SSGA

SPECIALTY SOYA AND GRAINS ALLIANCE

The crystal ball: Trade in 2034

Gary Williams

2024-2034

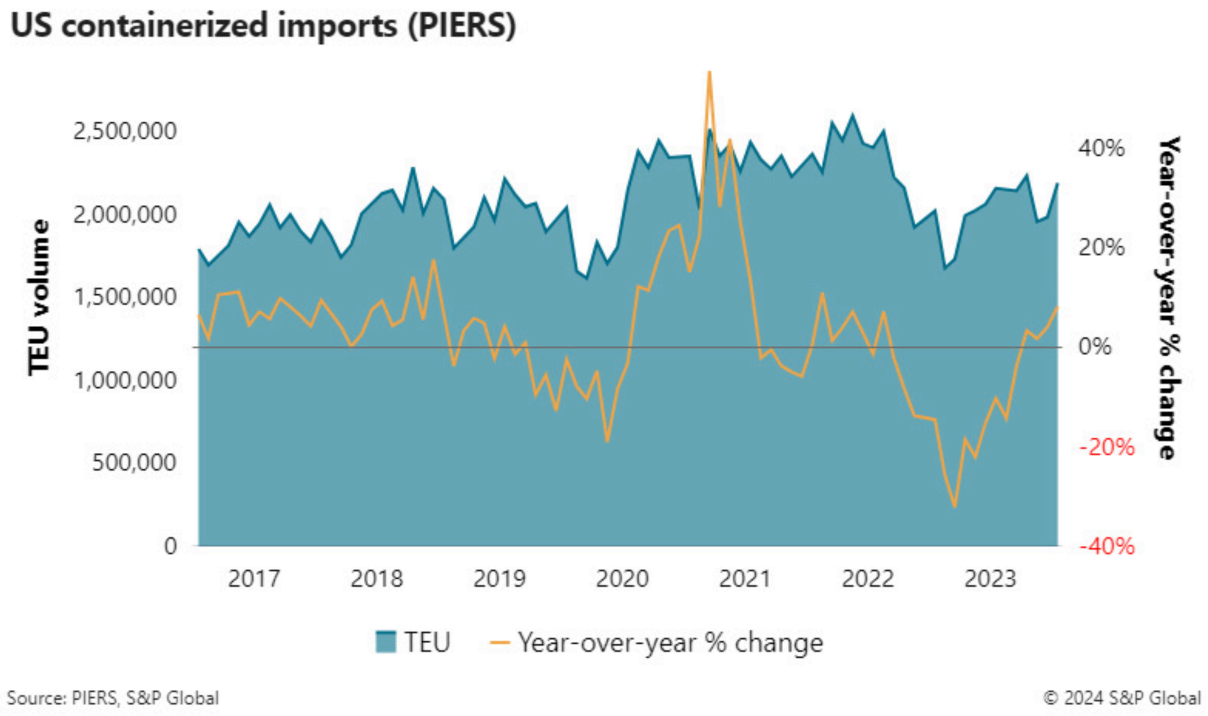
The environment will be highly dynamic. All involved in ag transportation will likely have to be ***reactive*** in strategic plans, tactical plans and execution.

This decade has great potential for disruption.

Already a dynamic time in transportation

- Panama Canal reductions
- Suez Canal and Red Sea insecurity
- China domestic issues
- War in Europe
- Chassis Box Rule Order – allowing drayage to supply private chassis
- FMC banning terminals from imposing unsubstantiated Detention & Demurrage on truckers
- Hapag leaving the Alliance and joining up with Maersk
- ILA union upheld to prohibit carriers from calling on the Charleston, SC Port

