1. 2015 Kansas Weather Compared to Long Term Trends for Fieldwork Probabilities

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Dr. Terry Griffin is the cropping systems economist specializing in precision agriculture since joining Kansas State University in February 2015. He earned his bachelor's degree in agronomy and master's degree in agricultural economics from the University of Arkansas and his Ph.D. in Agricultural Economics with emphases in spatial technologies and farm management from Purdue University. He developed methods to analyze site-specific yield monitor data from field-scale experiments using spatial statistical techniques. Terry is a charter member of the International Society of Precision Agriculture. He received the 2014 Pierre C. Robert International Precision Agriculture Young Scientist Award for his work in data utilization. He has also received the 2012 Conservation Systems Precision Ag Researcher of the Year and the 2010 PrecisionAg Awards of Excellence for Research.

Abstract/Summary

Producers strive to plant and harvest crops during optimal times for their given location. The leading uncontrollable factor impacting being able to conduct fieldwork in timely manner is the number of days suitable for fieldwork (DSFW). From the producer's perspective, knowledge of DSFW assists in planning, machinery purchase, and acreage allocation decisions. Conducting field operations such as tillage, planting, and harvesting in a timely manner are important to obtain optimal yields to maximize whole-farm profitability. Machinery management decisions such as choosing machine sizes relative to farm acreage should be made considering equipment capacity and the likelihood of having sufficient DSFW to operate the machinery. Knowledge of these probabilities on DSFW, planting or harvest progress, and potential yield losses by planting and harvest date is important for machinery management, acreage allocation and financing decisions; and ultimately how many acres can realistically be managed with a given set of equipment. An understanding of DSFW also allows producers to anticipate bottlenecks that may occur during the growing season. Terry discusses long-term Kansas weather trends over last 35 years and specifically addresses how DSFW in 2015 compares for each of the nine crop reporting districts. Terry offers farm management examples for how these data can be used in a practical manner.

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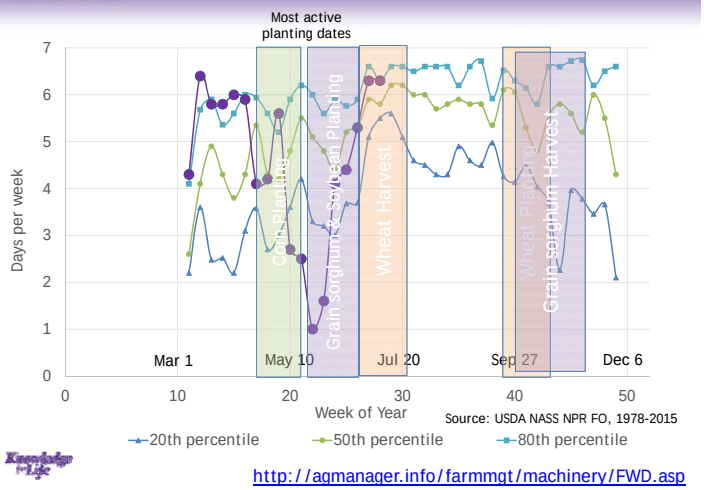
Kansas Cropping Systems Example



http://agmanager.info/farmmgt/machinery/FWD.asp

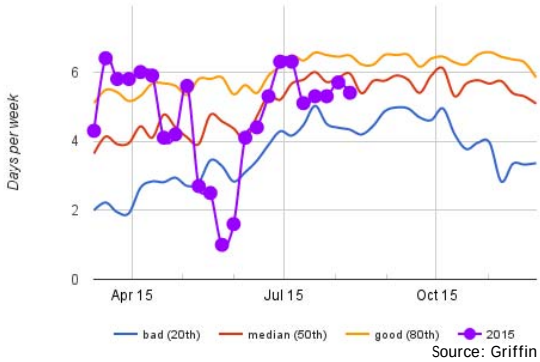
When do farmers harvest?

