

**WATER:**

**KENTUCKY  
AGRICULTURE'S  
GREATEST  
COMPETITIVE  
ADVANTAGE**



# THANK YOU

## Kentucky Agriculture Science & Monitoring Committee

- Pete Cinotto, Stu Foster, KASMC members
- KASMC has been critically important to Kentucky agriculture
- Not many states have positive ag industry and government cooperation on water issues



# OVERVIEW

*Presentation for Kentucky Ag  
Science & Monitoring  
Committee Oct. 27, 2016*

Brent Burchett, Director,  
Division of Value-Added Plant  
Production, Kentucky  
Department of Agriculture

- Role of KDA on Water Issues
- Challenges for KY Ag & Water Leaders
- Kentucky Agriculture is Prioritizing Water
- Why Should Ag Invest in Water Research?
- Kentucky Ag Industry, Water Trends
- Opportunities for Kentucky Ag



# KENTUCKY DEPARTMENT OF AGRICULTURE

## COMMISSIONER RYAN QUARLES

### Expanded Role for KDA on Water Issues

- KDA is Represented on the Kentucky Ag Water Quality Authority, Kentucky Water Resources Board, Kentucky Association of Conservation Districts, and Other Groups
- Improve Farmer Adoption of BMPs, Updated Water Quality Plans
- Support Farmer Communication and Outreach on Drought, Flooding, or Water Quality Issues
- Connect Farmers and Regulators to Protect Ag and the Environment
- Advocate for Investments in Water Quality and Water Quantity Programs and Research



# CHALLENGES FOR KY AG & WATER LEADERS

## **Finding Funds, Putting Data to Work for the Environment and Farmers**

- Maintaining water availability with increasing ag and non-ag demands
- Financially sustaining water quality and quantity monitoring long-term
- Increasing farmer implementation of Best Management Practices
- Preparing for inevitable water quantity or quality issues with agriculture
- Collaborating across local, state and federal government agencies
- Equipping local leaders with an understanding of water's role in agricultural economic development and the need to prioritize water management



# KY AGRICULTURE IS PRIORITIZING WATER

**KENTUCKY WATER  
RESOURCE BOARD**

**KENTUCKY AG WATER  
QUALITY AUTHORITY**

**KY FARM BUREAU WATER  
MGMT. WORKING GROUP**

Investing in Research, Collaborating on Water Strategy,  
Encouraging Adoption of BMPs, Economic & Environmental Sustainability

**KY COMMODITY GROUPS,  
LOCAL AG LEADERS**

**KENTUCKY AG SCIENCE &  
MONITORING COMMITTEE**

**UNIVERSITIES, EXTENSION,  
GOVERNMENT AGENCIES**



# WHY SHOULD AG INVEST IN WATER RESEARCH?

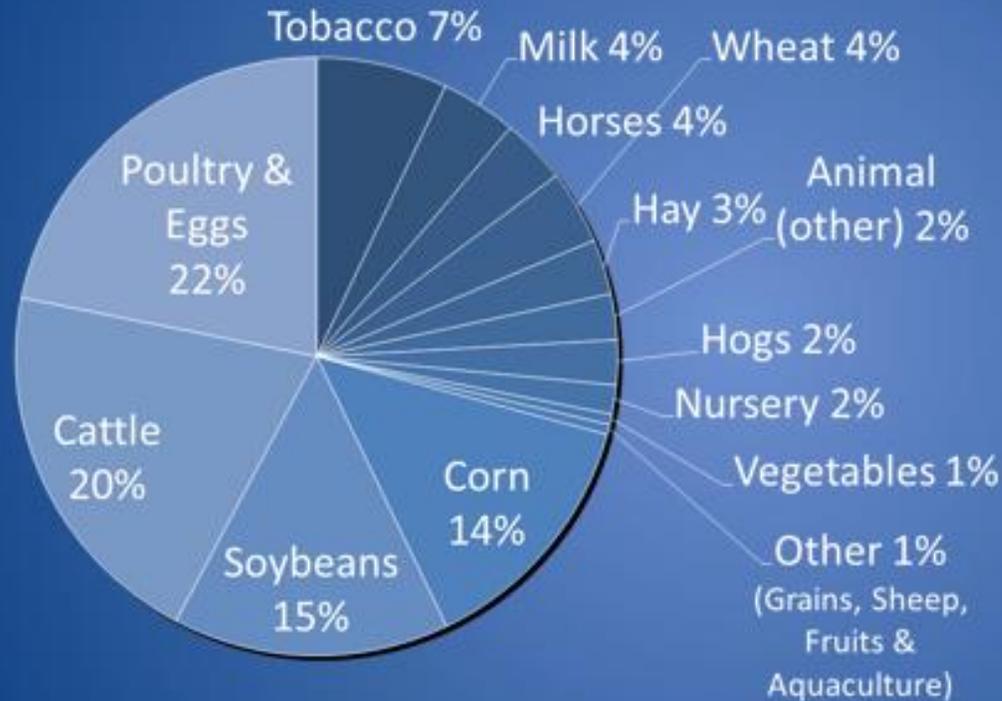
- Supply: To ensure we have enough water for livestock, poultry and crop irrigation
  - Expected growth in number of Kentucky poultry and dairy farms
  - Kentucky irrigated crop acres expected to increase
- Environmental: To understand issues that could harm the environment and lead to regulation
- Marketing: Demonstrating conservation practices is an increasingly marketable asset
  - Example: Water footprint info printed on food labels or factored into a “sustainability report card”
- Agronomic/Efficiency: Better water management saves money and improves yields
- Economic Development: Understanding water resources and having data on water usage and capacities helps attract new agribusiness recruitment and expand family farms

