



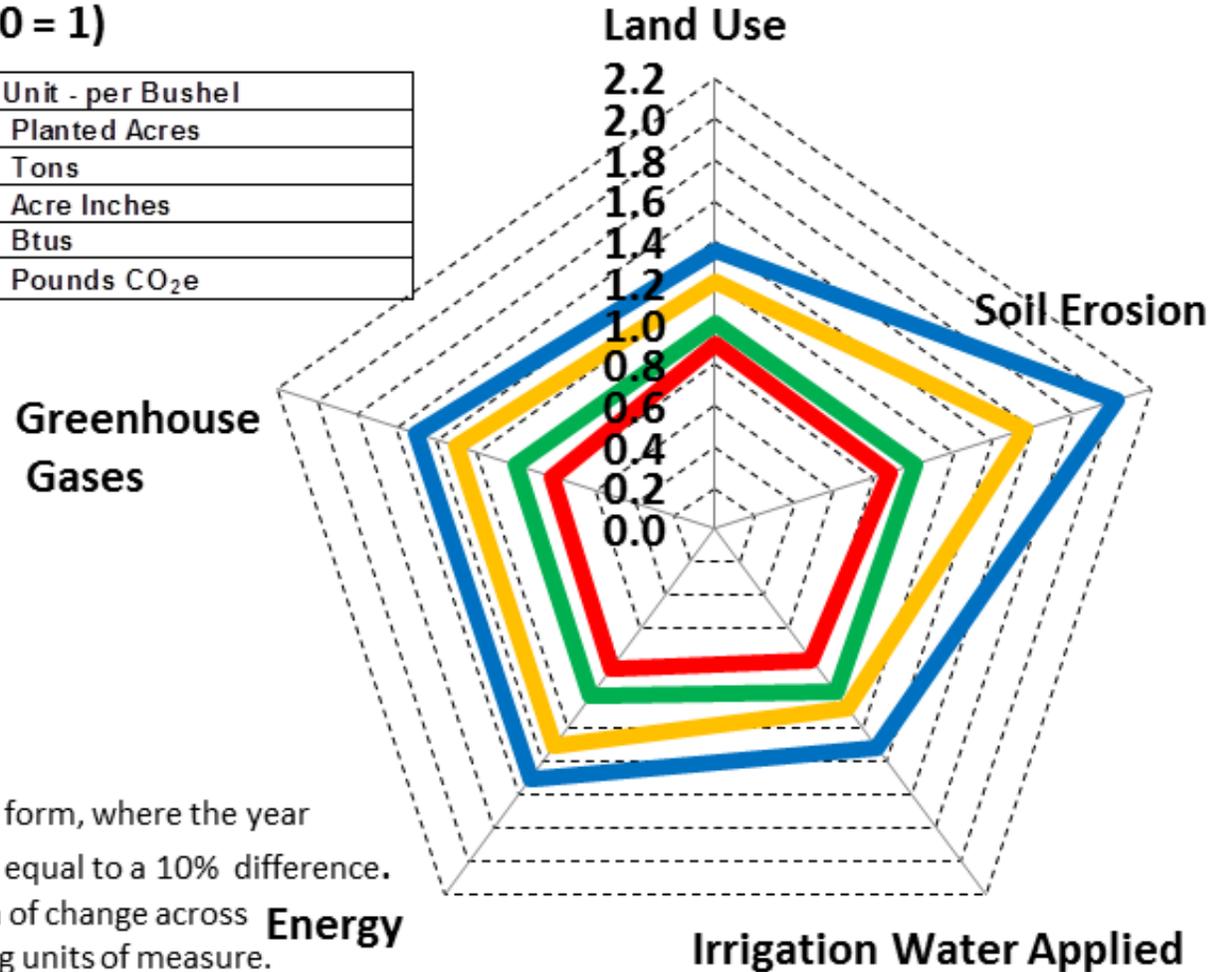
IMPACT METRICS FOR U.S. SOYBEANS

Index of Per Bushel Resource Impacts to Produce Soybeans
(United States, Year 2000 = 1)

Year	2000 *	Unit - per Bushel
Land Use	0.027	Planted Acres
Soil Erosion	0.131	Tons
Irrigation Water Applied	0.766	Acre Inches
Energy	44,840	Btus
Greenhouse Gases	8.2	Pounds CO ₂ e

* Five-year average 1996 - 2000

- 5 Yr. Avg. 1980 - 84
- 5 Yr. Avg. 1987 - 91
- 5 Yr. Avg. 1997 - 01
- 5 Yr. Avg. 2007 - 11

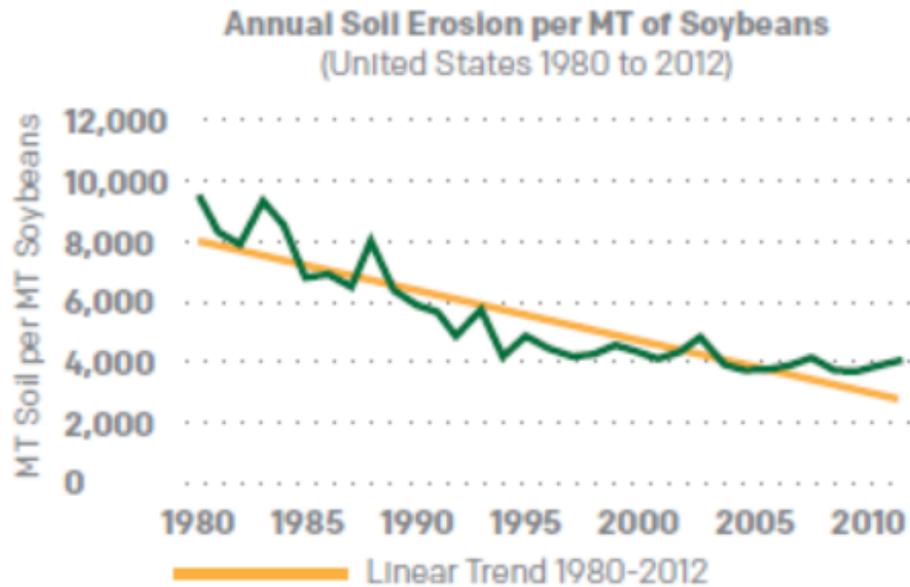


Note: Data are presented in index form, where the year 2000 = 1 and a 0.1 point change is equal to a 10% difference. Index values allow for comparison of change across multiple dimensions with differing units of measure.

