

Meeting of the National Grain Car Council

Thursday, September 15, 2016

Chase Park Plaza Hotel
212 North Kingshighway
Saint Louis, Missouri 63108

Attendance

Thirty-six members or designated substitutes and fifty-five members of the public attended. Attendance sheets are appended to these minutes. Designated substitutes included:

Matt Branch, Chicago Freight Car Leasing Co.
Mark Hamilton, Norfolk Southern
Brent Massman, North Dakota Mill & Elevator Assoc.
David Przednowek, Canadian National
Pat Simonic, Norfolk Southern
Matt Splittgerber, Iowa Interstate Railroad, Ltd.

AGENDA

- 1:00 pm* 1) Welcome and call to order
- Safety Briefing –Vice Chairman Sharon Clark
 - Chairman Mark Van Cleave
 - Cochairman Deb Miller
 - Ryan Pellett (J.D. Heiskell & Co)., Chairman – TEGMA
- 2) Member Introductions
- Fred Forstall – Approved Substitutes
 - Members – Self introductions
- 3) Adoption of 2015 Minutes – Mark Van Cleave
- 4) Financial Report – Sharon Trudell, Secretary/Treasurer
- 5) “Agricultural Productivity: Innovating to Grow More, With Less”
Jeff Nawn, Global Grain Trade and Biotech Affairs Lead, DuPont Pioneer
- 2:30-2:45 pm Break
- 6) Class I Railroad Reports – asset changes (cars, locomotives, crews), significant service metrics, significant grain-related program, and other lines of business which may impact harvest shipments. Moderator: Tim McNulty
- 7) Class II/III Railroad Reports – car supply, locomotive and crews, harvest outlook, market outlook, additional concerns. Moderator: Sharon Trudell
- 8) Shipper Panels
- Supply dynamics: crop size, condition, farmer selling, harvest timing, crop movement to market, on-farm storage, which markets the farmer anticipates selling into, why, and by what transport mode. (Fray, Jones, Pope)
 - Demand Dynamics: world crop supply & demand, impact on U.S. demand (imports/exports), and current dynamics by market - export, processor, feed. (Hildebrand, Hansen, Henke)
- 9) Freight Car Equipment Summary – Mark Van Cleave
- 10) Closing Remarks
- Chairman Daniel Elliott
 - Commissioner Ann Begeman
 - Cochairman Deb Miller
- 5:00 pm 11) Adjourn – Mark Van Cleave

*Start time is tentative based on arrival of out-of-town members and guests.

Minutes

Following the safety briefing, the Chairman, Mark Van Cleave, called the meeting to order with 36 members or designated substitutes. In his welcoming remarks, Mr. Van Cleave noted that in developing the agenda for this meeting, the goal had been to bring more value to the conversation both during and after the meeting. In his opening remarks, Board Chairman Elliott noted grain was moving, which was good news, and that the Board had been busy with several dockets of interest to shippers including reciprocal switching, grain rates case procedures, and service metrics.

Member Introductions

Fred Forstall, introduced new members and substitutes. Following past practice, the other members introduced themselves.

Adoption of 2015 Minutes

Hard copies of the minutes of the 2015 meeting were distributed. A motion was made and duly seconded to approve them as written. The motion carried by unanimous voice vote.

Financial Report

The Secretary/Treasurer, Sharon Trudell, presented the 2016 financial report (appended to these minutes). On her recommendation, a motion was made and duly seconded to assess dues of \$150 per member for 2017. The motion carried by unanimous voice vote.

Guest Speaker

Mr. Jeff Nawn, Global Grain Trade and Biotech Affairs Lead, DuPont Pioneer, addressed the members on “Agricultural Productivity: Innovating to Grow More, With Less.” (His presentation is appended to these minutes.)

Topics included 1) agricultural innovations, 2) reasons for innovation, 3) the next generation of agricultural technology, and 4) polices.

- 1) The plow is the greatest innovation although it stayed roughly the same until the advent of steel plows in the 19th century.
- 2) The cotton gin
- 3) Refrigeration – A quantum leap in transportation
- 4) Pasteurization
- 5) Tractors in the late 1800s. (Automatic tractors)
- 6) Fertilizers
- 7) Selective breeding (Fertilizers+breeding=green revolution)
- 8) Combine harvester
- 9) Biotechnology – increased yields (beans and corn) and increased global meat consumption

Significant challenges include population growth (9.5-10 billion people by mid-century), dietary changes, and urbanization. More of everything will be necessary.

Sophisticated American farmers (“Ag Bots”). Data and analytics from the field (“Big Data”) including imaging, soil types, topography, and yield analysis. Decision zones. Nitrogen management services – Fewer inputs and greater output.

Genome Editing Technology (“gene snipping”) – Rapid advancement of breeding programs. Editing the actual genome for increased drought tolerance and increased disease resistance. (No additions to genetic material.) Gene snipping is not regulated and is not a GMO.

Regulations and Policies. Currently, it takes 13 years and ~ \$1 billion to bring a new product to market. 24 months in original country. China has a 5-6 year process with political, non-scientific procedures. Food security – trade policy is a critical part.

Class I Railroad reports

BNSF has a record number of shuttles (140) and is expecting a record harvest. It currently has a total of 6435 locomotives with 1300 stored. BNSF believes that all the building blocks are in place, and it expects to enjoy the “fruits of its investments.” Capital gangs will be out of the way by the end of October. The question is what kind of winter will we have and what will the impact on cycle times be. UP has experienced strong demand. Car loadings are up 20 percent YTD. An additional 2700 T&E await recall from furlough. UP has 1600 locomotives in storage. There are ~ 19,000 grain cars in service. MOW is expected to conclude by the end of October on “harvest season” routes. Internal preharvest meetings are taking place. UP is expecting strong train counts. CP is already getting busy but is current on orders. There are more than 6,000 cars in its US grain fleet. Operations has improved. Statistics and trends are favorable. The network is currently below capacity. The target is 2.5 trips per month in the grain fleet. 2016 CAPEX is ~ \$1.5 billion (extended sidings, terminal investments, and CTC across North Dakota.) Increased train speeds are expected. A revamped order system, a dedicated train product, and more available capacity all lend to the favorable outlook. KCS total volume is flat but grain is up 9 percent Y/Y. Velocity is up and dwell is down. Regarding the earlier flooding in Louisiana, UP and BNSF both worked well with KCS to provide detours. KCS has the largest grain fleet ever (5,522 cars), an increase of 16 percent since 2011. KCS is expecting new cars next year and net increase of 300 cars. 70 percent of the fleet is RR owned; the balance is leased. Currently, 7 percent of KCS T&E is on furlough, and 15 percent of the locomotive fleet is stored. KCS is ready for harvest. CN has experienced strong exports and an increase in car orders as the old crop is being moved. “Exports have legs.” Shippers see demand. CN has 1423 active cars and 1216 stored cars. 708 active and 318 stored locomotives. 525 active T&E having recalled ~ 400. Other statistics and trends are favorable. CAPEX \$1.2 billion. On NS, locomotives have come out of storage (including rebuilds and conversions). NS is hiring crews, and the statistics and trends are favorable. On CSX, agriculture is 10 percent of the business. CSX is working toward “product improvement.” CAPEX is \$2.3 billion. Statistics and trends are favorable. CSX has received 61 new locomotives and has 3600 active. The fleet is 7800 hopper cars. Of which 55-60 percent are large cars (i.e., 5150s). Approx. 10,000 active T&E. CSX is working to increase capacity and efficiency. The “90 car” product is now the majority. The “prerelease” program is underway. (Shippers are to call CSX 2 to 3 hours before release and CSX will begin the process for calling the crew.) It is expected that it will be necessary to make space for a big crop. Low prices will encourage farmers to hang on to the crop. (A “three month problem”). It was estimated that there is 44 percent more storage capacity in the East. Pushing utilization to the absolute maximum. Loading and fluidity are key. “Dirty cars” going to Mexico are still a problem. KCS is cleaning cars before they cross, and UP shippers are sweeping the tops of cars. How can this issue be minimized?

