

Our Changing World

“Marketing Plant Nutrients”

Fertilizer Outlook and Technology Conference

New Orleans, Louisiana

November 16, 2017

**Dr. Dave Downey
Purdue University
West Lafayette, IN USA**

We've Come A Long Way In Agriculture



To Input Distribution Like This....



And Farm Equipment Dealerships Like This....





**We've shifted
from Horses**

To Horsepower





**We've shifted from
spreading manure
indiscriminately**

**To carefully controlled
balanced plant
nutrient programs**

NCDAS Agronomic Division 4500 Reedy Creek Road Raleigh, NC 27607-6465 (919)

Continued

Soil Test Report

1/26/96

SERVING N.C. CITIZENS FOR OVER 50 YEARS

Agronomist Comments:

Field Information					Applied Lime					Recommendations				
Sample No.	Leaf Crop	180	TP	1-1	Crop or Year					Line				
181	Barleygrass	1st Crop: Bern HayPac.E					1.77					60-80		
		2nd Crop: Bern HayPac.M					0					180-22		
Test Results														
Soil Class	RMN	W/V	CEC	BSN	Ac	pH	P-1	R-1	Ca	Mg	Min-1	M		
MIN	0.41	0.04	5.8	53.0	1.8	4.5	21	44	94.0	13.0	2009			
Field Information														
Sample No.	Leaf Crop	180	TP	1-1	Crop or Year					Line				
W2	Barleygrass	1st Crop: Bern HayPac.E					1.27					60-80		
		2nd Crop: Alfalfa E					0					10-30		
Test Results														
Soil Class	RMN	W/V	CEC	BSN	Ac	pH	P-1	R-1	Ca	Mg	Min-1	M		
MIN	0.36	0.02	3.9	66.0	3.5	4.9	87.0	71	44.0	15.0	2355			



**We've shifted from
broad general
agricultural**



**To Precision Farming
Technology**

This Is Just The Beginning!

The Question Is....

**Where are we going from here
and what does it take
to capitalize on these changes?**

Overview

I. Our Changing Agricultural Marketplace

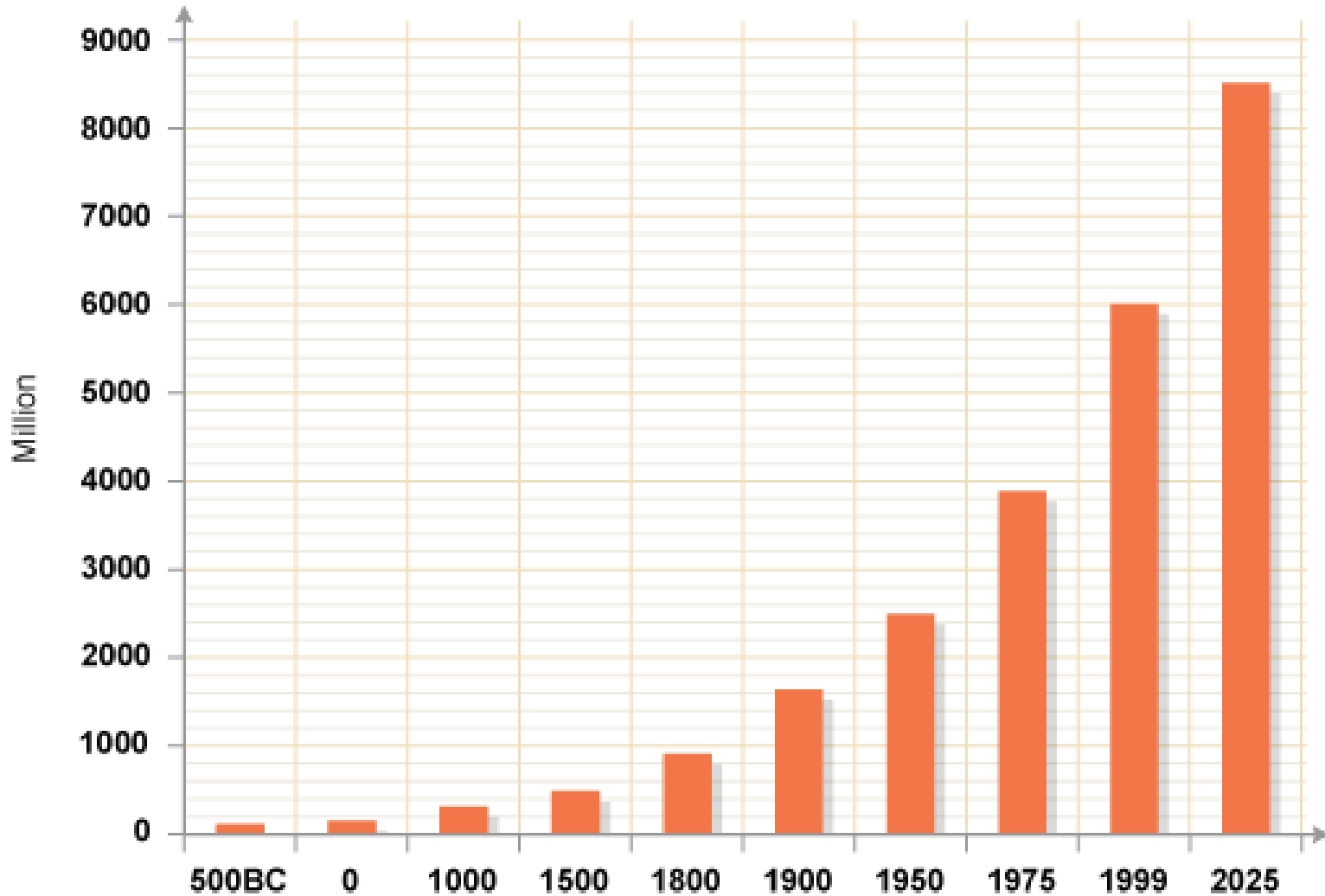
II. A New Era of Marketing in Agribusiness

