBs,
National Aquaculture Association, Sea Grant, Aquaculture Stewardship Council, Soy Aquaculture Alliance, Global Aquaculture Alliance, and other producer and industry associations and stakeholders, in various markets. Within China alone, millions of $$ have been leveraged in last 5 years. Intensive Production Technology, which was researched and developed by the U.S. Soybean industry, will be one of the two priority technologies to be promoted in the third largest aquaculture producing province of China. There will be substantial financial support from the provincial government and many more opportunities in coming years.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? It is projected that soy inclusion rates in global aquafeeds overall will increase to 25-30 percent based on quality and economics of fish production. Global soybean meal demand for the aquaculture industry is expected to exceed 17 million metric tons within the next decade, with more than 95 percent of that growth in overseas markets. Both the inclusion rate and total demand numbers for soybean meal are conservative. The global aquaculture industry is the fastest growing sector of animal production. Global demand for the major cultured fish and shrimp species that are fed, given the limitation of zero growth in wild catch, is expected to grow from 26 million metric tons in 2010 to more than 45 million metric tons in 2020.

USB FY15 Program Brief – Meal Pest and Disease Management

1. Program overview: Lack of understanding of the biology of pest organisms constrains the development of best management practices by researchers and development of improved varieties by breeders. Soybean growers cannot maximize the yield potential of soybeans without protecting from losses due to existing and emerging diseases, nematodes and insects.

2. Meal Action Team ranked 5 out of 8 constraints/opportunities

3. Which target area goals and measurements does this program impact?
   Yield Research (S 2), Sustainable Yield Production (S 3), Farmer Support (C 4)
   Increase average U.S. soybean yield by 36 percent per acre.
   Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers

4. What target areas are funded with this program?
   Supply, Communications

5. What is the desired impact and what is USB’s ability to achieve this impact?
   Understand soybean pest biology, develop soybean management practices to manage soybean pests and develop soybean varieties with improved pest resistance packages. These impacts are readily achievable through funding public research.

6. What does USB’s involvement (level of effort) look like?
In cooperation with industry partners fund research to (a) adopt new discoveries and technologies to achieve greater understanding of the biology of disease and pest organisms (b) communicate the results and best management practices to farmers (c) empower breeders to develop and commercialize improved varieties.

7. **Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?**

University and USDA researchers and breeders, QSSBs, and commercial company partners.

8. **Where are we in the cycle of this issue, e.g., is this an emerging issue?**

Ongoing efforts are needed to combat current, new, and evolving soybean pests.

**USB FY15 Program Brief – Meal**

**New Industrial Uses Development**

1. **Program overview:** Soybean farmers can increase the value of U.S. soybean meal by developing new processes to utilize the low value, indigestible components in meal, capitalizing on its low cost, consistent availability, and low carbon footprint. Through research, market and economic analyses, the functional advantages of using soy are addressed. Therefore, product development and commercialization strategies can be implemented.

2. **Meal Action Team ranked 6 out of 8 constraints/opportunities.**

3. **Which target area goals and measurements does this program impact?**

   Industrial (DO 3): Soybean meal component use in industrial uses reaches 0.081 million metric tons by 2016. Farmer support (C4): Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers.

4. **What target areas are funded with this program? Domestic and International Opportunities**

5. **What is the desired impact and what is USB’s ability to achieve this impact?**

   The desired impact is to grow the use of soybean meal and its components in high value, high volume industrial markets. Meal is being used as a raw material in adhesives and paper coatings, and can be used as an extender in plastics and fibers or fermented to make commodity chemicals such as succinic acid. USB can impact by continuing its leadership in supporting the development of new technologies and through technology transfer and communications to industry partners and farmers creating awareness, interest, trial, and adoption.

6. **What does USB’s involvement (level of effort) look like?** Funding of multi-year research and development efforts in cooperation with industry partners that identifies and
develops the functional, mechanical and physical property advantages of existing meal and meal products such as soy flour and concentrates in high volume applications. Fund research on developing new processes to expand use of meal in producing higher value products from the protein and low value carbohydrates in both feed and industrial products and applications. Work with industrial partners to commercialize new technologies within the U.S. and overseas.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? A majority of projects have commercial partners whose contributions normally exceed USB investment by more than two to one. Examples of industry partners include Ashland Chemical, Columbia Forest Products, Kimberly Clark, Ford Motor Company, Sherwin Williams, and Rust-Oleum. The Foreign Agricultural Service is also a supporting partner in ventures of this type.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? Projects will fall into one of the following stages with most projects initially falling into stage 2 or 3: Stage 1 – Research to explore a new concept, Stage 2 – Research to determine feasibility, Stage 3 – Development of the product and process, Stage 4 – Commercial Introduction

Until about 2009 industrial meal utilization was negligible. With the launch of a single product, soy wood adhesives, use has increased to over 140 million pounds and is expected to grow rapidly with the launch of new paper products and industrial chemicals over the next several years.

USB FY15 Program Brief – Meal
Environmental Stress Management

1. Program overview: U.S. soybean farmers are limited in the extent to which they can exploit the soybean yield potential because the lack of understanding and measurement of the physiological pathways involved in stress tolerance. Under perfect growing conditions, soybeans have the potential to yield over 150 bushels per acre. This potential is rarely achieved and can be dramatically reduced due to drought, heat, flooding and other environmental fluctuations.

2. Meal Action Team ranked 7 out of 8 constraints/opportunities

3. Which target area goals and measurements does this program impact?
   - Yield Research (S2), Sustainable Yield Production (S3), Increase Average U.S. soybean yield by 36 percent per acre by 2025.
   - Leverage (C3), 10 percent growth in leveraged investments.
   - Farmer Support (C4) Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers.

4. What target areas are funded with this program?
   Supply, Communications
5. What is the desired impact and what is USB’s ability to achieve this impact? Soybean germplasm that yields better despite these types of stresses will be developed through cooperation with industry partners to fund research that utilizes new discoveries, molecular and traditional breeding efforts. These impacts are readily achievable through funding public research.

6. What does USB’s involvement (level of effort) look like? Fund research activities by university and USDA researchers to understand and deploy better stress-resistance packages in commercial soybean varieties. Work with commercial partners to commercialize improved stress tolerance packages. Communicate results of checkoff-funded efforts to address these issues.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? Universities, USDA, QSSBs, and commercial partners. Research is being conducted to explain soybean physiological responses to environmental stress and identify genes involved in controlling soybean tolerance to abiotic stresses and develop markers for those genes.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? This is a continuing issue. As knowledge is gained, improvements continue to be made.

USB FY15 Program Brief – Meal

Human Uses

1. Program overview: The soy industry can increase the value and consumption of soy products by maintaining and enhancing the soy “Health Halo” through support of worldwide soy health research and communications activities around the positive human health benefits of consuming soy. Today, consumers and activists are demanding more information about the food they eat and also what is fed to the livestock and poultry they consume. If consumption of soy is viewed as unhealthy for humans, this misconception will eventually transfer to animal consumption of soy. Ensuring accurate information is disseminated to key consumer influencers will help counter misinformation, while creating positive feelings about soy food products. Large markets for whole soybeans, traditional soy foods like tofu and innovative soy foods like beverages exist in Asia. Government-sponsored nutrition programs rely on soy protein to improve the health economically disadvantaged populations in India and Latin America.

2. Meal Action Team ranked 8 out of 8 constraints/opportunities

Which target area goals and measurements does this program impact? Food (DO 4): Raise consumer perceptions of soy as healthy from 75% to 80% by 2018; Sound Science (IO 4): Positive media.

3. What target areas are funded with this program? Domestic and International Opportunities
4. What is the desired impact and what is USB’s ability to achieve this impact? USB can significantly impact the positive perceptions about soy’s healthfulness for human consumption. Maintaining a health halo for soyfoods (protein) will help ensure market demand of soybean oil, animal feed and other soy components. Based upon the recent successes in using human health research to quickly countermand attacks on the use of soy protein in food production, USB has a very real ability to put the results of this program into action immediately. Support for traditional and innovative soyfoods in Asia will maintain and expand important markets in Indonesia, Taiwan, Japan, India and Latin America.

5. What does USB’s involvement (Level of effort) look like? Marketing soy protein’s health halo to health professionals and media and funding new health research are important tactics in advancing the health halo and generating positive news about soy. Soy awareness and trial is generated via health professional organization sponsorships, patient tools development and expert spokespeople for media interviews/speaking engagements. Funding of the Soy Health Research program has resulted in $25 million in NIH research grants on a $1 million (over 10 years) USB investment. Workshops, conferences, one-on-one technical exchange and trade servicing efforts for the use of U.S. soy in important International markets.

6. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? Health professional organizations, including the Academy of Nutrition & Dietetics (AND), American Academy of Physician Assistants (AAPA) and American Association of Nurse Practitioners (AANP) and the National Institutes of Health (NIH), Foreign Ag Service (FAS), and numerous state, provincial, and national governments as well as charitable foundations and local industries support the use of soy in social feeding programs.

7. Where are we in the cycle of this issue, e.g., is this an emerging issue? This is a mature issue but important for ongoing new product development and creating “news” around soy’s (protein and oil) healthfulness that will support not only human consumption, but animal feed as well. It is gaining in importance as end-consumers demand more information on the nutritional and safety aspects of the foods they consume.
USB FY15 Program Brief – Oil
High Oleic Soybean

1. Program overview – U.S. Soybean farmers have the opportunity with high oleic soybeans to regain some of the lost edible oil demand and expand U.S. soy oil demand into other markets. The success of the program is constrained by availability of high oleic soybean varieties; farmer hesitation toward adoption; initial value chain education and commitment; and timely end-user incorporation into products.

2. Oil Action Team ranked 1 out of 5 constraints/opportunities

3. Which target area goals and measurements does this program impact? Food (DO 4) – Soy oil usage for food will reach 14 billion pounds by 2020. 3-Indust. – 32 new products/applications (average each year) introduced using a soybean component.; Supply (1- Comp. Value – 18 million acres of high oleic soybeans by 2023); Comm. (2- Cust. Awareness – High oleic processors meet 80 percent of contract goals annually. 3- Leverage – 10 percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million; IO (2- Differentiate – Percent of target that understands how to value U.S. soy’s competitive advantage with regard to transparency, supply, contractual issues and risk reduction, 3- Market Access -Progress in addressing of Barriers to Trade of U.S. Soy)

4. What target areas are funded with this program? Supply, DO, Comm, IO

5. What is the desired impact and what is USB’s ability to achieve this impact? USB will help the U.S. soybean industry reach 18 million acres of high oleic soybeans planted by 2023. This acreage goal is expected to produce 9 billion pounds of high oleic soybean oil which will need demand from U.S. food markets, industrial users and exports.

6. What does USB’s involvement (level of effort) look like? USB will take a broad market approach to this program by looking at both the push and pull sides of the market. The soy checkoff will ensure the push/supply by collaboration in soybean breeding to ensure availability of soybean varieties in more U.S. maturity groups. This includes both private and public investments in high oleic research. USB will also participate in marketing activities to motivate U.S. soybean farmers to grow high oleic soybeans. On the demand side, USB will test and promote the benefits of high oleic soy oil to end-users to ensure strong demand for the product. Internationally, USB will work on creating awareness and understanding of high oleic oil and acceptance of the oil through CODEX or other methods.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? QUALISOY and its industry partners throughout the value chain are working in conjunction with USB on this program. There are opportunities to partner at many different levels to ensure there is a consistent message coming from the soybean industry. Seed companies have developed traits and varieties in limited geographies. They market their individual seed brands to
farmers and promote oil to food targets. They also are responsible for global regulatory approvals. Processors are also involved in the end-user success of high oleic soybeans. They work with their oil customers to ensure awareness of high oleic soybean oil. Processors are integral in sharing market signals with the rest of the value chain. By leveraging the investments of seed companies, processors and other QUALISOY partners, USB can extend the success and reach of its high oleic program.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? High oleic soy is not an emerging issue, but it is at the onset of commercialization, the most critical period in a product’s introduction.

USB FY15 Program Brief – Oil
Biodiesel Market Development

1. Program overview
U.S. soybean farmers are constrained by the drag soybean oil has on the price they are paid per bushel and the volatility of the biodiesel market due to shifting requirements. U.S. soybean farmers have an opportunity to expand biodiesel markets by providing technical support and expertise to industry and end users, while marketing this high quality fuel and capitalizing on the fact that biodiesel is classified by EPA as an Advanced Biofuel.

2. Oil Action Team ranked 2 out of 5 constraints/opportunities

3. Which target area goals and measurements does this program impact?
Industrial (DO 3): Soybean oil component use in biodiesel and other industrial uses reaches 5.6 billion pounds by 2016.

Leverage (Communications 3): Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million.

Farmer Support (Communications 4): Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers.

4. What target areas are funded with this program?
Domestic Opportunities, Communications

5. What is the desired impact and what is USB’s ability to achieve this impact?
The desired impact is to grow the market for soybean oil. USB’s ability to impact is great as USB has and continues to be the leaders in funding the research and development activities necessary to expand this huge market for soybean oil and in general communications activities for farmers to see value in the biodiesel market.

6. What does USB’s involvement (level of effort) look like?
USB’s support of the biodiesel industry in partnership with the National Biodiesel Board is centered around research, communications and commercialization activities
for the Biodiesel and Bioheat Programs. These are accomplished through leveraged research with OEMs, industry and government agencies along with communications and outreach activities about the sustainability & environmental benefits, ASTM standards, BQ9000 quality program, Advanced Biofuels status of biodiesel and Bioheat and farmer awareness of the economic benefits of biodiesel and Bioheat. These activities are leveraged through QSSBs, as well.

7. Who is already working on this issue and what are they addressing? The National Biodiesel Board is the only industry organization dedicated to carrying out these activities. The QSSBs also play an important role on a state level expanding the market for biodiesel and maintaining support for biodiesel as an advanced biofuel.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? Continued funding of research and promotion of biodiesel and Bioheat will protect and expand a very lucrative market started by soybean farmers and the soybean checkoff as well as reducing feed costs for animal agriculture. Biodiesel now accounts for 4.9 billion pounds of soybean oil use annually according to the World Agricultural Supply and Demand Board and is poised for significant growth in 2014.

USB FY15 Program Brief – Oil
New Industrial Uses Development
Grow the use of soybean oil

1. Program overview: Soybean farmers will benefit from increased value of U.S. soybean oil by investing in the development of preference for soybean oil as a feedstock/ingredient among manufacturers of high value, high volume industrial products and applications and their customers. This preference will result from USB-funded research and development support that identifies enhanced functional performance and commercialization opportunities including appreciation of its low carbon footprint compared with competing petrochemicals or other vegetable oils.

2. Oil Action Team ranked 3 out of 5 constraints/opportunities

3. Which target area goals and measurements does this program impact? Industrial (DO 3): Soybean oil component use in biodiesel and other industrial uses reaches 5.6 billion pounds by 2016. Differentiate (IO 2): Percent of target that understands how to value U.S. soy’s competitive advantage with regard to transparency, supply, contractual issues and risk reduction. (Net differentiation score) Customer Awareness (C 2): Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers.

4. What target areas are funded with this program? Domestic Opportunities International Opportunities
5. What is the desired impact and what is USB’s ability to achieve this impact? The desired impact is to grow the use of soybean oil for high value, high volume industrial markets. Soy oil is now used in plastics, paints/inks, lubricants, solvents, surfactants and many other products. USB can impact by continuing its leadership in supporting the development of new technologies and through technology transfer to industry partners creating awareness, interest, trial, and adoption.

6. What does USB’s involvement (level of effort) look like? Funding of multi-year research and development efforts in cooperation with industry partners that identifies and develops the functional, mechanical and physical property advantages of U.S. soybean oil for use in industrial applications. Work with industrial partners to commercialize new technologies to increase demand in the U.S and internationally with USB IO.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? A majority of projects have commercial partners whose contributions normally exceed USB investment. Examples of industry partners include Goodyear Tire and Rubber Company, Ford Motor Company, ADM, Sherwin Williams, Bunge, Bayer Material Science, Lear Corporation, Cargill, Rust-Oleum, CHS and the Foreign Agricultural Service.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? Industry and academia will normally bring forward initial data to provide proof of concept prior to requesting USB investment. Projects will normally fall into stage 2 or 3: Stage 1 – Research to explore a new concept Stage 2 – Research to determine feasibility Stage 3 – Development of the product and process Stage 4 – Commercial Introduction Industrial usage of soybean oil (excluding biodiesel) has had significant and consistent growth over the past decade and is now at 1.4 billion pounds according to the latest USB Market View Database estimates (2012). Use is typically in high value products, (many over $1/pound) which add significant value, as well as, demand volume to the soy industry.

USB FY15 Program Brief – Oil
Commodity Soy Food Oil Program

1. Program Overview – Commodity Soy Food Oil Constraint
Low awareness of the many attributes of soybean oil (health benefits, reliability of supply, neutral taste profile, etc.,) a consumer lack of awareness that generic vegetable oil is usually soy oil, as well as a lack of understanding of the intrinsic and extrinsic values of U.S. soy oil over competing vegetable and soy oils of other origins, is limiting the expansion of U.S. soybean oil consumption.
2. Oil Action Team ranked 4 out of 5 constraints/opportunities.