Class II/III Railroad reports

IAIS is expecting a bumper crop and a consequent increase in car loads Y/Y. IAIS has a new customer on the west end of the line, but it has adequate resources. RCPE has been in operation for 27 months. Two new sidings are complete and two more are coming. RCPA has no furloughs. It has cut overtime to maintain its normal crew base and not brought on any new people. A consistent operation and network, reliable operations and interchanges, and communication with customers are key. RCPE has had joint sales calls with the Class I carriers. Earlier it had a strong winter wheat crop, but due to a dry middle summer, a 28-30 percent drop in the harvest of beans and corn is expected. A good sunflower crop is expected. High cube cars are being supplied to the producers. A sunflower processing plant and a yellow bean processing plant are expected for next year. IN expects good beans but weak corn. There is a strong reluctance to sell this year. Dan expects a “bump out of necessity” but likewise expects more to go on the ground this year. NC has 9 shuttle locations. Crews are “fine” as NC hired a bunch of UP and BNSF T&E. Watco has 1,500 hoppers, most in Kansas, Wisconsin, and Washington. The wheat crop in Kansas, the largest since 2003, just finished. There is a tremendous carry over in wheat this year, but Watco nevertheless expects a 16 percent increase in car loadings Y/Y. There has been a good push in front of the bean harvest. WSOR has 250 cars and expects a record corn and bean crop this year. Beans are expected to move quickly. Watco added 5 crews in Kansas from other railroads (i.e., temporary transfers). It is looking to increase its supply of high cube cars. 95 percent of RR/VW business is attributable to whole

grains and processed products. It has a total 35 facilities including 9 shuttle loaders and 2 ethanol plants. It relies on BNSF equipment and things are working very well. North Dakota beets, beans, and corn harvests are expected to be records. There has been a lot of farm storage built in the last 3-5 years, and “poly ag” bags will be used. RRWW has also hired former Class I crew members including 2 additional engineers.

Shipper panels

Supply dynamics – Expectations for 196 bushels per acre of corn and 57 bushels per acre of beans. Condition is routine; sudden death syndrome and Dyplochia are not a problem yet. The farmers are a year into the negative income cycle. There will be \$2.80 corn this year. Cash needs will force some movement, but it will be left in the field when necessary. The farmers will not pay for drying. Farmers will sell beans; they will move and make money. Wheat acres are down and pushed farther west. Quality issues, a wider distribution of protein, and toxin issues (a little and more in Durham). Though farmers will sell beans, they are expected to store wheat and corn (Ag bags? You betcha). Products can reportedly stay in bags for up to two years. Even the elevators are doing the bags. There was a large wheat harvest in the South. The “bunkers” are still full from the harvest last year. Storage and local ethanol plants. Better export programs may allow some movement through the winter months. Railroads are running well. The Gulf is the primary export point. In the PNW, rail logistics are key and facilities that handle multiple commodities.

Demand dynamics – Wheat was a decent crop last year (52.6 bushels) on lower acreage. Export is usually half but not last year. Russia had a record year but the quality was not good (9.9 percent protein as compared to Kansas (11 percent and North Dakota (14 percent)). US demand is coming back at the expense of low quality Russian wheat. Nevertheless, there is plenty of global competition. Good demand for wheat is expected through the winter months. This has turned around in the last 30-60 days. Domestic demand, a year of records. Beans? A “crazy” situation maybe. DDGs in unit trains? Shipping more with less with fewer problems and are working through those that arise. Global demand for corn continues to grow. Issues with variations of marketing year. Wheat is displacing corn demand (feed wheat). With regard to exports of corn, farmers “got lucky” as a result of the Brazilian drought. US market share had been going down. US farmers would have stored 70 million bushels rather than 43 million bushels. Chinese corn exports? Beans – “all about China.” China is the global market. It cleaned up old crop stocks and will provide demand through January and February when the South American crop kicks in.

Manufacturers/Lessors response panel

Analysts forecast for total freight car deliveries 2014 – 70 M cars delivered; 2015 – 86 M cars delivered; 2016 – 56-62 M expected; 2017 – 39-47 M expected; 2018 – 41-44 M expected. Grain car deliveries 2016 – 8-9 M cars expected; 2017 – 6.5-8.5 M expected; 2018 – 6-9 M expected. In 2011, the average age of the fleet was 24.8 years. In 2017, 22.5 years. Storage – prices have almost doubled plus the freight on the front and back end. Space is scarce. 25 percent of the national fleet is parked. The number 1 car is covered hopper (mostly two pocket cars for sand). Next is tanks, many without having hauled a load. Third is coal hoppers and gondolas. There is availability. Fall out in grain cars? Not really seeing much. Only 8 percent of the fleet is north of 40 years old.

The DuPont logo, featuring the word "DUPONT" in a red, oval-shaped font.The Pioneer logo, featuring a green stylized plant icon followed by the word "PIONEER" in a bold, green, sans-serif font.

Agricultural Productivity: Innovating to Produce More, With Less

Jeffrey Nawn
DuPont Pioneer
September 15, 2016



Innovating to Produce More, With Less

- **A Brief History of Agricultural Innovation (What)**
- **Future Demand Trends (Why)**
- **Next Generation Agricultural Technologies (What's Next?)**
 - Big data
 - New Breeding Techniques
- **Next Generation Agricultural Policies (What's in the way?)**
 - Global Science-based Risk Assessments
 - 20th Century Trade Agreements