An array of U.S. laws and conservation programs provide a high level of confidence that U.S. soybeans are produced in a manner compliant with the sustainability performance demands of global customers.

Trends in U.S. Production, Resource Use/Impact, 1980-2012

Field to Market Data



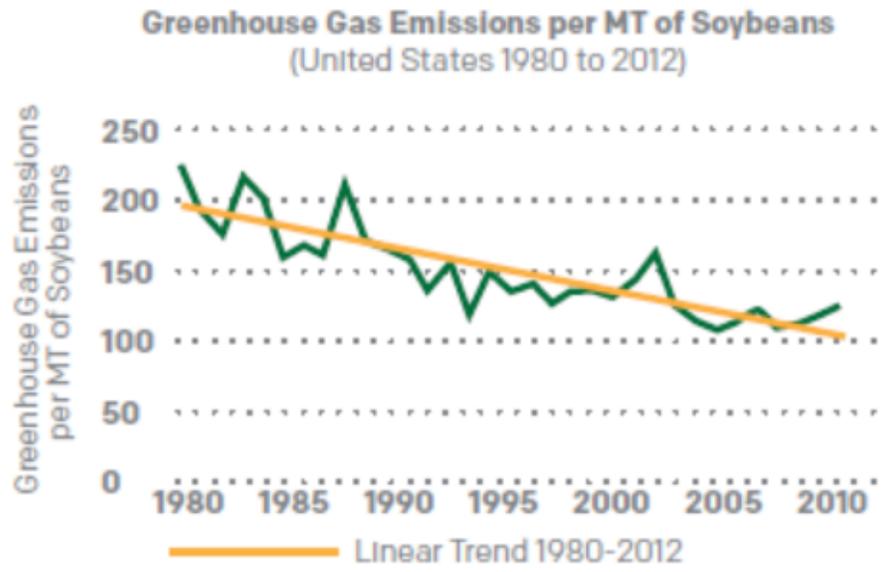
Soil erosion
per metric ton
of soybean
production
decreased
65%

Environmental Commitment

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Trends in U.S. Production, Resource Use/Impact, 1980-2012