3. Which target area goals and measurements does this program impact?
   Food (DO 4) – Soy oil usage for food will reach 14 billion pounds by 2020.
   Customer Preference (IO 1) – Net promoter score.

4. What target areas are funded with this program?
   International Opportunities and Domestic Opportunities

5. What is the desired impact and what is USB’s ability to achieve this impact?
   The desired impact is expanded awareness of the health and functional attributes among the targets leading to increased preference for and use of U.S. soy. The domestic and international FY13 retail sales successes with soy oil labeling enhancements; refiners’ innovative product packaging introductions; and sales training workshops for oil wholesalers and distributors resulted in double digit sales increases, proving there is a high likelihood for USB achieving this program’s desired outcomes.

6. What does USB’s involvement (level of effort) look like?
   USB will reach targeted food companies, foodservice industry, and vegetable oil refiners/wholesalers/distributors through networking, partnerships, education; sponsorships of industry associations, exhibits and panels/sponsorships at events. In addition to working with distributors, grocery chains and food companies to label vegetable oil as soybean oil, tactics include promoting soybean oil to health professionals working at major restaurant chains and supermarkets; as well as, developing digital resources, using email marketing, trade advertising and more. Additionally, USB will encourage soy oil trials in international hospitality and institutional sectors by demonstrating U.S. soy oil’s advantages over vegetable oils and soy oil of other origins. USB’s funding effort should be sufficient enough to defend and expand its current commodity food oil shares in overseas markets and in the U.S., as these are the pathways that ensure continuing demand for excess soy oil and as well as serve as the springboard for introducing new premium, U.S. soy oils.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
   Collaborations with oil refiners, wholesale/distributors/retailers such as Ragasa, Inolasa, Olmeca Company, Team Company, Ay pesa Company, Coral International Company, Atotojal, many of whom are committed to continuing as partners in advanced marketing training programs, product promotions, new packaging research, replacing other vegetable oil with soy oil in new food product development, and co-sponsoring soy oil use trials. Their contributions range from, for example, co-funding to providing payment-in-kind resources, such as media buys, sponsorships, use of commercial production and meeting facilities, and in-house experts as speakers or for testimonials.
8. **Where are** we in the cycle of this issue, e.g., is this an emerging issue? Commodity soy oil is in the mature phase, the longest duration stage in a product’s life cycle. The stage in which continuing and new sales can come about from repositioning based upon innovative packaging and/or new product development, awareness raising promotional campaigns, educating the value chain on lesser-known attributes of soy oil’s health benefits/functional properties, or from investments in enhanced labeling.

**USB FY15 Program Brief – Oil**

**Increasing Soybean Oil Content**

1. **Program overview** – Higher percent oil content in soybean varieties presents an opportunity to increase the perceived value of soybean to domestic processors and to the export market.

2. Oil Action Team ranked 2 out of 2 constraints/opportunities

3. Which target area goals and measurements does this program impact? Supply (1-Component Value) Increasing oil content conforms with the Target Area Goal of increasing combined seed content of protein and oil 10 percent by 2025.

4. What target areas are funded with this program? Supply

5. What is the desired impact and what is USB’s ability to achieve this impact? The overall goal is to incrementally increase oil content from the current U.S. average of 18.5–20.5 percent (at 13 percent moisture content) while maintaining protein content and yield. USB involvement is the main source of research towards fulfilling this goal.

6. What does USB’s involvement (level of effort) look like? USB will fund and promote research in soybean genetics and breeding to achieve this goal. Germplasm currently exists with potential to achieve the indicated goal and yet needs to be thoroughly screened and tested. Upon screening this material at the molecular level key genes involved in the synthesis and storage of soybean seed oil need to be identified. The deliverable will be to identify genetic markers that provide breeders the tools to more efficiently select for these oil-regulating genes and ultimately breed them into elite varieties. Also, a gene discovery program is underway to identify new alleles and genes affecting oil content including those outside the content of the present germplasm, namely through transgenic means and mutagenized genetic material.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? Oil content research at USDA-ARS at Wooster Ohio is incorporated into the current USB project. The Ohio Soybean Council and Arkansas Soybean Association support the breeding programs in added-value traits in their respective states and tie into the USB project. The University of Nebraska program in soybean oil research is heavily leveraged with National Science
Foundation (NSF) grants that support discovery of novel genes for oil traits. Further leveraging opportunities will come as breeding material reaches advanced level and needs to be tested in additional states by public soybean breeders in those states to verify environmental stability of the trait. Ultimately, elite material would be made available to all public and private breeders.

8. **Where are we in the cycle of this issue, e.g., is this an emerging issue?** We are still quite early in the cycle of developing soybean varieties that contain oil content above the average level and yet also maintain an acceptable level of protein content and also are high yielding.
USB FY15 Program Brief – Freedom to Operate Sustainability

1. **Program overview – define constraints/opportunities**
   Market share for U.S. soy is being eroded because we haven’t credibly demonstrated a level of sustainability performance that mitigates stakeholders’ risk exposure regarding sustainable sourcing. U.S. soy producers have the opportunity to communicate the very positive sustainability and conservation message of the last 75 years and the comprehensive and widespread agriculture conservation programs used in U.S. agriculture and captured in the U.S. Soy Sustainability Assurance Protocol.

2. **FTO Action Team ranked 1 out of 8 constraints/opportunities**

3. **Which target area goals and measurements does this program impact?**
   **Quality and Component Value (DO1)** – Fifteen brands endorse a USB-supported sustainable soybean sourcing program by 2020.
   **Feed (DO2)** – Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016.
   **Customer Preference (IO1)** – Net Promoter Score
   **Market Access (IO3)** – Progress in addressing of Barriers to Trade of U.S. Soy.
   **Sound Science (IO4)** – Volume of “Certified Sustainable” U.S. Soy exported. Number of neutral to positive articles appearing in the international trade/consumer media about the U.S. soybean industry.
   **Consumer Awareness (CO1)** – Percentage of consumers who believe today’s ag is moving in the right direction increases from 43 percent to 47 percent. Percentage of influencers who are ‘comfortable’ with the way that meat, grains and produce are grown and raised increases from 54 percent to 56 percent.
   **Leverage (CO3)** – Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million.
   **Sustainable Yield Production (SU3)** – Increase average U.S. soybean yield by 35 percent per acre through (A) translation of research results into new higher yielding varieties and better management practices and (B) capturing 10 percent more genetic yield potential per acre by 2025 by managing biotic and abiotic stresses that impact yield.

4. **What target areas are funded with this program?**
   Domestic Opportunities, International Opportunities, Supply and Communications
5. What is the desired impact and what is USB’s ability to achieve this impact?
Invest soybean checkoff dollars in activities that: 1) develop best management practices
that optimize the use of inputs to increase profitability, protect the environment and control
the spread of herbicide resistant weeds and 2) communicate specifically how U.S.
soybeans and derivative products exceed the requirements of both industry/corporate and
overseas governmental sustainability regimes. This communication and industry
involvement will support the acceptance of U.S. soy production sustainability practices as
an approved solution for both industry and government sustainability requirements in
domestic and international markets.

6. What does USB’s involvement (level of effort) look like?
• Fund research in cooperation with industry partners to identify and communicate
BMPs for fertilization requirements, weed control recommendations and pesticide
rates and timing for optimum soybean growth
• Promote acceptance of the U.S. Soybean Sustainability Assurance Protocol to
industry partners and exporters/importers along with international government
officials and NGOs.
• Support benchmarking of Protocol against industry criteria or other sustainability
programs
• Clearly communicate to industry supply chain the conservation practices utilized by
U.S. soy farmers and the comprehensive laws, regulations, and best management
practices that ensure widespread use in the U.S.
• Highlight the audit and measurement system that ensures conservation compliance
and provides measurements to track the impact of improved conservation practices

7. Who is already working on this issue, what are they addressing, and what are the
opportunities for partnerships to leverage this investment?
Universities, USDA and commercial partners are conducting research to identify
management practices that reduce the development of herbicide resistant weed populations
and identify optimum management practices for soybean production systems. Many multi-
national feed and food companies and NGOs are closely involved in this issue; Drive
positive progress through multi-stakeholder groups; Collaborate with brand owners to
reach consumers; Opportunity to increase coordination on sustainability issues with other
U.S. ag commodities

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
U.S. agriculture created conservation programs over 75 years ago so the concept is not
new. However, in the last decade, the sustainability issue emerged and many
organizations have now implemented sustainability requirements.
This program is needed to achieve recognition of U.S. soy meeting government or customer requirements. In terms of capturing the U.S. competitive advantage in this area it is an emerging issue.

