

Ethanol Impacts on Kansas Grain Production

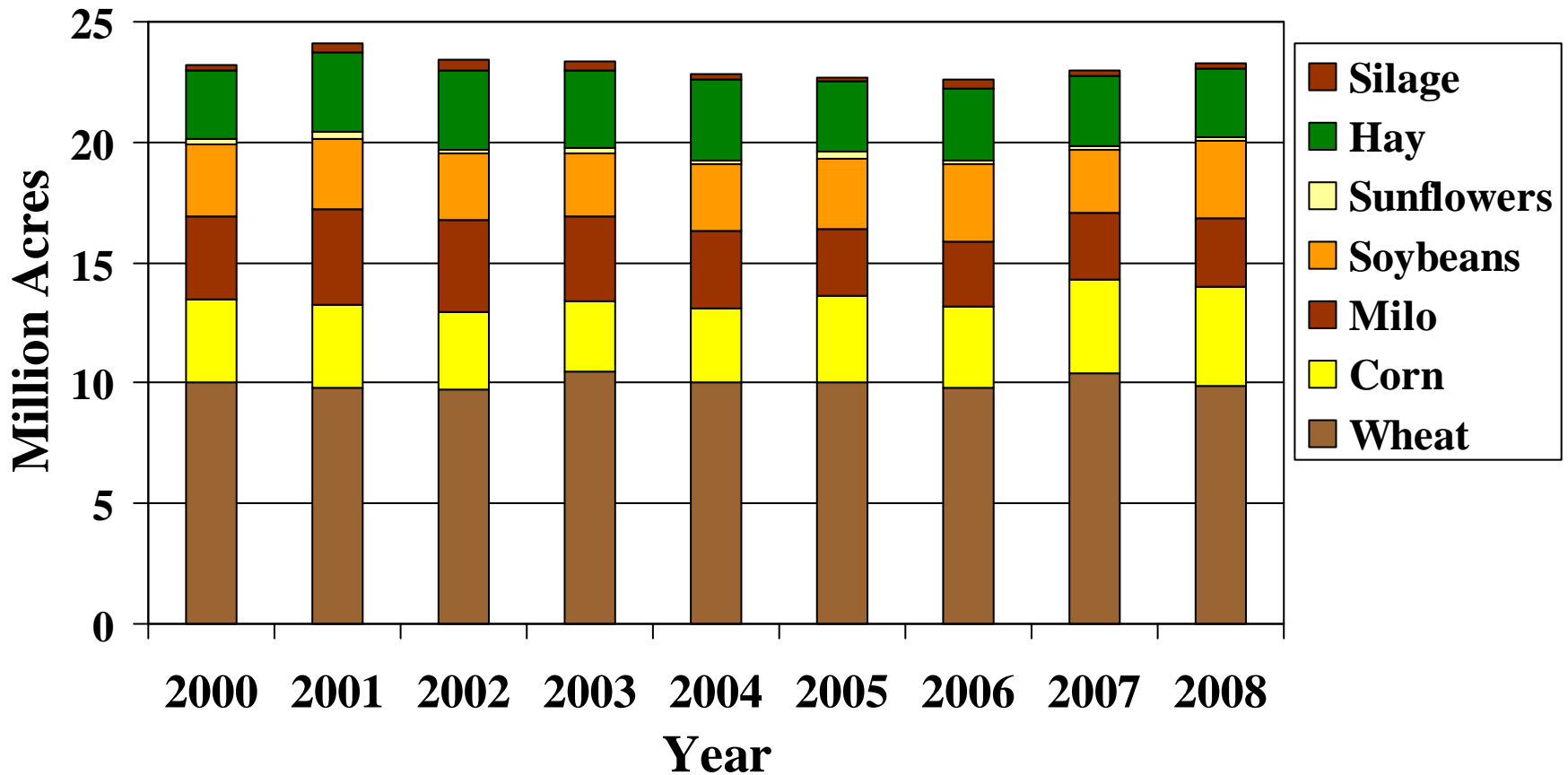
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Kansas Cropland Acres

Planted Acres, Years 2000-2008



Kansas Feedgrain Supply & Bioenergy Use

- **2008 Kansas Feedgrain Crop: 731.6 mln bu.**
 - *2008 Corn (522.6 mb) & Milo (209 mb.) Crops (9/12/2008)*
- **Grain ethanol production** at current plant capacity would use **162 million bushels** of feedgrains / year
 - *22% of 2008 est. feedgrain production in Kansas*
- **Kansas Imports of Supplemental Feedgrains**
 - *Predominant inter-state sources: Iowa & Nebraska*
 - *Projected feedgrain deficits in Nebraska & Iowa in the near future due to in-state ethanol development*

Ethanol's Impact on Irrigated Crops

- **Increased water use** due *primarily* to increased corn acreage, *secondarily* to more intensive irrigation / acre ➔ *Effect of Ethanol Demand*
- **Greater Irrigated Corn Acreage**
 - *Higher profitability of corn vs alternative crops*
- **More Intensive Irrigation per Acre**
 - *Impact of ↑ corn\$ on irrigation cost-benefit decisions*
 - *Greater water use for corn vs alternative crops*

Irrigation – Ethanol Water Use

- To produce **1 bushel of corn** requires an average of **2,325 gallons** of irrigation water in Kansas
 - *Western 1/3 of Kansas - normal temps & rainfall*
 - *KSU KanSched* Crop Water Use Model Results*