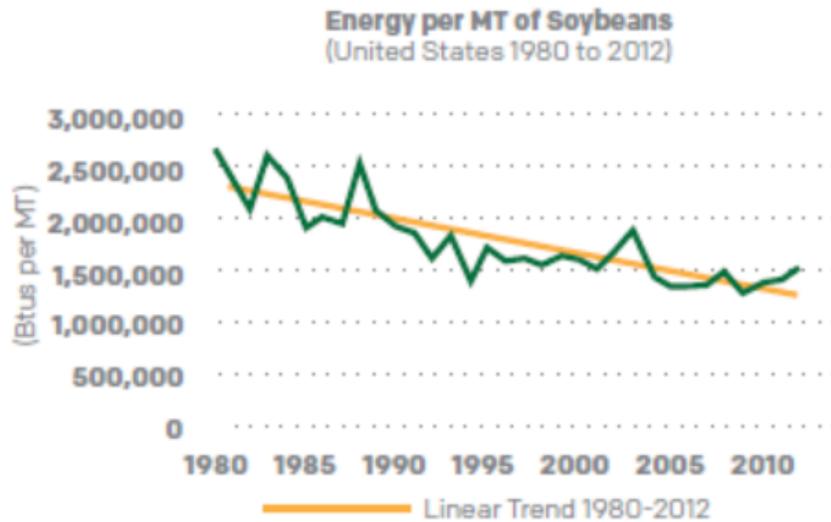
Field to Market Data



Greenhouse gas emissions per metric ton of soybeans decreased **47%**

Trends in U.S. Production, Resource Use/Impact, 1980-2012

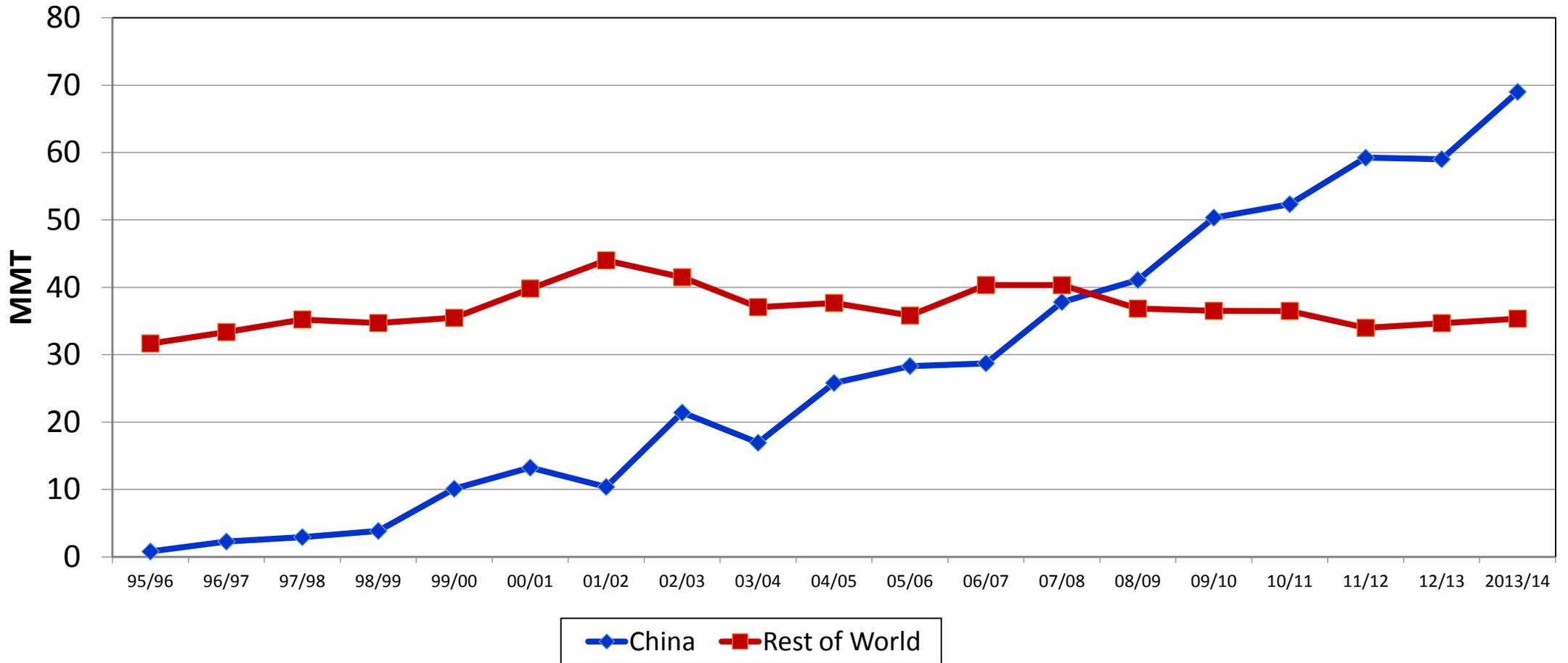
Field to Market Data



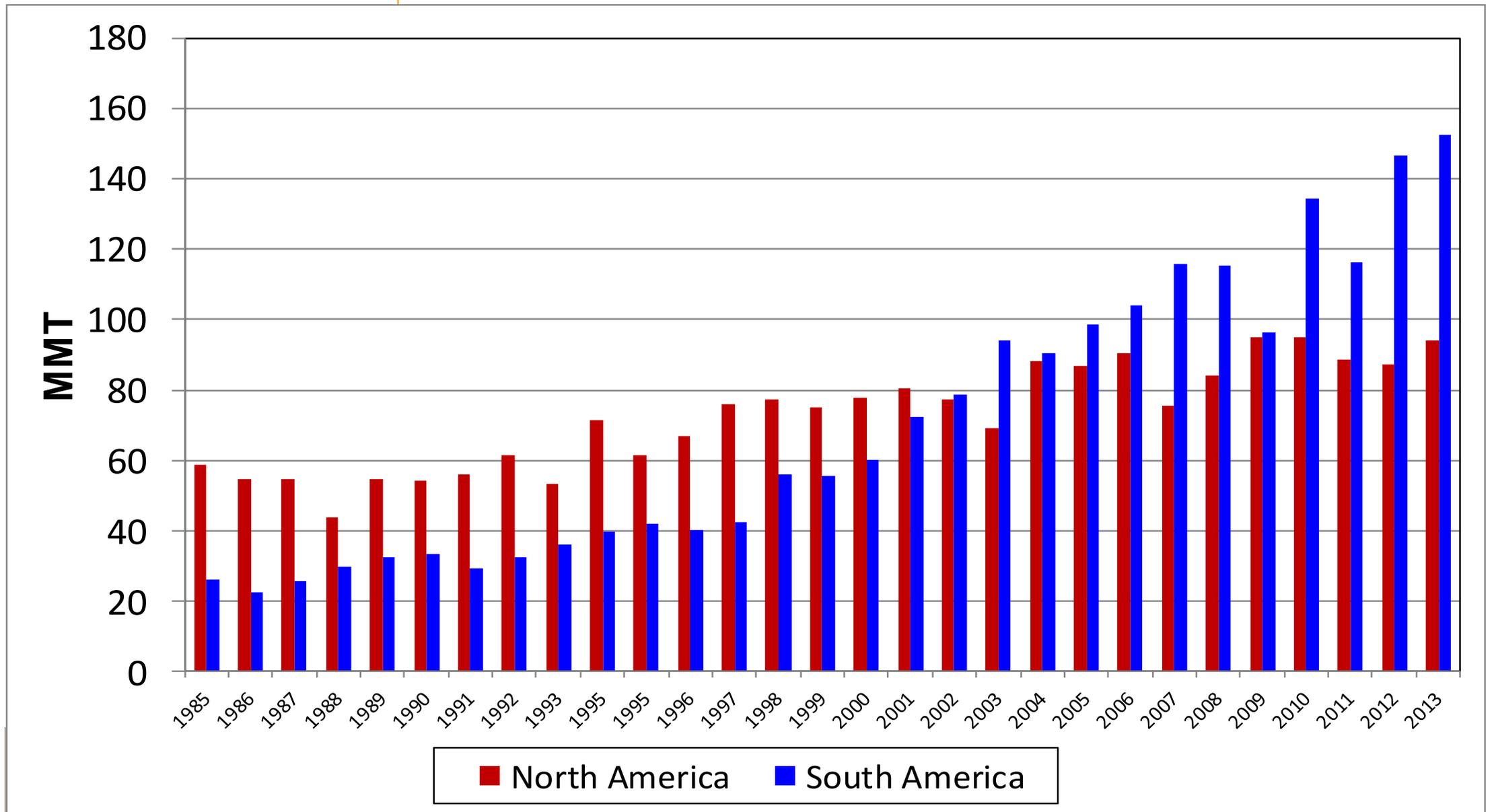
Energy use
per metric ton
of soybeans
decreased