Great Innovations in Agriculture



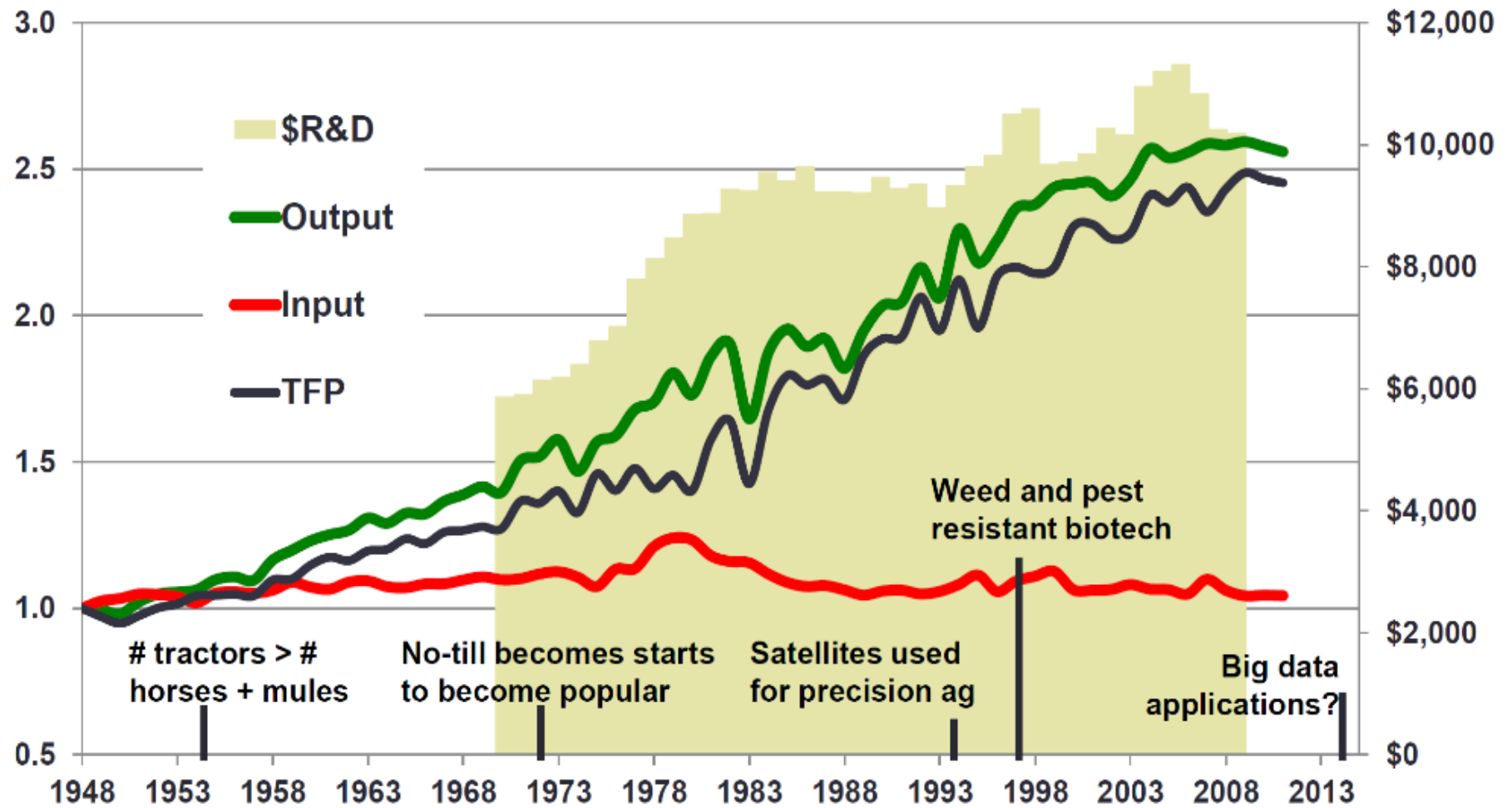
DUPONT

 PIONEER.

Total Factor Productivity

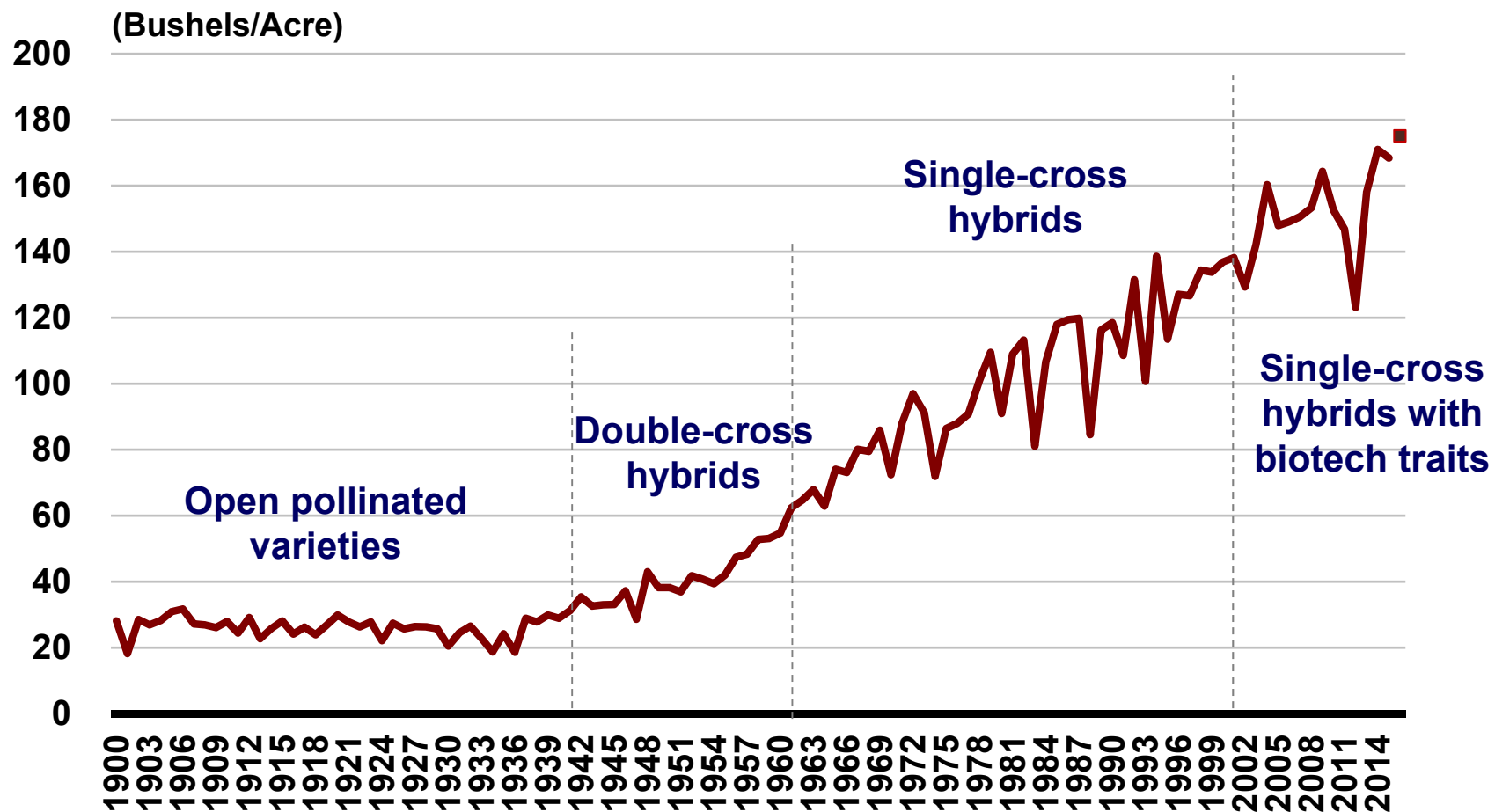
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\$million (2006 dollars)