Most active planting and harvest dates in Kansas

	Planting		Harvest	
	Start	End	Start	End
Corn	15-Apr	15-May	10-Sep	25-Oct
Cotton	20-May	15-Jun	25-Oct	15-Dec
Grain Sorghum	15-May	20-Jun	25-Sep	10-Nov
Soybeans	15-May	20-Jun	1-Oct	1-Nov
Winter Wheat	15-Sep	20-Oct	20-Jun	5-Jul

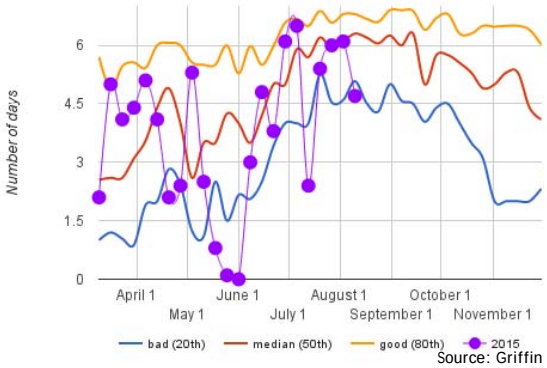
Most active progress is defined as between the 20th to 80th percentile.
Source: Adapted from USDA NASS (2010) Agricultural Handbook Number 628 as presented in Griffin & Ciampitti (April 2015)

2015 vs Long-term Statewide Kansas Trends (1978-2014)



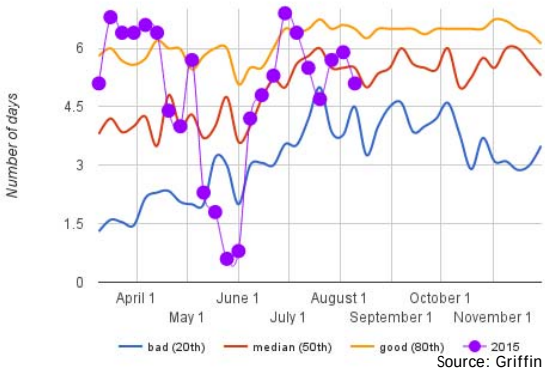
Source: Griffin and Carls, 2015.

2015 vs Long-term Trends (1980-2014) Southeast Kansas



Source: Griffin and Carls, 2015.

2015 vs Long-term Trends (1980-2014) Central Kansas



Source: Griffin and Carls, 2015.

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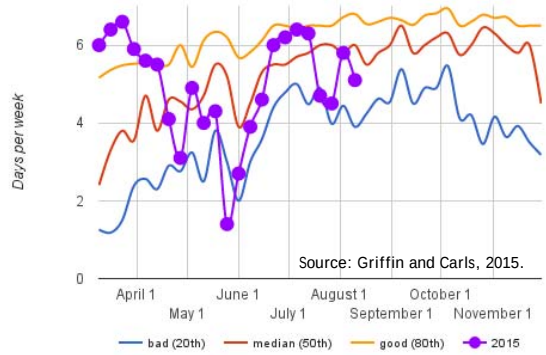
2015 vs Long-term Trends (1980-2014) Northwest Kansas



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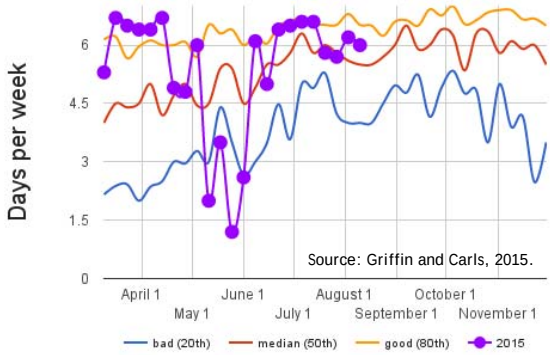
2015 vs Long-term Trends (1980-2014) West Central Kansas