Current container trade conditions



Rates

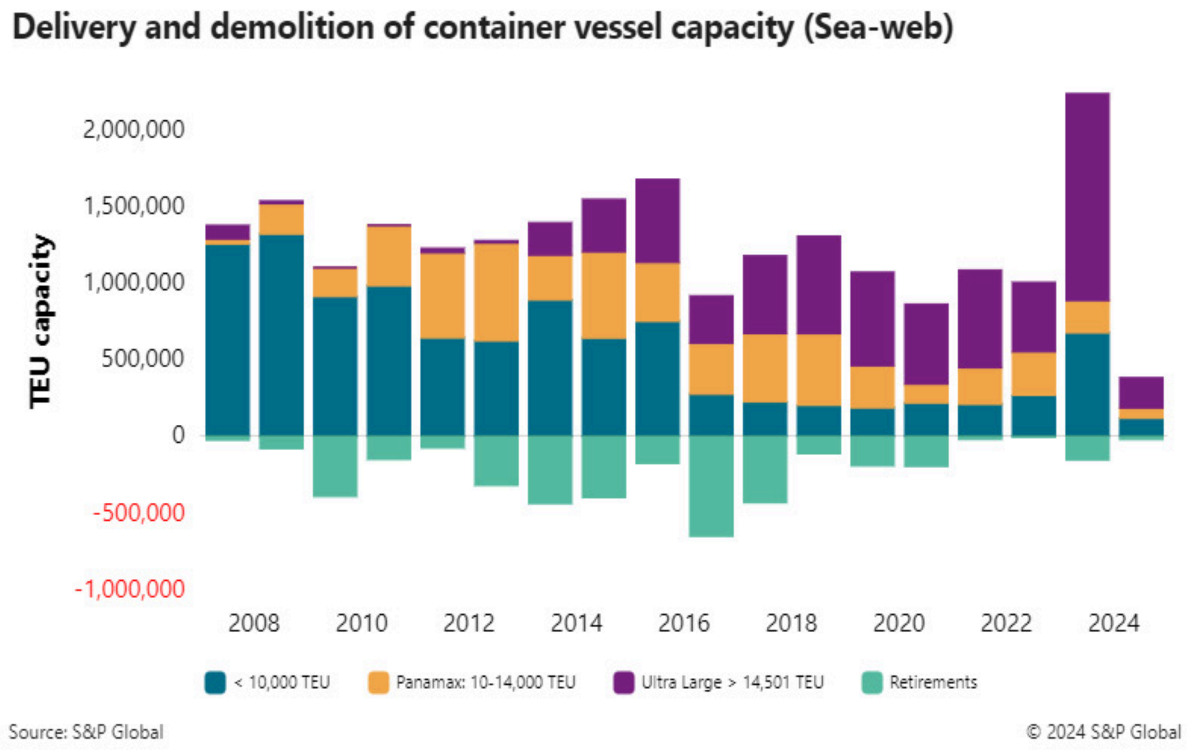
- After "hundred years profit" in pandemic, rates continue to be pressured next 3 years+
- SSL's limiting capacity = rates improving for carriers

Available Supply

- Certain ramps have cans and movement - others don't
- Slow steam, soaking up over-capacity, long runs around cape employing containers for now

Imminent crash …. Avoided

- Global container capacity expands by 10% YOY 2023, peaks out in 2024
  - Current expectations are vessel recycling will hit record levels
- Container volume growth 3% to 4%, according to shipowner association BIMCO. (JOC)
- Sailing around the Cape of Good Hope uses an additional 16% of container capacity – created a "loan" that matches off excess capacity build surge



SPECIALTY SOYA AND GRAINS ALLIANCE

Containers - 2034

Photo- Hapaq Lloyd

- Overall capacity trend higher – will go over capacity if Suez Canal is rectified under 3 years, then stabilizes
- There is ample room therefore for Ag
- Rate expectations
  - If financial environment is poor, not good for recycling cans
- Import 10-year outlook?
- Interior ramp utilization versus repositioning
- Transloads for soymeal?
- East coast cans shift back to West coast post-Panama and Suez Canal issues
  - Slack capacity kept to smooth interruptions?