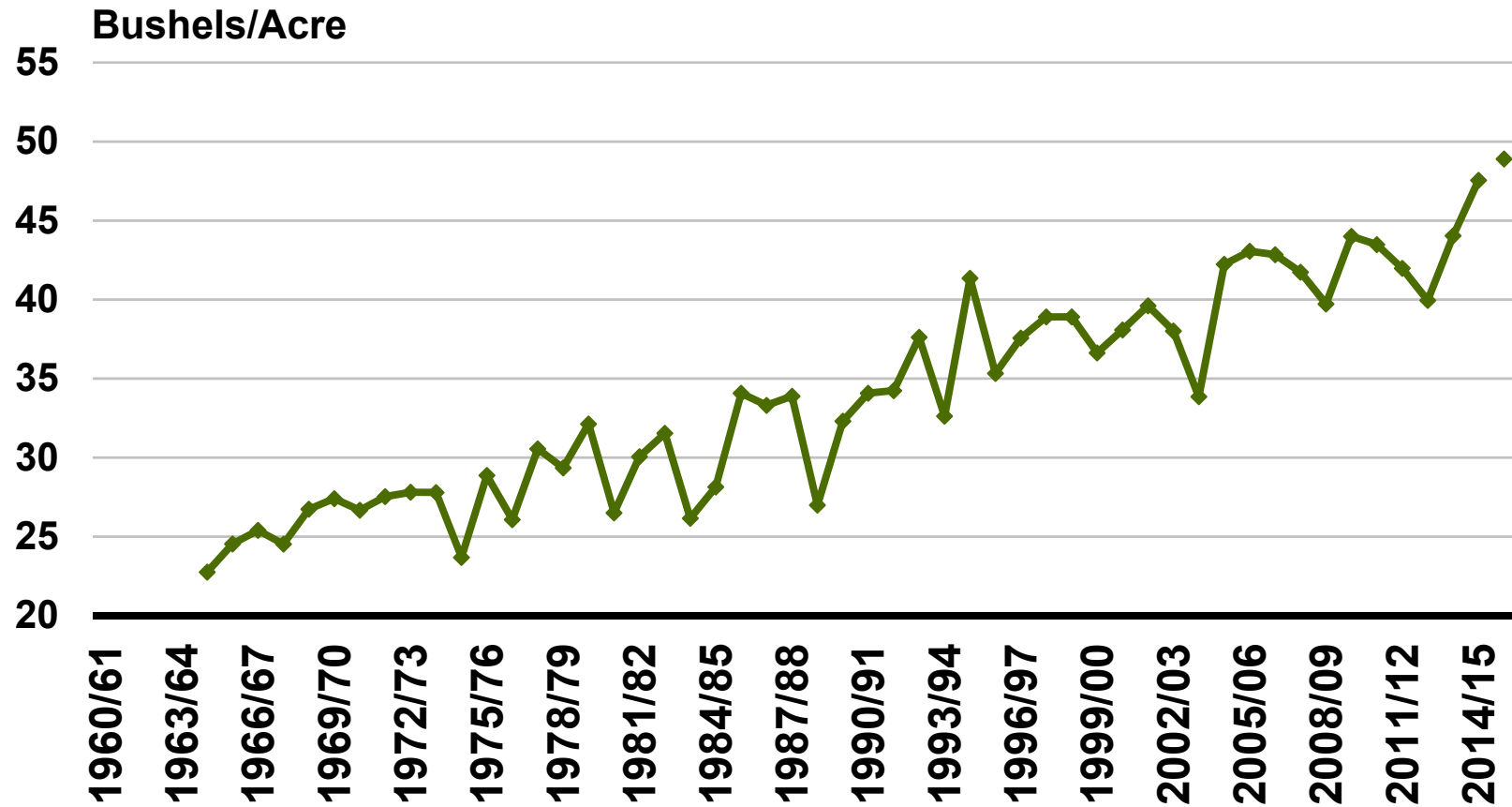


Source: USDA-ERS.

US Corn Yield (1900-2016)



US Soybean Yield (1960-2016)



World Population & Income Drive the Demand for Corn & Soybean in the Last Decade

+13%

The growth in world **population** over the last 10 years

+29%

The growth in global **income** over the last 10 years

+19%

The growth in **meat consumption** (Beef +2%, Pork +19%, Chicken +32%) over the last decade

+11%

The growth in world **crude oil** consumption (OECD Countries -7%, Non-OECD Countries +53%) over the last decade*

+26%

The 10-year growth in global **crop consumption** (Soybean+47%, Corn+39%, Wheat+14%, Rice+16%, Cotton-7%)

+8%

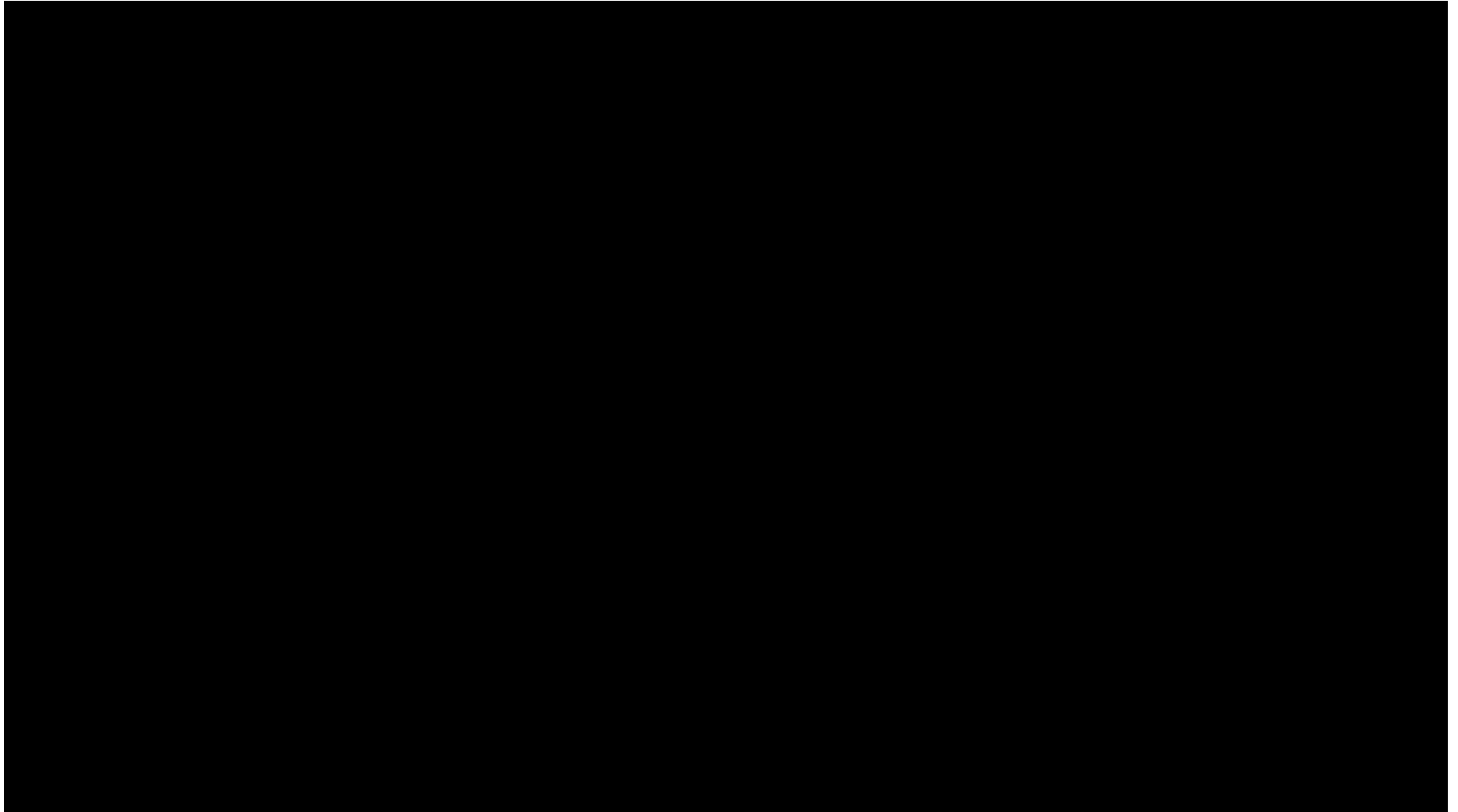
The growth in world **crop area** harvested over the last decade

