
Public-Private Cooperation in Agricultural Research

Mat Müller

Director, Business Development – Open Innovation Lead

DuPont Pioneer



Agriculture Division

Focusing on Seeds and Crop Protection



The Agriculture Division will offer a complete portfolio of products and technologies, and a robust pipeline of germplasm, traits and crop protection. The combined heritage and complementary capabilities of DuPont Crop Protection, Pioneer and Dow AgroSciences will make the future, intended Agriculture Company stronger, more competitive, and better equipped to deliver growth and value.

Our agricultural innovations will help shape the industry as we respond to important global challenges. Upon completion of the intended separations, the intended Agriculture Company, the intended Agriculture Company will remain committed to sustainable production agriculture, and intends to bring a broader suite of products, technologies and services to the market, faster. In this way, we can serve our customers better - meeting and exceeding their expectations for innovation and helping them to increase productivity and profitability.

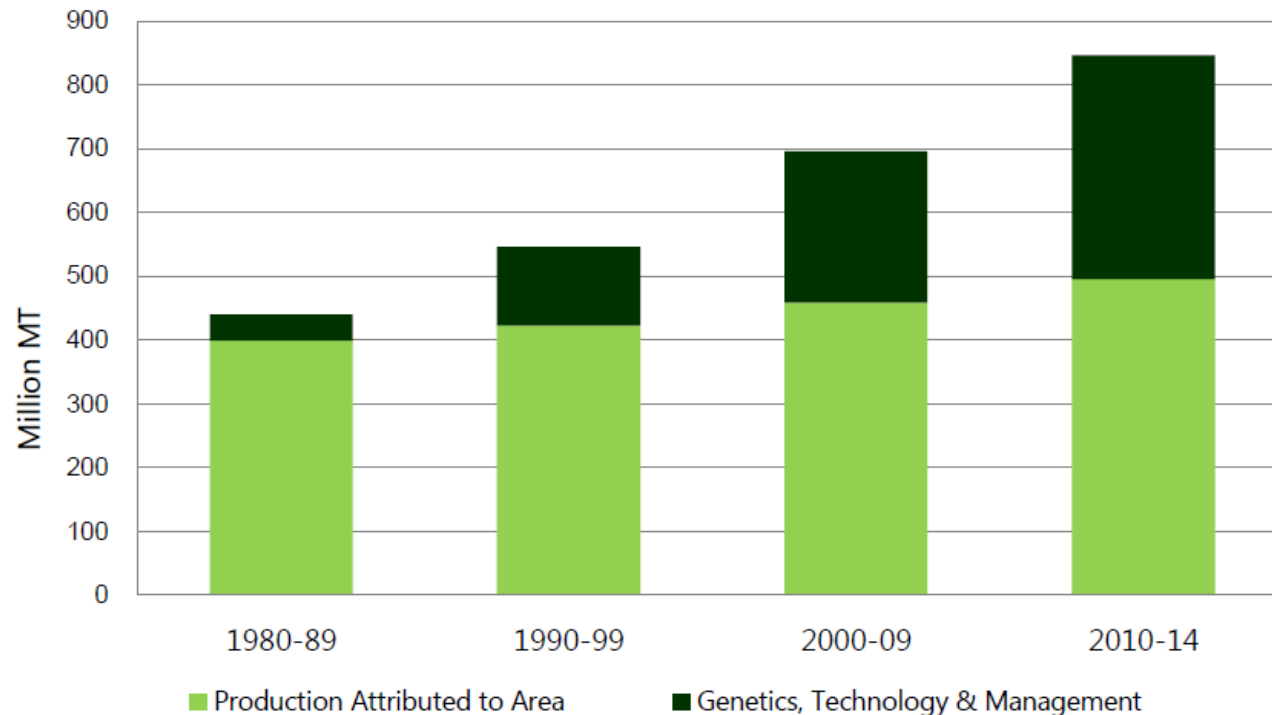
**ENRICHING THE LIVES OF THOSE WHO PRODUCE AND THOSE WHO CONSUME,
ENSURING PROGRESS FOR GENERATIONS TO COME**

THREE DECADES OF PRODUCTIVITY GROWTH



From 1980 to 2014:

- 17% increase in global planted area
- 82% increase in productivity



DuPont Pioneer Marketing Department; from selected world sources: USDA, FAO, Global Insight