SSGA
SPECIALTY SOYA AND GRAINS ALLIANCE

Decarbonization

- SSL's state Green Fuels cost more per TEU
- Investment required for engines that can burn “green methanol”
  - Shipyard slots not available until 2027 for efficient ship builds
- Synthetic Fuel only in development
- Companies such as IKEA see Biofuels as a transition towards achieving their Zero Emissions objectives
- Emission standard level anticipated 2027, downward from there

Rail Intermodal

- Railroads changing their handling and rationalizing movement
  - NS adopting “Canada System” of stacking cans in container yards instead of wheeled storage
- Inland ramps to ease congestion of major ramps
- Double tracking is reducing capacity needs, increased velocity, less idling = lower emission

Ag Transportation 2034

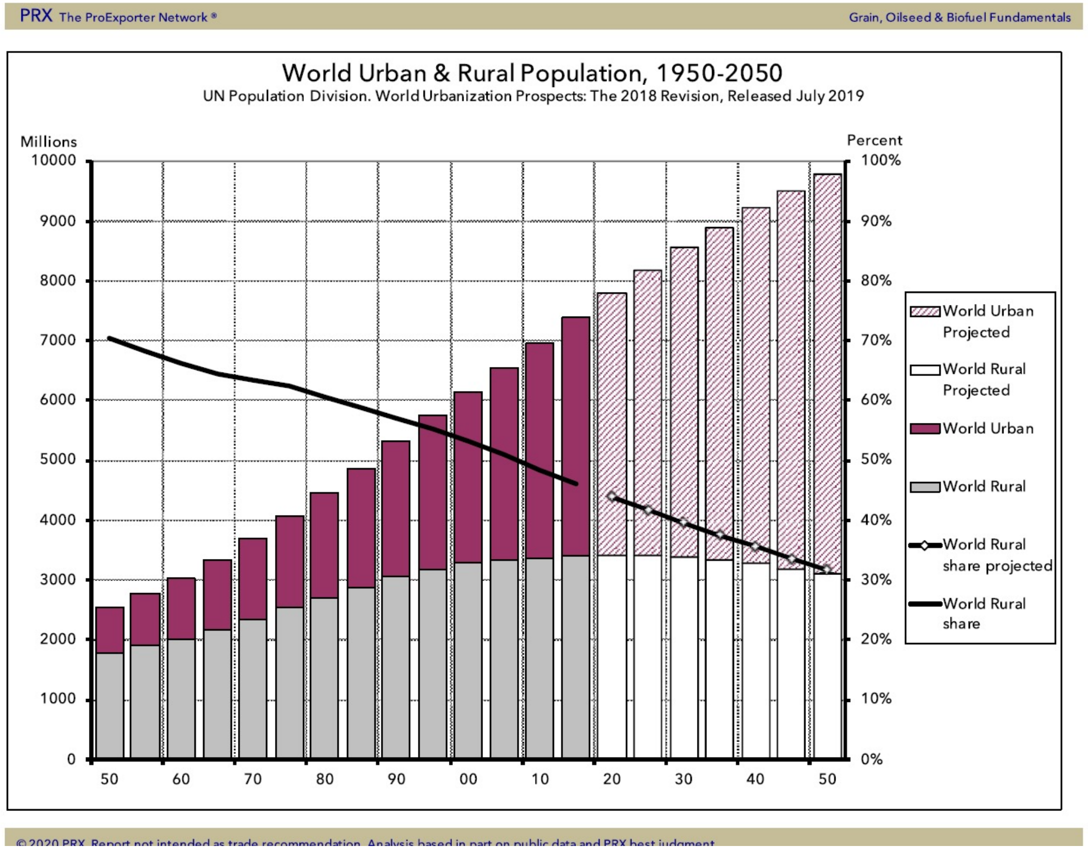
Future expectations for the industry

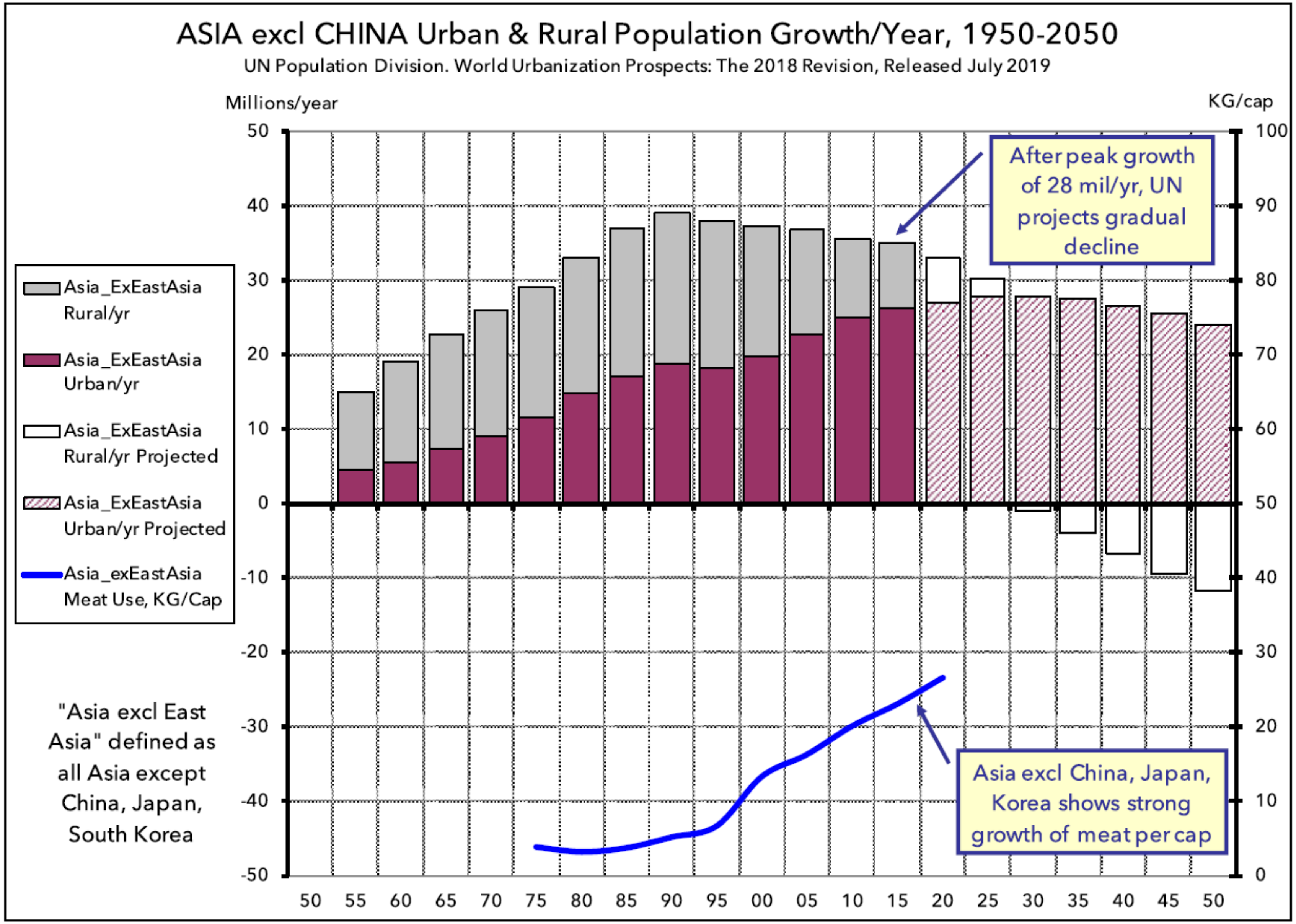
Highest global geopolitical risk since WWII

- The next decade will be highly reactive
- China – US South Asia Sea, Taiwan, and other issues on hold while China has domestic issues to resolve
- Both political parties seem to be competing for growth in import barriers
- Number of countries with elections that could go in favor of Industrial Policy (Tariffs)
- War still rages in Europe
- North Korea aggressive
- 4 Mid East conflicts: Iran, Houthis

Macro Trends (ALTERNATIVE)

- Asia population slows - Africa continues. In Nigeria, 377 mln people in an area 1/10 the size of U.S. – *National Geographic 2023*
- Population trend lower… BUT global urbanization is HIGHER!
- Continued technical advances increase production
- Climate – Cropping impact
- Brazil - lumber, mining, ag are chief resources
  - Mato Grosso only has ag as a resource growth clearing of in SAM hub




