Adapting Great Plains Cropping Systems to a Changing Climate

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Cropping System Adaptation Strategies

- Crop Selection
- Tillage Systems
- Plant Breeding
- Technology
Sumner Co. May 26, 2011
High Plains Non-irrigated Sorghum and Corn Yield Averages

NASS 1980-2006

bu/acre

Sorghum 45.9 29
Corn 55.3 28

K-STATE
Research and Extension
High Plains Non-irrigated Sorghum and Corn Yield Averages

bu/acre

NASS 1980-2006

Same Location Trials (1992-2007, n=75)

Sorghum Corn Sorghum-CV Corn-CV
No-till and Water

• Conserving 2” of water can add 26 bu/acre to corn yield
2011 Duncan Equation Study
K-State SWREC-Tribune
P33B54 Conventional vs. P1151XR AquaMax

P33B54 Polynomial Fit
\[ y = -2 \times 10^{-7}x^2 + 0.0105x + 23.403 \]
\[ R^2 = 0.7541 \]

P1151 Polynomial Fit
\[ y = -1 \times 10^{-7}x^2 + 0.0092x + 25.522 \]
\[ R^2 = 0.7564 \]

Haag & Schlegel, 2012, unpublished data