Dixon Springs Agricultural Center
Brownstown Agronomy Research Center

Crop Sciences
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Dixon Springs Agricultural Center Staff	E-Mail	Phone
Steve Ebelhar, Agronomist & Superintendent	sebelhar@uiuc.edu	618-695-2790
Carl "Butch" Hart, Research Specialist	carlhart@uiuc.edu	618-695-2790
Jim Belford, Farm Mechanic		618-695-3447
Stacey Simmons, Field Worker		
Brownstown Agronomy Research Center Staff		
Steve Ebelhar, Agronomist & Superintendent	sebelhar@uiuc.edu	618-695-2790
Lindell Deal, Field Worker	ldeal@uiuc.edu	618-427-5239

Weather and Crop Report.

Rain, rain go away. Come back again ... after May.

After February, we were nearly 2" above average. With a much higher rainfall having already occurred in March, we will have had one of the wettest periods in our history by the end of this month. Wheat appears to be doing well in spite of excessive rains the past few weeks. The ground has dried out enough here to allow some N application to occur. We are attempting to get some sort of a handle on how much of the early spring N might have been lost, so stay tuned.

Mark Your Calendars

Ewing Field Day	June 12
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
Totals	*8.85*	*1.89*	*108*	*2*						

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
Totals	*7.24*	*1.83*	*57*	*-6*						

Managing Spring Nitrogen for Illinois Wheat

S. A. Ebelhar, E. D. Nafziger, E. A. Adee and L. E. Paul
Department of Crop Sciences
University of Illinois

The proper rate of spring fertilizer nitrogen (N) application to wheat has taken on a new meaning with the high cost of N fertilizer and the high current price of wheat. Recent studies across the state have allowed us to better determine the optimum economic N rate to apply in the spring to wheat. But there are several complicating issues.

The rate of fall N applied to wheat does have some effect on spring application, but we will assume for now that 20-30 lb of fall applied N was applied. The table below has the spring recommended N rate based on N price, wheat price and percent soil organic matter (OM). In general, N rates decrease as soil organic matter increases. This is due primarily to the N released from OM, along with a lower probability of N losses from the higher OM soils.

Within an OM level, N rates change as the ratio of N price to wheat price changes. So at the same wheat price, N rates decrease as the price of N increases. And, at the same N price, N rates move in the same direction as the wheat price.

These recommendations are based on uniform N applications. If there is uncertainty about the uniform application of N, especially with spinner-type fertilizer buggies, then N rates should be reduced by about 20 lb/acre in order to prevent overfertilizing some areas. Be aware that this might well decrease overall yield, since N is likely to be deficient in those strips with lower rates. For some, hiring application done to assure more uniform spreading might be more cost-effective.

Using inhibitors and slow-release N products tends to increase the efficiency of N use by wheat by moving release closer to the time the plant is taking up N. This can reduce N application rates, but because it's not possible to predict the N loss conditions, it's difficult to know if these are cost-effective, or how much to reduce N rates.

Farmers on low-OM soils in southern Illinois who wait to apply their N until later in the spring or split apply their N in the spring with the majority of the N applied just before jointing, are able to gain some N efficiency and should be able to reduce their N rates by 10-20 lb N/acre. We did not see this same effect on our high-OM sites.

No-till farmers have an increased chance for N losses and reduced N efficiency by wheat and should increase their N rate by about 10%, but should not exceed the 150 lb N/acre maximum total spring rate.

	Spring N Recommendation by Wheat Price							
N Price	**$4.00**	**$5.00**	**$6.00**	**$7.00**	**$8.00**	**$9.00**	**$10.00**	**$11.00**
	---------- >4% OM ----------							
$0.30	62	69	74	78	80	82	84	85
$0.35	55	64	70	74	77	80	82	83
$0.40	49	59	66	70	74	77	79	81
$0.45	43	54	62	67	71	74	77	79
$0.50	37	49	57	63	68	71	74	76
$0.55	30	44	53	60	65	68	72	74
$0.60	24	39	49	56	62	66	69	72
$0.65	18	34	45	53	58	63	67	69
	---------- 2-4% OM ----------							
$0.30	105	115	121	126	129	131	134	135
$0.35	98	109	116	121	125	128	130	132
$0.40	90	102	111	117	121	125	127	130
$0.45	82	96	105	112	117	121	124	127
$0.50	74	90	100	108	113	118	121	124
$0.55	66	84	95	103	109	114	118	121
$0.60	59	77	90	99	105	111	115	118
$0.65	51	71	85	94	102	107	115	115
	---------- <2% OM ----------							
$0.30	150	150	150	150	150	150	150	150
$0.35	144	150	150	150	150	150	150	150
$0.40	135	149	150	150	150	150	150	150
$0.45	126	142	150	150	150	150	150	150
$0.50	117	135	147	150	150	150	150	150
$0.55	108	128	141	150	150	150	150	150
$0.60	99	121	135	145	150	150	150	150
$0.65	91	114	129	140	149	150	150	150

Note: Maximum rate of spring applied N is 150 lb N/acre. Caution should be exhibited for any N rate greater than 130 lb N/acre when there is uncertainty about uniform application. Higher N rates combined with non-uniform N applications increases the chances for lodging.