ASIA excl CHINA Urban & Rural Population Growth/Year, 1950-2050
UN Population Division. World Urbanization Prospects: The 2018 Revision, Released July 2019
Millions/year
KG/cap
50
40
30
20
10
0
-10
-20
-30
-40
-50
100
90
80
70
60
50
40
30
20
10
0
50
55
60
65
70
75
80
85
90
95
00
05
10
15
20
25
30
35
40
45
50
Asia_ExEastAsia Rural/yr
Asia_ExEastAsia Urban/yr
Asia_ExEastAsia Rural/yr Projected
Asia_ExEastAsia Urban/yr Projected
Asia_exEastAsia Meat Use, KG/Cap
After peak growth of 28 mil/yr, UN projects gradual decline
"Asia excl East Asia" defined as all Asia except China, Japan, South Korea
Asia excl China, Japan, Korea shows strong growth of meat per cap

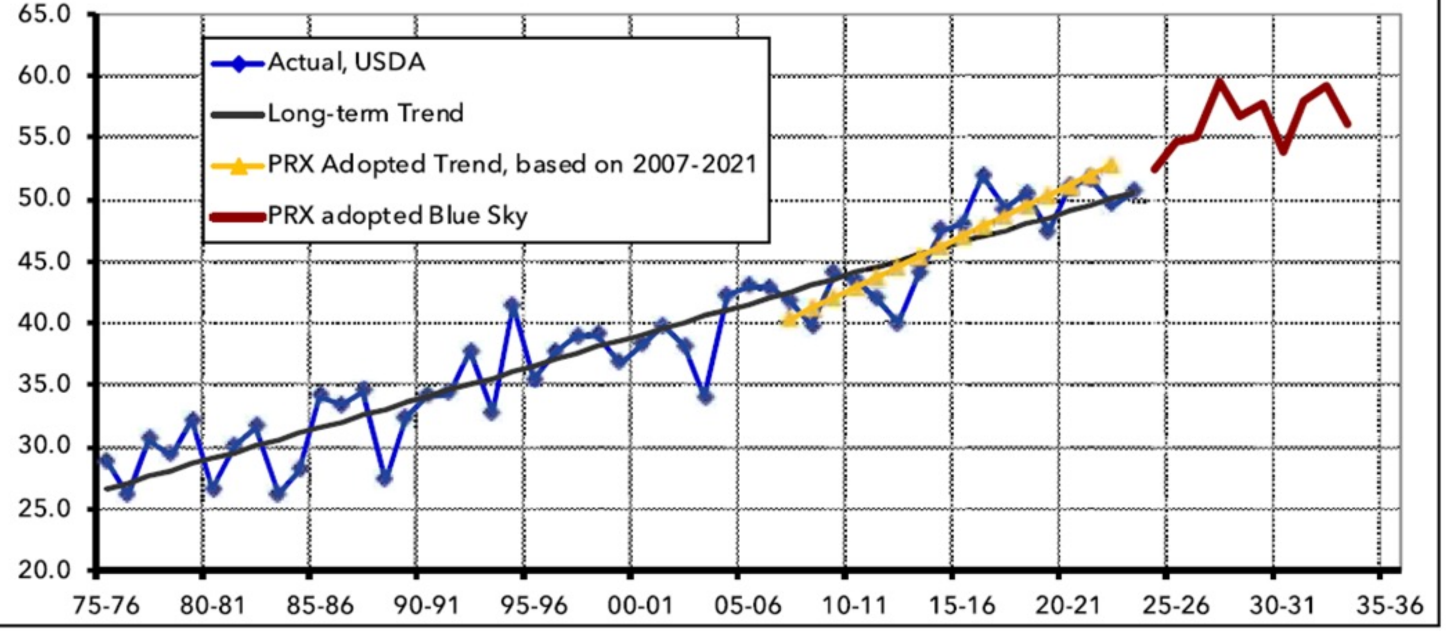
United States Soybean Supply-Demand

PRX_BS3_SoybeanStateResults, SDU, Feb-08-24

Item	Unit	Crop year (Sep-Aug)											
		22-23	23-24	24-25	25-26	26-27	27-28	28-29	29-30	30-31	31-32	32-33	33-34
Carry-in	mil bu	274	264	315	429	446	390	483	374	363	204	325	394
Area planted	thou ac	87450	83600	87000	87000	87000	88000	87000	87000	87000	89000	88000	88000
