

Dixon Springs Agricultural Center
Brownstown Agronomy Research Center
Crop Sciences
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Weather and Crop Report.

To say we were wet would be an understatement. The 12.48" received in March at Dixon Springs was the highest recorded rainfall for March at the Center since we began collecting rainfall information in 1938. The old record was 12.1" in 1964. We are now over 10" above average for the year and needless to say are unable to do much field work at either Center. Wheat looks good at both Centers even with the excessive rainfall, and there is some concern with N loss. See related article below.

Mark Your Calendars

Ewing Field Day	June 12
SIU Belleville Field Day	July 10
Brownstown Field Day	July 31
Dixon Springs Field Day	August 7
Urbana Field Day	August 21

Additional information on these events to follow in future newsletters.

Dixon Springs Weather Summary 2008

Month	Total Rainfall	Departure From Normal	Growing Degree Days	Departure From Normal	Ave. Air Temp.		Soil Temp. 4" Sod		Soil Temp. 4" Bare	
					High	Low	High	Low	High	Low
January	2.47	-1.09	52	16	44	25	41	40	34	33
February	6.38	2.98	56	-14	45	29	44	42	40	36
March	12.48	8.19	169	-16	59	39	51	48	49	42
<i>Totals</i>	<i>21.33</i>	<i>10.08</i>	<i>277</i>	<i>-14</i>						

Brownstown Weather Summary 2008

Month	Total Rainfall	Departure From Normal	Growing Degree Days	Departure From Normal	Ave. Air Temp.		Soil Temp. 4" Sod		Soil Temp. 4" Bare	
					High	Low	High	Low	High	Low
January	2.44	-0.68	42	20	40	23	41	39	43	41
February	4.80	2.51	15	-26	37	29	36	34	38	35
March	7.44	5.26	71	-41	50	34	41	39	44	41
<i>Totals</i>	<i>14.68</i>	<i>7.09</i>	<i>112</i>	<i>-47</i>						

Nitrogen losses could be as high as 40-50%.

At Dixon Springs we applied spring N rates to wheat on February 20 (Feekes Growth Stage 3.0). On March 28 (Feekes GS 5.0) we soil sampled the 0, 90 and 150 lb N/acre treatments for two depths (0-6" and 6-12") to measure nitrate and ammonium levels. The figure to the right indicates that about 50% of the N was in the nitrate form and 50% was in the ammonium form. Ammonium nitrate was the nitrogen source used in this study. The second graph shows that a fair proportion of the N was still in the top 6" of soil.

Now for some calculations. Assuming the zero N rate is a measure of N mineralization plus carryover soil N (Nres), it appears that we have about 19 # N available. There was no fall N applied on this plot area (for other reasons). We have about 44 and 65 lbs remaining of the fertilizer plus Nres for the 90 and 150 lb N rates, respectively. If we assume that 25% of the N normally taken up by wheat is taken up by the plants at this growth stage (supported by several sources) and subtract the Nres, then N losses would be 47 and 44% for the 90 and 150 lb/acre rates, respectively. At southern Illinois sites with less rainfall than Dixon Springs the losses are probably in the 25-35% range. Some of this N may still be held in the soil below our sampling depth and might still be available to the plants. In either case there would be some benefit to applying supplemental N (20-30% more N) if your N was applied early.

Additional N can be applied even up to heading and still get a yield response in most cases. In 2006, we applied 90 lb N/acre to wheat between March 30 (GS 3.0) and April 27 (Heading). Yields were reduced the later the N was applied, but we still made 50 bu/acre applying all of the spring N at heading. This study was conducted again in 2007, but the late freeze had a big impact on the results. We are continuing this work.



