

2009 Growing Conditions Hettinger Research Extension Center

Southwestern North Dakota's drought finally broke with more than 5 inches of fall precipitation, an abundance of snowfall and very timely rainfall throughout the growing season. Overall, the 2009 growing season received more than 23 inches of precipitation, almost 45% more than normal. The year was also relatively cool with all months having cooler temperatures than normal with the exception of September. Small grain planting generally began during the first week of May, a delay of almost a month. The crop tended to emerge very quickly, shutting down pre-emergence herbicide applications. Spring conditions continued to be cool and wet, creating ideal small grain growing conditions. A narrow band of pea-sized hail with 60 mile per hour wind hit the Hettinger research plots on June 22 and again with golf ball sized hail 2 days later. Early maturing crops like rye and canola were destroyed but most crops were able to recover nicely, although, the damage did take its toll with relatively lower yields and test weights. Mild temperatures continued throughout the summer and into the fall months. A total of 8 days reached 90 degrees or warmer and the hottest day never reached 100. These cooler temperatures delayed small grain maturity resulting in a late harvest. Most winter wheat spent 11 months in the field from planting to harvest. Small grain yields were tremendous, with reports of 60 to 70 bushel per acre spring wheat, 90 to 100 bushel barley and 2000 to 3000 pound canola and sunflowers. Warm season crops were also adversely affected by slower growth and delayed maturity. Very little corn in the area reached maturity, however, most of it was harvested at high moisture during the last week of November. Most of the sunflower crop also came off at that time.

Foliar diseases (tan spot and septoria) were prevalent early but tended to diminish as the season progressed. Leaf rust was observed but did not appear to be widespread or severe. Insects tended to be a bigger problem this year. Black-grass bugs decimated thousands of acres of grasslands and pastures and damaged some small grain crop. Wheat stem sawfly reached epidemic proportions with virtually every spring wheat field in the region being infected. Yield losses were typically 5 to 10 percent from lodging but fields with 100% lodging were documented.

Most trials at the Hettinger Research Center were grown under a no-till cropping system. The predominant soil type is classified as a silty loam. Small grain trials were typically planted into field pea stubble and broadleaf crop trials were typically planted into spring wheat 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	May 23	June 11	May 18
Date of First Frost	October 8	September 28	September 20
Frost Free Days	138	109	125

Precipitation

Precipitation (inches)	2005 – 06	2006 – 07	2007 - 08	2008 – 09	54 Year Average
Sept. – Dec.	3.68	3.15	1.26	6.23	3.32
Jan. – March	2.34	2.18	0.87	5.16	1.43
April	2.12	1.09	0.98	1.10	1.62
May	0.97	5.97	4.01	1.38	2.64
June	2.53	3.04	4.08	3.53	3.33
July	0.58	1.62	1.23	2.20	2.01
August	1.75	3.65	1.75	3.47	1.67
Total	13.97	20.70	14.18	23.07	16.02

Air Temperature

Average Temp. F°	2005	2006	2007	2008	2009	54 Year Average
April	45.5	47.8	40.2	40.1	38.2	42.8
May	50.7	55.6	56.2	52.0	52.0	53.9
June	64.0	65.2	62.7	59.7	58.8	63.2
July	71.9	77.3	75.4	71.1	64.6	70.2
August	68.0	71.3	68.8	70.0	63.0	68.9
September	60.4	56.4	60.9	56.6	62.6	57.7

Growing Degree Units - Corn

Growing Degree Units (50-86)	2005	2006	2007	2008	2009	37 Year Average
May	226	323	272	207	265	264
June	430	465	452	346	344	420
July	609	678	672	606	458	584
August	513	593	533	579	461	537
September	388	276	353	340	421	316
Total	2166	2335	2282	2078	2006	2121