*Source: EIA

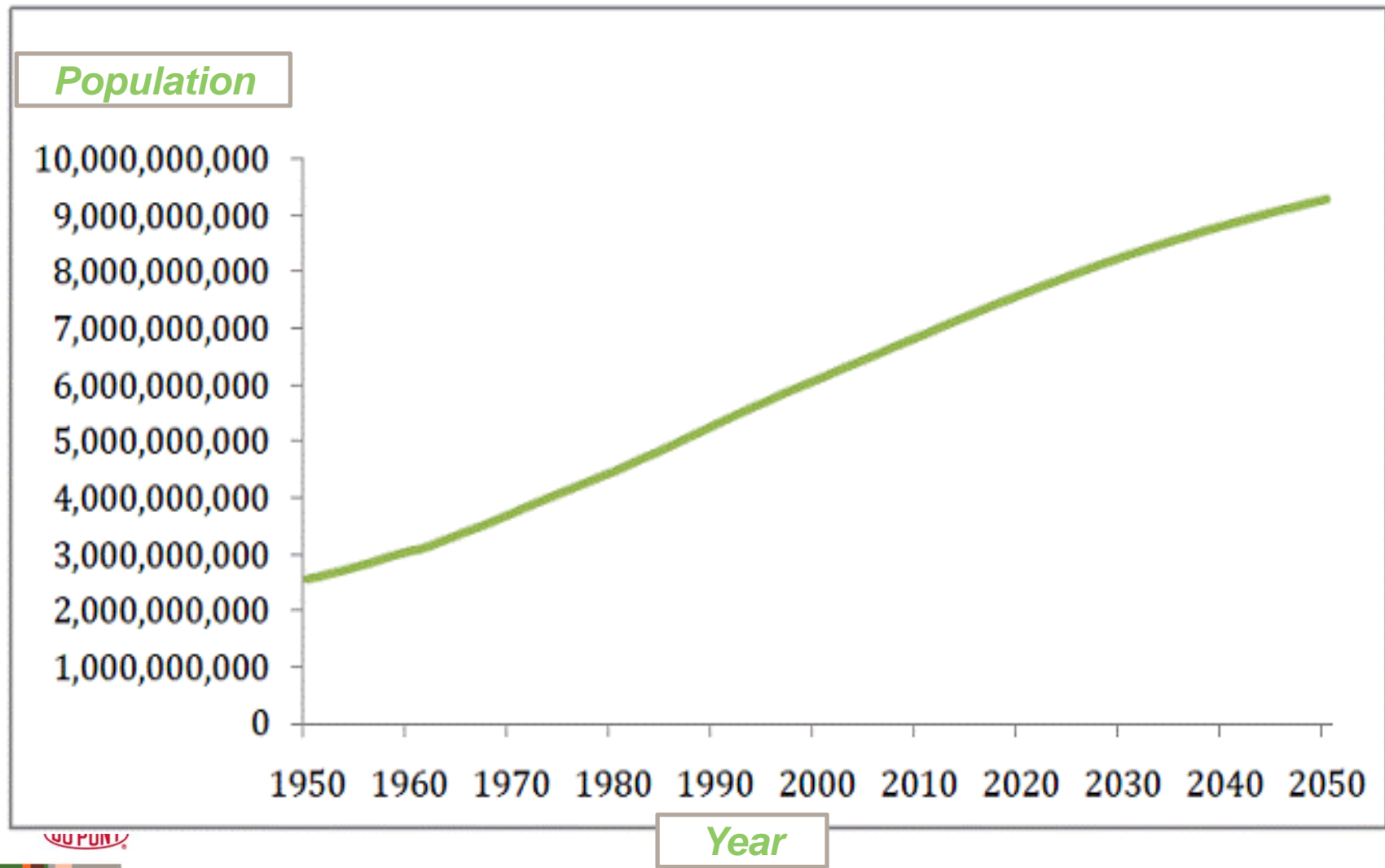




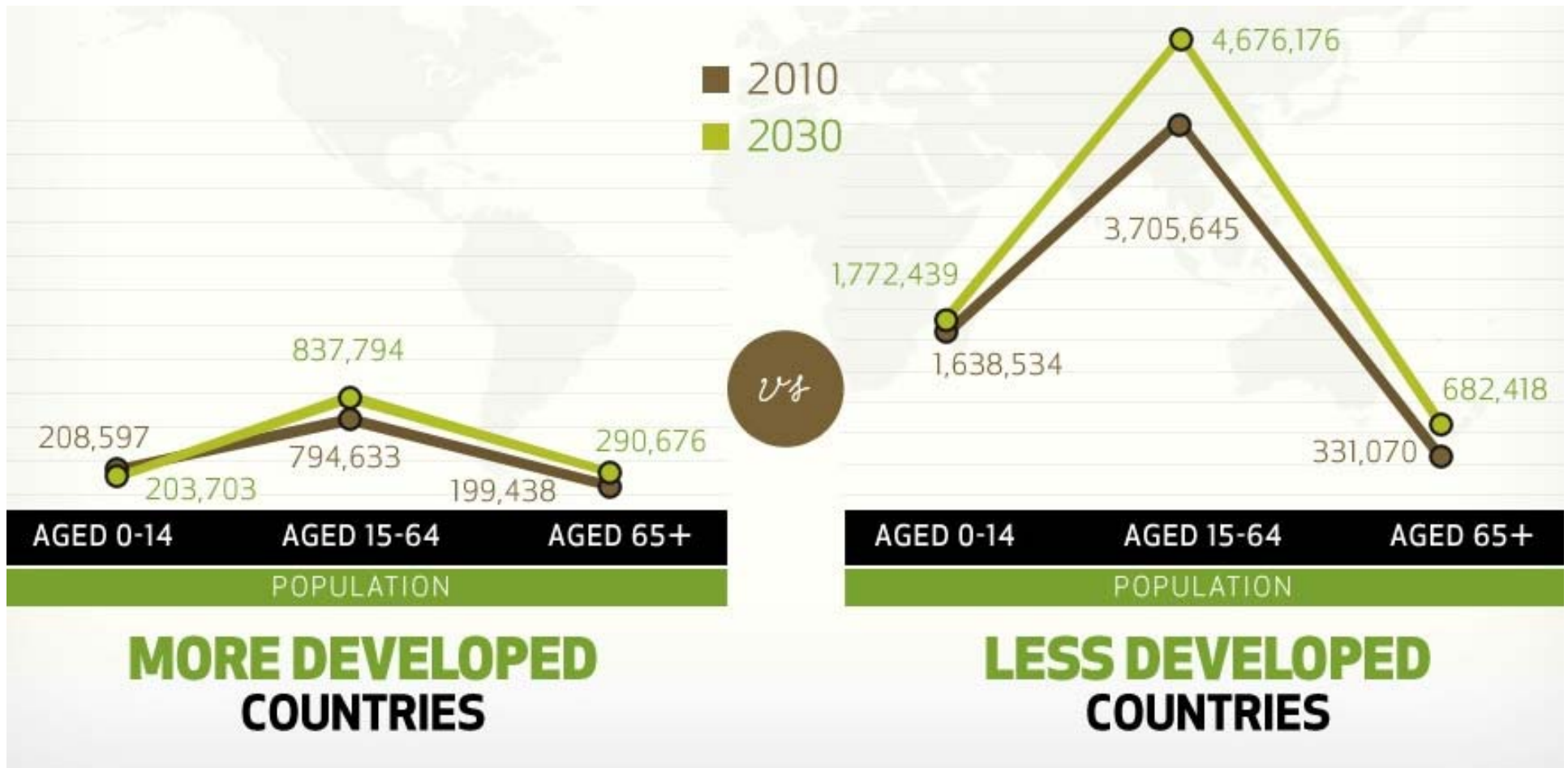
Technology Adoption - AMSAP



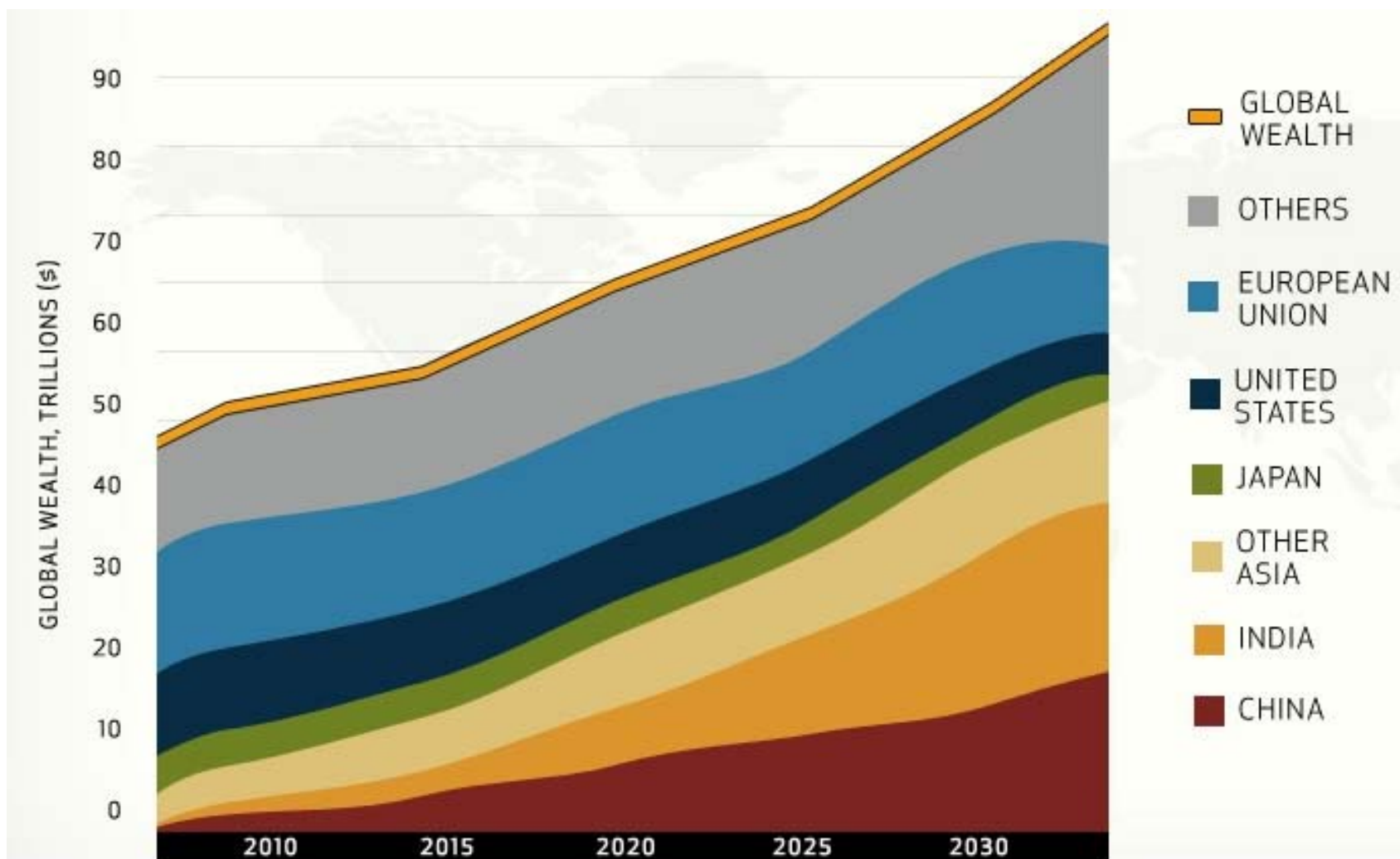
Global Food Demand



Global Population Shifts



Changing Global Diets



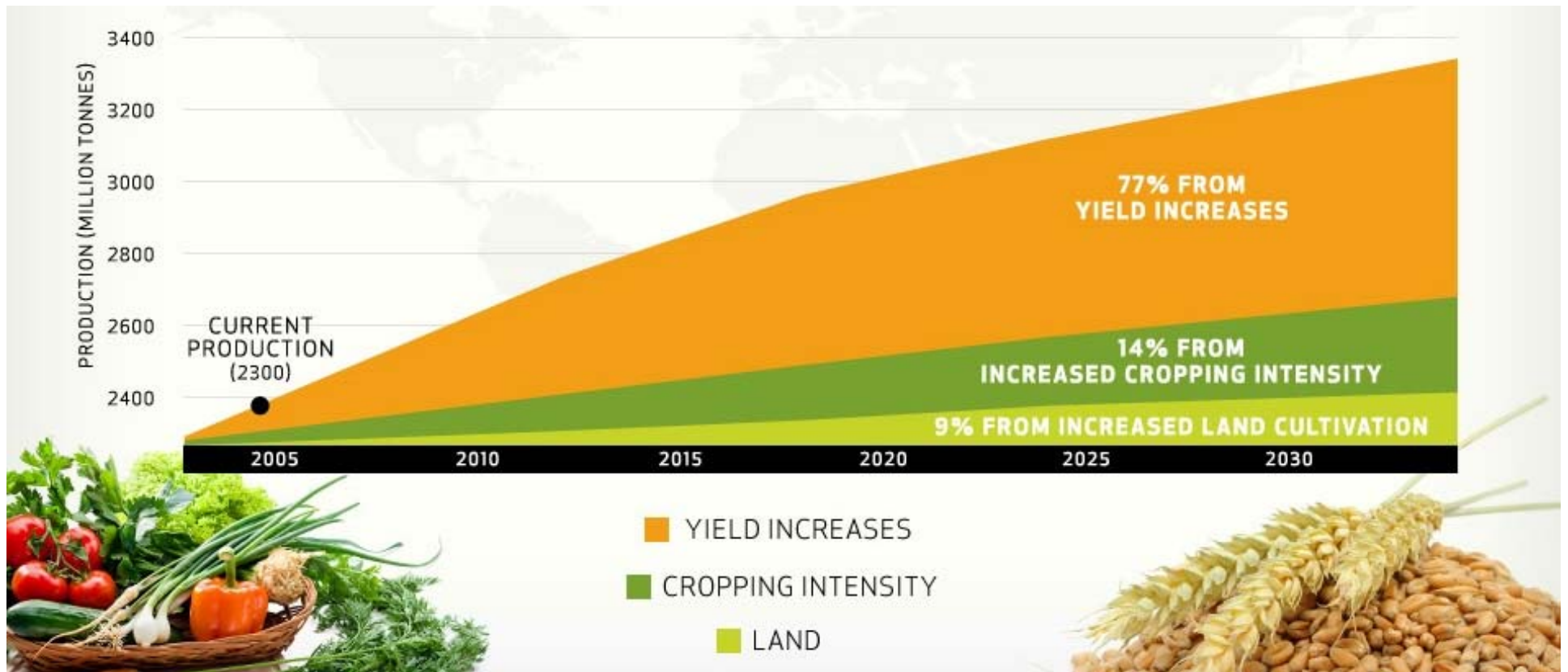
The Population Shift to Cities Continues

World's population living in urban areas



