

# 2007 Growing Conditions

## Hettinger Research Extension Center

The area's four year drought finally broke, however, the monthly distribution of precipitation did not follow long term averages. For example, 2 ½ inches of rain fell in September 2006, an inch more than normal. This event sparked a huge interest in winter wheat. November, December and January received no precipitation. March was relatively dry and daytime temperatures were typically in the 50's and 60's. These conditions prompted many farmers to start planting. Cold temperatures and a blanket of snow during the first half of April delayed planting but had little effect, other than delayed emergence, on crops seeded in March. An abundance of rainfall during May (almost 6") and mild temperatures provided for almost perfect growing conditions and proved to be the winning combination, not only for spring seeded crops, but also for pastures, hay fields and alfalfa. A couple of drawback to this abundance of moisture was leaching of nitrogen fertilizer, especially in low lying and sandier soils, causing chlorosis (leaf yellowing) and an abundance of foliar diseases, especially leaf rust. July was hot and rainfall was spotty. Short season crops (barley, canola, field peas) were generally far enough along and had very good yields. These hot temperatures adversely affected seed filling of some later maturing small grain crops, lowering yields and test weights.

Weather conditions were generally favorable for late season crops (corn and sunflowers). A temperature dip on September 14 caused corn and sunflower leaves to freeze but left stems green through most of October which provided for generally higher test weights. Most of these crops were not harvested until November.

White sterile wheat heads caused by wheat stem maggot were again prevalent throughout the Western Dakota's. Wheat stem sawfly also continues to increase in both intensity and area and has quickly becoming a major production problem in wheat. Leaf rust was a widespread problem this year on susceptible wheat varieties. The widespread use of foliar fungicides as a crop protectant was practiced for the first time in SW ND and NW SD.

Most trials at the Hettinger Research Center were grown under a no-till system. Broadleaf crop trials were typically planted into wheat stubble and small grain trials were typically planted into field pea stubble. Residual soil fertility levels were determined and fertilizer was applied according to specific yield goals for each crop. Urea (46-0-0) was the primary nitrogen fertilizer source and was applied with a no-till drill prior to planting. Monoammonium phosphate (11-52-0) was typically applied directly with the seed during planting. All legume crops were treated with granular rhizobia inoculant during seeding.

HRSW, durum and barley trials were treated post-emergence for both wild oats and for broadleaf weeds (kochia, Russian thistle and wild buckwheat). Most broadleaf crops were treated with a pre-emergence burn down, and with either a pre-emergence or a post-emergence herbicide for grassy weeds and broadleaf weeds when possible.

### Weather Data Summary - Hettinger

	Frost Free Days		
	28 F	32 F	Normal 32 F
Date of last frost	April 15	May 24	May 18
Date of first frost	Sept. 14	Sept. 14	Sept. 20
Frost free days	153	113	125

## Weather Data Summary - Hettinger

### Precipitation

Precipitation (inches)	2003 - 04	2004 - 05	2005 - 06	2006 - 07	52 Year Average
Sept. - Dec.	6.88	4.41	3.68	3.15	3.30
Jan. - March	1.83	0.98	2.34	2.18	1.43
April	0.54	0.75	2.12	1.09	1.64
May	1.00	2.30	0.97	5.97	2.55
June	0.46	5.10	2.53	3.04	3.33
July	3.43	1.31	0.58	1.62	2.03
August	1.13	1.38	1.75	3.65	1.63
<b>Total</b>	<b>15.27</b>	<b>16.23</b>	<b>13.97</b>	<b>20.70</b>	<b>15.91</b>

### Air Temperature

Average Temperature F°	2003	2004	2005	2006	2007	52 Year Average
April	46.7	45.4	45.5	47.8	40.2	42.9
May	52.9	51.3	50.7	55.6	56.2	53.9
June	60.2	59.5	64.0	65.2	62.7	63.3
July	72.4	69.2	71.9	77.3	75.4	70.1
August	73.7	63.4	68.0	71.3	68.8	68.9
September	57.6	60.2	60.4	56.4	60.9	57.6

### Growing Degree Units - Corn

Growing Degree Units (50-86)	2003	2004	2005	2006	2007	35 Year Average
May	212	242	226	323	272	266
June	349	371	430	465	452	424
July	612	558	609	678	672	588
August	655	441	513	593	533	538
September	294	335	388	276	353	312
<b>Total</b>	<b>2186</b>	<b>1947</b>	<b>2166</b>	<b>2335</b>	<b>2282</b>	<b>2128</b>