III. Implications for Input Suppliers

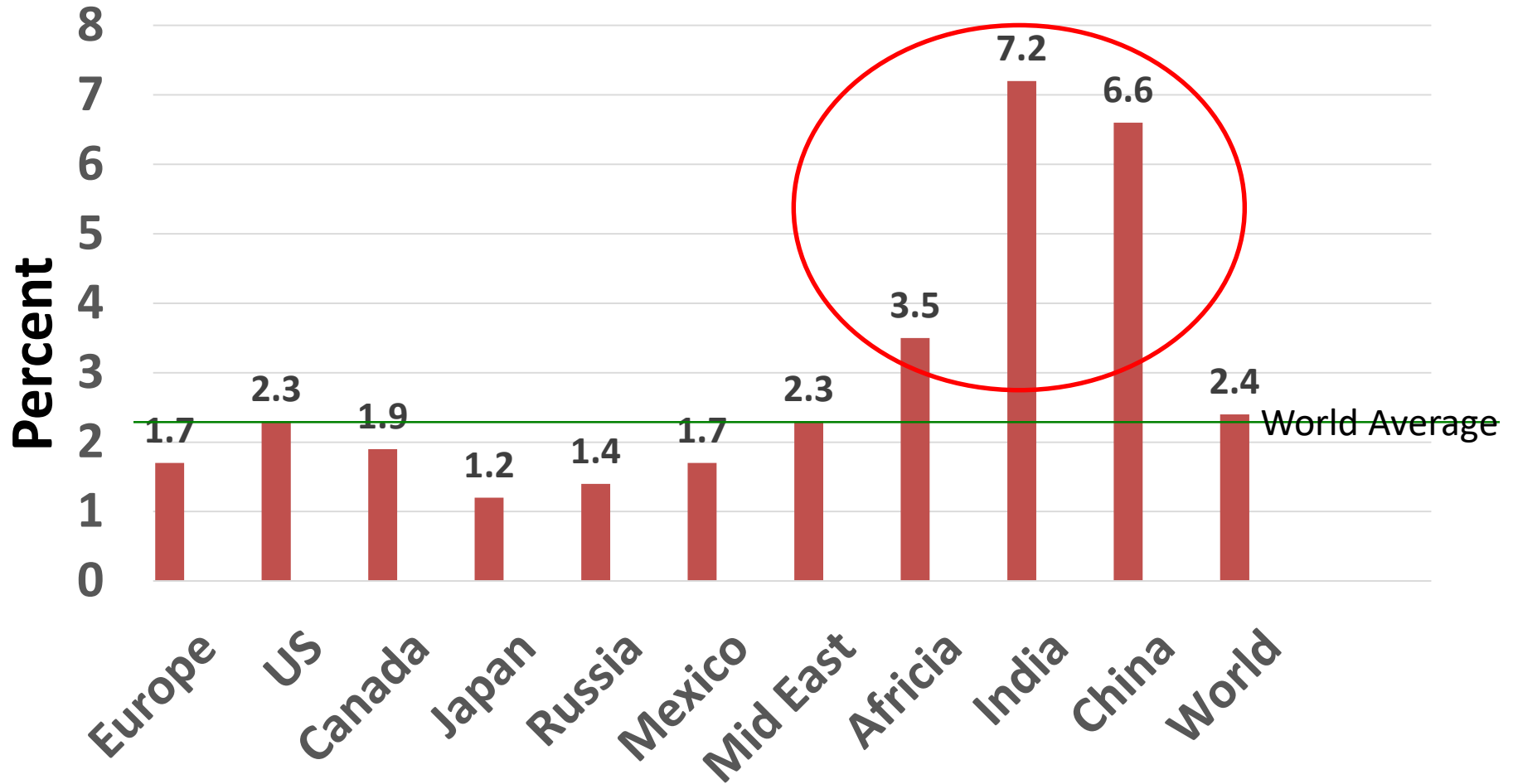
I. Our Changing Agricultural Marketplace



World Population Growth

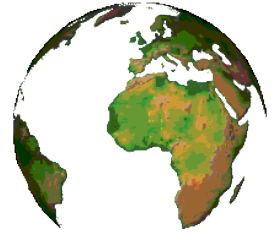


2016 Real Economic Growth Rate % (IMF)

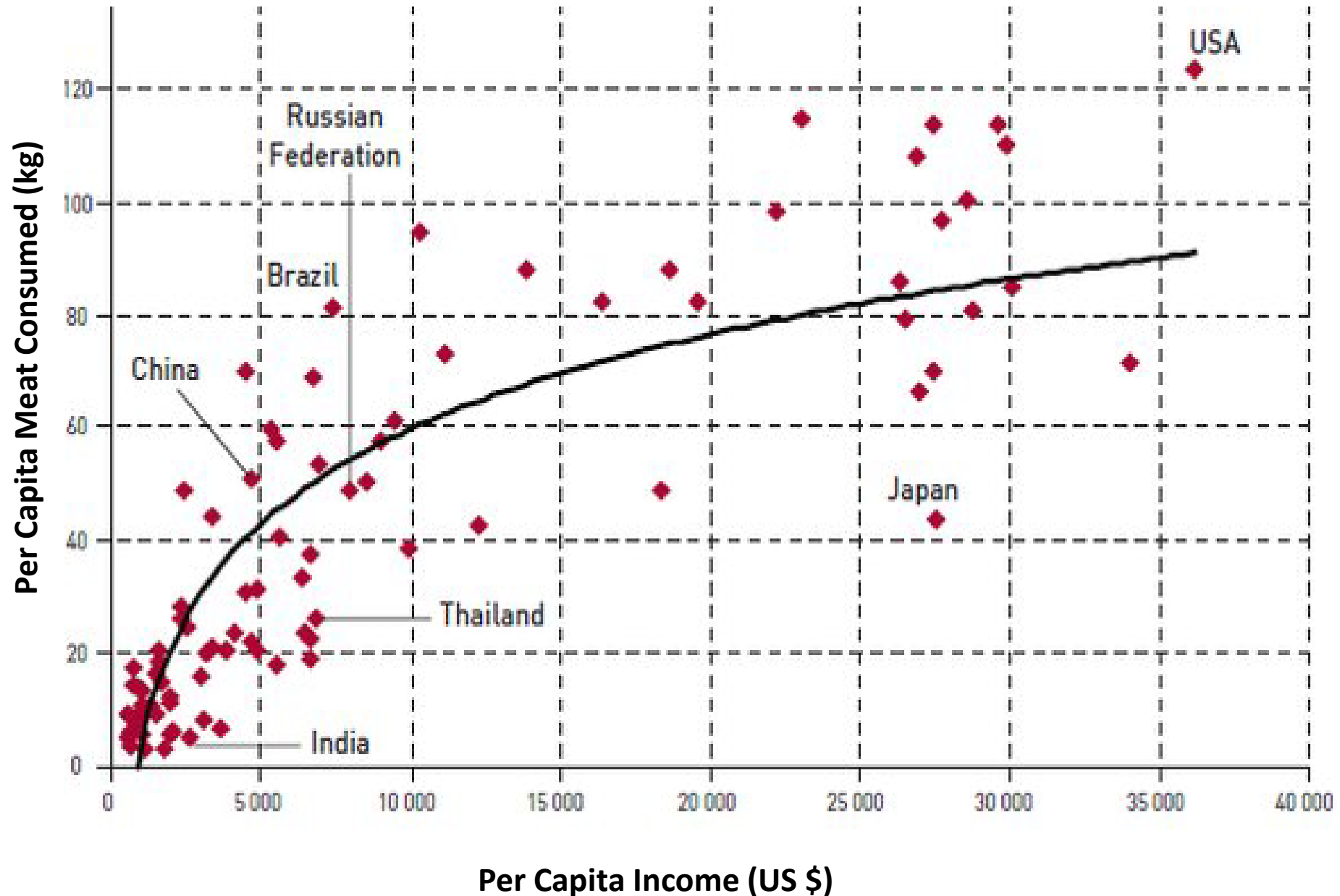


Our World Is Changing Rapidly

**Population is exploding
and many have money to buy food,
live healthier lives....live longer
....and eat more!**



As Income Grows....People Eat More Meat!



