

Michigan Agriculture Utilizing our Natural Advantage

The Great Lakes Advancing Knowledge and Improvement
March 10, 2015



Michigan Department of Agriculture & Rural Development

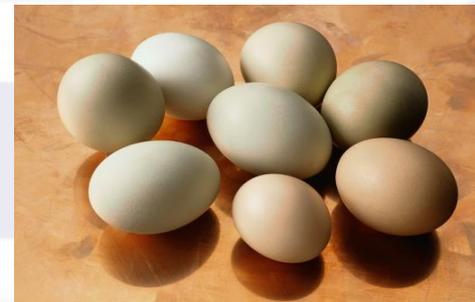
Director Jamie Clover Adams



Global Population Growth

**Global population currently about 7 billion.
Expected to reach 9.5 billion by 2050 (36% ↑)**

- 158 new mouths to feed every minute – 97% are outside the US
- World won't just have more people – older & wealthier; average income per capita expected to triple
- Transitioning to higher protein diet requires more water
- Food production must increase by 70% to meet growing demand; only 10-15% more land available





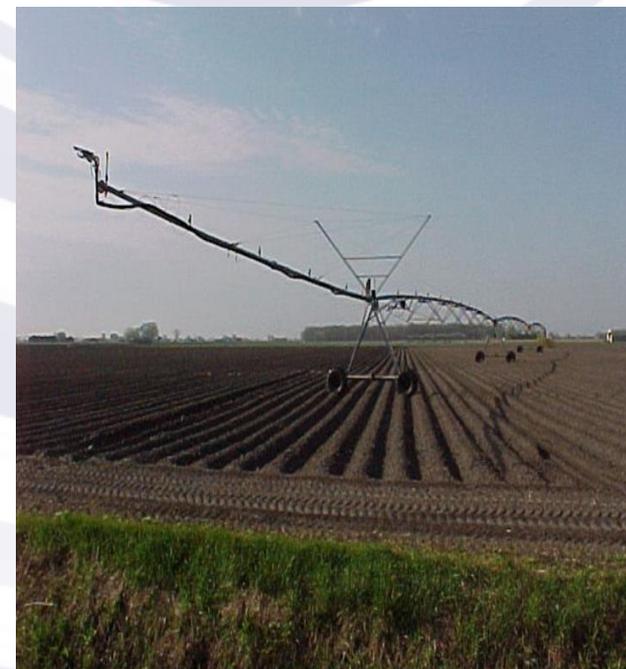
Global Water Use

- Need about 1300 m³ per person/year (343,400 gallons)
 - 600 m³ per person for a standard diet (158,500 gallons)
- 72% of global water withdrawals are for irrigation (food production)
 - 90% in developed or developing countries
- 18% of world's crops are irrigated but produce 40% of the food
- To keep pace with growing demand, estimate 14% more freshwater will be needed for food production in the next 30 years.



Ag Water Use in Michigan

- 1,430 farmers reporting
- Average 96.2 billion gallons per year
- 3.52 million acre-inches per year
- Enough to cover 35% of all Michigan ag land 1 inch deep
- Irrigation in Michigan is supplemental to regular rainfall





Manage Challenges

- Already seeing irrigation in areas where it hasn't been before and in some cases is causing impacts on other well owners.
- Limited data; implications for the Water Withdrawal Assessment Tool
- Prediction of negative ecosystem impacts in some places like headwaters.
- Excessive groundwater use in one place has caused salt water intrusion in an aquifer.



Manage Challenges

- ❧ Michigan needs a better water conservation effort
- ❧ Agriculture needs to get back to better Irrigation Water Management
 - ❧ Real time irrigation scheduling
 - ❧ Irrigation system evaluation for uniformity
 - ❧ Measuring soil moisture levels
- ❧ There is a need to adopt new technologies to reduce water use including cultural practices and new genetics



Michigan Advantage

-  **Diverse Agricultural Opportunity**
 -  20% of world's fresh water
 -  High quality soil and great climate
 -  Industry with the ability to innovate
-  **Diverse and Healthy Ecosystems**
-  **Diverse Recreation**



The Future is Bright

-  Michigan Agriculture can help meet world food demand
-  Efficiency, genetics, technology, irrigation and robust trade are all needed
-  A Great Place to Live, Work, and Play!

Questions?



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