46%

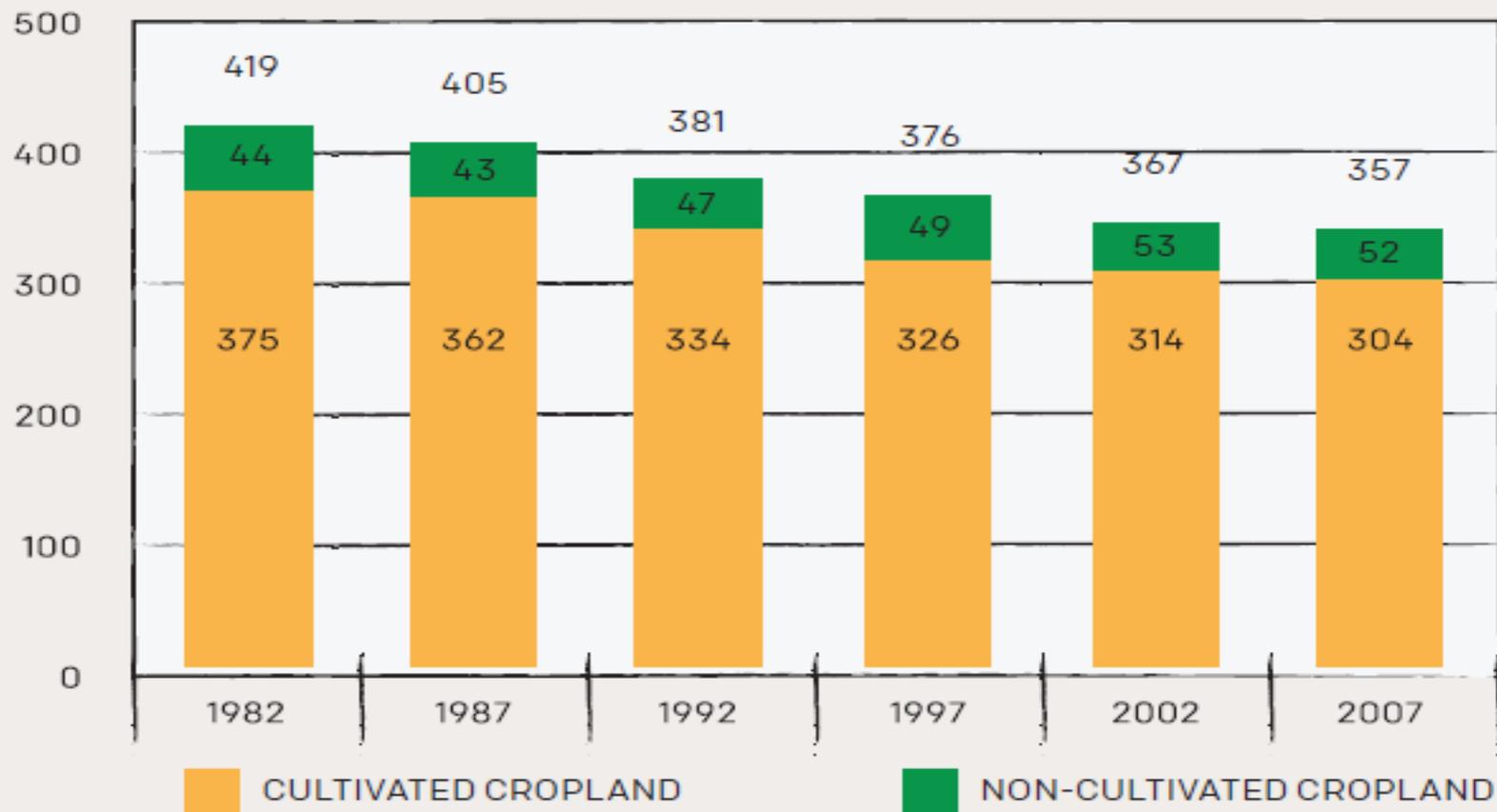
SOYBEAN IMPORTS BY CHINA AND REST OF WORLD 1995/96 – 2012/13 AND USDA FORECAST FOR 2013/14