Urbanization is putting strain on cities,
where access to fresh, nutritious food is often limited.

Meeting Global Grain Needs



Technology Critical to Meeting Needs While Protecting Resources



**PRECISION
AGRICULTURE**



**WATER-IRRIGATION
TECHNIQUES**



**GMO
CROPS**



**SOLAR
ENERGY**



**ADVANCED
BIO-BASED FUELS**

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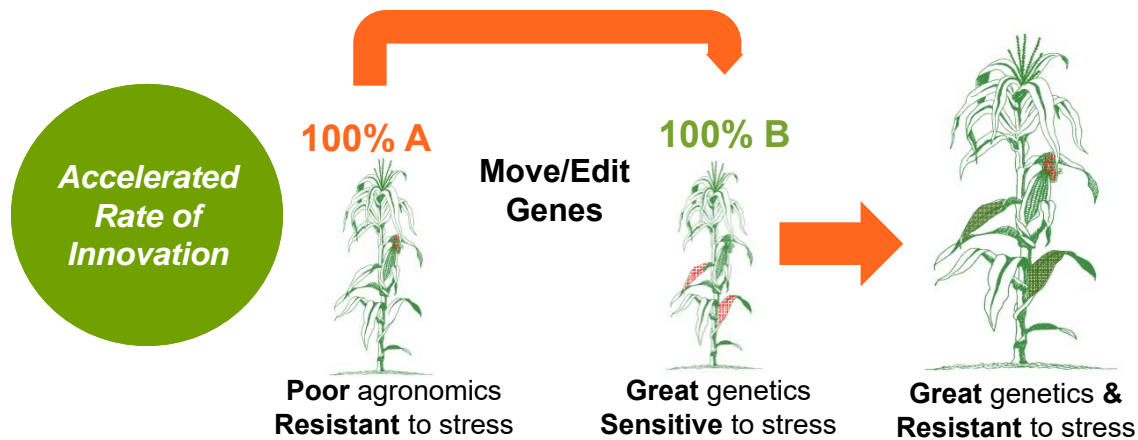