# KY AG INDUSTRY

In 2015, KY farmers sold:

- \$1 billion poultry & eggs
- \$1 billion cattle
- \$850 million corn
- \$815 million soybeans
- \$680 million hay
- \$200 million dairy
- \$310 million tobacco

Share of Kentucky Agricultural Sales by Commodity



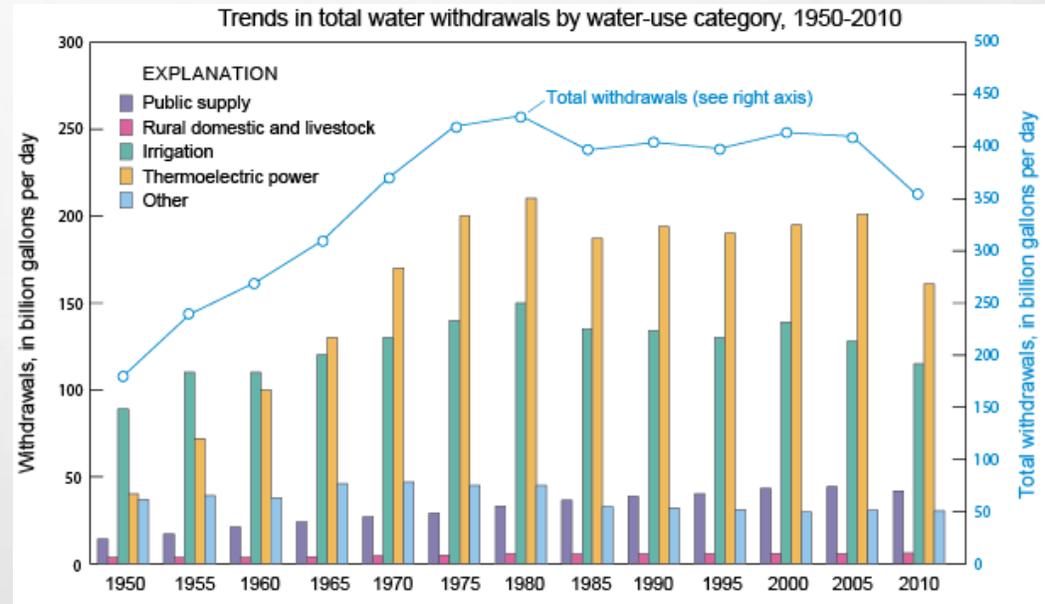
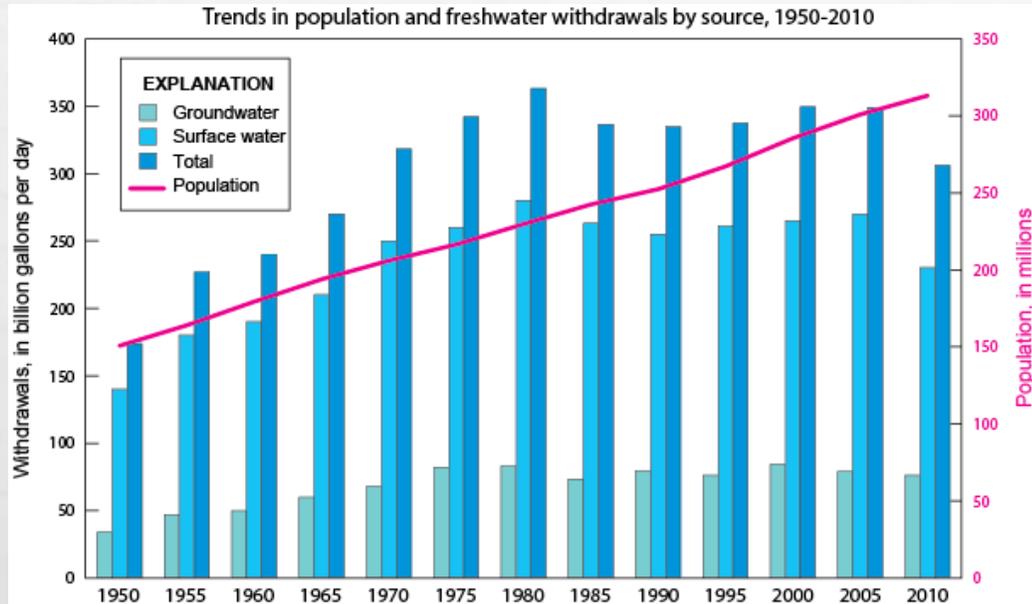
National Rankings of Kentucky Commodities	
<b>CROPS (Acres)</b>	<b>RANK</b>
Corn	14
Soybeans	16
Wheat	19
<b>LIVESTOCK (Inventory)</b>	<b>RANK</b>
Poultry (Broilers)	8
Poultry (Layers)	21
Cattle & Calves	14
Hogs	18
<b>TOTAL VALUE OF PRODUCTS</b>	<b>RANK</b>
CROPS	26
LIVESTOCK	24
ALL	27