USB FY15 Program Brief – Freedom to Operate
Water

1. Program overview – define constraints/opportunities
Producers face risk of reduced profit potential due to external (stakeholder, regulatory) and agronomic pressures related to water use and stewardship. This risk is due to several factors: limited availability of water for irrigation; ineffective water quality protection; lack of awareness about agriculture’s positive impacts on water among key influencers of U.S. public opinion; and limited coordination among all rotation crops to address these issues.

2. FTO Action Team ranked 2 out of 8 constraints/opportunities

3. Which target area goals and measurements does this program impact?
Quality and Component Value (DO1) – Fifteen brands endorse a USB-supported sustainable soybean sourcing program by 2020.
Sustainable Yield Production (SU3) – Increase average U.S. soybean yield by 35 percent per acre through (A) translation of research results into new higher yielding varieties and better management practices and (B) capturing 10 percent more genetic yield potential per acre by 2025 by managing biotic and abiotic stresses that impact yield.
Leverage (CO3) – Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million
Consumer Awareness (CO1) – Percentage of consumers who believe today’s ag is moving in the right direction increases from 43 percent to 47 percent. Percentage of influencers who are ‘comfortable’ with the way that meat, grains and produce are grown and raised increases from 54 percent to 56 percent.

4. What target areas are funded with this program?
Domestic Opportunities, Supply and Communications

5. What is the desired impact and what is USB’s ability to achieve this impact?
By proactively communicating about the positive side of the story, USB can help dispel misconceptions and boost the reputation of farmers and agriculture on water issues. The health of that reputation has the potential to reduce future regulation and promote reasoned cooperation on future water issues. USB has the ability to promote positive water conservation efforts by the soy industry and by individual farmers to demonstrate that production agriculture is working to find solutions and to do the right thing for the environment and the water supply. Develop best management practices that optimize the use of irrigation water. Protect surface and ground water from erosion, pesticides, and excess nutrients through the implementation of conservation best management practices. By creating strategic tools, partnerships and information sharing mechanisms, USB can
help prepare individual soybean farmers, QSSBs and the broader agriculture industry for better planning and problem solving as water-related threats and opportunities continue to evolve.

6. What does USB’s involvement (level of effort) look like?
Information-sharing and collaboration with other agricultural water stakeholders through symposia and other programs to identify gaps and opportunities. Proactive communications effort to share the positive efforts and successes of farmers to preserve and improve water quality. In cooperation with industry partners fund research to enable:

- Researchers to better understand soybean physiological water requirements
- Extension workers and consultants to use the results to develop and communicate best management practices to farmers.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
As water issues are very regionalized and can vary greatly throughout the country, USB plans to partner and work closely with QSSBs, other agricultural groups, agribusinesses, national and regional water-focused organizations and land grant universities. Universities, USDA and commercial partners are conducting research to explain soybean physiological responses to environmental stress and develop new conservation practices to protect soils from erosion and surface and groundwater from contamination.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
This is a continuing issue, but the risk posed to producer profitability is emerging and presents an opportunity for USB to proactively neutralize the risk. Soybean producers have dealt with water-related regulations in the past, but these regulations are evolving faster than ever before, with new and different methods of enforcement. As a result, management practices (and evaluation of those practices) need to evolve and improve, as knowledge is gained and improvements continue to be made. Technology transfer, always a complex issue, also has to evolve as the nature of water-related regulations become less voluntary and cooperative.

The accusations from activists and organizations with an anti-ag motivation only continue to get louder and more common as public awareness for water issues increases. Now is the time to balance that negative voice, with a narrative of genuine concern and proactive efforts on the part of farmers across the country.

USB FY15 Program Brief – Freedom to Operate
Biotechnology

1. Program overview – define constraints/opportunities
The freedom to utilize biotechnology is being threatened for U.S. farmers due to a lack of education and understanding about modern technology. This lack of education reduces opportunities for U.S. soy farmers to use varieties that support the health of the soy industry.

2. FTO Action Team ranked 3 out of 8 constraints/opportunities

3. Which target area goals and measurements does this program impact?
Quality and Component Value (DO1) – Fifteen brands endorse a USB-supported sustainable soybean sourcing program by 2020.

Feed (DO2) – Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016.

Sound Science (IO4) – Percent improvement in Global Biotechnology Environment Scan. Volume of “Certified Sustainable” U.S. Soy exported. Number of neutral to positive articles appearing in the international trade/consumer media about the U.S. soybean industry.

Differentiate (IO2) – Percent of target that understands how to value U.S. soy’s competitive advantage with regard to transparency, supply, contractual issues and risk reduction. (Net differentiation score.)

Consumer Awareness (CO1) – Percentage of consumers who believe today’s ag is moving in the right direction increases from 43 percent to 47 percent. Percentage of influencers who are ‘comfortable’ with the way that meat, grains and produce are grown and raised increases from 54 percent to 56 percent.

Leverage (CO3) – Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million.

4. What target areas are funded with this program?
Domestic Opportunities, International Opportunities and Communications

5. What is the desired impact and what is USB’s ability to achieve this impact?
USB aims to increase understanding of the benefits of biotechnology in farming and food among consumers and domestic and international influencers. This has the potential to lead to a reduction in the influence of the anti-biotech activists. USB will work to protect the opportunities for U.S. soy producers to use existing and future technologies that support the health of the soy industry.

6. What does USB’s involvement (level of effort) look like?
Includes a variety of communications efforts to reach many audiences including young students in school, food shoppers and influencers, larger industry customers and partners, and overseas government officials.
7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
   - CommonGround, USFRA and the Center for Food Integrity are organizations that communicate with the non-ag public on issues related to biotech. These groups are also funded by other organizations, creating a leveraging opportunity for USB.
   - Leverage access to students and the public with partners such as the Smithsonian Museum, public schools and universities, the Council for Biotechnology Information and International Food Information Council.
   - Support is limited, but growing positive acceptance by industry and government in markets such as the UK.
   - Defend key international markets with sound science in coordination with local industry.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
While there has been controversy surrounding biotechnology for years, the issue has heated up in the past several years because of efforts to label all foods grown with biotech seeds, and even meat raised with feed from biotech seeds. Approximately 30 states currently have GMO food labeling initiatives under consideration. This very public battle over labeling has increased the public’s focus on biotechnology which provides an opportunity to share information on the positive impacts of biotech on agriculture, the food supply and on food costs.

USB FY15 Program Brief – Freedom to Operate
Animal Ag (Domestic)

1. Program overview – define constraints/opportunities
   Because domestic animal agriculture (our number1 customer) faces challenges that limit its ability to operate and expand, soybean farmers are confronted with greater risk of reduced soybean meal demand.

2. FTO Action Team ranked 4 out of 8 constraints/opportunities

3. Which target area goals and measurements does this program impact?
   Quality and Component Value (DO1) – Fifteen brands endorse a USB-supported sustainable soybean sourcing program by 2020.
   Feed (DO2) – 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 percent by volume from 3.1 million metric tons by 2015. U.S. broiler exports increase 7 percent by value from $3.6 billion by 2015. U.S. turkey exports increase 7 percent by volume from 319 thousand metric tons by 2015. U.S. turkey exports increase 10 percent by value from $599 million by 2015. U.S. pork exports increase 12 percent by volume from 2.3 million metric tons by 2015. U.S. pork exports increase 15 percent by value from $6.1 billion by 2015.
Food (DO 4) – Raise consumer perceptions of soy as healthy from 75% to 80% by 2018.

Consumer Awareness (CO1) – Percentage of consumers who believe today’s ag is moving in the right direction increases from 43 percent to 47 percent. Percentage of influencers who are ‘comfortable’ with the way that meat, grains and produce are grown and raised increases from 54 percent to 56 percent.

4. What target areas are funded with this program? Domestic Opportunities and Communications

5. What is the desired impact and what is USB’s ability to achieve this impact? Provide leadership in building and maintaining strong industry coalitions to support U.S. animal agriculture industry; Document data, statistics and information to support animal agriculture; Support grassroots and national efforts to drive momentum toward animal agriculture support.