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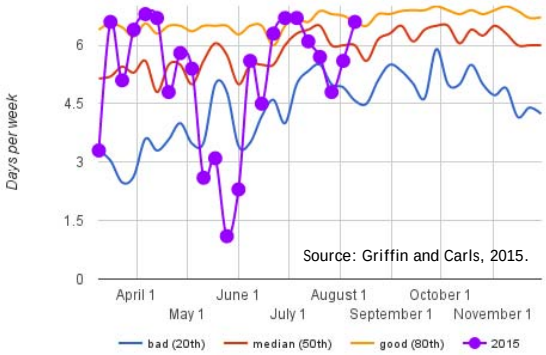
2015 vs Long-term Trends (1980-2014) Southwest Kansas



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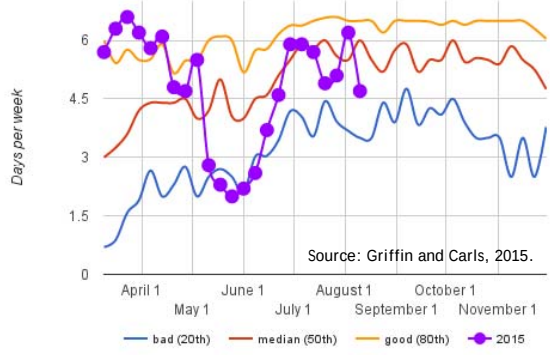
2015 vs Long-term Trends (1980-2014) North Central Kansas



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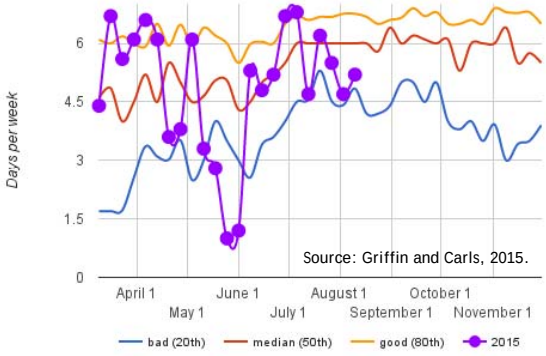
2015 vs Long-term Trends (1980-2014) South Central Kansas



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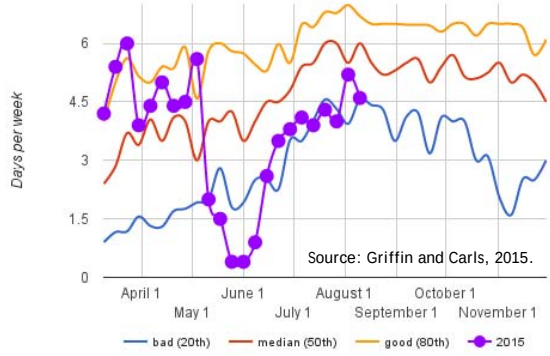
2015 vs Long-term Trends (1980-2014) Northeast Kansas



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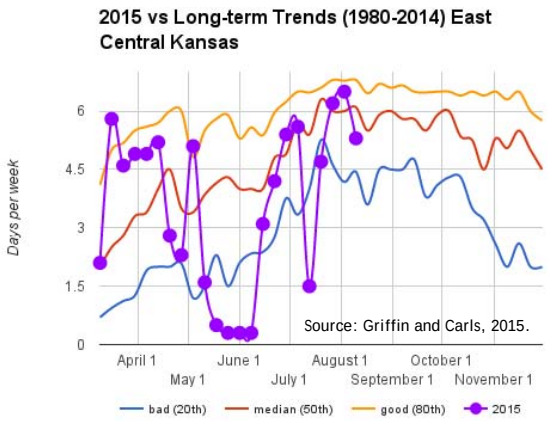