All That Means.... Long term

Good things
for farmers and
the Fertilizer Industry



Especially Since **There Is No More Land
To Grow Food!**

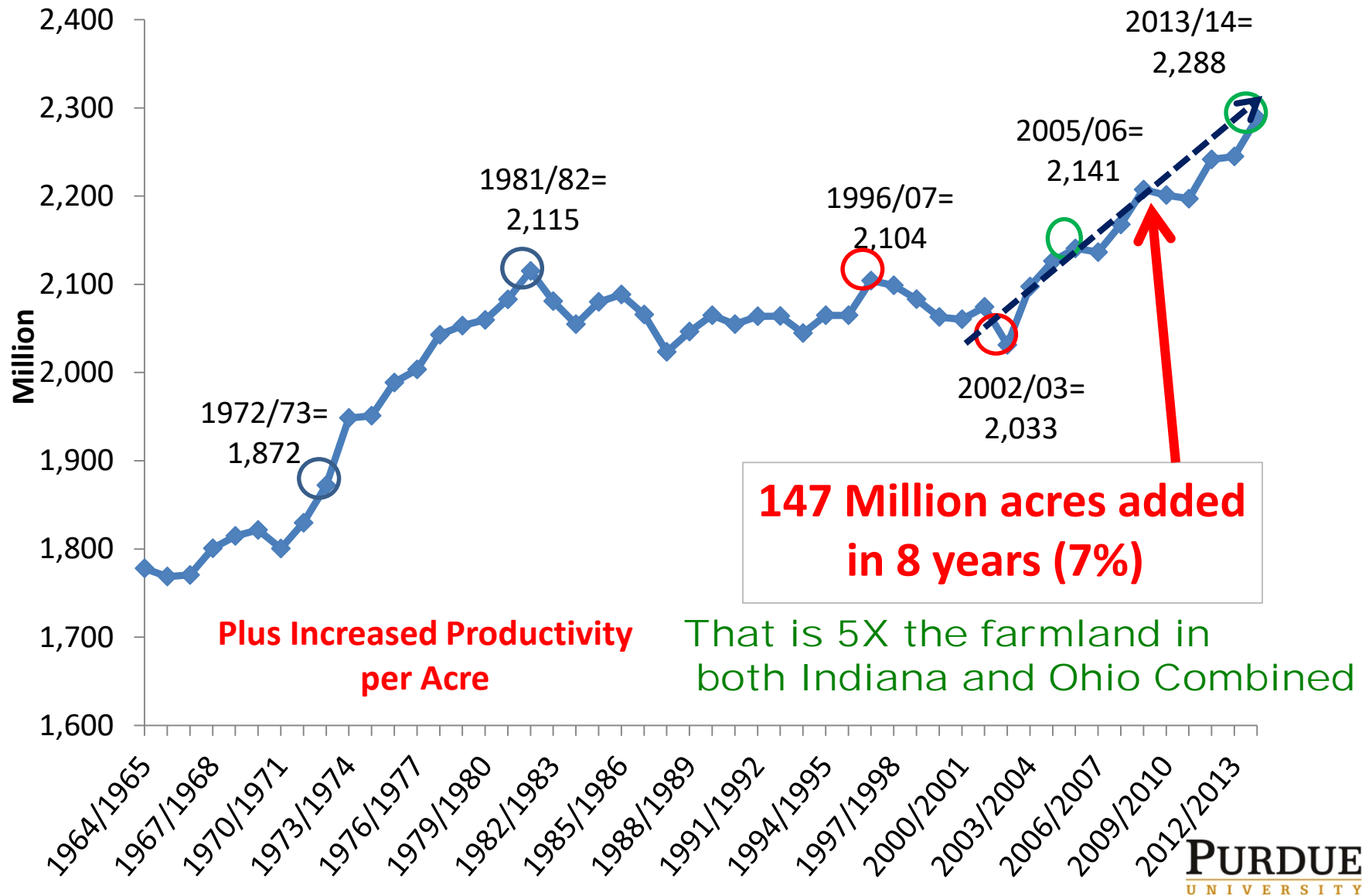


Population Growth – Urban Sprawl



But Wait!

World Harvested ACRES 13 Major Crops Total: (Millions)



There IS More Land To Grow Food!

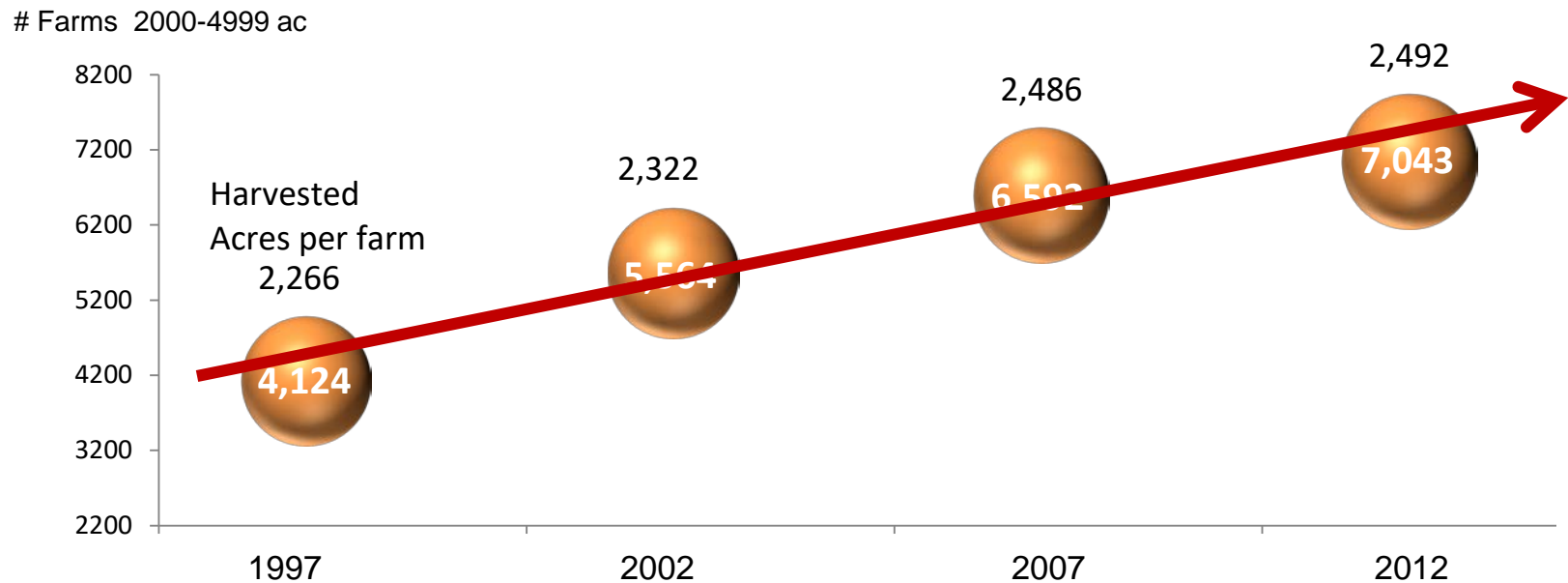
And Besides.....Technology Enables Us.....

- To Grow More.....With Less**
- To Gain Productivity Increases**
- Utilize Sustainable Agriculture Practices**
- Especially when we use the right fertilizer
.....RESPONSIBLY**

One of The Most Profound Changes Impacting our input supply distribution system **is the Continuing Consolidation and the Industrialization of Farming**



