U.S. Soy: Sustainability & Trade

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U.S. Soybean Export Council

- Funded by the soybean farmers checkoff and U.S. Department of Agriculture – Foreign Agriculture Service (USDA-FAS)
- Operating in 70 countries with approximately 125 staff and contractors
- Non-profit trade association with 100 member companies
- Founded in 2005 building on 50 years on U.S. soy farmer international Investments thru American Soybean Association (ASA)
U.S. Soybean farming

- Grow soy on 34 million hectares of land
- U.S. Soy exports valued at over $25 billion
- 55-60% of U.S. Soy is exported annually as beans, meal or oil
- 90% is GM/biotech seed

SOURCE: U.S. Census of Agriculture, USDA
U.S. soybean production
2000–2016

Europe imported 6.8 million MT of U.S. soy (+5%)
Where did the additional soy acres come from...Wheat
Average U.S. Soybean Yields
1970 - 2016

~1.5% annual yield improvement

Source: USDA
Global Demand Growth for Corn, Cotton, Soybeans, Rice and Wheat 2000/01 – 2015/16 and USDA Forecast for 2016/17

Soybeans Demand Up 214%, Corn Up By 114%, Wheat Up Only by 33%
1955 Conservation Plan for Edmonds farm

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

LAND CAPABILITY MAP

FOR EVERETT EDMONDS
FARM No. 109-L-133

PHOTO SHEET Nos.
LG-162 (4-8)

DATE
3/1/55

BOTTOMLAND. Can be cultivated yearly if organic matter maintained. Divert hill water, sod waterways:
-2M5X/B. Sloping, well drained bottom.
-2M1d3/A. Wet bottomland. Improve drainage. May be tilled.

3. Land best kept in grasses and legumes 3 yrs. out of 4. Farm on contour, terrace if cultivated. Sod waterways:
-2M1m2/c2. Limestone soils. Slopes 2 to 10 ft per 100. Half or more topsoil gone.

4. Land best used for hay or pasture. Farm contour, sod waterways. If cultivated at terrace. Build and maintain fertility:
-2M1m2/d2. Well drained soils on steeper slopes.

Meadow and pasture land. Not suited to rye. Requires careful management:
-2F1m2/e5(7). Sloping or steep, severely eroded soils.
U.S. Cropland Decreased While Forest Land Increased

CROPLAND CHANGE 1980–2011

NON-TROPICAL SOY PRODUCTION

USA Forest - 1910 = 305 million hectares   2012 = 310 million hectares

SOURCE: National Resource Inventory, USDA
Ag Conservation Improvement for Over 80 years

USDA invests over $5.5 billion annually in conservation programs with over 12,000 employees in conservation and compliance.

USDA has conservation offices in over 2,200 locations including almost every county in the U.S.
U.S. Soybean Sustainability Assurance Protocol (SSAP)

- Based on U.S. national system of conservation laws
- Participation determined annually – 95%+
- Quantifiable metric based results
- Third party audit – ~20,000 annually
- Certification available
- Aggregate/mass balance approach
The four pillars of the SSAP

- Biodiversity and high carbon stock
- Production practices
- Health & welfare
- Continuous improvement
U.S. Soybean Sustainability Assurance Protocol (SSAP)

• Positive benchmark against the FEFAC Soy Sourcing Guidelines
• Meets Consumer Goods Forum soy verification guidelines
• U.S. soy approved by Global Aquaculture Alliance BAP
• Aquaculture program in China targeted to Carrefour customers
• Approved for use by Unilever (USA) in mayonnaise
• SSAP provided to the industry without cost
Continuous Improvement
Conservation examples

- **Cover crops**
- **Take land out of production for federal payment**
- **No-till with waterways**

10 million hectares (1.3% of area in lower 48 states) in Conservation Reserve Program - out of production

USA farmland area larger than Hungary in conservation program
The Shrinking Footprint Of U.S. Soy Production

For the past 35 years, U.S. farmers have increased crop yields while decreasing negative environmental impacts

Source: Field to Market
### U.S. soybean farmer sustainability goals by 2025

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Unit of Measure</th>
<th>Total Potential Reduction</th>
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</thead>
<tbody>
<tr>
<td>Land Use</td>
<td>Planted acres per bushel</td>
<td>10%</td>
</tr>
<tr>
<td>Soil Erosion</td>
<td>Tons per bushel</td>
<td>25%</td>
</tr>
<tr>
<td>Energy Use</td>
<td>BTUs per year</td>
<td>10%</td>
</tr>
<tr>
<td>GHG Emissions</td>
<td>Pounds CO2e per year</td>
<td>10%</td>
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9 million tons of SSAP certified U.S. soy exported to buyers around the world this year
Certified-sustainable U.S. Soy gaining momentum

- Over 15 Million tons certified in 3 years
- Over 50 U.S. soy exporters requesting SSAP Certificates
- 2,000+ certified shipments since Sept 2016
- Includes soybeans, meal, oil, hulls, isolates
Sustainable U.S. Soy Logo

Pilot program being rolled out in North Asia (Taiwan, Korea, Japan, China) and in the Philippines.
INNOVATION
• Precision farming (GPS technology) can be accurate to the centimeter

• Reduces use of inputs
  • Seeds
  • Fertilizer
  • Herbicides
  • Pesticides
Biotechnology enhances sustainability

- Biotech soybeans improve weed control
- Allows increased use of no-till and direct drilling into crop stubble
- Crop residue creates a mulch layer for earthworm populations and soil microbes and improves soil structure
- Reduce fuel use and GHG emissions
- Reduce soil erosion
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