6. What does USB’s involvement (level of effort) look like?
   • Support state coalitions
   • Serve as a catalyst to engage the food industry, NGOs and other partners
   • Provide tools, information and training to coalitions, industry partners and stakeholders
   • Document economic and production data
   • Improve consumers’ and stakeholders’ perceptions

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
   • Center for Food Integrity (CFI) is a critical partner and provides multiple opportunities to leverage USB investment alongside other industry allies.
   • QSSB cost-sharing also is an important component of this program.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? This is an ongoing issue. USB’s original vision was to act as a catalyst to help the food system build and maintain coalitions that support its long-term health. These programs have realized USB’s vision and their continued success provides many opportunities to continue support of the very critical food and feed markets.

USB FY15 Program Brief – Freedom to Operate Transportation / Infrastructure

1. Program overview – define constraints/opportunities
In order to ensure efficient transportation for the agriculture industry, USB supports and communicates on issues related to the soy transportation infrastructure. This includes managing the communications process with consistent messaging and tools for effective and timely response to emerging issues.
2. FTO Action Team ranked 5 out of 8 constraints/opportunities

3. Which target area goals and measurements does this program impact?  
   Customer Preference (IO1) - Net Promoter Score

   Differentiate (IO2) – Percent of target that understands how to value U.S. soy’s competitive advantage with regard to transparency, supply, contractual issues and risk reduction

   Leverage (CO3) – Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million.

4. What target areas are funded with this program?  
   International Opportunities and Communications

5. What is the desired impact and what is USB’s ability to achieve this impact?  
   Invest soybean checkoff dollars to communicate various ways for U.S. soy transportation infrastructure improvements to be achieved.
   - 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. This message of complete delivery confidence should be highlighted to international customers.

6. What does USB’s involvement (level of effort) look like?  
   - Analysis to highlight growing concerns with U.S. infrastructure
   - Support for the Soy Transportation Coalition
   - Promote complete delivery confidence to international customers
   - Analyze opportunities to address the lack of infrastructure to support hi-speed internet access in rural U.S.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?  
   - Soy Transportation Coalition (STC)
   - QSSBs
   - U.S. soy/ag industry transportation divisions
   - Transportation focused trade associations
   - Port authority organizations

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?  
The need for U.S. soy transportation infrastructure to be improved is not an emerging issue, but it is now approaching the point for significant investment funding due to the confluence of several factors:
   - the realization that this inadequate transportation infrastructure could impede U.S. economic recovery and growth
• the realization that rebuilding/improving this inadequate transportation infrastructure could generate a significant number of jobs as part of an economic stimulus package
• The realization that a fraction of the funds required to rebuild/improve U.S. transportation infrastructure could come from non-government funding sources, such as user fee-type mechanisms.

In the international marketplace the efficiency of the U.S. transportation and export infrastructure is seen as an increasing advantage for purchasing U.S. soy.

USB FY15 Program Brief – Freedom to Operate
Market Access

1. Program overview – define constraints/opportunities
Opportunity to increase U.S. soy exports to global markets by reducing market access trade barriers or addressing trade issues such as differential export taxes, chemical maximum residue limits, use of food grade mineral oil as dust suppressant, and analysis of possible Free Trade Agreements. This focuses on non-biotech related market access issues.

2. FTO Action Team ranked 6 out of 8 constraints/opportunities

3. Which target area goals and measurements does this program impact?
Market Access (IO3) – Progress in addressing of Barriers to Trade of U.S. Soy.

Sound Science (IO4) – Targeted buyers rating of effectiveness of U.S. Soy in contributing to their country/region food safety and security. Percent improvement in Global Biotechnology Environment Scan. Volume of “Certified Sustainable” U.S. Soy exported. Number of neutral to positive articles appearing in the International trade/consumer media about the U.S. soybean industry.

4. What target areas are funded with this program?
International Opportunities

5. What is the desired impact and what is USB’s ability to achieve this impact?
The desired impact is the reduction or elimination of trade barriers in the global marketplace leading to a more competitive opportunity for U.S. soy exports. USB programs can help support this and must work in partnership with the greater U.S. soy and agricultural industry and occasionally local importers.

6. What does USB’s involvement (level of effort) look like?
Work with U.S. and international soy and ag industry to seek solutions to technical and perception related trade issues through sound science and communication efforts.
7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? U.S. soy and agriculture industry are working to reduce market trade issues and it is important to increasing all types of U.S. ag exports that a strong partnership exists with U.S. producers, U.S. commercial exporters, and U.S. government technical staff involved in ag export.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? Market access issues are a combination of both long-term and emerging issues. Several issues such as chemical residues on ag products have been around for decades but the situation is always changing in regard to new regulations and their interpretations by various countries or use of new chemical or different applications.

USB FY15 Program Brief – Freedom to Operate
Animal Ag (International)

1. Program overview – define constraints/opportunities
U.S. soy, grain, and meat and poultry market access is impeded in some international markets because of concerns over food security and safety.

2. FTO Action Team ranked 7 out of 8 constraints/opportunities

3. Which target area goals and measurements does this program impact?
   Customer Preference (IO1) – Net Promoter Score
   Market Access (IO3) – Progress in addressing barriers to trade of U.S. soy
   Sound Science (IO4) – Targeted buyers rating of effectiveness of U.S. soy in contributing to their country/region food safety and security

4. What target areas are funded with this program?
   International Opportunities

5. What is the desired impact and what is USB’s ability to achieve this impact?
   Provide leadership in building and maintaining strong industry coalitions to support U.S. animal agriculture and soy industry in international markets

6. What does USB’s involvement (level of effort) look like?
   • Convey to local country government and industry officials that U.S. agriculture is their committed partner in achieving a long-term goal of sustainable food security and safety.
   • Introduce, review and discuss issues that affect the expansion of meat and poultry consumption such as cold chain, consumer marketing and meat production safety as well as other issues impacting agriculture trade between countries.
   • Countries of focus would include China, Colombia, other countries with on-going Free Trade Agreement discussions and West Africa.
7. **Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?**
Collaboration with other U.S. agriculture cooperatives to stage high level industry in-country conferences focusing on the animal production industries.

8. **Where are we in the cycle of this issue, e.g., is this an emerging issue?**
Ongoing issue; USB has long been involved in helping to build and maintain coalitions that support the health of the animal ag industry in the domestic U.S. market and is increasing focus on the importance of international market acceptance of U.S. ag products and importance of a safe food supply.

**USB FY15 Program Brief – Freedom to Operate**

**Longevity of the Industry (Next Generation)**

1. **Program overview – define constraints/opportunities**
Budget cuts and reduced awareness of the career opportunities in agriculture among young scientists constrain the potential for continuous improvement in soybean production. In today’s standard curriculum; K-12, undergraduate and graduate students are not encouraged to pursue educational tracks that train them in soybean sciences and lead them to become the next generation of soybean researchers.

2. **FTO Action Team ranked 8 out of 8 constraints/opportunities**

3. **Which target area goals does this program impact?**
**Sustainable Yield Production (SU3)** – Increase average U.S. soybean yield by 35 percent per acre through (A) translation of research results into new higher yielding varieties and better management practices and (B) capturing 10 percent more genetic yield potential per acre by 2025 by managing biotic and abiotic stresses that impact yield.

4. **What target areas are funded with this program?**
Supply

5. **What is the desired USB impact?**
Provide professional training opportunities for undergraduate and graduate students in soybean science. Exposure of K-12 teachers to soybean science to enhance inclusion of soybeans in K-12 science programs. Promote student’s interest in soybean sciences by supporting K-12, undergraduate and graduate student programs with a focus on soybean science.

6. **What does USB’s involvement look like?**
Support of educational and training programs for the next generation of soybean researchers that will provide for a continuous supply of well-trained soybean researchers.
In cooperation with industry partners develop training opportunities to provide:
- Ph.D. research fellowships
- Undergraduate research internship opportunities

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• Continuing education programs for K-12 teachers that promote knowledge of soybean science.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
Universities, USDA, commercial partners. This program provides support for Ph.D. students at universities to complete Ph.D. training in soybean science. The Nebraska QSSB developed a program for K-12 teachers that has been jointly supported by USB for five years. This program also coordinates with other industry and FTO-funded programs that promote biotechnology career paths to young scientists.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
This is a continuing issue. There is a continual need for trained scientists to advance soybean science.
USB FY15 Program Brief – Customer Focus
Customer Understanding of Biotechnology Benefits

1. Program overview:
   Downstream customers’ lack of information about the critical role biotechnology has in
   human nutrition and food security (abundance of supply) are impeding USB’s goal of meeting
   the worldwide demand that requires a 50 percent increase in protein by 2030. Many domestic
   and international influencers of end-user consumers are not aware of the benefits of
   genetically modified soy in the production of food products allowing anti-biotech
   propaganda to create a bias against soy.

