

Growing Conditions

Hettinger Research Extension Center

2002

The fall of 2001 was warm and very dry, eliminating most fall field work including the seeding of winter wheat and application of fertilizer. Research plots of HRWW sprouted but did not emerge prior to freeze up. The winter months of 2001/02 were generally mild with very little snow accumulation. Air temperatures from November through February were unseasonably warm, and unseasonably cold in March and April. Temperatures fluctuated wildly in April and May with a few days of warm conditions followed by several days of cold. This caused delays in planting and slow crop emergence. Winter wheat plots showed few signs of winter kill coming out of dormancy but the canola crop suffered severe frost injury resulting in many fields being totally destroyed. A lack of spring rainfall first became noticeable on alfalfa and pastures with very little top growth. Our typically wet months of May and June were very dry, receiving only half of the normal and only four rainfall events of 1/4 inch or greater, and only one event greater than 2 inch (0.55" on June 23). Hot daytime temperatures were the second part of this year's drought, beginning in late May and continuing through early September. Average daytime high temperatures were 81 degrees in June, 92 degrees in July and 83 degrees in August. Cool season crops were flowering during this period, causing blossoms to abort and greatly reducing the duration of flowering. The drought was most severe from Hettinger south and east. Mid-summer precipitation was more prevalent to the north. Very few small grain fields were harvested for grain in this drought stricken area and most were harvested for hay whenever a windrow could be put together. Despite the drought, many warm season crops (corn, sunflowers and safflower) performed surprisingly well and were harvested for grain.

Insect problems tended to be somewhat less severe except for canola flea beetles which even ravaged treated fields and mustard, and black sunflower stem weevils which weakened stems and caused some lodging. Heavy but localized areas of grasshoppers, cutworms and European corn borers were also reported. Conditions were generally not favorable for plant diseases, although there were reports of wheat streak mosaic virus and common root rot.

All trials at the Hettinger Research Center were planted with a no-till drill. Broadleaf crop trials were planted into summer fallow or soybean stubble and small grain trials were planted into hauled out barley stubble. Residual soil fertility was 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 applied directly with most seed at planting.

All HRSW, durum and barley trials were treated post-emergence for both grassy weeds (foxtails and 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 a post-emergence treatment for grassy weeds and broadleaf weeds when possible. Canola, mustard, corn, millet and sunflowers were treated post-emergence with an insecticide.