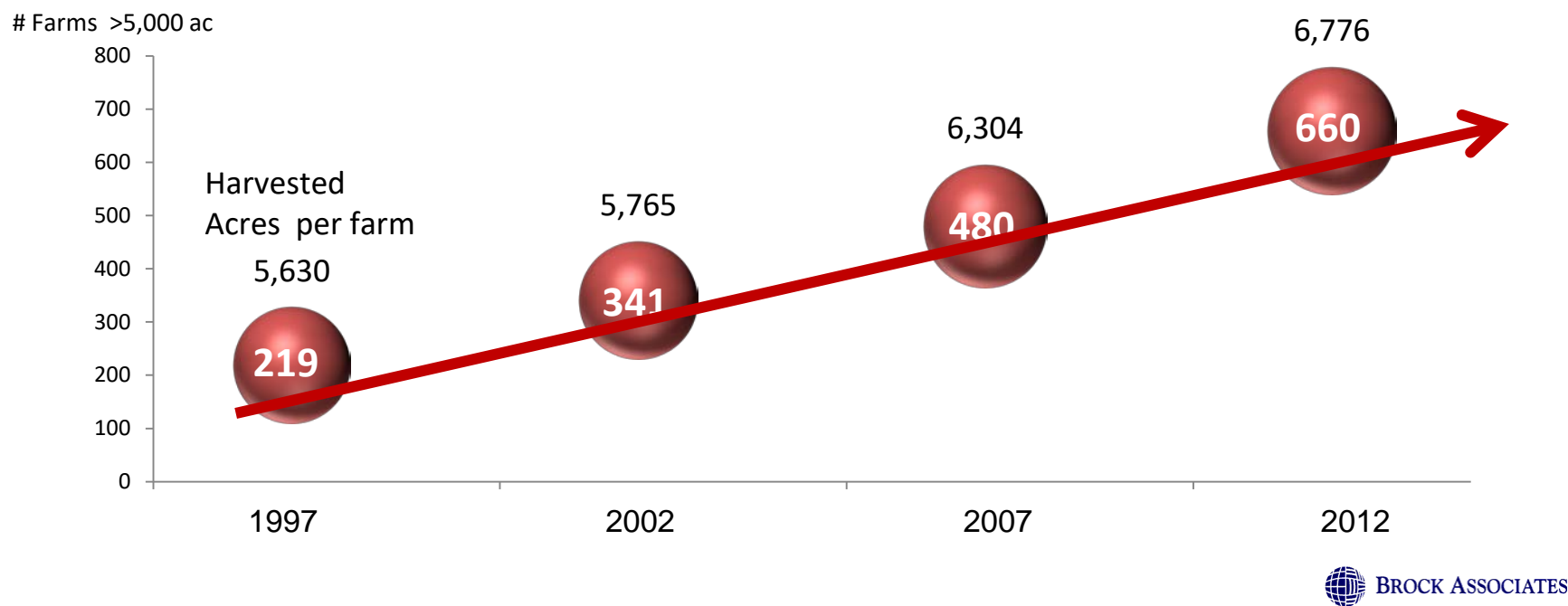
Number of Farms, 2,000-4,999 ac, and Harvested Acres per Farm Indiana, Illinois, Iowa, and Minnesota combined



Source: USDA 2012 Census of Agriculture

 BROCK ASSOCIATES

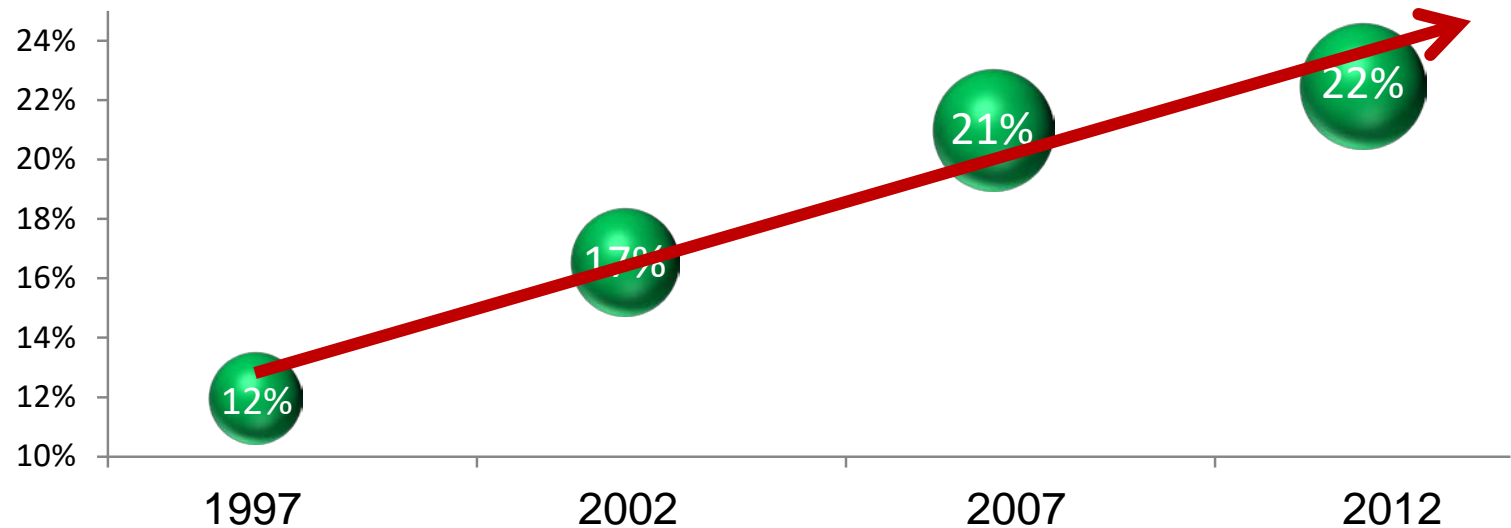
Number of Farms, > 5,000 ac, and Harvested Acres per Farm Indiana, Illinois, Iowa, and Minnesota combined



Source: USDA 2012 Census of Agriculture

Percent of Total Harvested Crop Land, Farms 2,000-4,999 ac Indiana, Illinois, Iowa, and Minnesota combined

Percent of Total Harvested Cropland
for farms 2,000-4,999 ac

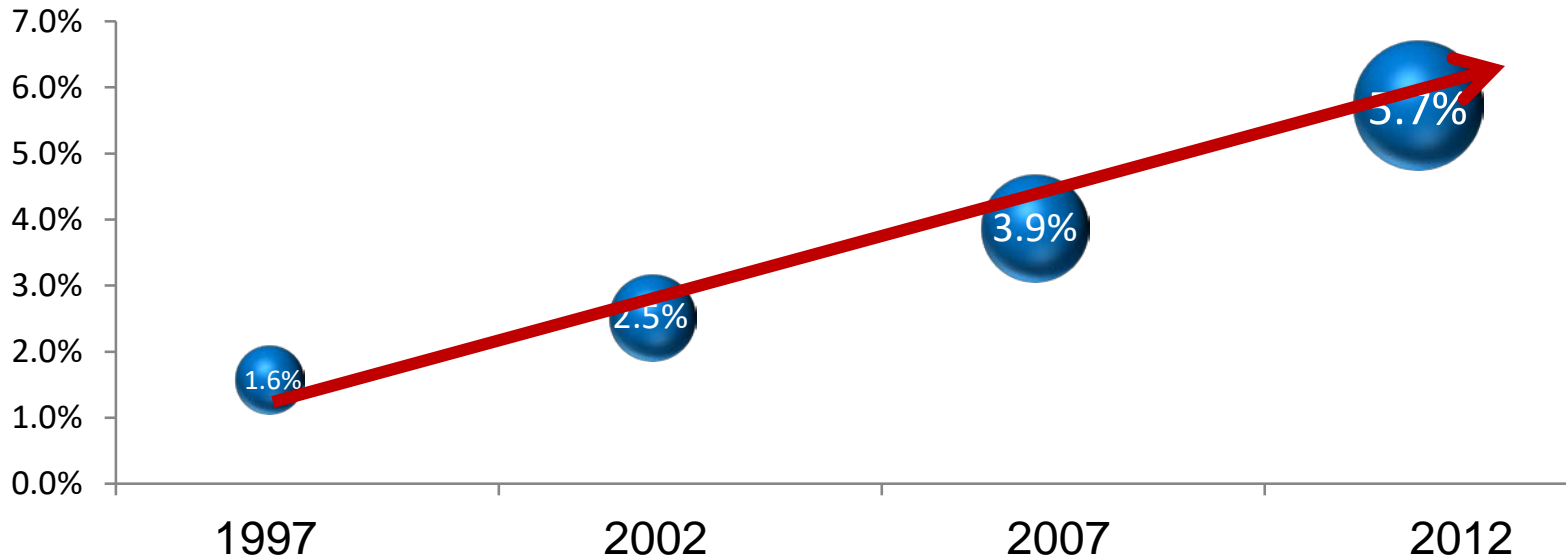


 BROCK ASSOCIATES

Source: USDA 2012 Census of Agriculture

Percent of Total Harvested Crop Land, Farms >5,000 ac Indiana, Illinois, Iowa, and Minnesota combined

Percent of Total Harvested Cropland
for farms >5,000 ac



 BROCK ASSOCIATES

Source: USDA 2012 Census of Agriculture

Will This Trend Continue?