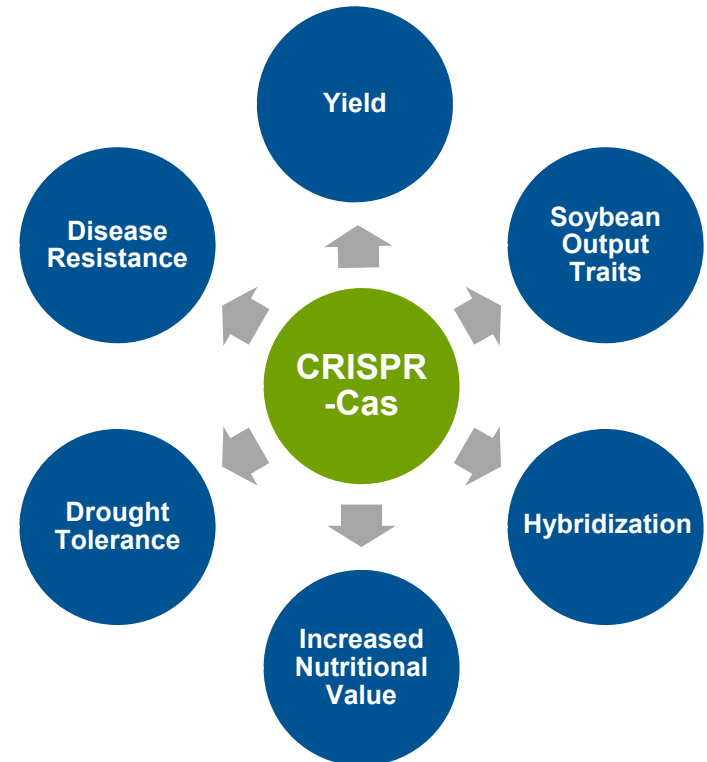
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Few years & elite genetics vs. 5-7 years through backcrossing

First products to market in as early as 5 years



Products, benefits and concepts described herein will not be offered for sale or distribution until completion of field testing and applicable regulatory reviews.