2. Customer Focus Action Team ranked this 1 out of 12 constraints/opportunities

3. Which target area goals and measurements does this program impact?
   • Food (DO 4) – Raise consumer perceptions of soy as healthy from 75% to 80% by
     2018; Soy oil usage for food will reach 14 billion pounds by 2020.
   • Sound Science (IO 4) – Number of neutral to positive articles appearing in the
     international trade/consumer media about the U.S. soybean industry.

4. What target areas are funded with this program?
   Domestic, International

5. What is the desired impact and what is USB’s ability to achieve this impact?
   Food manufacturers, food service, industry retailers, food associations and health
   professionals are a credible source of information for their customers. Armed with accurate
   and impactful information about the benefits of biotechnology will make them a useful ally
   that can positively influence their customers and help counter the negative information being
   disseminated by anti-biotech activists. Much of the research done by other organizations
   within USB and partners of USB can be utilized in this effort, making it highly achievable.

6. What does USB’s involvement (level of effort) look like?
   There are many organizations and events that provide access to food manufacturers, food
   service, industry retailers and health professionals. One-on-one meetings, seminars, trade
   shows and other special events provide the opportunity to correct the perception of
   biotechnology relating to soy.

7. Who is already working on this issue, what are they addressing, and what are the
   opportunities for partnerships to leverage this investment?
   • Both domestically and internationally, USB is reaching out to the food industry and
     supporting associations to address the perceptions of biotechnology relating to soy. The
     biotechnology story is woven into our communications with these key customer
     influencers.
   • Our efforts will complement those of organizations such as USFRA, CFI, GMA, BIO,
     FAS, etc., by reaching out to downstream customers in the human food and nutrition
     industries.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
This is an on-going effort as activists and others raise consumers’ fears about what is in their food.

**USB FY15 Program Brief – Customer Focus**

**Customer Outreach and Education**

1. **Program overview**
   Global customer segments, specifically in the animal and aquaculture sectors, lack knowledge and full understanding of quality benefits of U.S. soy, benefits of using soy-optimized feed as opposed to other ingredients, and a general understanding of what the U.S. soybean industry has to offer. Through this lack of knowledge, relationships are hindered and therefore a customer preference of U.S. soy is lacking.

2. **Customer Focus Action Team** ranked this 2 out of 12 constraints/opportunities

3. Which **target area** goals and measurements does this **program impact**?
   - Customer Preference (IO 1) – Net Promoter Score
   - Differentiate (IO 2) – Percent of target that understands and acts on the value of U.S. soy on the basis of digestible protein, amino acid profile and energy; percent of target that understands how to value U.S. soy’s competitive advantage with regard to transparency, supply, contractual issues and risk reduction. (Net differentiation score)

4. **What target areas are funded with this program?**
   International Opportunities

5. **What is the desired impact and what is USB’s ability to achieve this impact?**
   Through this outreach, the desired impact is to build and strengthen relationships the U.S. soybean industry has with their existing customers and to build new customer relationships. Earning customer trust, not only strengthens our relationships but helps to create customer preference for U.S. soy and its industry. USB is already impacting in some regions/industries and has the ability to do so globally.

6. **What does USB’s involvement (level of effort) look like?**
   USB’s effort includes education of global players (feed producers, animal producers, nutritionists, buyers/traders, etc.) through trainings, for example, about research conducted by the U.S. soy industry. USB will educate customers and prove benefits of U.S. soybean quality. Another example of involvement can look like continuation of work to promote soy in animal feeds, even in mature markets. The last two marketing years saw expensive soybean meal (SBM) and the feed industry began to look at alternatives to SBM. We’ll focus on promotions of the amino acid dense protein of the U.S. SBM in contrast to crude protein levels. Customer and relationship enhancement is the core of every aspect of this involvement.

7. **Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?**
   USB has ongoing technical and trade servicing educational programs. Leveraging effort is gained through sponsorships, speaker participation in major international conferences. In the
Americas, with feed, livestock and producer associations, USB is working on educating users of SBM on the advantages of U.S. SBM, as well as the advantages of formulating based on digestible amino acids, rather than protein. This is done through seminars and even one-on-one exchanges where the relationship with the customer is strengthened through sharing of knowledge and trade servicing.

8. **Where are we in the cycle of this issue, e.g., is this an emerging issue?**
   This is an ongoing issue which varies around the world. In some areas, this has been an ongoing effort for years. Good progress has been achieved. However, more needs to be done.

**USB FY 15 Program Brief – Customer Focus**
**Globally Accepted Analytical Standards**

1. **Program Overview**
The lack of globally accepted analytical techniques and standards for all major soybean compositional components inhibits the development of a market that fully reflects the value of the soybeans sold by U.S. farmers. Customers also lack understanding of how to value and capture the full value of the quality advantages of U.S. soybeans and soybean products.

2. **Customer Focus Action Team** ranked this 3 out of 12 constraints/opportunities

3. Which **target area** goals and **measurements** does this **program impact**?
   - Quality and Component Value (DO 1) – Key component measurement scheme is identified and shared with industry by 2015; A component value marketing platform for U.S. is established by 2016.
   - Differentiate (IO 2) – Percent of target that understands and acts on the value of U.S. soy on the basis of digestible protein, amino acid profile and energy; percent of target that understands how to value U.S. soy’s competitive advantage with regard to transparency, supply, contractual issues and risk reduction.
   - Feed (Supply 4) – 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. soybeans and soybean meal compared to South American competitors by 2015.

4. What **target areas** are funded with this **program**?
   Domestic Opportunities, International Opportunities, Supply

5. What is the **desired impact** and what is USB’s ability to achieve this **impact**?
   Development of globally accepted analytical methods and standards that differentiate the compositional quality advantages of U.S. soybeans over competitive products. Through working with accredited partners like AOAC and AOCS, appropriate analytical techniques and standards can be identified. These partners have effective proven methods of developing global consensus on acceptable standards.

6. What does USB’s involvement (level of **effort**) look like?
   In cooperation with industry partners, conduct research to identify analytical methods and standards for key soybean compositional characteristics to (a) provide customers with
standards that allow them to capture full value of U.S. soybeans, and (b) come to consensus agreement on the proper standards to use to characterize soybean products. In addition, conduct studies in Asia that compare U.S. soybean meal with meal from other origins, and provide the benefits of U.S. soy to customers. USB’s involvement also includes establishment of a training program focusing on digestible amino acids and comparative amino acids from other origins, along with promotion of measuring amino acids in soybean meal purchased and received by Chinese integrators.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? Universities, USDA, industry partners around the world. Development of analytical methodologies for difficult soybean compositional components including things like sugars and sulfur-containing amino acids. There are opportunities to do more with existing and new partners.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? This is an emerging issue. The global feed industry trades soybean meal based upon crude protein, an easy and long established system. It will take many years of investment to move the industry to trade or view soybean meal value on components other than crude protein.

USB FY 15 Program Brief – Customer Focus
Biobased Products

1. Program overview
Lack of industry and government recognition of economic, functional and marketing benefits of soy-based technologies limits the market for soy based products, including biodiesel. Soybean farmers can increase the value of U.S. soybean oil and meal by supporting technology transfer activities for soy-derived biobased products.

2. Customer Focus Action Team ranked this 4 out of 12 constraints/opportunities.

3. Which target area goals and measurements does this program impact?
   • Industrial (DO 3) – 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 pounds by 2016.
   • Leverage (Comm 1): Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million.

4. What target areas are funded with this program?
Domestic Opportunities

5. What is the desired impact and what is USB’s ability to achieve this impact?
The desired impact is to grow the use of soybean oil and meal and its components in high value, high volume industrial markets. USB can impact by continuing its leadership in supporting the development of new technologies and through technology transfer to industry partners creating awareness, interest, trial, and adoption.
6. **What does USB's involvement (level of effort) look like?**
This is a multi-pronged approach: 1) transfer new technology and develop partnerships with industry; 2) provide technical and promotional support; 3) monitor regulatory changes and exploring opportunities for inclusion of soy in industrial products; 4) test trials of these products within industry and the federal government. This also involves communicating the output of soy industrial research and development activities. These interactions serve as a sounding board to be sure industrial program direction is strategically focused and also serves as a means for discovery of new areas of pursuit for soy industrial utilization as well as providing an opportunity to promote the positive image of soy as sustainable and environmentally friendly to influencers, end users and potential new industrial partners.

7. **Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?**
Not aware of anyone.

