Learn to Develop Engaging STEM Lessons in Less Than 60 Minutes

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Monsanto Company
Agenda

• Introductions
• Case Study 1
• Case Study 2
• Your Turn
• Resources
Val Bayes
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Anticipatory Set
HAMSTER
Rising Population

Growing enough for a growing world

Global Population

Source: http://www.fao.org/3/a-i6881e.pdf

Limited Farmland

 Farmers will need to produce enough food with fewer resources to support our world population

Acres per Person

Source: The World Bank, Food and Agriculture Organization of the United Nations (FAO-STAT), Monsanto Internal Calculations
Early 1900's:
30 bu/a
20' X 73'

Ca. 1980:
100 bu/a
10' X 44'

Modern Day:
150 bu/a
10' X 29'

300 bu/a
10' X 22'

250 bu/a
10' X 17.5'

300 bu/a
10' X 14.5'

400 bu/a
10' X 11'

Historic U.S. Average Corn Yields

Future Corn Yields

Source: USDA Averages

bu/a = Bushels per Acre

Sustainable Agriculture
Where We Have Been and Where We Are Going
Monsanto is a Global Leader in Modern Agriculture

• **We produce seeds** for key crops and vegetables that help farmers have better harvests while using energy, water and land more efficiently

• **We provide solutions** that help farmers around the world maintain soil health, improve practices and minimize damage from pests and disease

• **We drive innovation** through collaborations and partnerships that tackle some of the world’s biggest challenges
A grower makes 40+ key decisions each growing season. Developing Solutions for Farmers.
What is lurking in the fields of Brazil?
Problem
Let’s try this again...
Problem

Current Process

- Labor and time intensive
- Large Land Requirement
- Room for Human Error
Monsanto’s Solution

250 Leaf Tissue Projects

250 Seed Chip Projects
Seed Chipper
Now, it’s your turn...
How can we...

- Decrease the direct instruction lessons
- Move away from “careers” and focus on what problems there are to solve
- Empower all teachers to DO this
- Work with other disciplines
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