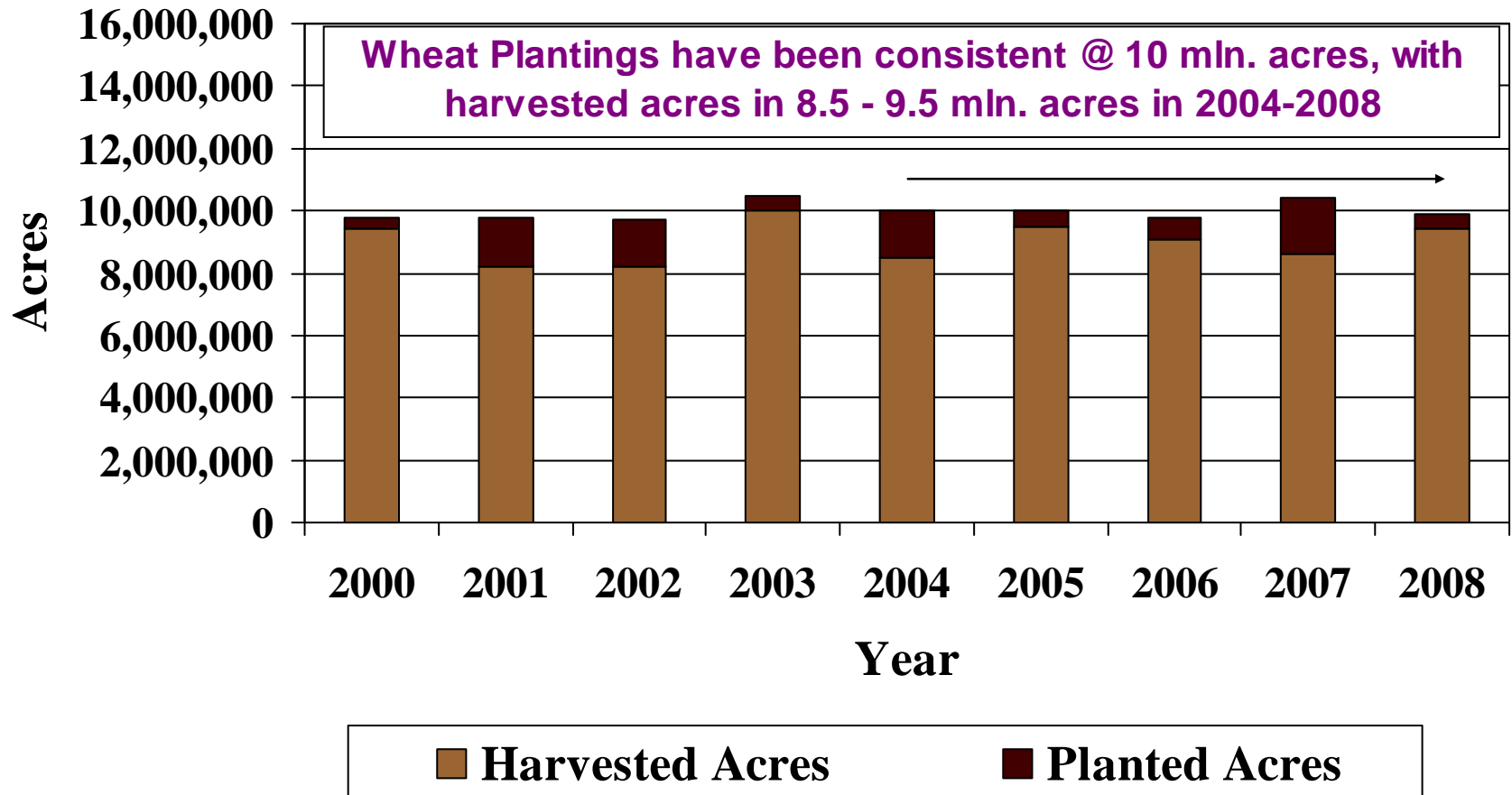
- 1 gallon of **ethanol** requires 830 gallons of irrigation water
 - 1 bushel corn \Rightarrow 2.8 gallons of ethanol

Question: Has the mix of **Kansas Crop Acres** Changed due to **Grain-Ethanol Development**?