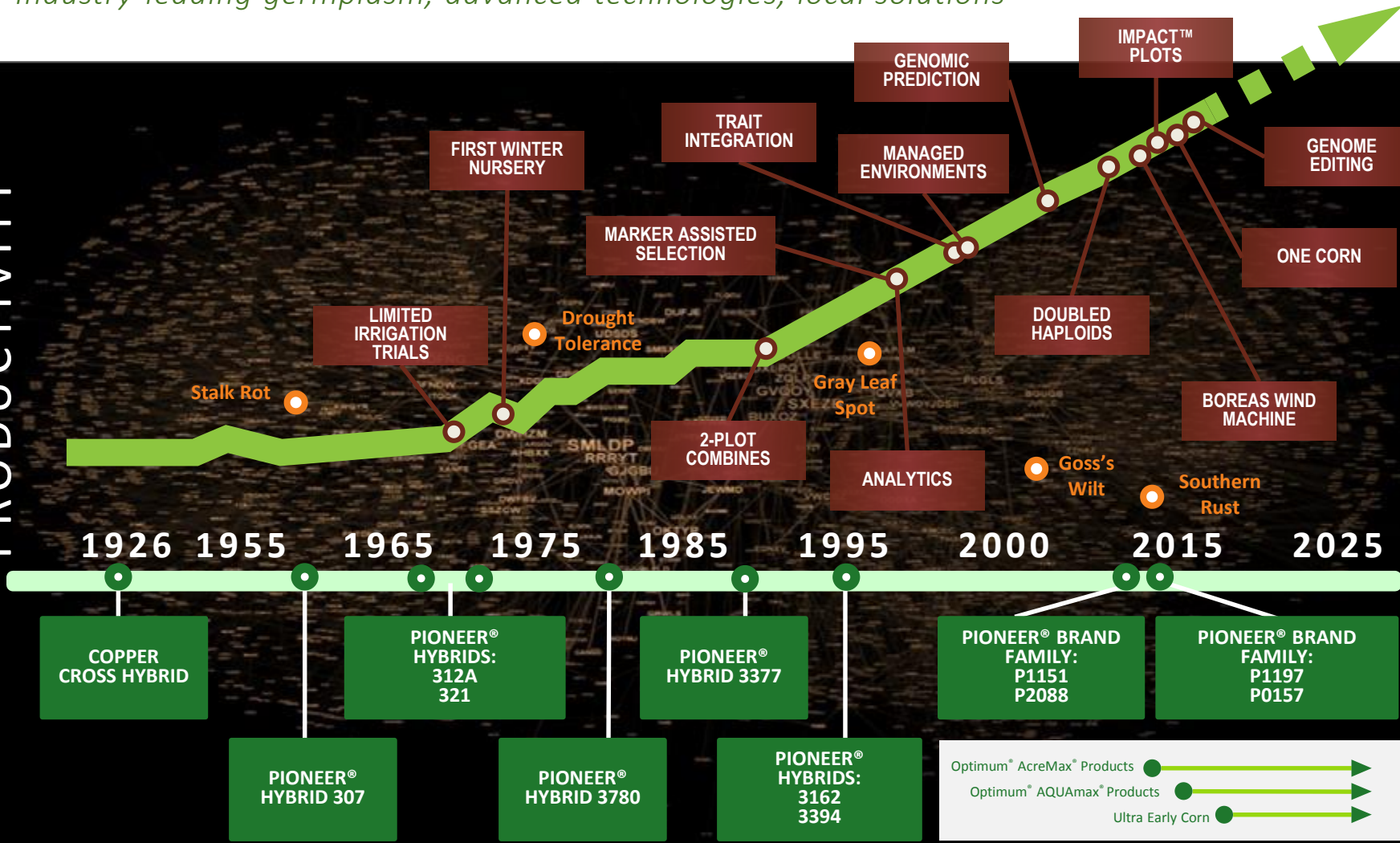


DUPONT PIONEER CORN BREEDING



Industry-leading germplasm, advanced technologies, local solutions

PRODUCTIVITY



EXTENSIVE GERMPASM LIBRARY



SUPERIOR NATIVE TRAITS



ADVANCED ENABLING TECHNOLOGIES & METHODS



RIGHT PRODUCT, RIGHT ACRE

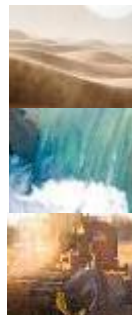
THE NEED FOR CROP PRODUCTIVITY TO MEET CONSUMER DEMAND



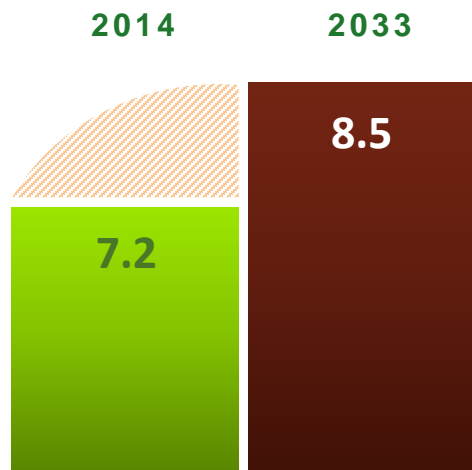
Food demand grows at a dramatic pace. There is immense pressure to do more with less, and be sustainable.



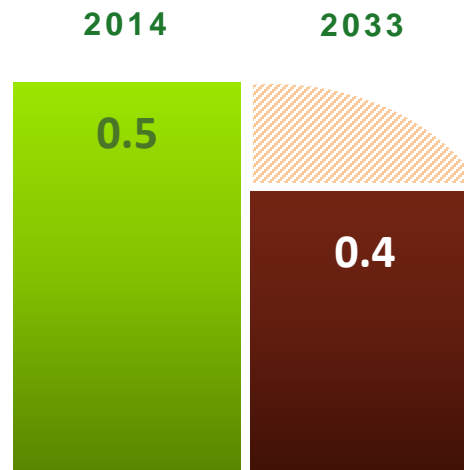
- Must greatly increase production
- Grain yield must increase to meet demand
- Farming pressures - climate, pests, pricing



- Must increase output off arable land
- Must sustainably manage all resources
- Increased fuel and emissions standards



WORLD POPULATION
In Billions, Estimated



GLOBAL ARABLE LAND
*Acres per person**

Data Source: Census Bureau for population figures and FAO for arable land figure.
*Uses 2014 arable land figures for 2033 acres per person calculation

PRODUCTIVITY INCREASES AND CONSUMER DESIRES REQUIRE INNOVATION IN THE AG INDUSTRY



HEALTH & SAFETY



“FREE FROM”
FOOD SOURCES



ENVIRONMENTAL
STEWARDSHIP



KNOWING THE
“FOOD’S STORY”



LESS FOOD WASTE





CROP PRODUCTIVITY	
BREEDING	
CRISPR	
BIOTECH	
CROP PROTECTION	
SEED APPLIED TECHNOLOGY	
DIGITAL SOLUTIONS	
AGRONOMIC SOLUTIONS	

INNOVATION

We believe that through **OPEN INNOVATION** we can innovate at a greater rate and efficiency than we could alone, while demonstrating our commitment to enabling others with access to technology

Our Commitment

Pioneer is committed to transparent communication about its use of technology, and to making such technology available to others through an **OPEN INNOVATION FRAMEWORK** that invites innovators all over the world to contribute to the development of new agricultural solutions.



Our Vision | Focus Areas | Current Opportunities | News & Events



Our website:
openinnovation.pioneer.com



Our Vision



What hasn't changed is our set of core values, and the conviction that our success and that of our customers is dependent on long-term relationships and collaborations.

About Open Innovation

We use the science of the lab and the land to maximize productivity and sustainability of the world's farmland to enhance food security.

We accomplish this through two main strategic approaches:

- Collaborate with thought leaders and innovators around the world to access and develop the most innovative technologies; and
- Rapidly deploying those innovative technologies through organizations that are good stewards of those technologies

We maintain an unwavering commitment to the development and deployment of innovative and sustainable agricultural solutions for the greater good.

"Farmers expect complete solutions for managing their farms and consumers want a plentiful and healthy food supply. At DuPont Pioneer we collaborate with the world's brightest minds in the pursuit of transformational agricultural innovations to meet customer and consumer needs."