Absolutely.... YES!

(It's Purely A Matter of Economics)



Commercial Farms Have Major Advantages

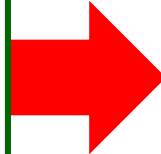
- Efficiency in logistics and operations
- Ability to collect and utilize information
- Ability to hire and utilize specialists
- Ability to quantify value
- Marginal gains in yield or cost reduction translate into 'big dollars'
- Ability to negotiate better input prices and service
- Ability to gain favorable marketing contracts
- Application of professional management practices
- Professionalize and manage landlord relationships



Commercial Farmers Have Different Needs

Commercial and Larger Growers

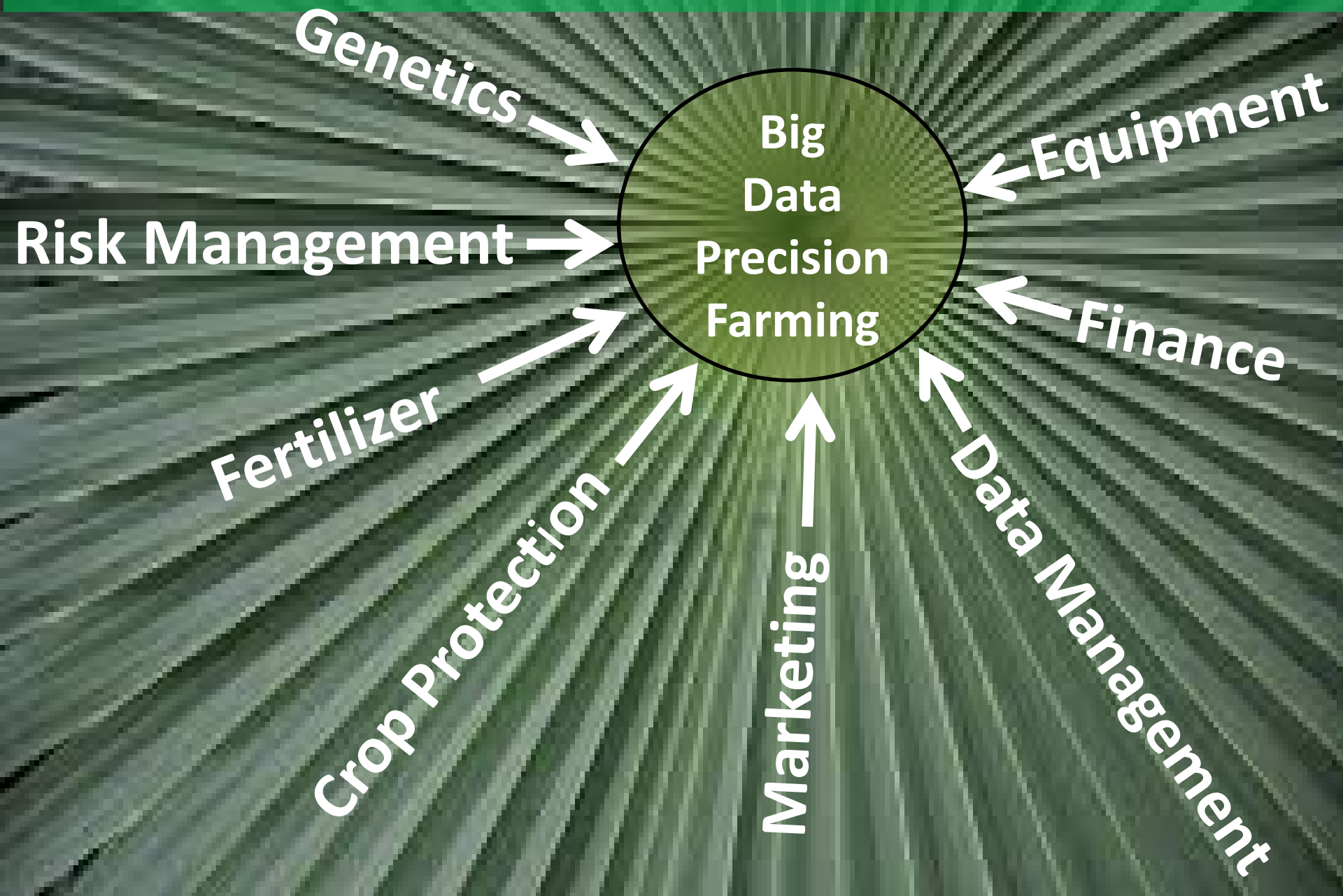
- **Scale:**
 - Efficiency
 - Technology
 - Information
 - Control
 - Negotiation
- Logistics – Bottlenecks; Time
- Managing Risk and Volatility
- Landlord Relations
- “Value” – Rather than cost



Critical Elements In Farm Business Relationships

- Tailored Value
- Accurate Information
- Timeliness
- Consistency
- Dependability
- Business Savvy
- Professionalism
- “Trusted Advisors”

Convergence of Technologies





We have reached the ‘Tipping Point!’