8. **Where are we in the cycle of this issue, e.g., is this an emerging issue?**
Industrial projects will fall into one of the following stages, with this program falling into stage 4.
Stage 1—Research to explore a new concept
Stage 2—Research to determine feasibility
Stage 3—Development of the product and process
Stage 4—Commercial introduction

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**USB FY15 Program Brief – Customer Focus**
**Research Coordination**

1. **Program overview:**
The lack of coordination of research and market development work among the various soybean interest groups reduces research effectiveness, efficiency of research funding and technology transfer, and the potential return on farmer investment, as well as our ability to supply customer needs.

2. **Customer Focus Action Team ranked this 5 out of 12 constraints/opportunities**

3. **Which target area goals and measurements does this program impact?**
   - Sustainable Yield Production (Supply 3) Increase average U.S. soybean yield by 36 percent per acre by 2025.
   - Leverage (Communications 3) Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million

4. **What target areas are funded with this program?**
   Supply, Communications

5. **What is the desired impact and what is USB’s ability to achieve this impact?**
Better coordination of research efforts to eliminate redundancy and achieve more focused collaboration to move soybean research forward at a more rapid pace. Because USB funds
much of the research, USB has the ability to impact research coordination.

6. What does USB’s involvement (level of effort) look like?
In cooperation with industry partners, QSSBs and regional checkoff programs fund research that (a) identifies the key needs of the soybean industry, (b) addresses the main issues holding back the industry, and (c) takes advantage of natural synergisms inherent to collaborative efforts. Help coordinate and Coordinate and communicate the results to U.S. soybean farmers to implement on their farms.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
Universities, USDA, industry partners. Ensure that research being conducted is necessary and is being conducted by the organizations best equipped to conduct the research in question.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
This is a continuing issue. Improving cost effectiveness and efficiency of research will continually benefit the checkoff and the soybean industry by achieving goals more rapidly and cost-effectively.

USB FY15 Program Brief – Customer Focus
U.S. Soybean Industry Value

1. Program overview:
U.S. soybean markets are limited by the customer segments’ lack of understanding of the benefits offered by the U.S. soy industry. Without realizing the benefits which the U.S. soybean industry has to offer, our customer segments and customers markets are not getting the full advantage.

2. Customer Focus Action Team ranked this 6 out of 12 constraints/opportunities

3. Which target area goals and measurements does this program impact?
   • Customer Preference (IO 1) – Net Promoter Score
   • Differentiate (IO 2) – Percent of target that understands and acts on the value of U.S. soy on the basis of digestible protein, amino acid profile and energy; percent of target that understands how to value U.S. soy’s competitive advantage with regard to transparency, supply, contractual issues and risk reduction. (Net differentiation score)

4. What target areas are funded with this program?
   International Opportunities

5. What is the desired impact and what is USB’s ability to achieve this impact?
Key customer segments are aware of the benefits of U.S. soy, including competitive advantages like logistics, availability and quality, U.S. soy’s sustainability story, and the service provided by the U.S. soy industry. USB has ability to achieve upon demonstrating the
strengths of the U.S. soybean industry, but must focus on a segment of key markets, customers and priority messages.

6. What does USB’s involvement (level of effort) look like?
Trade servicing with existing and potential customers, working with various industry segments

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
Internationally we are working with the soy value chain to demonstrate the strengths and benefits of the U.S. soybean industry. Through this, we create partnerships and relationships with customers and markets which lead to leverage opportunities.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
The issue varies in each market.

USB FY15 Program Brief – Customer Focus
Development of Efficient Soybean Production Systems

1. Program overview:
U.S. soybean farmers lack well-developed and effectively communicated best management practices, which hinders the application of more efficient soybean production systems and reduces the value of the soybean crop to farmers.

2. Customer Focus Action Team ranked this 7 out of 12 constraints/opportunities

3. Which target area goals and measurements does this program impact?
   - Sustainable Yield Production (Supply 3) Increase average U.S. soybean yield by 36 percent per acre by 2025.
   - Leverage (Communications 3) Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million; Increase the number of QSSB partnerships from 27 to 30.
   - Farmer Support (Communications 4) Maintain at least 76 percent of U.S. soybean farmers who believe the checkoff is a good deal

4. What target areas are funded with this program?
   Supply, Communications

5. What is the desired impact and USB’s ability to achieve this impact?
Development and implementation of best management practices that capture a greater proportion of soybean yield potential. USB can achieve this impact through effective communication of best management practices and research to continue to improve production practices.

6. What does USB’s involvement (level of effort) look like?
In cooperation with industry partners fund research to identify optimum seeding rates, planting dates, row spacing, fertilization requirements, and pesticide rates and timing for
optimum soybean growth and communicate the results and best management practices to farmers.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? Universities, USDA, industry partners, QSSBs. Research is being conducted to identify management practices that can be incorporated into soybean production systems to obtain maximum yield. Numerous opportunities exist to partner with the value chain in the transfer of existing best practices and research results to farmers.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? This is a continuing issue. As knowledge is gained improvements continue to be made and must be communicated to farmers.

USB FY15 Program Brief – Customer Focus
Economic Information and Market Data

1. Program overview:
   Soybean farmers and their industry partners lack comprehensive market data and economic analysis to develop effective strategies to enhance the value of the soybean crop.

2. Customer Focus Action Team ranked this 8 out of 12 constraints/opportunities

3. Which target area goals and measurements does this program impact?
   - Quality and Component Value (DO 1) – A component value marketing platform for U.S. is established by 2016.
   - Feed (DO 2) – Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016.
   - Industrial (DO 3) – 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 pounds by 2016.
   - Food (DO 4) – Soy oil usage for food will reach 14 billion pounds by 2020.
   - Customer Preference (IO 1) – Net promoter score.
   - Differentiate (IO 2) – Percent of target that understands and acts on the value of U.S. soy on the basis of digestible protein, amino acid profile and energy
   - Market Access (IO 3) – Progress in addressing barriers to trade of U.S. soy
   - Component Value (Supply 1) – Increase domestic use of U.S. soybeans by the animal feeding industry by 25 percent by 2025
   - Yield Research (Supply 2) – Identify four transcription factor gene systems that control expression of genes related to yield, protein composition and oil content by 2020.
   - Sustainable Yield Production (Supply 3) – Increase average U.S. soybean yield by 36 percent per acre by 2025
   - Feed (Supply 4) – Document the composition profile and resulting value of U.S. soybeans and soybean meal compared to South American competitors by 2015.
• Customer Awareness (Comm 2) – Percent of U.S. farmers willing to plant higher quality beans because of customer demands grows from 32 to 35 percent.
• Leverage (Comm 3) – 10 percent growth in leveraged dollars with QSSBs and value chain from $8.4 to $9.2 million
• Farmer Support (Comm 4) – Maintain at least 76 percent of U.S. soybean farmers who say the checkoff is a good deal

4. What target areas are funded with this program?
   Domestic Opportunities, International Opportunities

5. What is the desired impact and what is USB’s ability to achieve this impact?
   A consistent source of domestic and global soybean market data will be available for informed decision making. Drivers of soybean markets and supplies will be readily identified for strategic planning and messaging. USB has a strong track record of high-impact success in providing leading soybean industry content.

6. What does USB’s involvement (level of effort) look like?
   Funding development and provision of (a) key current and historical data on the use and availability of soybeans and soybean-based products, (b) economic analyses of soybean markets/opportunities that hold the greatest strategic potential to increase profitability, and (c) analyses of the soybean industry which are important to the functionality of the market place but otherwise unavailable.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
   Universities, USDA, industry partners, U.S. Dept of Energy, and others are engaged in providing various data and analyses. USB has been coordinating with several partners to address information short-comings. Budget reductions have restricted the public soybean market information available providing USB with opportunities to promote alternatives critical to the soybean industry.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
   This is a continuing issue. We continue to develop USB’s leadership position in promoting reliable information for the soybean industry.

USB FY15 Program Brief – Customer Focus
Raise Awareness and Understanding of Nutritional & Quality Benefits of U.S. Soy

1. Program overview:
   Key customers’ and influencers’ lack of understanding of the nutritional and quality benefits of U.S. soy oil and protein limits soy products acceptance and soy’s market value.
   Continuing investment in educating on the quality attributes, as well as, scientific research on the nutritional and health benefits of U.S. soy and its components would help maintain and expand the leveraging of soy protein’s health benefits (health halo) and drive demand and the value of the soybean crop.
2. **Customer Focus Action Team** ranked this 9 out of 12 constraints/opportunities.

3. Which **target area** goals and measurements does this **program impact**?
   - Food (DO 4) – Raise consumer perceptions of soy as healthy from 75% to 80% by 2018; Soy oil usage for food will reach 14 billion pounds by 2020.
   - Differentiate (IO 2) – Percent of targets that understands and acts on the value of U.S. soy on the basis of digestible protein, amino acid profile and energy.
   - Sound Science (IO 4) – Targeted buyers rating of effectiveness of U.S. soy in contributing to their country/region food safety and security.