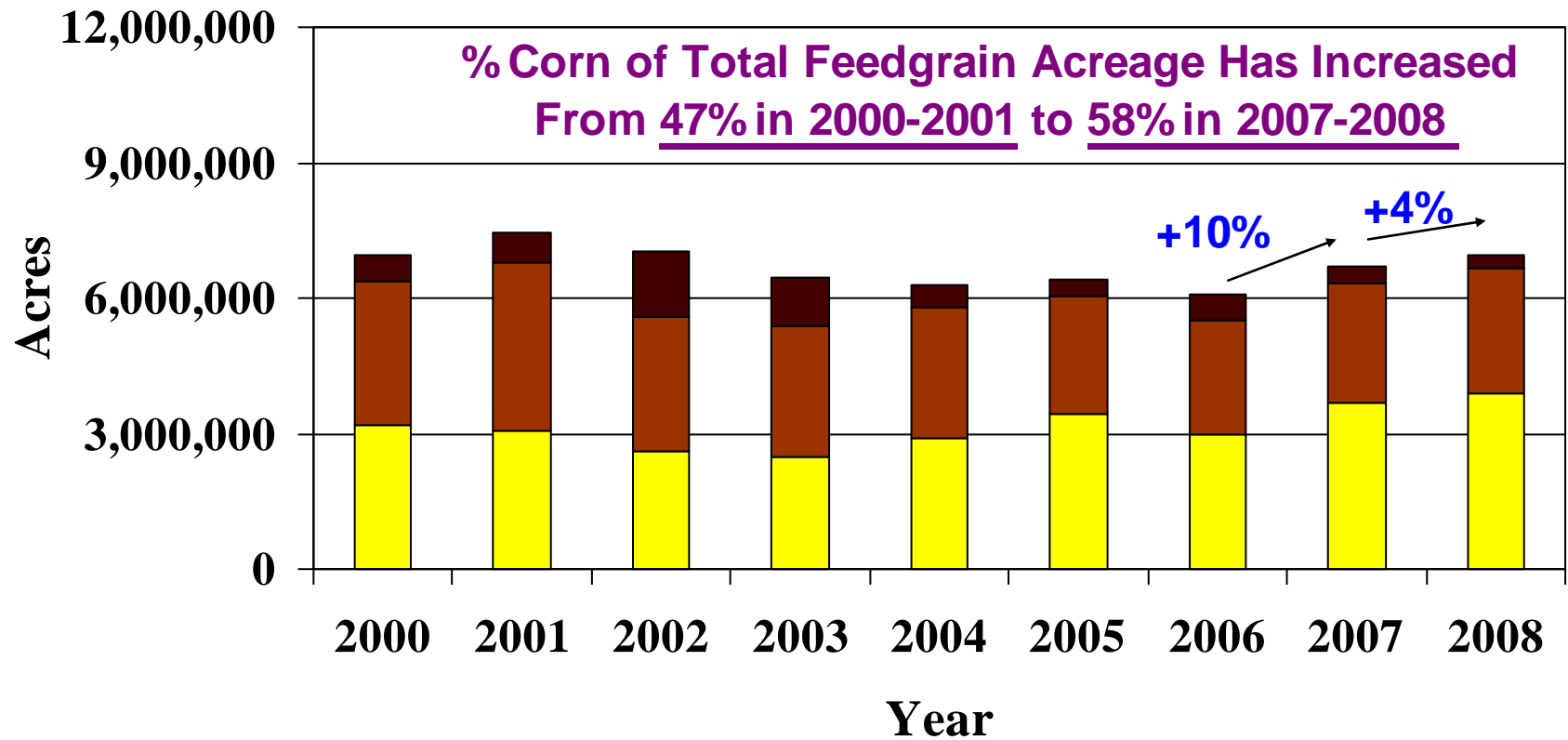
Examining Kansas Acreage trends from 2000 through 2008

Kansas Wheat Acres

Planted & Harvested, Years 2000-2008



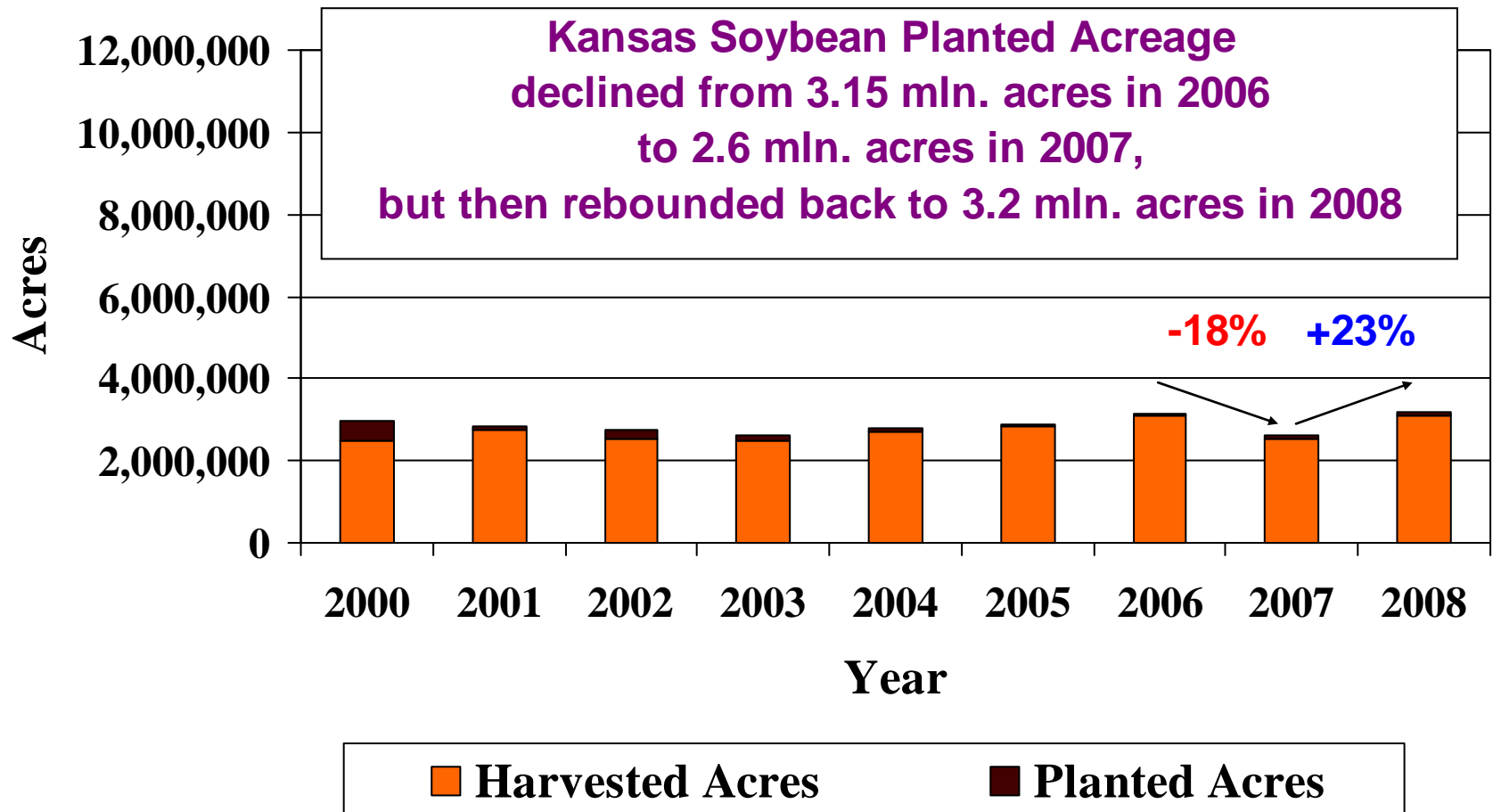
Kansas Feedgrain Acres Planted & Harvested for Grain, Years 2000-2008