SOURCE: USDA NASS - 2012 Census of Agriculture - "Value of Sales by Commodity Group," "Market Value of Agricultural Products Sold," and "Top Crop Items."

KENTUCKY'S AGRICULTURAL ECONOMY IS KENTUCKY'S RURAL ECONOMY!



# WATER USE IS INCREASING



(Source: Maupin, M.A., Kenny, J.F., Hutson, S.S., Lovelace, J.K., Barber, N.L., and Linsey, K.S., 2014, Estimated use of water in the United States in 2010: U.S. Geological Survey Circular 1405, 56 p., <http://pubs.usgs.gov/circ/1405/>.)

# IRRIGATION USE IN KY IS INCREASING

Kentucky Total Irrigated Acres = 73,573 (25 percent increase over 2007)

- Corn – (2.1% of corn acreage) - increase of 41 percent over 2007
- Tobacco – (14.5% of Tobacco acreage) – decrease of 9 percent from 2007
- Soybean – (1.1% of Soybean acreage) – increase of 63 percent over 2007

*Certain parts of the state may not be as well suited to meet irrigation demands as others*



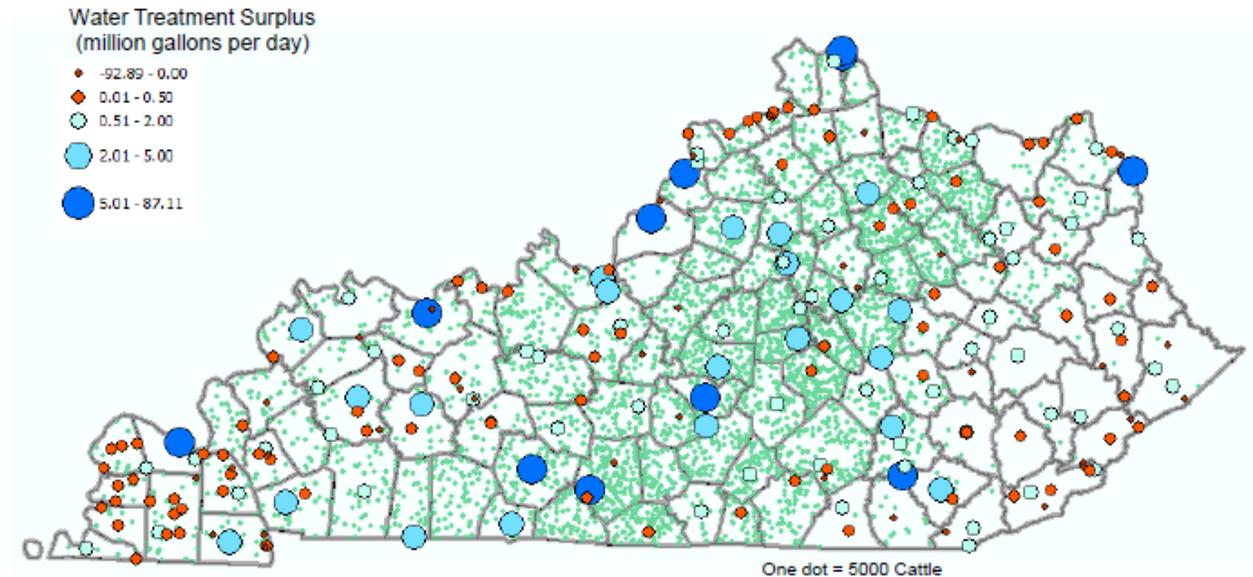
Source: 2012 USDA Census of Agriculture

# OPPORTUNITIES FOR KY AG

## Economic Development

- Understanding our state water resources is key to long-term growth of Kentucky's ag industry
- Water availability differentiates Kentucky
  - Anecdotal evidence: Hemp industry