Area harvested	thou ac	86174	82356	85884	85884	85884	86872	85884	85884	85884	87859	86872	86872
Yield	bu/ac	50	51	52	55	55	60	57	58	54	58	59	56
Production	mil bu	4270	4165	4507	4697	4724	5172	4871	4969	4621	5101	5149	4881
Supply	mil bu	4570	4459	4852	5146	5190	5583	5374	5363	5004	5325	5494	5296
Carry-out	mil bu	264	315	429	446	390	483	374	363	204	325	394	296
Disappearance (Use)	mil bu	4306	4144	4423	4700	4800	5100	5000	5000	4800	5000	5100	5000
Seed & Residual Use	mil bu	102	124	123	100	100	100	100	100	100	100	100	100
Crush	mil bu	2212	2300	2375	2600	2700	2900	2900	2900	2900	2900	2900	2900
Total Use in State	mil bu	2314	2424	2498	2700	2800	3000	3000	3000	3000	3000	3000	3000
Net Exports (-) or Imports (+)	mil bu	-1992	-1720	-1925	-2000	-2000	-2100	-2000	-2000	-1800	-2000	-2100	-2000

United States Soybean Yield and Trends

PRX long term Trend, 1975-2023, is growing at 0.5 bushels/acre per year.



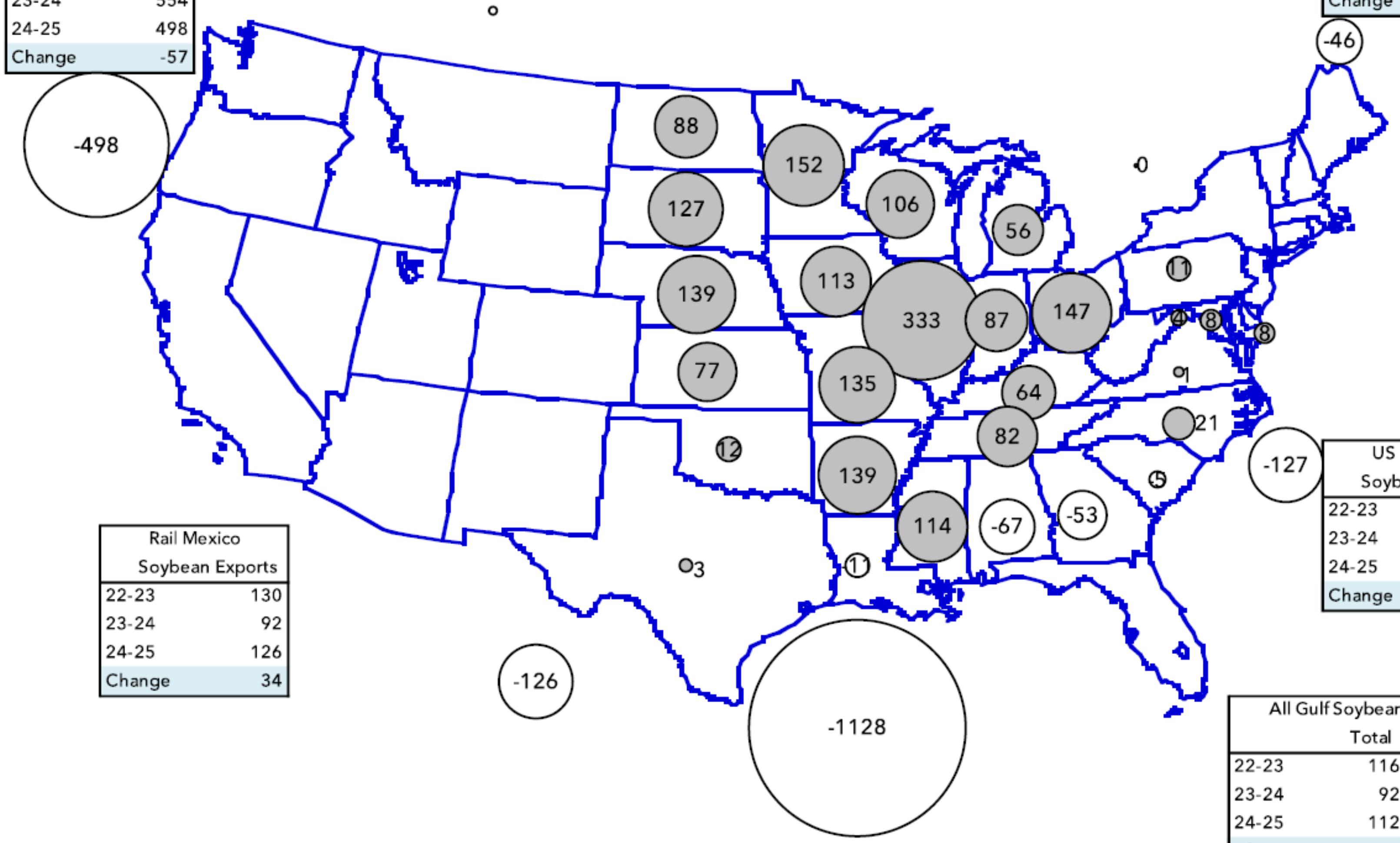
Soybean Net Exports (+) and Net Imports (-), 24-25 Mil Bu