**The Majority of Crop Production
Is Now Controlled**

By ‘Commercial’ and ‘Large’ Farmers

The Best Are Poised To Grow Even More

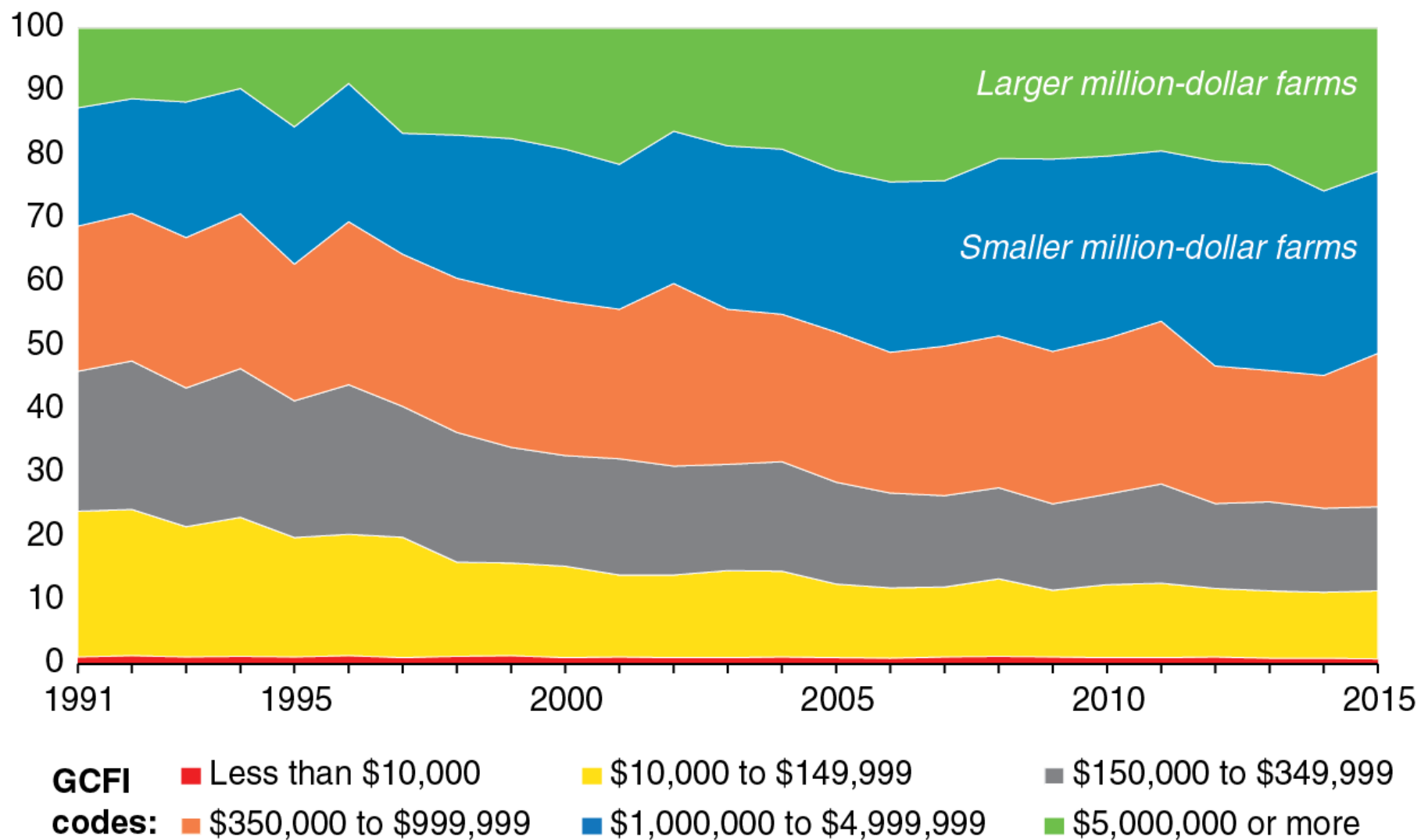
Many Believe Consolidation Will Speed Up

- In good times, top farmers prepare for their future
 - Upgrade power equipment – Precision Ag
 - Build grain storage and handling facilities
 - Invest in technology and employees
 - Better information systems and organization
- Many are now set to take advantage of others who are unprepared, sloppy, and poor managers
- And older farmers who stayed around to take advantage of a lifetime opportunity and continued to enjoy the ‘good times’ but now will think about exiting when things tighten

Production has shifted to larger farms

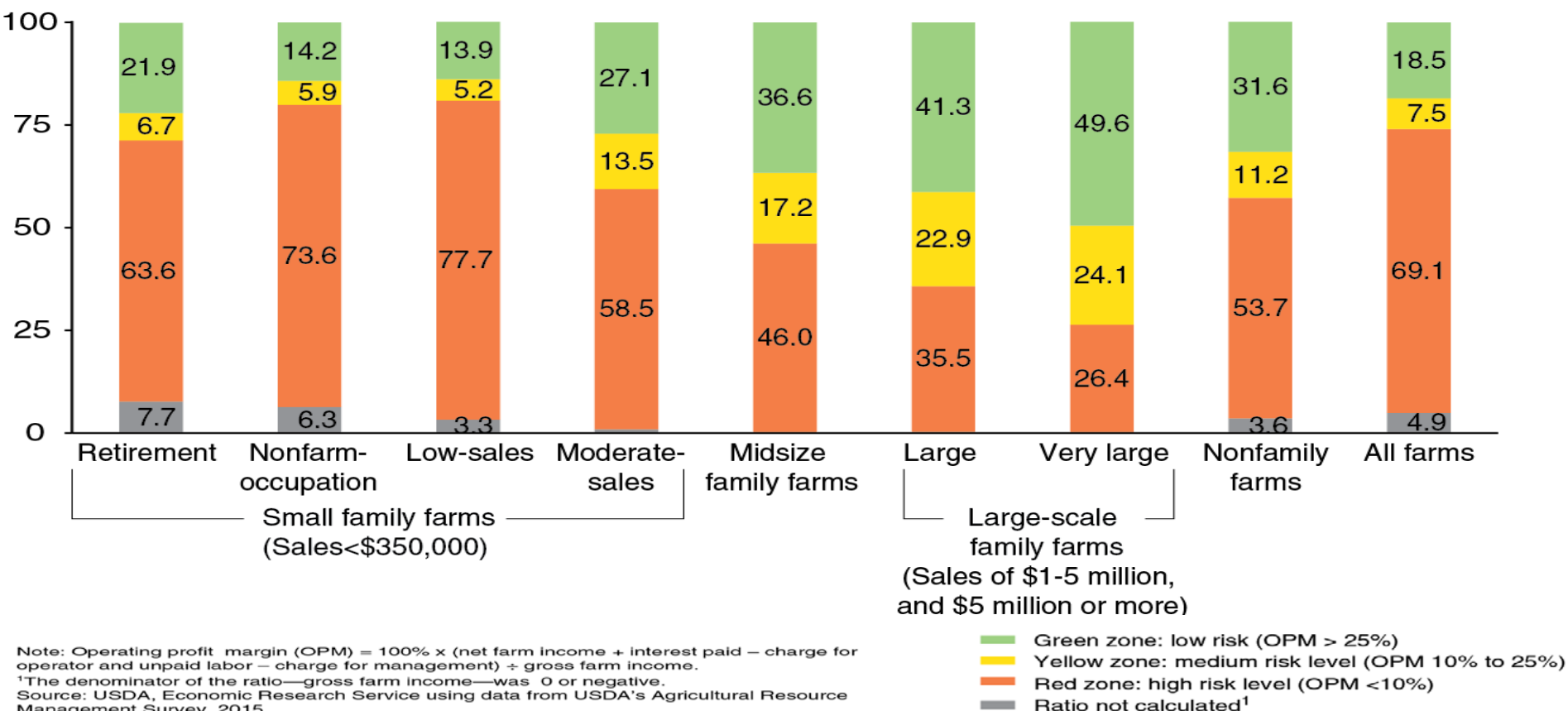
Farms with at least \$1m in sales (2015 \$) had 48 percent of production in 2015, up from 31 percent in 1991

Value of production (percent)

