

Why is agricultural education important?

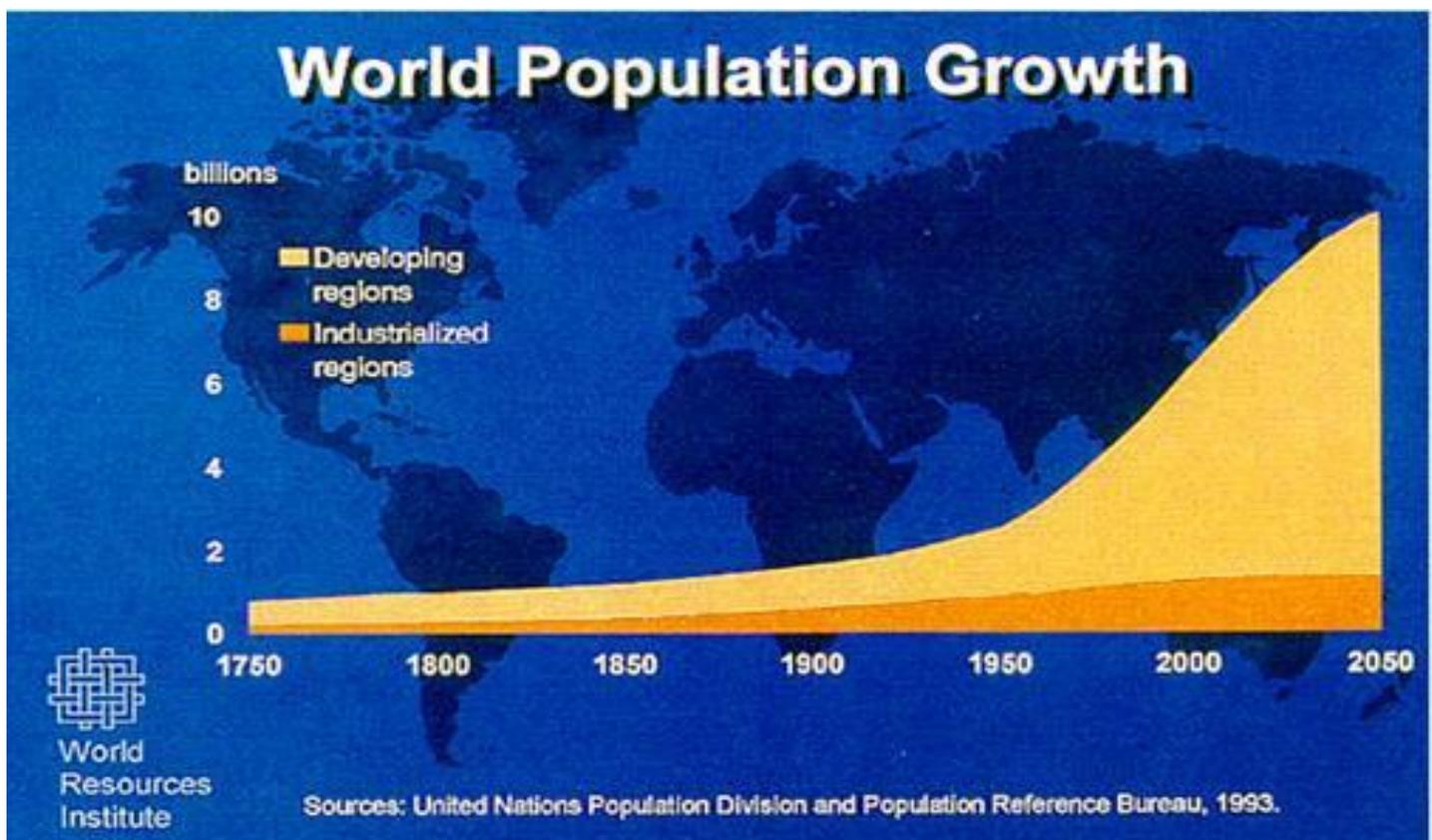
Major Points to Consider in Preventing a Perfect Storm

This is not an emotional issue, though some will try to make it an emotional issue. A logical analysis of world data leads some to be concerned about the potential loss of a significant number of people with agricultural knowledge and skills.

Some scientists and economic analysts warn of a perfect storm. In the not so distant future, the following factors may pose serious threats to the world civilization (Note: Both of my kids will be younger than 60 years of age by the year 2050.):

1. Growing World Population

(from World Resources Institute)



