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Supplemental Material

for

Assessing Decision Timing and Seasonal Climate Forecast Needs of Winter Wheat Producers in the South-Central United States

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(Manuscript received 5 September 2017,

in final form 17 June 2018)

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Survey Questions

Q1) Do you work in a specific county? (yes/no)

If yes: What is the **jurisdiction** of your extension office? (state and county, text boxes)

Q2) How many years have you been working in the extension system in your current state? (text box)

Q3) What percentage of your producers grow **predominantly winter wheat** (as opposed to other crops)? (Multiple choice: 0%, 1% to < 25%, 25% to < 50%, 50% to < 75%, 75% to < 99%, 100%, I don't know)

If 0% is selected, skip to end of survey.

Q4) Does the percentage vary from year to year? (yes/no)

Q5) How many of your winter wheat producers run a **dual purpose** winter wheat/cattle operation? (Multiple choice: 0%, 1% to < 25%, 25% to < 50%, 50% to < 75%, 75% to < 100%, 100%, I don't know)

Q6) Does the percentage vary from year to year? (yes/no)

Q7) Do most of your producers grow rain-fed or irrigated winter wheat? (Multiple choice: Mostly **rain-fed** winter wheat, mostly **irrigated** winter wheat, unable to estimate or roughly equal)

Q8) How familiar are you with winter wheat producers' ...

	unfamiliar	somewhat familiar	very familiar
... general information needs?			
... weather and climate forecast information needs?			

Q9) How much do the following types of weather and climate information contribute to the advice you give to winter wheat producers?

	no influence	small influence	medium influence	large influence
Historical weather trends				
Weather data for the past 12 months				
Current weather trends				
1-7 day forecasts				
8-14 day forecasts				
Monthly and/or seasonal forecasts				
Annual or longer-term forecasts				

Q10) How often do you interact with the following groups?

	Not available in my county	Daily or weekly	Monthly or quarterly	Annually or less than annually	Never
Farmers					
Farm management firms					
Other advisers					
Farm chemical dealers					
Seed producers					
Farm organizations (e.g., Farm Bureau)					
State climatologists					
State department of agriculture					
Agricultural cooperatives					

Q11) Please indicate your level of agreement with each of the following statements.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Current seasonal forecasts are insufficient for winter wheat producers.					
Seasonal climate forecasts (1-12 months lead-time) are often requested by my producers.					
In the last 5 years, I've seen more variability (e.g., extremes) in the climate across my county.					
Climate variability hurts my growers more than it benefits them.					
Other advisers tend to approach me for advice.					

Q14) Which forecast information (left) can assist which decision(s) (top)? Please select all that apply. Use "Other (1)" and "Other (2)" for additional forecast information.

	Does not apply	Planting time	Harvest time	Purchase crop variety	Fertilizer application	Disease control	Weed control	Growing cover crops	Managing water resources	Seasonal employment	Irrigation scheduling	Grazing scheduling	Other (1) from Q13	Other (2) from Q13
Average temperature														
Deviation from avg. temperature														
Average maximum temperature														
Average minimum temperature														
Consecutive days > 100°F														
Consecutive days < 32°F														
Average precipitation														
Deviation from avg. precipitation														
Consecutive days without rain														
Chances for extreme rainfall														
Growing degree days														
Other (1) (text box)														
Other (2) (text box)														

15) If you would like to provide your email address and/or phone number below, it may be helpful to follow up with a few questions. Thank you! (Email address, Phone number, text boxes)

16) If you have additional comments, please include them here. (Essay text box)