■ Hvstd Corn Ac ■ Hvstd Milo Ac. ■ UnHvstd Feedgrain Ac.

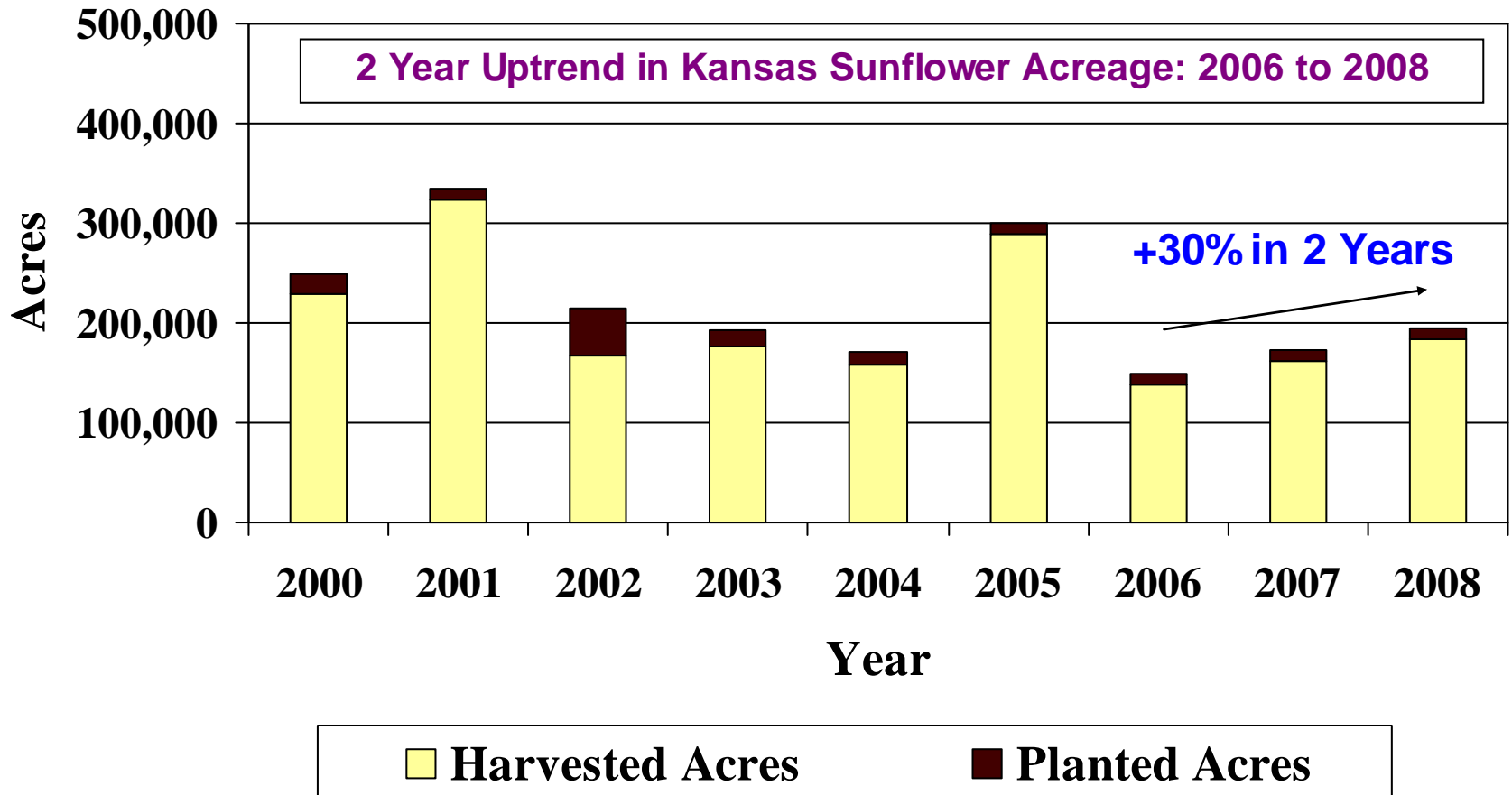
Kansas Soybean Acres

Planted & Harvested, Years 2000-2008



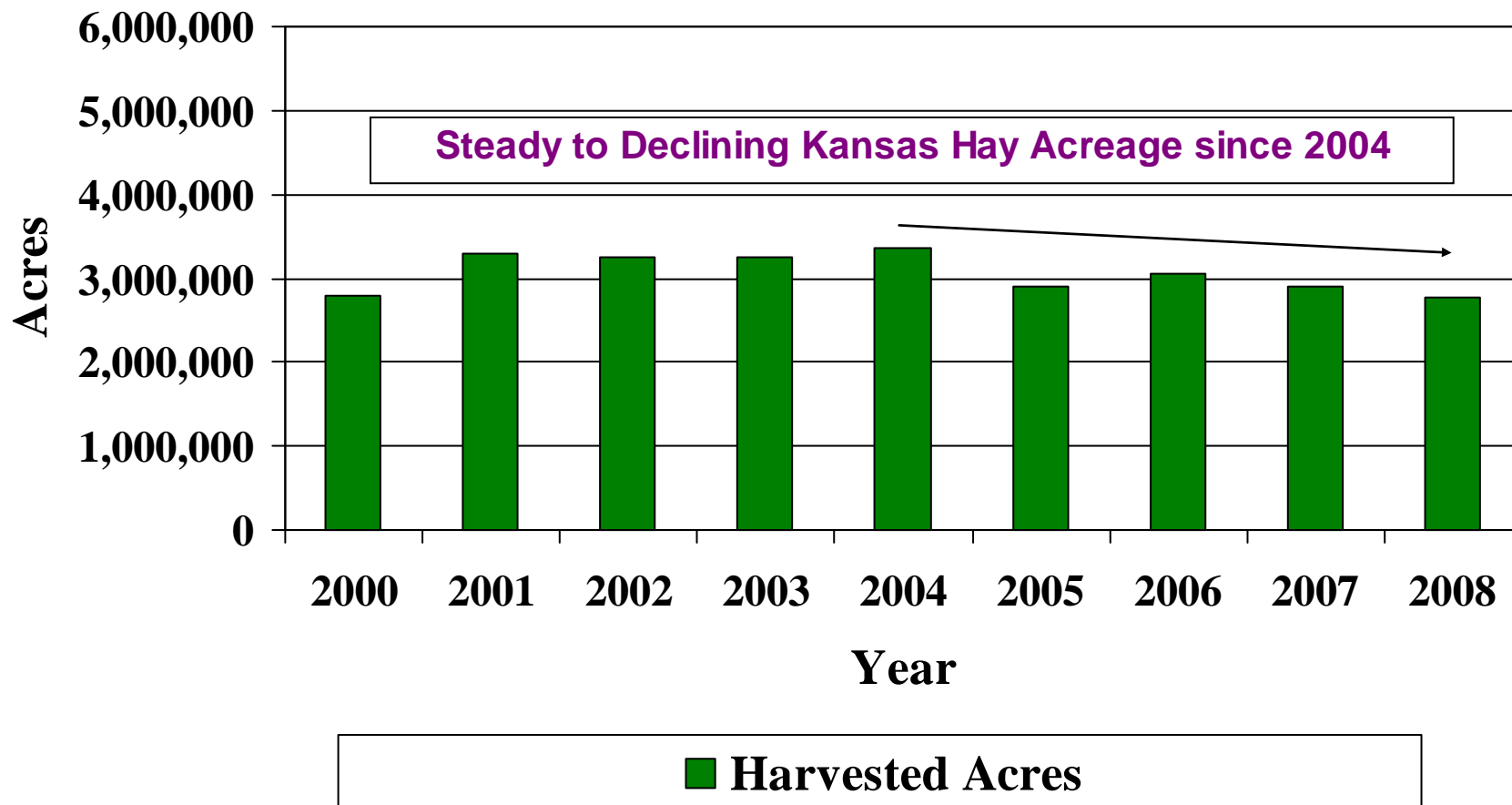
Kansas Sunflower Acres

Planted & Harvested, Years 2000-2008



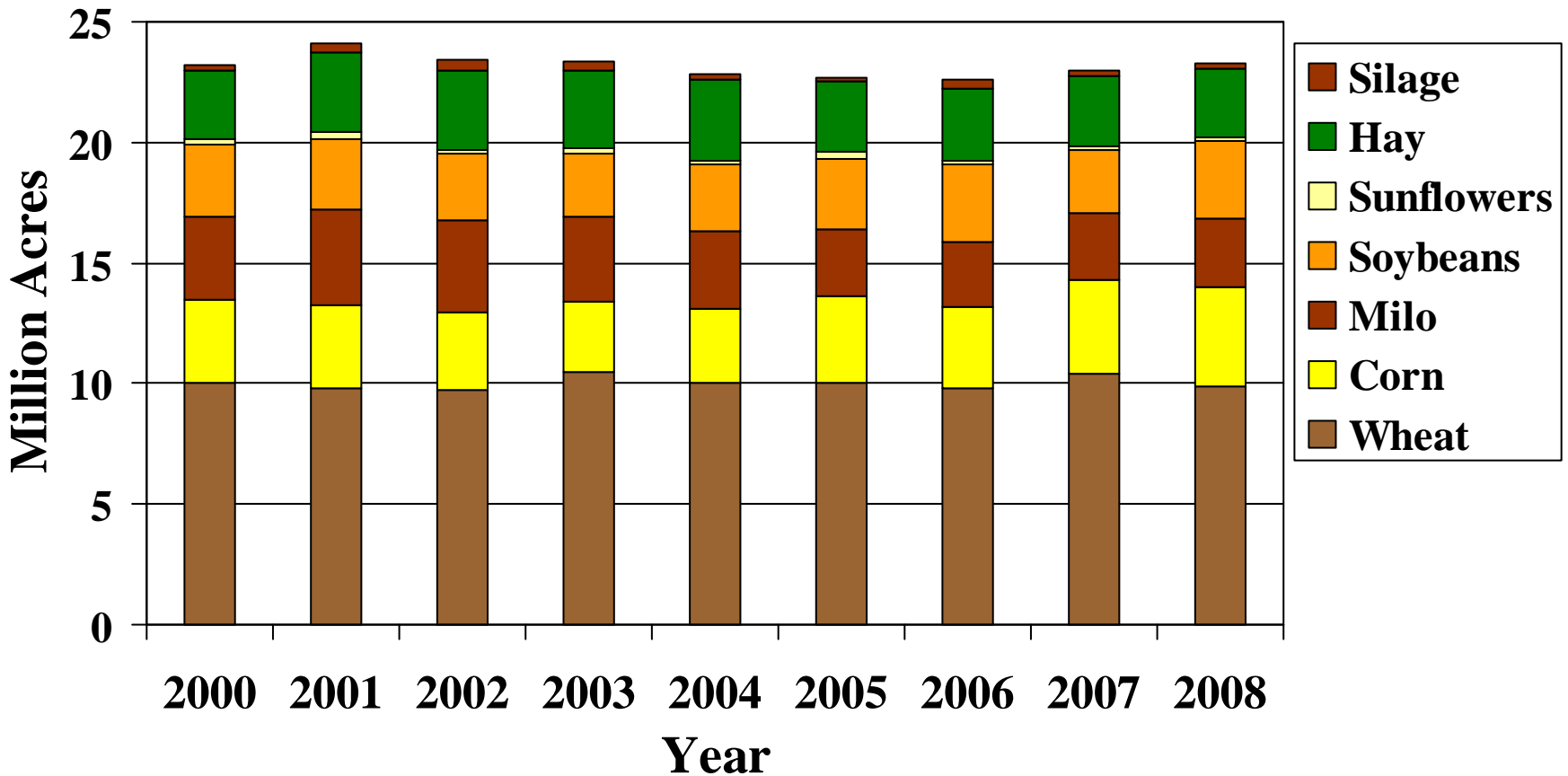