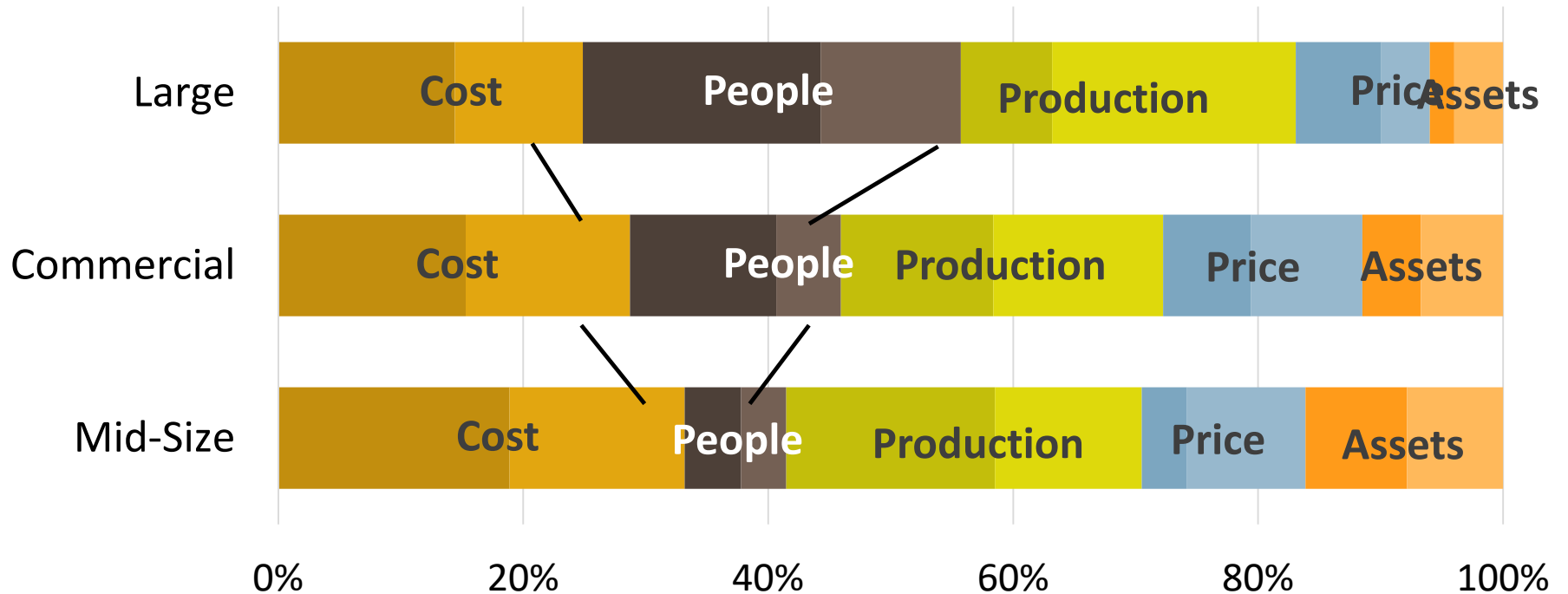


Operating Profit Margins Stronger for Larger Farms

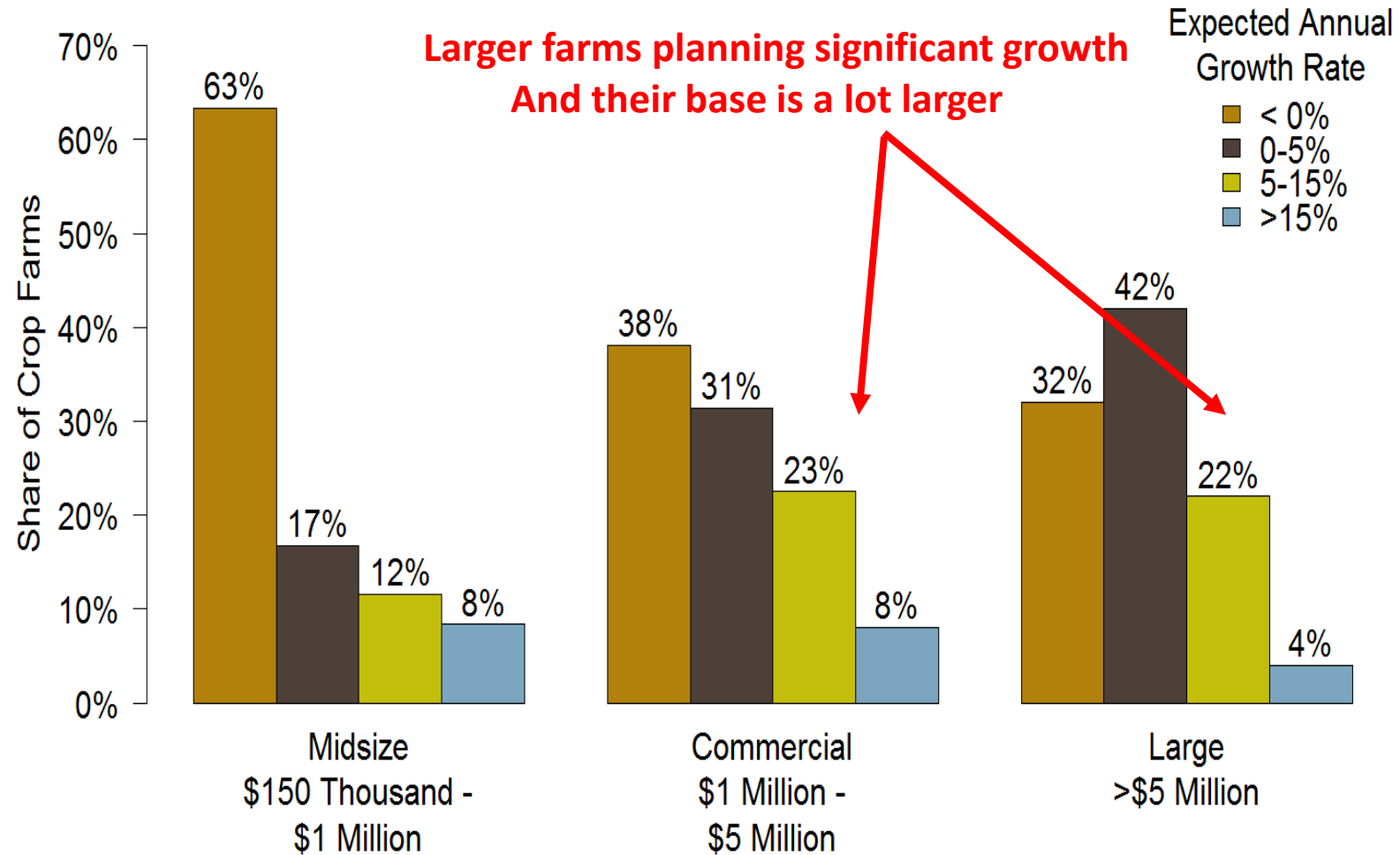
Percent of farms in each group



Management Success Factors By Size



Crop Farm Growth Rate Expectations by Farm Size



**1/3 plan a lot of growth
and they start from
a much larger base**

At The Same Time.....

Pressures For Sustainable Agriculture

Strong and growing pressure
from global food companies
to prove our production
uses sustainable methods

- McDonalds 
- Unilever
- PepsiCo 
- Walmart
- Consumers
- Government regulations



Environmental and Food Safety Concerns Are Becoming Critical To Farmers And Agribusinesses

Government regulations on:

- Leaching of nitrogen and water quality
- Crop protection chemicals
- Spray drift
- Air contamination
- Food safety
- Worker safety

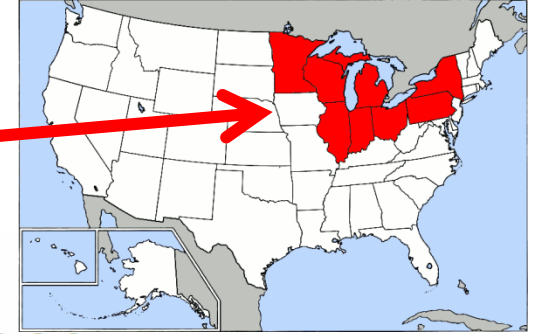
Hypoxia Zone In Gulf of Mexico Creating Big Problems for Farmers



New Water Quality Issues in the USA Great Lakes

August 6, 2014

Toledo's "Do Not Drink" Order Should be a Wake-up Call



Last weekend, the City of Toledo advised its customers against drinking the city's tap water. The municipal ban left 500,000 Toledo and Michigan residents without drinking water for three days, which was contaminated by a toxin produced by an algae bloom in Lake Erie.