PRX_Overview, SDU, Feb-08-24

Current net export pattern depends on other oilseed meals and proteins.

Pacific NW Soybean Exports	
22-23	515
23-24	554
24-25	498
Change	-57

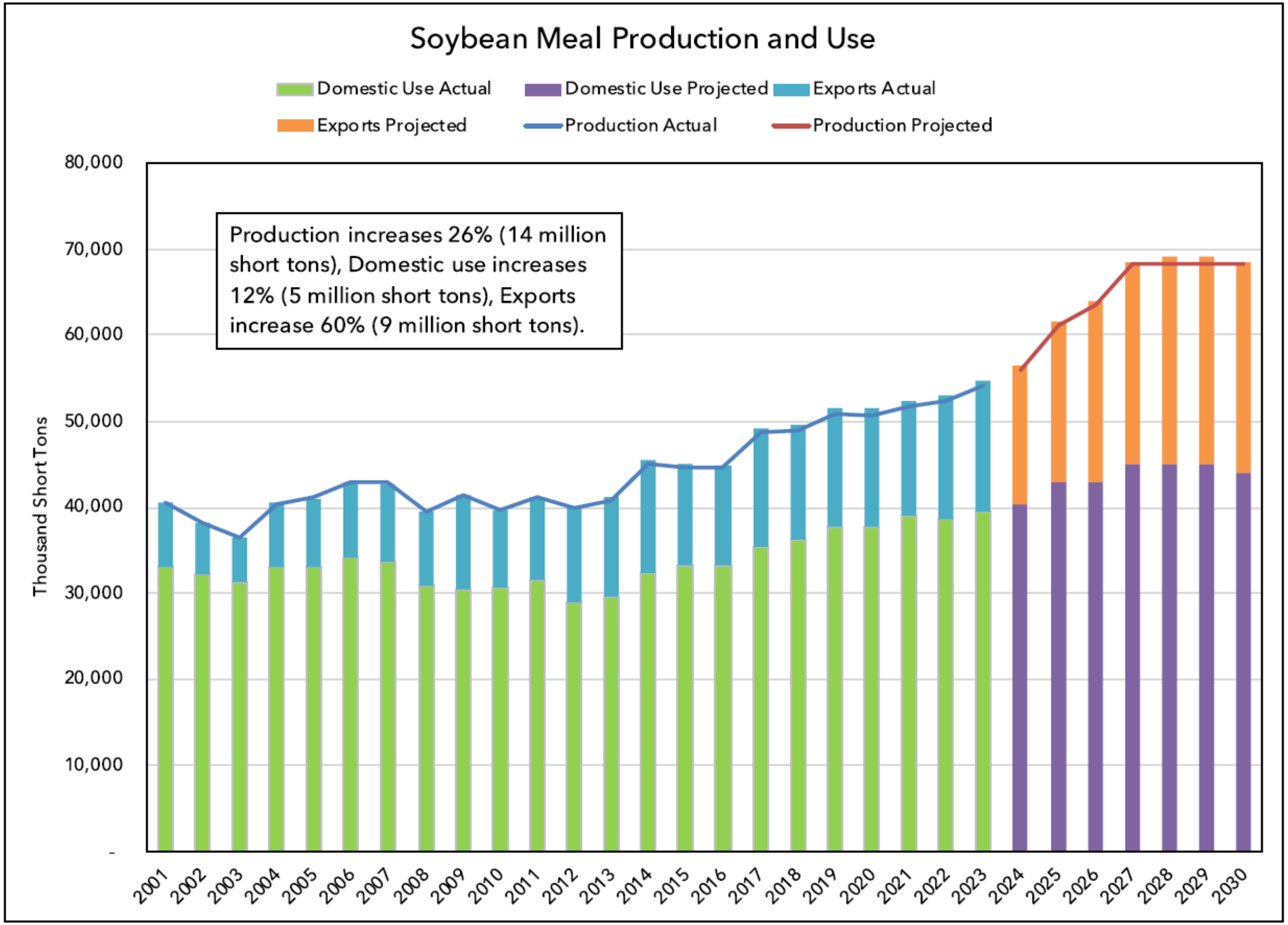
US Lakes Soybean Exports	
22-23	47
23-24	16
24-25	46
Change	30