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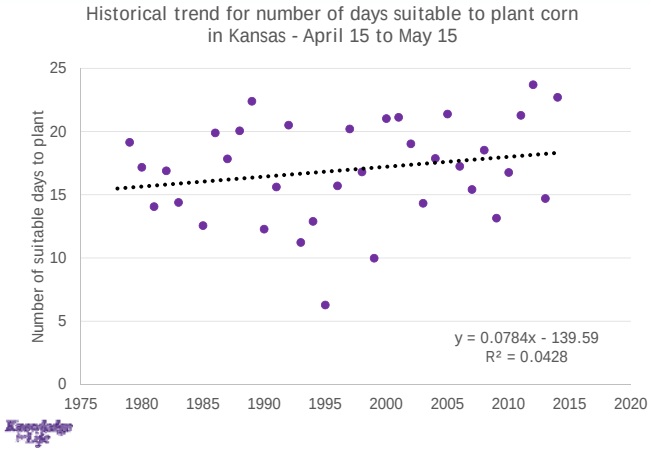

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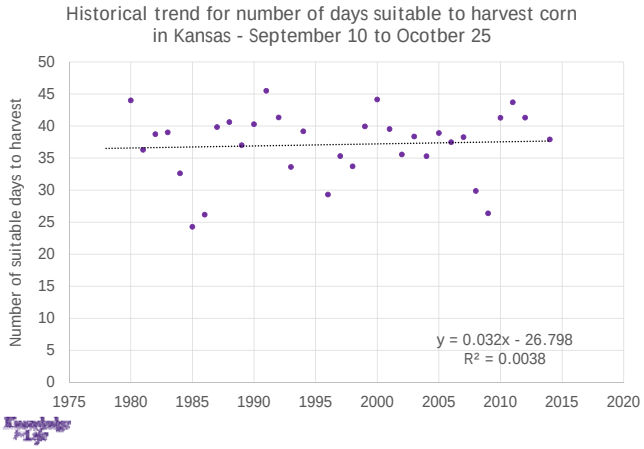

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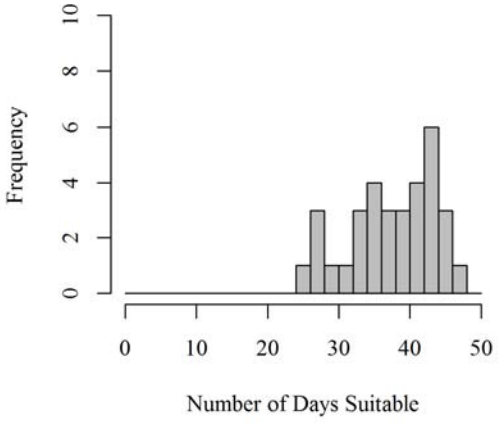
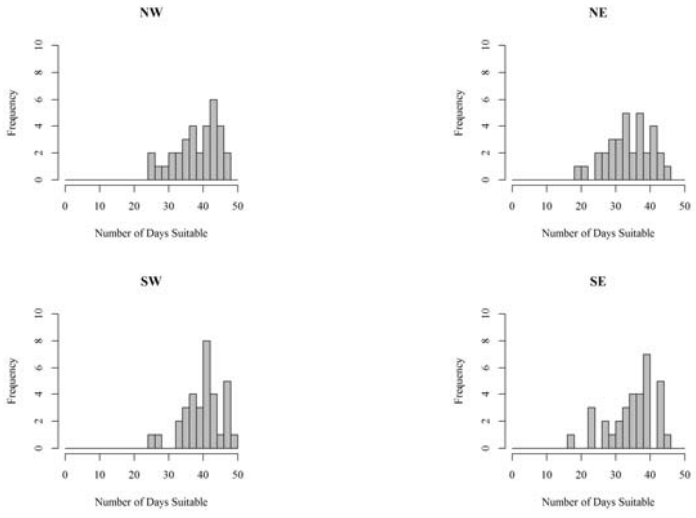
DSFW Corn Harvest, SC KS





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- Knowledge of weather uncertainty important for acreage allocation and machinery management
- Historic observations on days suitable one of best tools for farm management

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