NORTH AND SOUTH AMERICAN SOYBEAN PRODUCTION CALENDAR YEARS 1985 - 2013



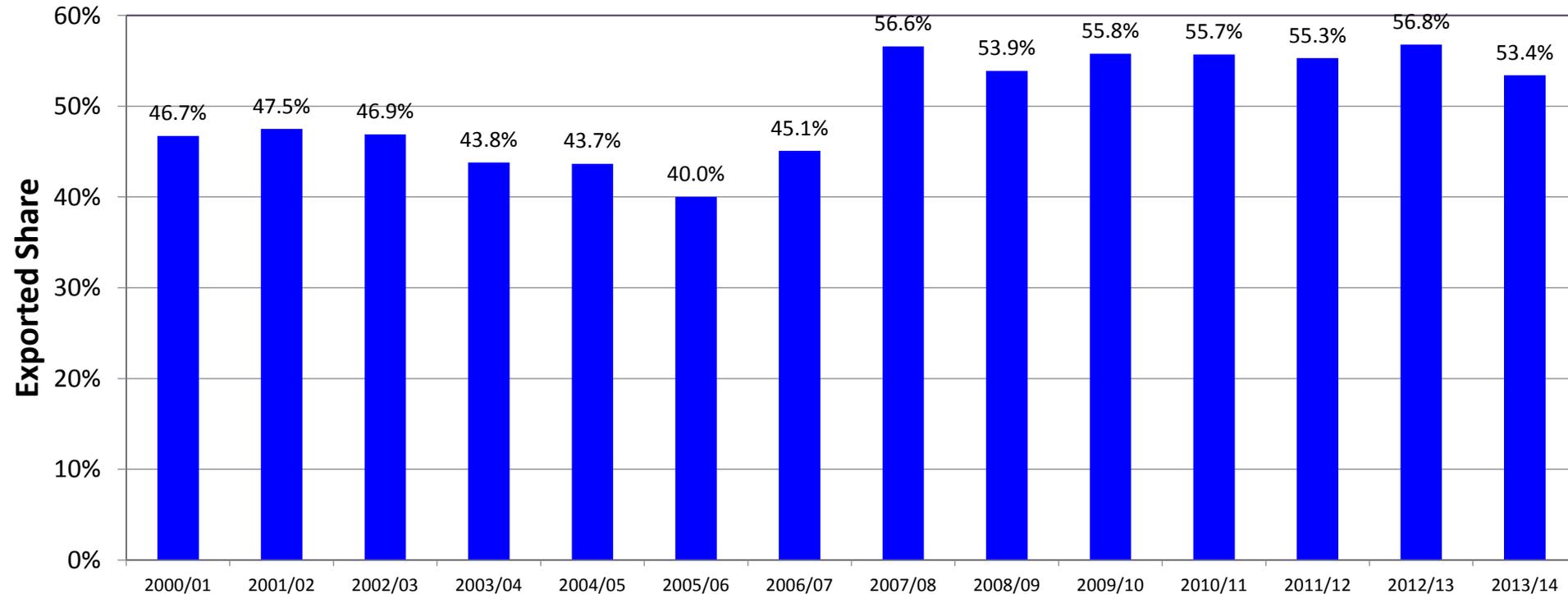
CULTIVATED AND NON-CULTIVATED CROPLAND



10% of available U.S. cropland is taken out of production to protect sensitive areas

SHARE OF U.S. SOYBEAN PRODUCTION EXPORTED AS SOYBEANS, SOYMEAL, OR SOYOIL

2000/01 –2012/13 AND FORECAST FOR 2013/14



TYPICAL U.S. export volumes



FARM

Storage Capacities

Bins = 82-700 metric tons (MT)
Limited Segregation



COUNTRY ELEVATOR

Receiving

20 trucks/hr = 500 MT/hr

Shipping

10 trucks/hr = 250 MT/hr

4-8 train cars/hr = 440-880 MT/hr

Storage Capacities

Corrugated Steel = 550-13,500 MT

Concrete = 680-2,700 MT

Flat Storage = 1,000-164,000 MT



SUB-TERMINAL ELEVATOR

Receiving

20-40 trucks/hr = 500-1,000 MT/hr

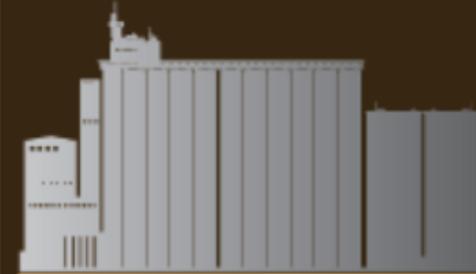
Barges = 500-1,000 MT/hr

Storage Capacities

Concrete = 1,400-2,700 MT

Welded Steel = 13,400-27,300 MT

Flat Storage = 41,000-164,000 MT



EXPORT ELEVATOR

Receiving

Rail = 750-1,200 MT/hr

Barge = 750-2,500 MT/hr

Shipping

Vessel = 1,500-3,200 MT/hr

Storage Capacity

Just-In-Time Loading

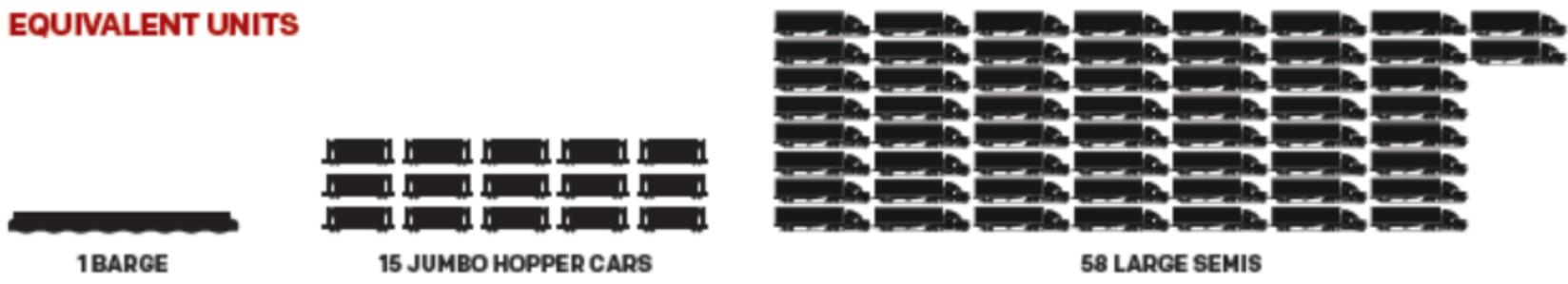
BULK GRAIN transport



CARGO CAPACITY

				
BARGE	15-BARGETOW	JUMBO HOPPER CAR	100-CAR TRAIN	LARGE SEMI
1,500 TONS	22,500 TONS	100 TONS	10,000 TONS	26 TONS
52,500 BUSHELS	787,500 BUSHELS	3,500 BUSHELS	350,000 BUSHELS	910 BUSHELS
453,600 GALLONS	6,804,000 GALLONS	30,240 GALLONS	3,024,000 GALLONS	7,865 GALLONS