History of World Population

1750 approximately 1 billion people

1950 approximately 2 billion people

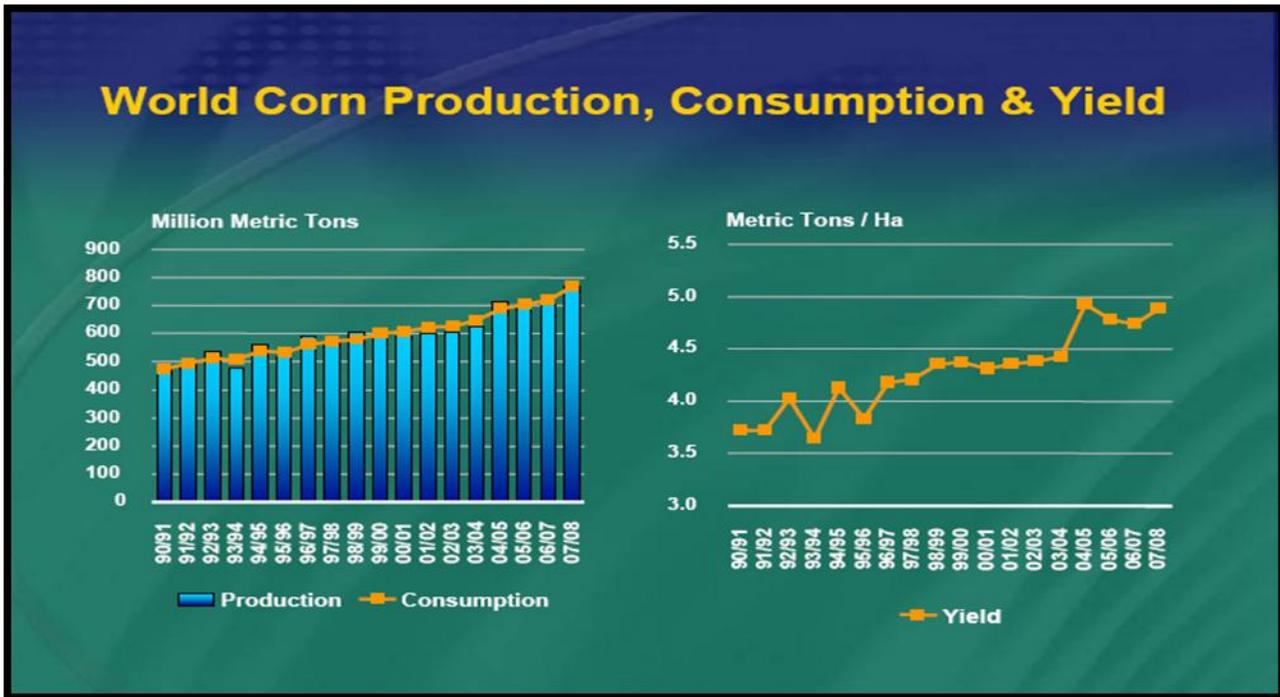
2000 approximately 6 billion people

2050 estimated 10 billion people

At current world populations, millions of people do not have enough to eat. With far more people by 2050, far more people would be faced with starvation.

2. Threatened World Food Supply

(from Channel Bio/Monsanto)



Over the past 20 years, world corn production has closely matched world corn consumption. Corn is utilized to feed livestock, feed humans and produce biofuels. The thought of evolving to a point where demand permanently outstrips supply is scary.

To meet future demands for food and renewable energy; Iowa, the United States, and the world will need a constant supply of people with agricultural knowledge and skills. Granted, with larger farm equipment, and low cost fossil fuels the number of acres an average farmer can farm has increased significantly. This increase in productivity has decreased the number of people needed to serve society as farmers. Corn production has also increased because of enhancements in genetics.

Insert sarcasm: Eating tubas and/or footballs will not satisfy starving people. Starving people can only survive with food; not love, music, or money; yet agriculture is sometimes viewed as unimportant. Food, water, and sometimes shelter, are the only requirements to live.

3. More Urban than Rural Population

(from gizmag.com)

The last century has seen the rapid urbanization of the world's population, as the global proportion of urban population rose from 13% (220 million) in 1900, to 29% (732 million) in 1950, to 49% (3.2 billion) in 2005. **By 2050 over 6 billion people, two thirds of humanity, will be living in towns and cities.**

I may be overlooking something, but the last time I looked, urbanites do not produce large volumes of crops or livestock in the city. Obviously, the vast majority of food is produced in rural areas by a shrinking number of people.

In the old days, when a vast majority of the population lived in rural areas, waste management was not much of a concern.