US Atlantic Soybean Exports	
22-23	132
23-24	129
24-25	127
Change	-2

Rail Mexico Soybean Exports	
22-23	130
23-24	92
24-25	126
Change	34

All Gulf Soybean Exports	Total	Mexico
22-23	1167	59
23-24	929	47
24-25	1128	57
Change	199	10


Soybean Meal Production and Use
Domestic Use Actual
Domestic Use Projected
Exports Actual
Exports Projected
Production Actual
Production Projected
Production increases 26% (14 million short tons), Domestic use increases 12% (5 million short tons), Exports increase 60% (9 million short tons).
Thousand Short Tons
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
-
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030

Specialty Crops

- Pulses/peas trend upward
  - Protein Fractionation stalled (creating protein isolates)
  - Vegetarian/plant-based diets
- Functional foods
- Carbon capture expanding for hemp, other specialty crops

Photo - USDA

Agricultural truck transport

Photo - Grain news

- Average ag truck driver age increasing
- Number ag transport companies/units decreasing
- Operating costs – fuel, maintenance, emissions/regulatory cost
- Financial health sensitivity
- Farm versus custom haul

Rail transportation

- Largest traditional business for railroads (coal) disappearing – *well timed for next shift in ag*
  - Investments planned by all class I carriers for Soy meal/Biofuel
- Customers investing in facilities
- Car builders/leasing building high capacity cars/equipment for meal
- Manifest versus unit train only

Barge transportation

- Long term impacts low water upper Mississippi
- 66% of capacity at Panama Canal hopeful resuming July?
- Lock and dam situation plods along
- Snake River Breach?
    - Railroads likely expand
    - Truck to rail
    - Cropping shift

Outlook 2034 Review - Main 4 Points

Shippers, Carriers, Importers have to keep Plan B ready - REACTIVE

- Geopolitical risk considered **severe**

Container availability?

- Health of moving imports and recycling cans key factor
- Supply will be there – fleet growth slows after 2024, right-sized in 3 years

Truck transport – BIG Question!

- Aging and decreasing number of operators/owners
- Costs ever-increasing

Raw soybean exports stagnate, soymeal higher

- SAM Competitive & Expanding
- Processors leave a “cushion” always exportable amount
- Container opportunity?
- Urbanization supports soymeal generation from biofuels

SSGA
SPECIALTY SOYA AND GRAINS ALLIANCE