Overview of U.S. Grain Handling and Distribution System
Grain Movement

EXPORT

DOMESTIC

CONSUMER

Processing or Feeding

Customer

Processing or Feeding

For Nick
On Farm Storage
Farm Storage

• From the field to Farm Storage or to a Country or Terminal Elevator
• Small quantities stored on the farm. 82 MT to 700 MT bin sizes
• Limited quality segregation
Country Elevator Capacities

Receiving  20 trucks per hour = 500 MT/hr
Shipping   10 trucks per hour = 250 MT/hr
            4 to 8 cars per hour = 440 to 880 MT/hr

Storage Capacities

Corrugated Steel  550 to 13,500 MT
Concrete           680 to   2,700 MT
Welded Steel      13,600 to 27,500 MT
Flat Storage       41,000 to 164,000 MT
Unit Train Facility
# Unit Train Terminals, Capacities

**Receiving**
- 20 to 40 trucks per hour
- 500 to 1,000 MT/hr

**Shipping**
- 10 cars per hour
- 1,100 MT/hr

**Storage Capacities**

<table>
<thead>
<tr>
<th>Material</th>
<th>Capacity</th>
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</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>1,400 to 2,700 MT</td>
</tr>
<tr>
<td>Welded Steel</td>
<td>13,400 to 27,300 MT</td>
</tr>
<tr>
<td>Flat Storage</td>
<td>41,000 to 164,000 MT</td>
</tr>
</tbody>
</table>
Barge Facility
Barge Terminals, Capacities

Receiving
- 20 to 40 trucks per hour
- 500 to 1,000 MT/hr

Shipping Barges
- 500 to 1,000 MT/hr

Storage Capacities

- Concrete: 1,400 to 2,700 MT
- Welded Steel: 13,400 to 27,300 MT
- Flat Storage: 41,000 to 164,000 MT
Farm (Producer) out by truck

1. US Domestic Processing Plant
2. Container Terminal
3. Rail Terminal
4. Country Elevator
5. Barge Terminal
6. Export Elevator
7. Overseas Importing Processing Plant

Vessel (ship)
526,000 US Soy Farmers, 30+ million Hectares, 34 states produce c. 90+ mil. tonnes

Pacific 12 mil. tonnes

Other 6 mil. tonnes

14,000 gathering points near production

Production moves in commodity trade to supply both domestic and export needs

Gulf 35 mil. tonnes
Export Facility
Export Terminals

- Receiving Rail - 750 to 1,200 MT/hr
  Barge - 750 to 2,500 MT/hr
- Loading Vessel - 1,500 to 3,200 MT/hr
- Storage capacity, just in time loading
Barge Unloading
Receiving Grain

• Sampled
• Inspected
• Binned by quality factors depending on the number of bins the facility has available for the type of grain being received
Shipping Grain

- Co-mingled from several different bins to adjust quality and uniformity of that quality
- Sampled
- Inspected to assure compliance with the contract
Mechanical Sampler

Timer set for every 7 to 20 MT depending on the loading capacity of the facility.

Diverter Type (DT)
Grain Transport

Cargo Capacity

ONE BARGE
1,500 TON
82,500 BUSHELS
453,500 GALLONS

ONE 15 BARGE TOW
22,200 TON
787,500 BUSHELS
6,804,000 GALLONS

JUMBO HOPPER CAR
100 TON
3,500 BUSHELS
30,240 GALLONS

100 CAR TRAIN
10,000 TON
350,000 BUSHELS
3,024,000 GALLONS

LARGE SEMI
25 TON
910 BUSHELS
7,855 GALLONS

Equivalent Units

ONE BARGE
15 JUMBO HOPPER CARS
50 LARGE SEMIS

ONE 15 BARGE TOW
2.25 100 CAR TRAIN
870 LARGE SEMIS

1 Panamax (50K tons) = 38 barges = 2200 semi trailers
= 2M bushels = 330 trillion soybeans
World Bulk Grain Systems

The grain industry’s challenge = move commodities from areas of surplus to areas of deficit, provide for regulatory compliance, safety and cost efficiency

✓ Movement is bulk and comingled.
✓ 3-24 months contract to delivery lead time
✓ Characterized by high volumes, low cost
✓ Impossible to keep varieties totally separate in system
✓ Commingling may occur in each link of chain
✓ Adventitious materials may occur in all shipments of all commodities.
Thank You

Working Together to Make Trade Work

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