Kansas Hay Acres

Planted & Harvested, Years 2000-2008



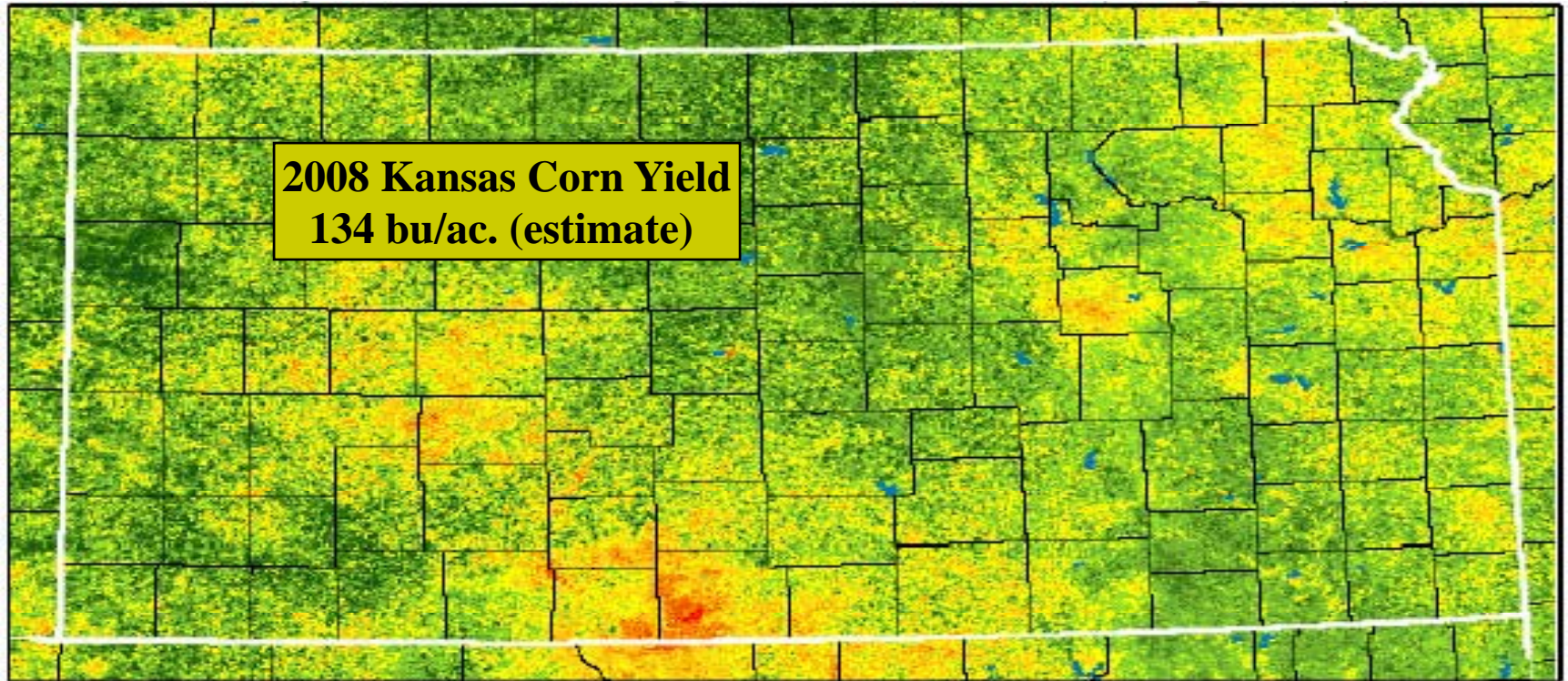
Kansas Cropland Acres

Planted Acres, Years 2000-2008

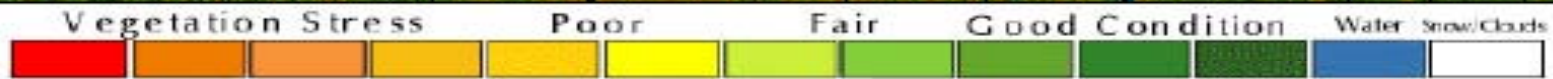


Kansas Vegetation Condition Map

KARS Program, August 26-Sept. 8, 2008



2008 Kansas Corn Yield
134 bu/ac. (estimate)