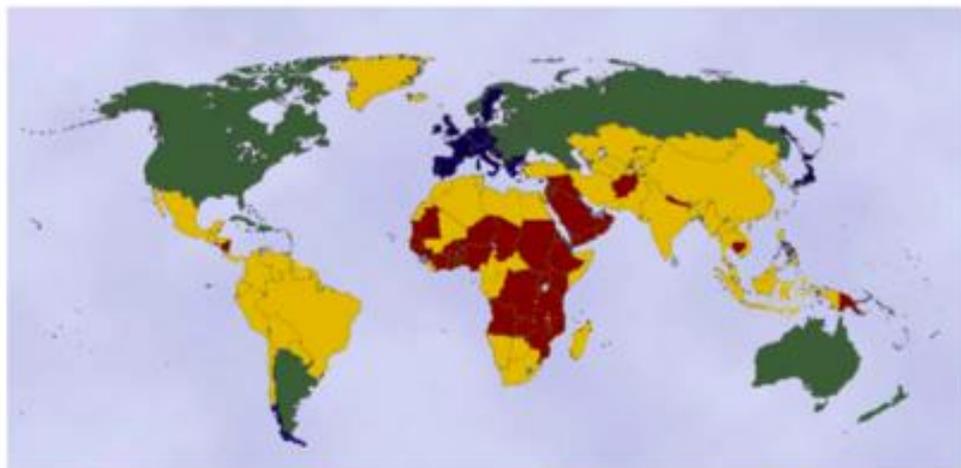
4. Increasing Life Expectancy

As life expectancy increases, a smaller percentage of the world population will be at ages well-suited for physical labor. A smaller overall percentage of the population will be physically able to grow food for themselves. As life expectancy increases, the number of people living on the planet will grow.

As people live longer, and the world population grows, the world will need more total food resources. If hunger becomes widespread, wars may become widespread.

(from Channel Bio)

In 2000, A Fairly “Young” World ...



■ Under 5% ■ 5% to 12.4% ■ 12.5% to 20% ■ Above 20%

*Percent of Population Age 60+
2000*

Source: U.S. Census Bureau

... Rapidly Aging by 2017



Under 5% 5% to 12.4% 12.5% to 20% Above 20%

*Percent of Population Age 60+
2017*

Source: U.S. Census Bureau

5. Growing Energy Demand

(from Wikipedia)

World energy consumption was growing about 2.3% per year. At that rate of growth and at the current world population, the world would need roughly 92% more energy than today. Analysts assume energy demands will grow with a growing world population.

Fossil fuels are non-renewable resources because they take millions of years to form, and reserves are being depleted much faster than new ones are being formed. The production and use of fossil fuels raise environmental concerns. A global movement toward the generation of renewable energy is therefore under way to help meet increased energy needs

As gasoline prices spiked in the fall of 2007, we saw a significant increase in the demand for corn to be used to produce biofuels. In some parts of the world, humans and animals were competing for corn; humans for fuel and animals for feed. The demands for renewable sources of energy are predicted to grow significantly. Humankind may not have time to wait a few million years for more fossil fuels to be created.

6. Iowa a Renewable Energy Mecca

a. Plant-based Solar Panels: Fossil-fuel is essentially energy that has been stored from the sun. Solar-panels are effective tools for harvesting energy from the sun. In all states, plants far out-number solar panels. Iowa ranks #1 in corn production and #2 in soybean production. Iowa therefore ranks very high in the number of plant-based solar panels. Of course it takes humans to produce and harvest the energy collected from the sun by these plants.

b. Ruminant Solar Panels

Ruminants are unique because the microbes in their gut allow them to digest lignin, which humans and other non-ruminant animals cannot effectively digest. By utilizing bacteria to digest lignin (fiber), ruminants such as cattle, collect energy from the sun via plant fiber.

c. Wind Energy: In the United States, Iowa ranks #2 in potential for electricity generated from wind energy. Most wind turbines operate above farmland. Agriculture production and wind-energy can work together to feed and energize a growing, aging world.

A Perfect Storm

Unless, humankind can more effectively harvest energy from the sun through solar-collection via plants and animals the combination of: 1) a growing world population, 2) a world food supply that will become more challenged, 3) an increased life expectancy, 4) growing world energy demand, and 5) an increasing demand for renewable resources; spell disaster for the world as we know it.

Without people who possess the knowledge and skills to serve as agriculturalists, our future may not be bright. Peaceful people/nations will fight/kill to obtain food and energy.

Society may be prepared to avoid human disaster if we have a significant number of people who are educated to collect food and energy via agriculture.

A Perfect Learning Environment

Contextual Learning: Much research supports the value of contextual learning. Agricultural education can help students understand and retain academic knowledge. Brain-research supports the value of applying learning a real-world context. A small percentage of students learn best by learning in an abstract, theoretical environment. A majority of students learn abstract concepts best, when taught in a setting in which they can see and apply what they are being learning.

How many times have you asked, "Could you show me?"

I suspect many, many times. A majority of people learn best by seeing and doing, rather than merely reading or listening to a lecture.

Agriculture was the key development that led to the rise of human civilization, with the husbandry of domesticated animals and plants (i.e. crops) creating food surpluses that enabled the development of more densely populated and stratified societies. Unless we want to see human civilization declining, and more people starving we cannot allow agricultural knowledge and skills to become obsolete.

FFA is a tool, to entice students to learn more through competitive events. It also provides opportunities for students to learn about leadership by being involved in a student-led student organization. Participation in FFA also helps students become problem-solvers. FFA is connected with agricultural education programs.

No Ag Ed = No FFA = Fewer Agricultural Leaders

Quote from Norman Borlaug, October 2002

"If you are well-fed you have many thoughts, if you are starving you have only one."

Educational programs are often jeopardized by lack of funding. If society allows education about agriculture to die because of money, society may not survive to spend it money.