Regulations and Policies

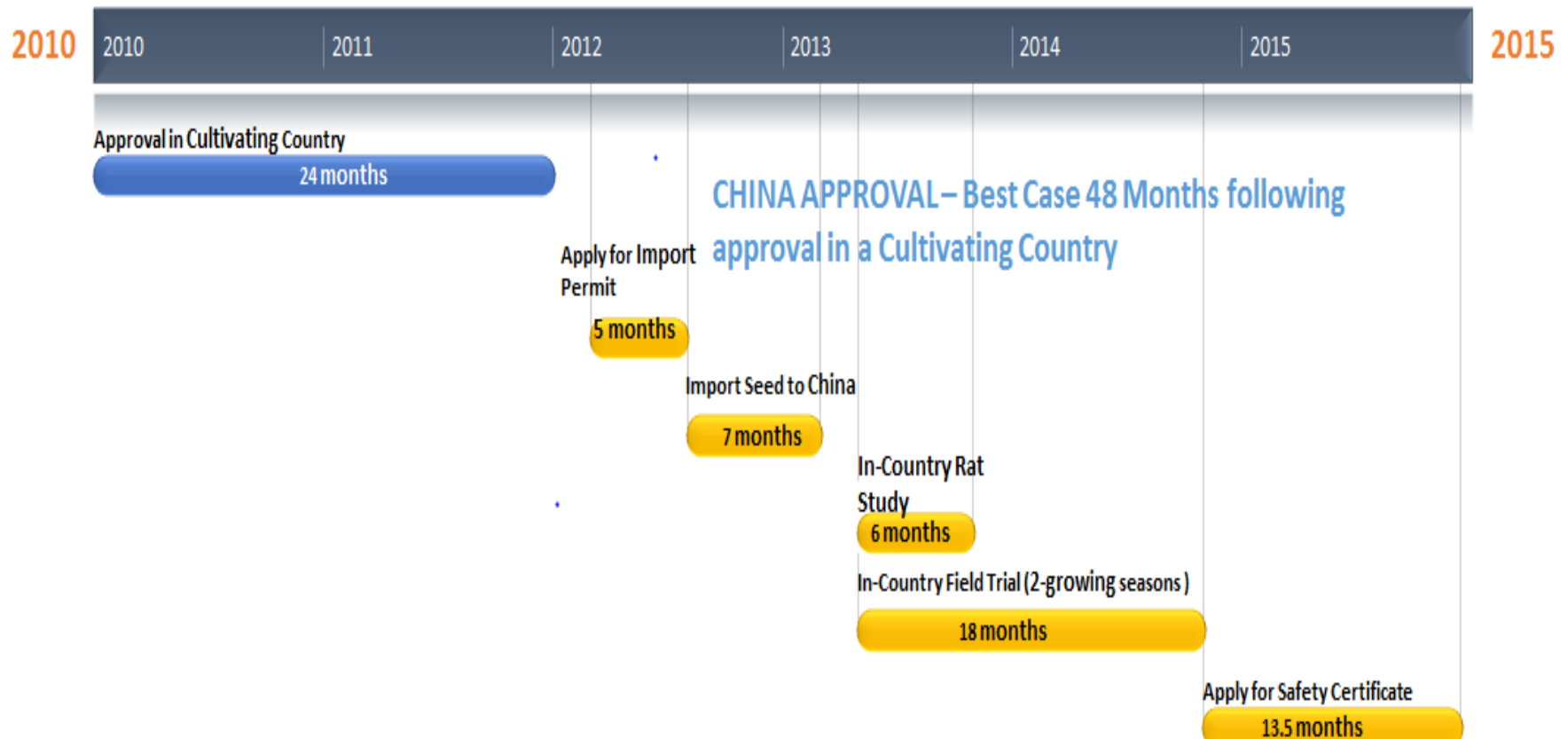


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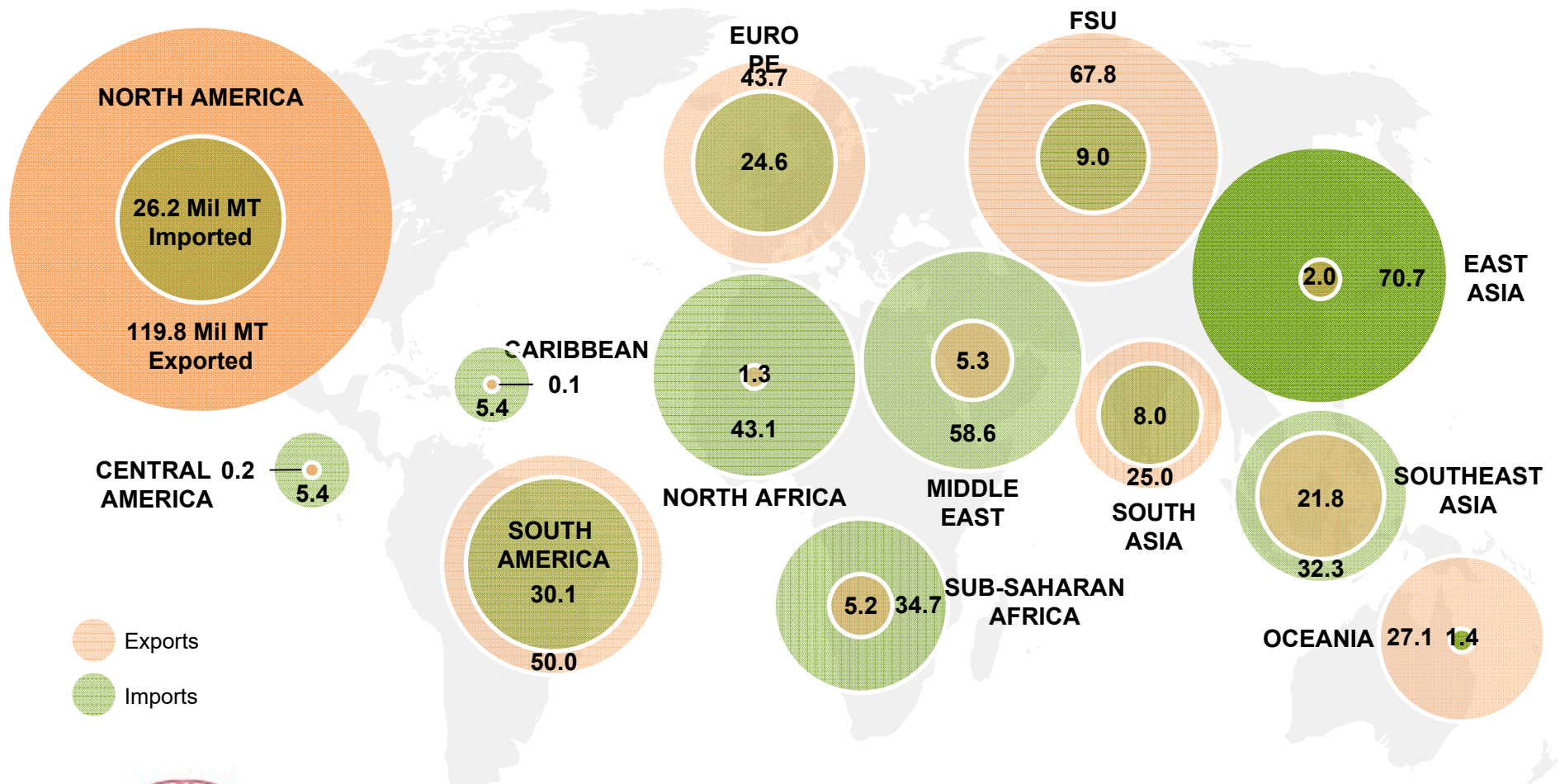
 PIONEER.

Global Regulatory Issues – China Biotech

Timeline – Realistic Best Case ~ 72 months



Global Trade Essential to Filling Gaps in Agriculture Production



Metrics tons of grain imported and exported by region in millions, 2013. Source: U.S. Department of Agriculture