4. What **target areas are** funded with this **program**?
   Domestic Opportunities and International Opportunities.

5. What is the desired impact and what is USB’s ability to achieve this **impact**?
   Increase understanding, preference and usage of U.S. soy protein and soy oil. Increased market penetration is achievable for soy protein and oil, domestically and internationally, as evidenced by double digit consumption growth in overseas soy foods/beverages over the last three years.

6. What does USB’s involvement (level of effort) look like?
   Support human health research to substantiate health benefits of soy. Educate food product developers, food marketers and food scientists on the health benefits and qualities of U.S. soy protein (such as color of soy protein derivatives, U.S. Identity Preservation program, size of U.S. soyfood bean varietal portfolio, etc.) and oil. Domestically, use health professionals as advocates for soy and use social media and other effective consumer marketing tools to communicate soy’s benefits. Internationally, use refiners, food manufacturers, government social programs and others in the food value chain to educate on the benefits of using U.S. soy.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
   Soy food manufacturers, the Soy Nutrition Institute, Soy Foods Association of North America, and the hospitality/restaurants/institutional industries are primary partners addressing this issue. USB already partners with these entities, but can leverage more outside funds with increased USB investment.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
   This is an ongoing effort that continually evolves as nutritional and food/beverage consumption trends change inside and outside the U.S. The social media issues and opportunities are relatively new and gaining in impact and importance as end-consumers demand for information on the nutritional, sustainability, and origin of food issues continue to evolve.
USB FY15 Program Brief – Customer Focus  
Soy Human Health Myth Busting

1. Program overview
   Our customers lack knowledge to accurately articulate the benefits of soy which hampers the global expansion of U.S. soy consumption. Domestically, most negative publicity on soy starts on social media. Both end use customers (such as retailers) and consumers need accurate information on the benefits of soy to counter unsubstantiated negative attacks on soy and its components. Outside the U.S. both social media and the news are creating a negative perception.

2. Customer Focus Action Team ranked this 10 out of 12 constraints/opportunities

3. Which target area goals and measurements does this program impact?
   - Food (DO 4) – Raise consumer perceptions of soy as healthy from 75% to 80% by 2018; Soy oil usage for food will reach 14 billion pounds by 2020.
   - Sound Science (IO 4) – Targeted buyers rating of effectiveness of U.S. soy in contributing to their county/region food safety and security; number of neutral to positive articles appearing in the international trade/consumer media about the U.S. soybean industry

4. What target areas are funded with this program?
   Domestic Opportunities
   International Opportunities

5. What is the desired impact and what is USB’s ability to achieve this impact?
   The desired impact is to positively influence the conversation around soy in the social media and news arena and to counter negative attacks with science-based information. Previous USB effort has proven the ability to achieve the desired outcome. USB can significantly impact this issue through increased activity on social media sites and the news media utilizing the Soy Nutrition Institute’s (SNI) soy experts and scientific advisors

6. What does USB’s involvement (level of effort) look like?
   USB’s involvement will include social media and traditional news media outreach, along with customer and influencer education including but not limited to food manufacturers, food service operators, retailers, health professionals, and consumers. USB will leverage the Soy Nutrition Institute, while continuing to work with other industry partners. This effort would require budget significant enough to gain a share of voice on social media and traditional news outlets.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
   Individual member companies of SNI and USB currently have modest social media efforts. SNI members perceive the negative attacks as a major barrier to their marketing and sales efforts and would likely contribute funds to this effort.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
This is a relatively new issue that has been monitored by companies and USB for the past three years. Increased negative comments have been reported by some companies over the past 12 months.

**USB FY15 Program Brief – Customer Focus Farmer Engagement**

1. **Program overview**
   U.S. soybean farmers lack knowledge of actions they can take to meet customers’ needs, which hinders our markets; and U.S. soybean farmers lack knowledge of the specific activities and value of checkoff. A program to address these constraints through farmer outreach, education and engagement presents the opportunity to address changing trends, meet customer needs and boost U.S. soybean farmer profitability.

2. **Customer Focus Action Team ranked this 11 out of 12 constraints/opportunities**

3. **Which target area goals and measurements does this program impact?**
   - Consumer Acceptance (COMM 1) – Percentage of influencers who are ‘comfortable’ with the way that meat, grains and produce are grown and raised increases from 54 percent to 56 percent
   - Customer Awareness (COMM 2) – Percent of U.S. soybean farmers who say they would be willing to change the seeds they plant if export markets like China demanded soy with higher protein and oil content increases from 32-35 percent
   - Leverage (COMM 3) – Ten percent growth in leveraged dollars with QSSBs and value chain from $8.4 million to $9.2 million; Increase number of QSSB communication partnerships from 27 to 30
   - Farmer Support (COMM 4) – Maintain at least 76 percent of U.S. soybean farmers who say they believe the soy checkoff is a “good deal” for soybean farmers
   - Quality and Component Value (DO 1) 15 brands endorse a USB-supported sustainable soybean sourcing program by 2020.
   - Feed (DO 2) Soybean meal and other products (i.e. soy protein concentrate) use in domestic feed rations reaches 28.5 million metric tons by 2016.
   - Industrial (DO 3) Soybean oil component use in biodiesel and other industrial uses reaches 5.6 billion pounds by 2016.
   - Food (DO 4) – Soy oil usage for food will reach 14 billion pounds by 2020.
   - Customer Preference (IO 1) Net promoter score.
   - Differentiate (IO 2) percent of target that understands and acts on the value of U.S. soy on the basis of digestible protein, amino acid profile and energy

4. **What target areas are funded with this program?**
   Communications

5. **What is the desired impact and what is USB’s ability to achieve this impact?**
   One desired impact is that soybean farmers know and understand the actions they can take to meet customers’ needs. USB is a leader when it comes to increasing knowledge of the actions
needed and can impact knowledge, but adoption will require the entire value chain to work together. Another desired impact is that soybean farmers support the checkoff. USB can certainly impact farmer support by investing in marketing and research that benefits U.S. soybean farmers and by sharing the checkoff’s connection with farmers.

6. What does USB’s involvement (level of effort) look like?
USB is the leader when it comes to communicating to soybean farmers about soy customer needs and how the checkoff is being invested. A successful effort would include USB owned communications channels, like the magazine, paid advertising, media relations and grassroots outreach.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment?
USB and QSSBs are working to overcome the constraints by communicating with farmers about customers’ needs and checkoff accomplishments. Some ag value chain members are also communicating about specific customer needs. It’s important that USB works closely with QSSBs and the value chain because many opportunities to leverage resources, materials, events or meetings, messages and more.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue?
There’s an ongoing need to make farmers aware of their customers’ demands and the value of the checkoff.

USB FY 15 Program Brief – Customer Focus
Processor Education

1. Program overview:
Processors across the globe lack knowledge of modern soy processing techniques, and therefore cannot deliver to their customers the value that U.S. soy offers.

2. Customer Focus Action Team ranked this 12 out of 12 constraints/opportunities

3. Which target area goals and measurements does this program impact?
- Customer Preference (IO 1) – Net Promoter Score

4. What target areas are funded with this program?
International Opportunities

5. What is the desired impact and what is USB’s ability to achieve this impact?
Providing global processors with up-to-date information and research for quality meals and oils to help them improve the overall quality which they can deliver to their customers. Therefore increasing the overall value of U.S. soy

6. What does USB’s involvement (level of effort) look like?
In terms of soy processing, when it comes to feed, there is still work that can be done to assist segments of China’s animal feed industry utilize the most modern production, as well as procurement techniques (i.e. risk management). In terms of soy processing, when it comes
to soy foods, there is still work that can be done to assist segments of all of North Asia’s soy of food processing industry utilize the most modern production. As well as procurement techniques (i.e. U.S. food grade soybeans). In the Americas, USB’s involvement can look like investment in training programs to continue educating crushers on better processes to improve the quality of their SBM, coming from U.S. soybeans. Also, train crushers on how to market a better product.

7. Who is already working on this issue, what are they addressing, and what are the opportunities for partnerships to leverage this investment? Internationally, there are programs in most world areas to provide up-to-date information on soy processing for quality oils and meal. Partners include industry organizations, feed ingredient producers, equipment manufacturers, feed, livestock and poultry producer associations, who want their members to improve their profitability and believe that the U.S. soybean industry can provide the necessary expertise.

8. Where are we in the cycle of this issue, e.g., is this an emerging issue? This is a specific issue and targeted per market.