The Fertilizer Institute's 4 R's Program

(The Major US Fertilizer Industry Trade Organization)

The Fertilizer Institute (TFI)
has created a very successful program
focused on Nutrient Stewardship called the “4R's”
for farmers and Ag Retailers

- Right Fertilizer
- Right Rate
- Right Time
- Right Placement

Agricultural Retailers Association has created ResponsibleAg Program

Purpose: To Assist Ag Retailers to comply with Health, Safety, and Security rules regarding safe handling and storage of fertilizer products

Demonstrates self regulation and responsible practices

Includes: Self imposed Independent 'Audit' of each facility

Certification: Facility becomes 'Certified' when all elements meet minimum standards

Part II

II. A New Era of Marketing in Agribusiness

Business–To–Business (B2B) Marketing

Business (Industrialized) Markets

- Fewer customers
 - Larger transactions
 - Customized products & pricing
 - Long complex, selling cycle
- and more



Business – To – Business (B2B) Marketing

Business (Industrialized) Markets

- The use of product determines its value
- Brand mean less
- Product innovations are quickly ‘commoditized’
- Differentiation is often based on business and service issues rather than product

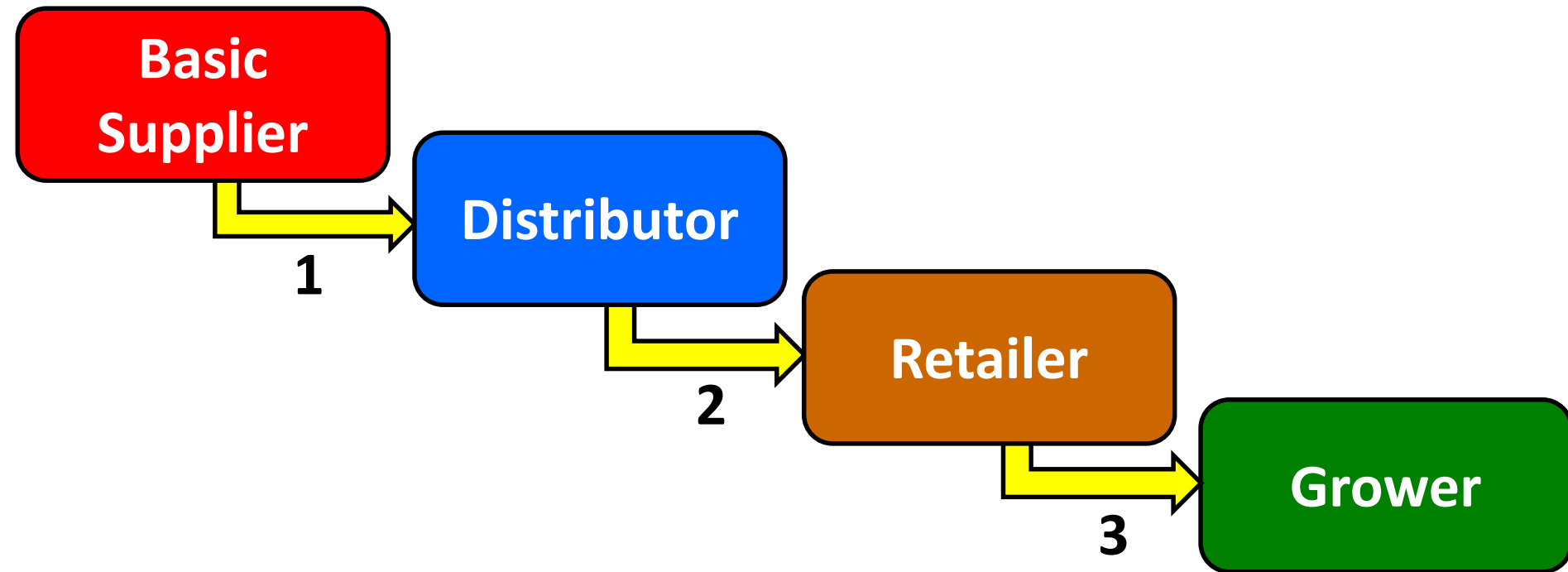


Traditional Distribution Is Vulnerable

- Traditional distribution depends heavily on retailers to create 'added value' for growers
- Some larger, more sophisticated growers may not feel the same need for traditional services to be bundled into the prices of the products
- Some growers may want more 'transparency' in their transactions and worry about what suppliers do with their data
- Smart phones, computers, and the internet create new opportunities for information
- There is a great deal of generational change

Our Traditional Distribution System

Agronomic Inputs have long relied on a three step distribution system



There is mounting pressure to reorganize this distribution system

Will FBN Be A Market Disruption?

Things to consider...Larger farms....

- Are often more sophisticated buyers with different needs
- May need less service and lower prices
- May employ their own technical agronomic resources
- Own a lot of their own equipment.... or can if they choose
- Want more control of their own logistics
- Exhibit Business-to-Business buying behavior
- Don't want to pay for services they don't want or need
- Others prefer to outsource labor intensive services

Strategies for Ag Retailers

- Don't assume FBN does not have traction or enough money
- Don't assume that stories about FBN 'messaging up' means it will fail (All Start-ups are "CLUMSEY" at first and good ones learn from their mistakes)
- Don't overreact ...there a few growers, you would probably better off without!
- Don't ignore the threat...
it may be an important signal
about fundamental changes in the marketplace

The “Trusted Advisor” Relationship Is Alive and Well



III. Implications for Input Suppliers



Understanding How Benefits Create Value Is Critical To Marketing Success

What Are Benefits Really....

*What you do for your customers
that they perceive as valuable
in helping them accomplish
what they want to do*



**Assuming that our customers
understand how our benefits
create value
....is dangerous**

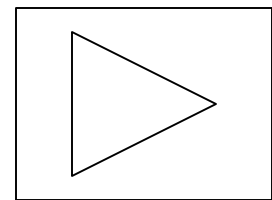
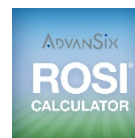


A Look Into The Future

- Long term outlook for fertilizer demand is strong
- Consumers will become still more demanding
- Sustainability and/or Regulations more intense
- Organic production will continue to grow
- Consolidation of Growers
- Global markets and global competition will be intense

Technological Advances in Soil Nutrition Are Rapidly Becoming A Powerful Factor In Productivity and Sustainability

- Sulfur as the forth major plant nutrient
- Controlled Nitrogen Release
- Biologicals Biostimulants
- Micronutrients
- Soil Biology
- Soil Health
- Soil Health's impact on Human Health
- Variable Rate Application
- Variable Rate Seeding



Implications for Input Suppliers

Major pressure on Plant Nutrition suppliers from Growers, Food Companies, and the Public to advance food productivity through coordination with

- Genetic advancements
- Water quantity and quality concerns
- Sustainability driven by consumers and policy
- Economics and public pressures

We must ratchet up R&D of soil health and plant nutrition technology

- Micronutrients
- Biologicals
- Specialty products

The Future Is Bright For Input Suppliers Who Are Willing To Adapt

AgriBusinesses who strive to understand that
their marketplace and their customers
are changing extremely rapidly
and who pro-actively adapt their strategies
are in a strong position to grow and prosper

Those who do it best.....**WIN BIG!!!**

Your Future Is In Your Hands!