EQUIVALENT UNITS

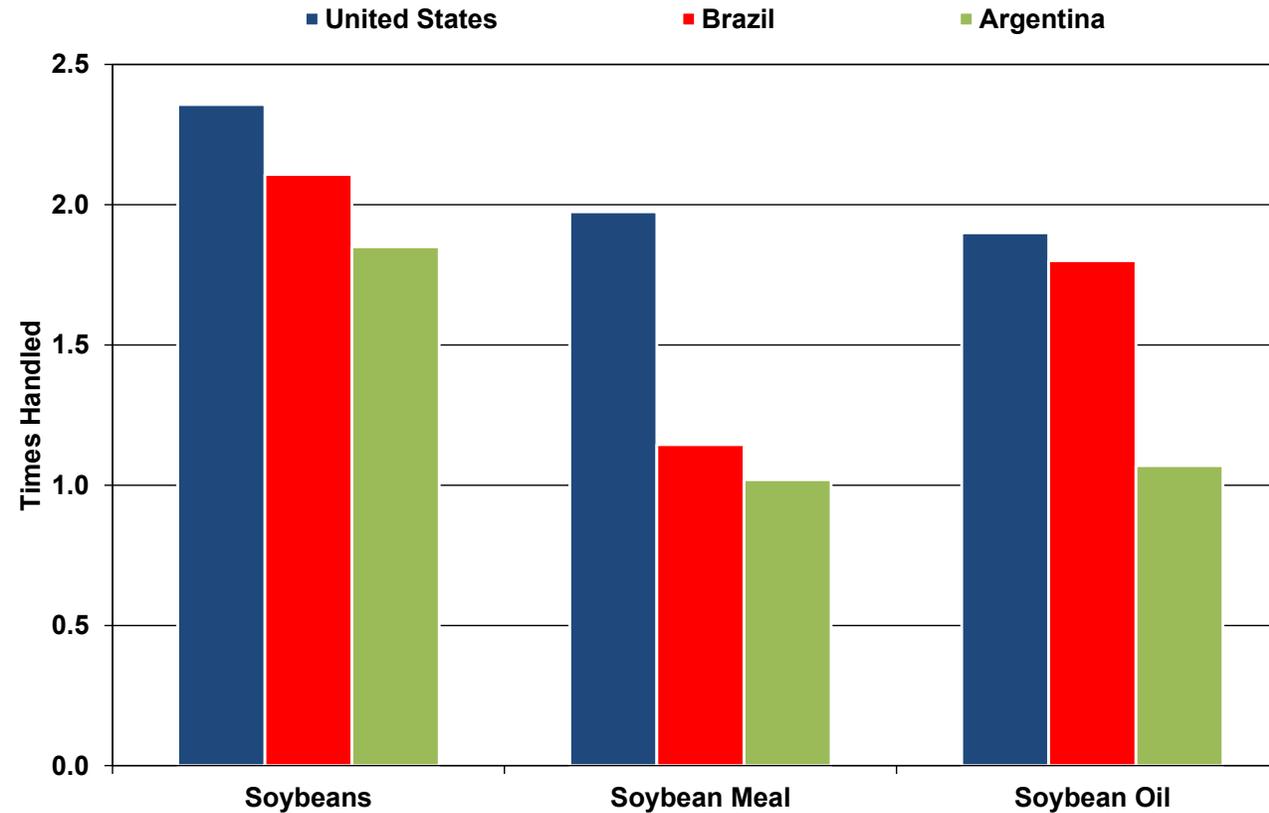


1 PANAMAX (50K TONS) = 38 BARGES = 2,200 SEMI-TRAILERS = 2 MILLION BUSHELS = 330 TRILLION SOYBEANS = U.S.\$30 MILLION

Source: Iowa Department of Transportation

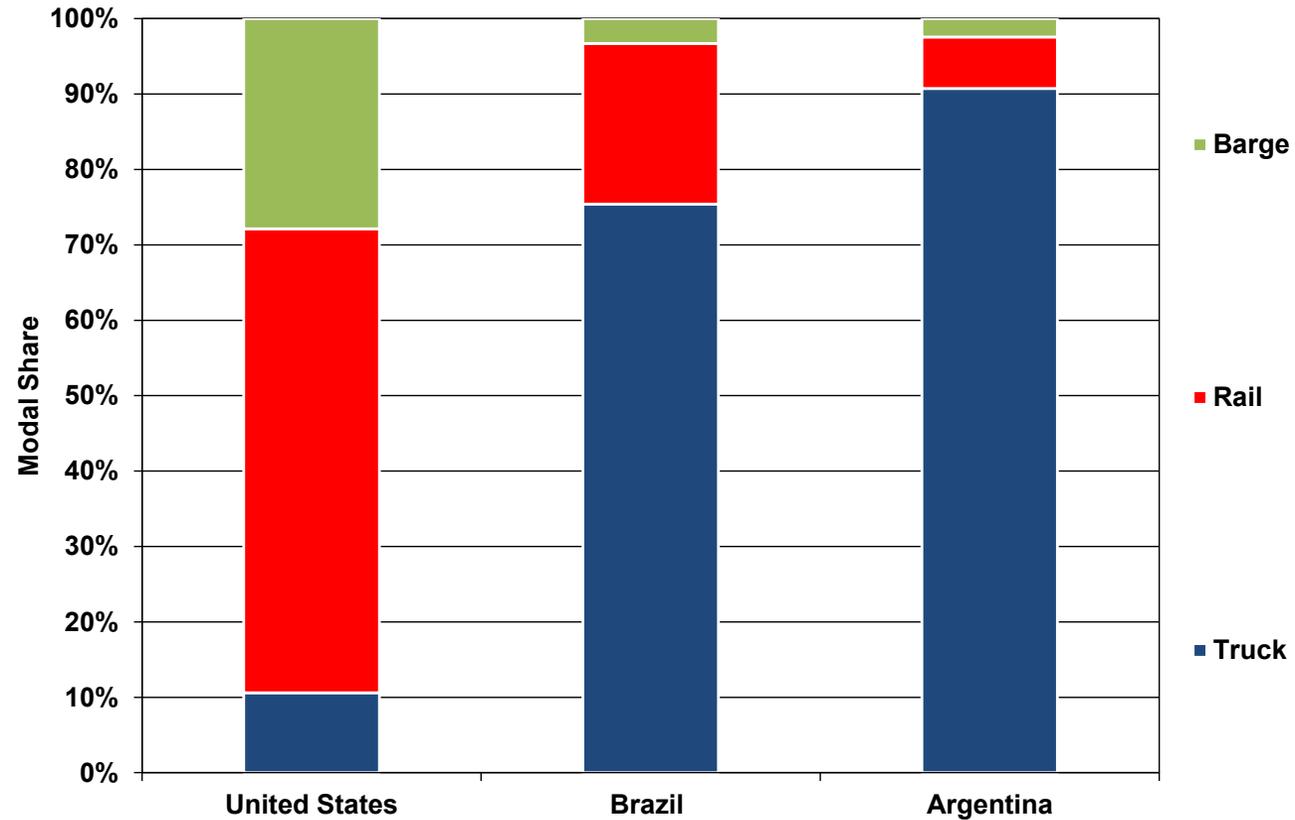