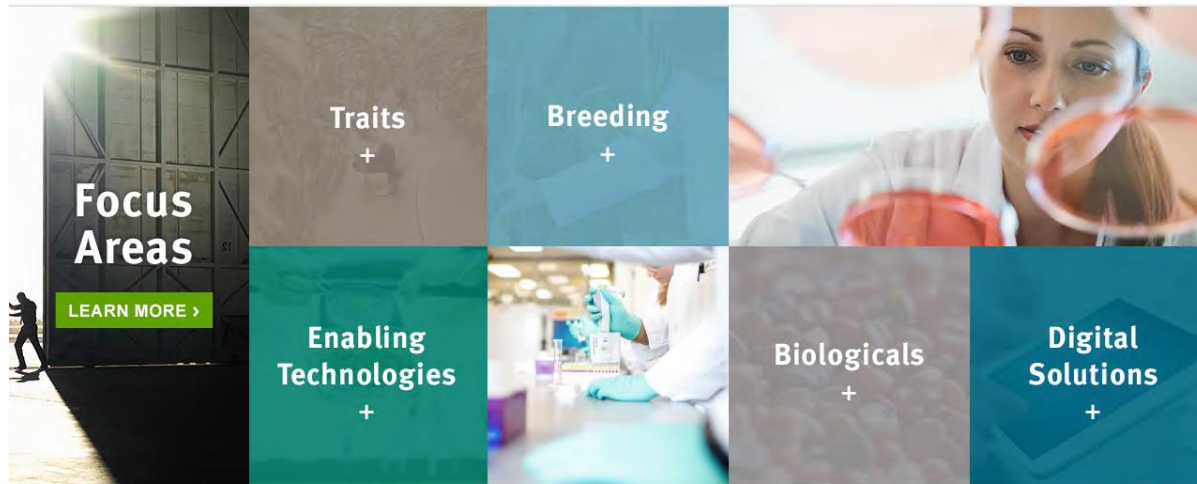
Neal Gutterson
Vice President Research & Development, DuPont Pioneer

"DuPont Pioneer is building on its long history of collaboration to advance science-based customer solutions by enhancing its open innovation strategy"

Neal Gutterson



Our interests are broad...



...we share our expertise and assets

What We Offer

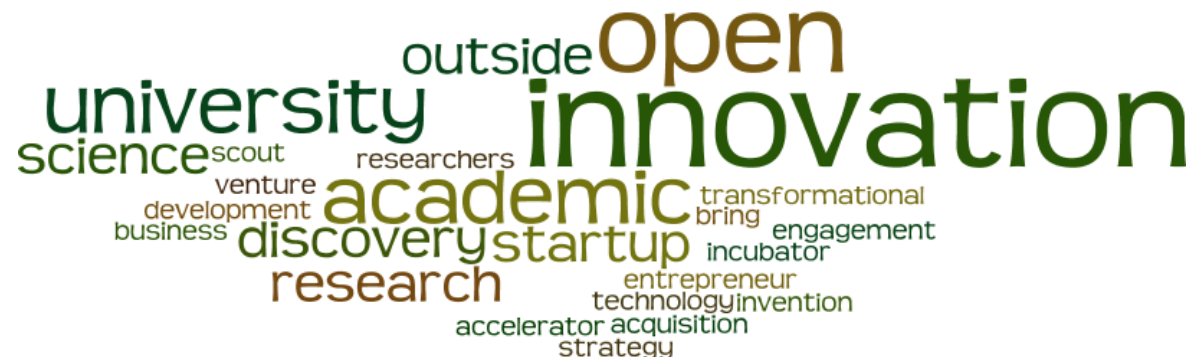
Pioneer has the expertise and resources to help elevate and advance your research. As a chosen partner, you will gain access to a flexible range of industry-leading technology solutions to support your research activities.

SELECT A TECHNOLOGY:

- Germplasm
- Transformation Technologies
- CRISPR-Cas Technology
- Molecular Markers
- Phenotyping Capability



- Academic scientists and academic centers
- Not for profit organizations engaged in food security
- Consumer-oriented startup companies
- Innovation hubs – Incubators and accelerators
- Crowd sourcing organizations
- Industry partners
- Technology startups
- Companies with common interest in technology
- Innovators, globally



OPEN INNOVATION

- We're calling on academia and public research institutes, as well as small and large companies to come together to drive the kind of innovation that will enable us to solve the most pressing challenges in agriculture
- We form alliances between our scientists and innovators to identify, develop and implement **solutions** that address the challenges growers face, and respond to consumer desires
- Key to our open innovation strategy:
 - Intensify collaborations with thought leaders and innovators globally, **while making available germplasm, technologies and knowhow to selected collaborators**
 - **Five areas of focus** for open innovation: traits, plant breeding, enabling technologies, biologicals and digital solutions
- Terms for open innovation projects are tailored on a case-by-case basis

Please join DuPont Pioneer and its open innovation strategy
<https://openinnovation.pioneer.com>