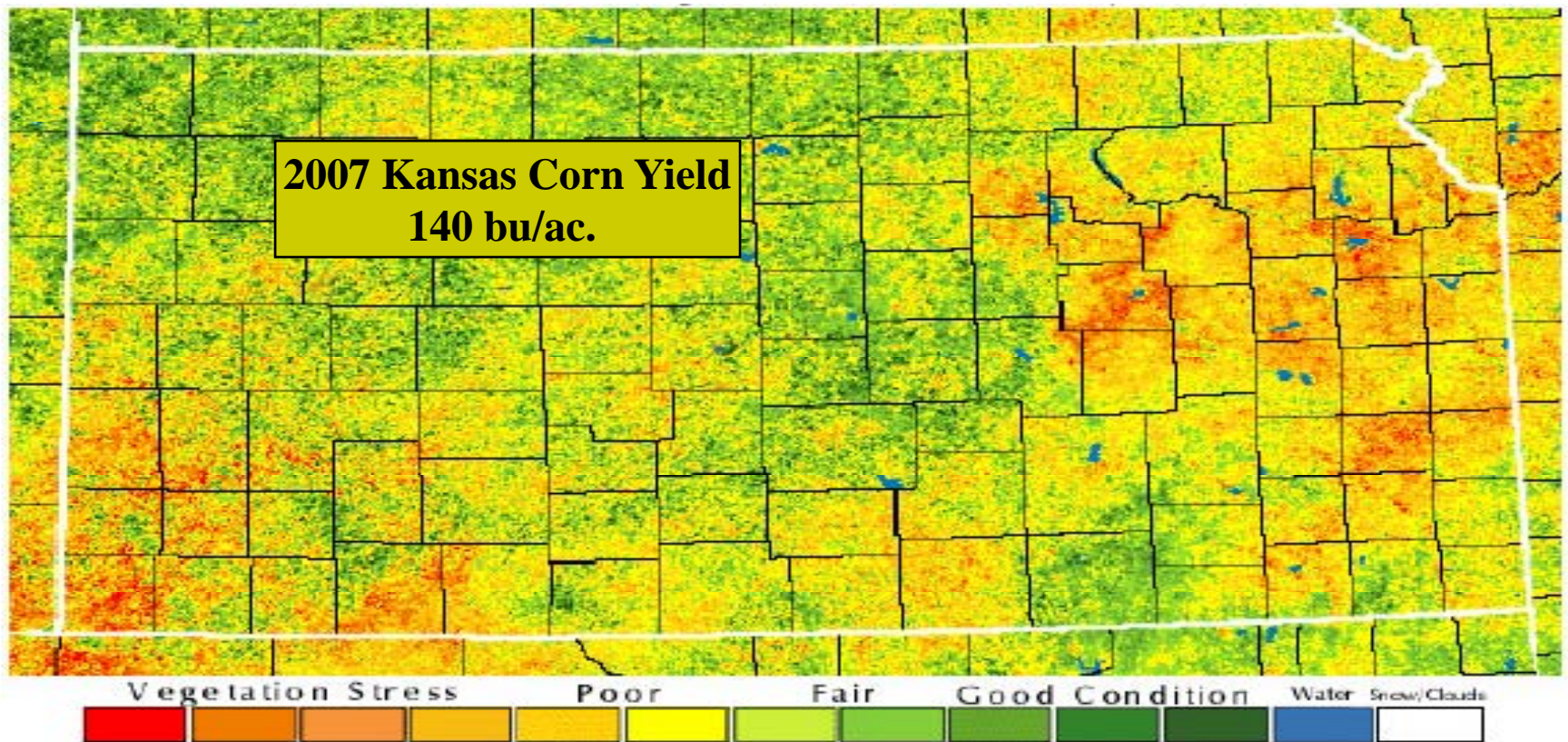


“Brown” – Sparse Vegetation

“Green” – Abundant Vegetation

Kansas Vegetation Condition Map

KARS Program, August 21-Sept. 3, 2007

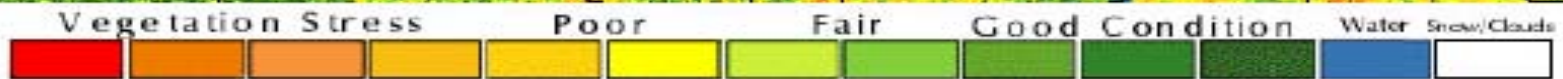
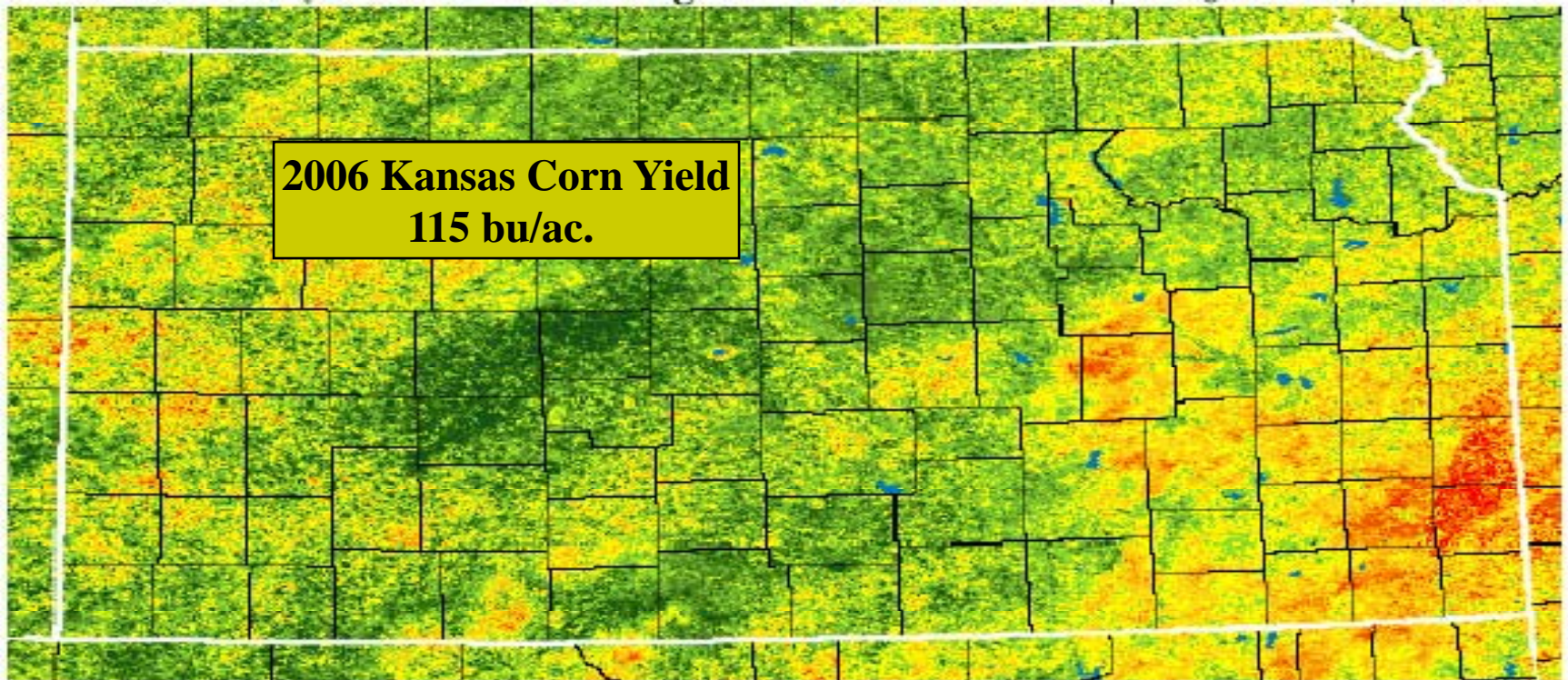


“Brown” – Sparse Vegetation

“Green” – Abundant Vegetation

Kansas Vegetation Condition Map

KARS Program, August 23-Sept. 5, 2006



“Brown” – Sparse Vegetation

“Green” – Abundant Vegetation

Has Ethanol-Demand Affected Kansas Crop Acres?

- **YES, especially in 2007** as Feedgrain acres increased sharply in response to price signals, while Soybean acres dropped
 - But, corn acreage increase moderated in 2008, with a rebound in soybean acres
- **Corn** acres trending up vs **Grain Sorghum**
- **Wheat** acreage holding steady
- **Sunflower** acres trending up
- **Hay** holding steady-to-lower

Questions or Comments?

K-State Agricultural Economics
Extension Website:

www.AgManager.info