NUMBER TIMES HANDLED TO MARKET POSITION

Average Times Handled Moving Soybeans and Soybean Products to Market Position



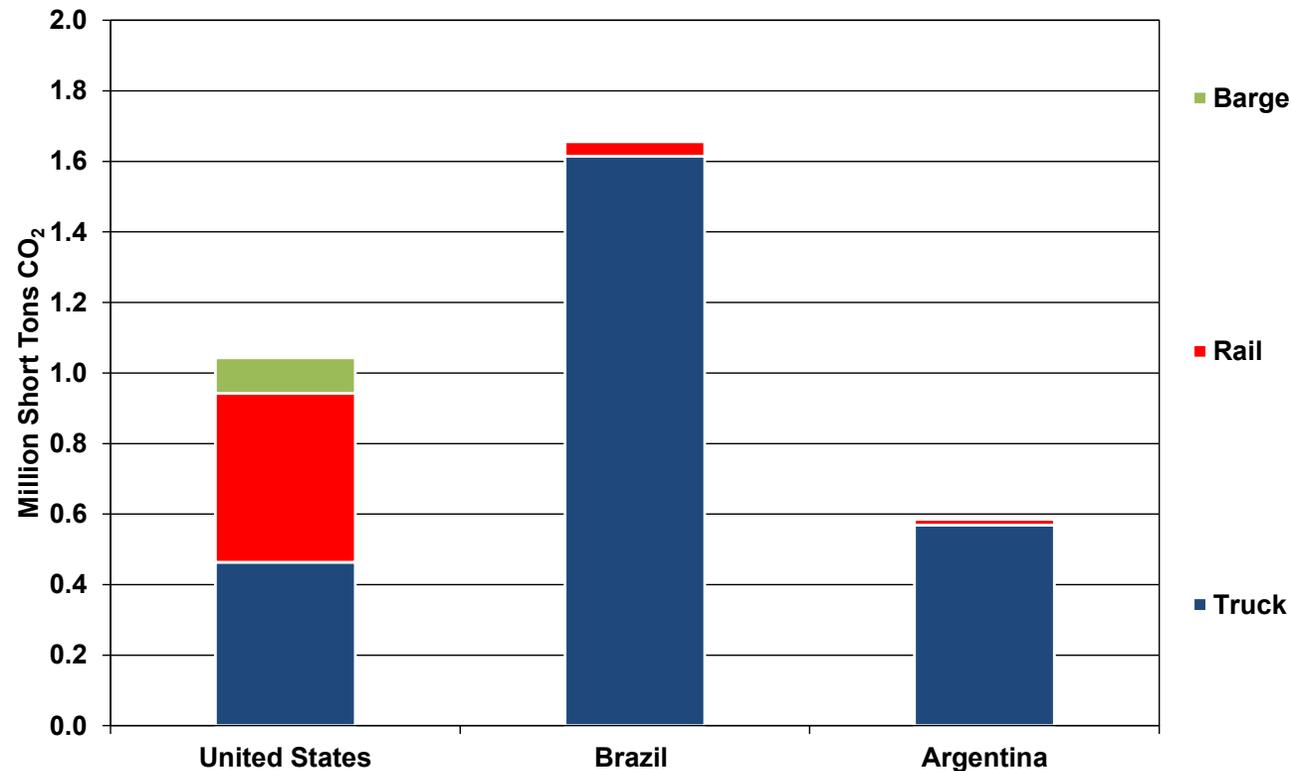
MODAL SHARE TO MARKET POSITION

Modal Share Transporting Soybeans and Soybean Products to Market Position by Mode



