



HM • CLAUSE

Collaboration:
why it is no longer optional
for the seed industry

Matthew M. Johnston
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Our Privileged Life

The luxury of the West

Fat, rich and happy.

Are we content to feign ignorance, or worse, turn a blind eye to the escalating nutritional and health crisis of those less fortunate?

FACTS:

1 billion people are malnourished today!

1/3 of the world's farmers go to bed hungry!



The Challenge:

Sustainably feeding the world's population in 2050

Problems in:

human health
environment
food production

Exacerbated by

growing population
social inequities

Feeding 9 billion people in 2050 is a critical problem and it involves more than growing food.



What about world perspective?

A rising awareness and call to action

- The G20 placed increasing production and productivity on its agenda in 2011
- The FAO's theme for World Food Day is “how to ensure food security in times of crisis”
- China has 500 million farmers and is unable to meet the country's growing demand for grains, soy beans and other commodities
- India is home to one fourth of the world's “hungry” poor and where one third of children suffer from malnutrition



What about the U.S. perspective?

Presidential Report Calls for New “Innovation Ecosystem” for Agricultural Research

Report to the President on Agriculture Preparedness & the United States Agricultural Research Enterprise

Prioritizes seven top scientific challenges facing agriculture

And calls for expanded investment:
in the land grant university system
in research grants; public and private
in a broadening of the “Public/Private”
collaboration

www.whitehouse.gov/ostp/pcast



Complex Problem

Food, health, environment and socioeconomics are intertwined

Intellectual Property rights:

**required to support investment
finding ways to balance our needs**

Volatility in commodity and produce prices:

**puts our farmers at risk
innovation in our industry contributes to
this volatility**

Metric ton of wheat has 41 transactions

How to smooth the affect of productivity gains...?

What about food security for a nation?

not only a “production” problem...

***A complex problem, involving
complex systems***



How to solve a complex problem?

No company, much less a single industry, can solve it alone.

Systems thinking and collaborative approaches are required to solve complex problems.

**Partnerships and Collaborations should intertwine
AND
be transversal across systems and disciplines!**

But, where will scientists and leaders comfortable with complexity come from?

They should come from the Seed Industry!

To borrow from American Seed Trade Association:

“First the Seed”

The seed is the origin for life.

We affect the food system from planting to consumption and personally touch every nation and culture.

Therefore, we are uniquely positioned to lead.



Challenges to our effort to sustainably feed the world

Our Challenges are not each other...

Rather:

Trade barriers

Regulatory restrictions

Nationalistic behavior in the name of food security

Ignorance; about technology, food production, world hunger

Special Interest Groups

The greens

The environmentalists

The “dogmatic elitists” within the organic movement

Those fearful of science and innovation

Population control theorists



Our Challenge is Our Opportunity

*Let's collaborate in visionary,
bold and innovative ways.*

*Building upon our individual strengths
and collaborative synergies for mutual benefit
and the greater good of sustainably
feeding the world*



Can any company truly succeed alone?

Germ Plasm

Widely distributed

All collections were assembled in pieces and over time

Significant contributions from public research

Plant Breeding

Always starts from “pre existing” plants

Can only start with and from genetic variation

Is an Incremental process

Regulatory

Hurdles and compliance require coordinated response





Better together

To meet growing food needs and evolving horticultural challenges, in the context of regulatory hurdles and a sophisticated opposition, we're better together.

Collaboration

Some successful examples:

- Associations
- Vegetable and Flower Emerging Issues Working Group
- Anti Infringement Bureau
- ISHI
- ISTA
- Collaboration for Plant Pathogen Strain Identification

Mostly, we focus on trade and regulatory issues...





Collaboration

What about some new approaches?

*Where we can think about our individual interests
in the context of a common goal; sustainably
feeding the world's growing population...*

A very good start

Seed Biotech Center

- Plant Breeding Academy
- Seed Business 101
- Syndicated research projects

Seed Central

- CPPSI project
- Vegetable Research Managers Forum



Seed CentralSM

An initiative of the Seed Biotechnology Center at UC Davis and SeedQuest

Seed Central members

Agribusiness Associates
Arcadia Biosciences
BHN Research
Chia Tai Group
Dow AgroSciences
East West Seed Company
Enza Zaden
Eurofins STA Laboratories
Forage Genetics
Germaines Seed Technology
Harris Moran Seed Company
Heinzseed
INCOTEC
Jondle & Associates
LGC Genomics
Magnum Seeds Inc.
Marrone Bio Innovations
Morrison & Foerster LLP
Monsanto Company
North Valley Bank
Nunhems USA Inc.
Pop Vriend Research BV
Rijk Zwaan
Sakata Seed America
Syngenta Seeds Inc.
Takii & Co.
VoloAgri

Seed Central
Advisory
Board

Seed Central

California
non-profit
mutual benefit
corporation

Agreement
with UC Davis
(CAPP)

**Seed Central
facilitates
communication
between industry and
university
&
research collaboration**

Seed Central

A Great Example of our Collaboration!

An avenue for ideas to develop

A platform for collaboration

A means to create value

for ourselves

for our industry

for those in need

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**Members
and Growing**

A Healthy Seed Industry

Critical for meeting the world's food needs

“First the Seed”

Genetic diversity is critical, therefore industry diversity is critical

If Seed is the origin for life, then a healthy seed industry is critical



A Healthy Seed Industry

A Rising Tide Lifts All Ships

And when our individual ships are lifted, we will be able to contribute exponentially to feeding the world together.



Collaboration

why it is no longer optional for the seed industry

Industry
Academia
Students

We have an opportunity and an obligation to lead. Solving this complex problem requires our collaboration and leadership!





LET'S REFLECT...

**QUESTIONS &
DISCUSSION**



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