- We need to know where water availability MAY be a challenge
- EXAMPLE: Mapping areas of water surplus and livestock concentration
  - Map taken from Bill Caldwell 8/29/16 presentation to Water Resources Board

## Water Surplus and Livestock Demand (Cattle)



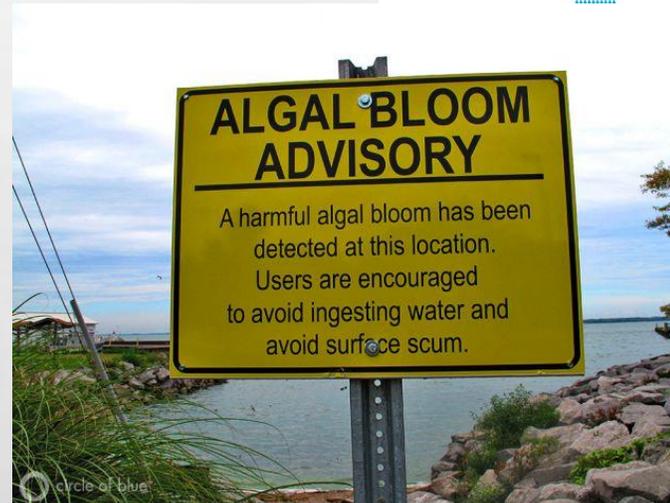
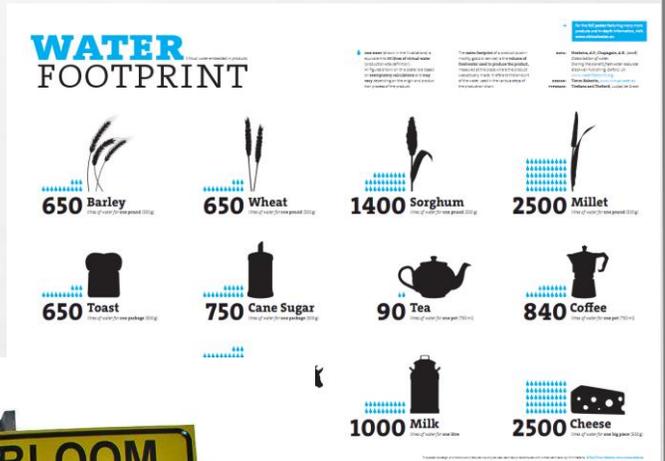
# OPPORTUNITIES FOR KY AG

## Environmental

- Agriculture may be blamed during drought periods for water shortages, data helps show actual usage
- Water quality issues like harmful algae blooms, Gulf Hypoxia Zone, Des Moines Water Works lawsuit
- If farmers know they are causing a problem, they genuinely want to correct it

## Marketing

- Water footprint will increasingly be measured and marketed by food companies
- Farmers that can demonstrate sustainability will make more \$



# HOW DOES KY AG KEEP AHEAD OF WATER QUALITY AND WATER QUANTITY ISSUES?

1. Maintaining positive relationships with water regulators and researchers
2. Helping farmers adapt and improve practices
3. Sustaining hydrologic monitoring networks
4. Making data valuable to stakeholders and relevant to farmers

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