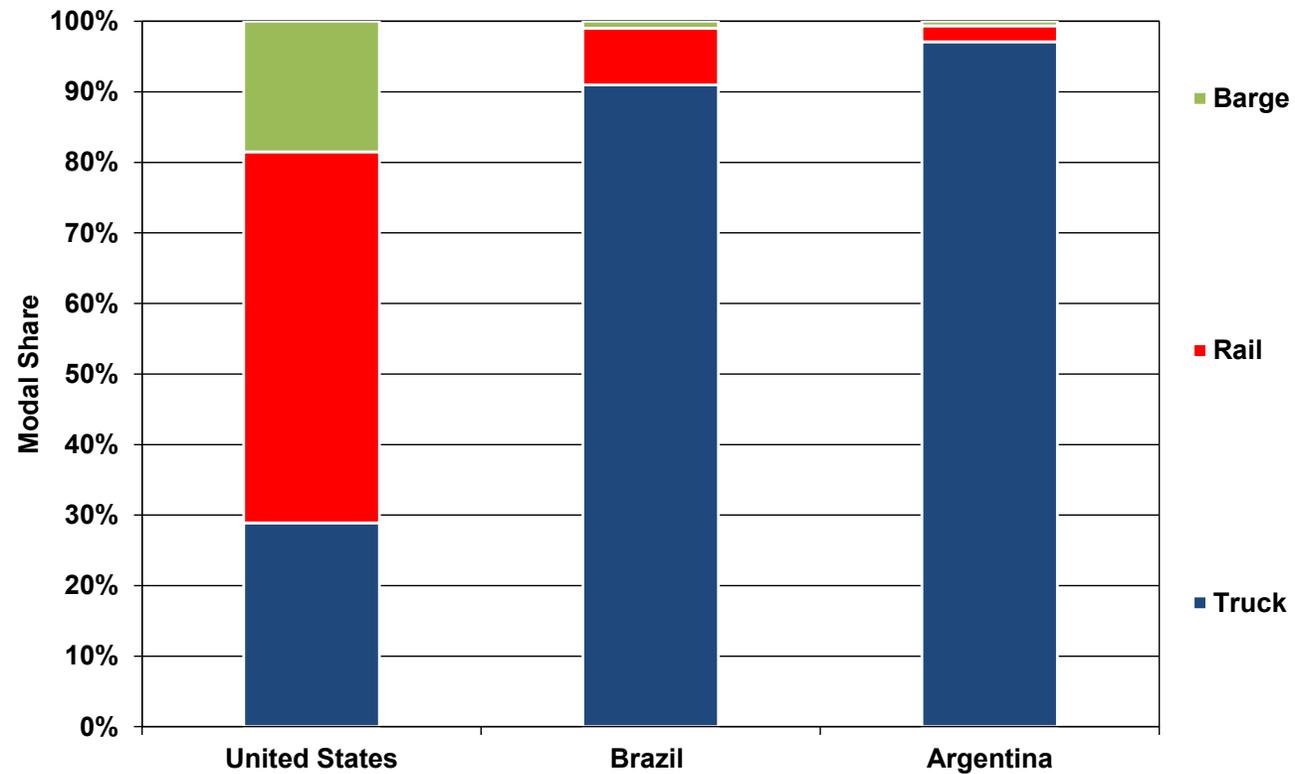
TOTAL FUEL EMISSIONS THROUGH CRUSHING PLANT TO MARKET POSITION

CO₂ Emissions Transporting Soybeans and Soybean Products through Crushing Plant to Market Position by Mode



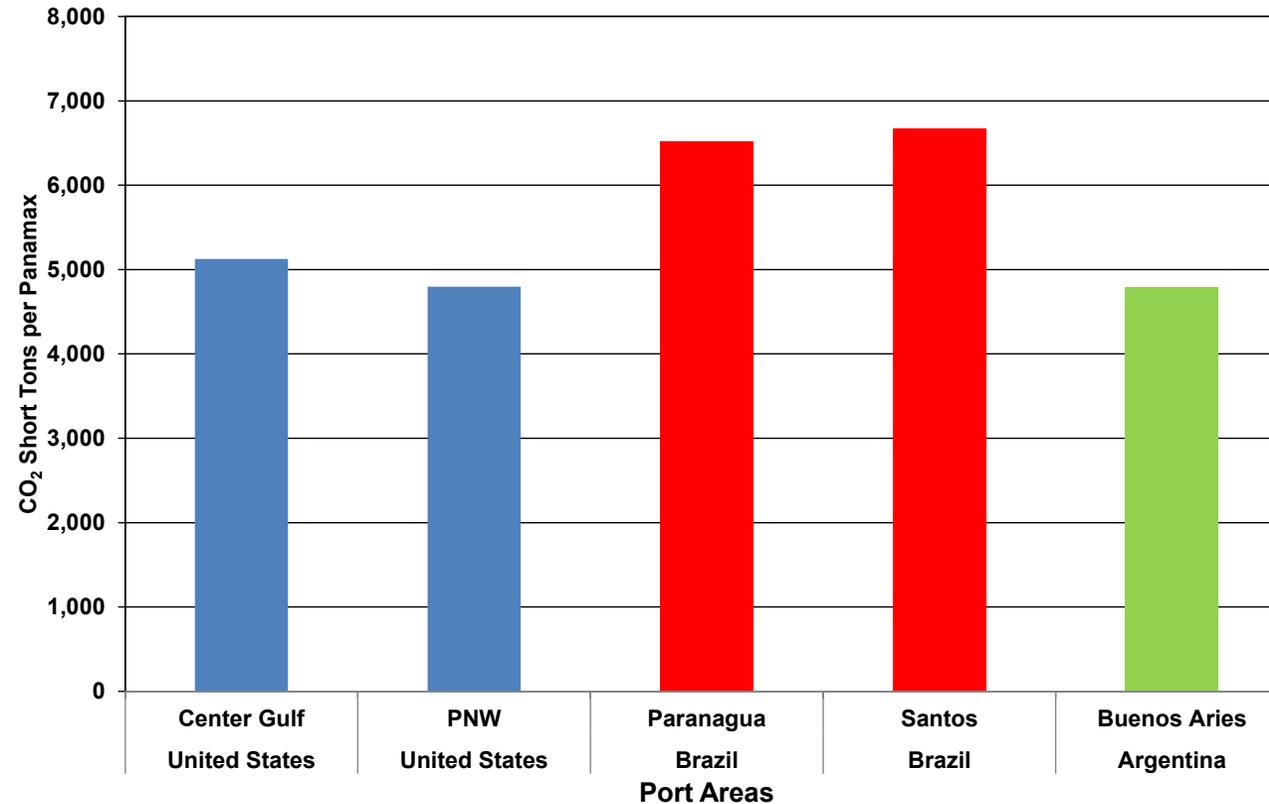
MODAL SHARE OF TOTAL FUEL EMISSIONS TO MARKET POSITION

Modal Share of CO₂ Emissions Transporting Soybeans and Soybean Products to Market Position by Mode



TOTAL FUEL EMISSIONS TRANSPORTING SOYBEANS FROM FARM TO SHANGHAI VIA A PANAMAX VESSEL

Total CO₂ Emissions Transporting Soybeans from Farm to Shanghai per Panamax Vessel Shipment



U.S. SOYBEAN SUSTAINABILITY ASSURANCE PROTOCOL

- Based on U.S. national system of conservation laws
- Includes Best Production Practices by 275,000+ U.S. soybean producers
- Aggregate approach
 - Available to all – 95% participation
- Quantifiable results
- Third party audit
- Certification available
- Benchmark against RTRS
- Readily available to supply
- Cost

U.S. SOYBEAN SUSTAINABILITY ASSURANCE PROTOCOL

A Sustainability System That Delivers
MARCH 2011



