

Cereal Leaf Beetle Biocontrol in Utah – 2010

We surveyed privately owned fields of small grains (wheat, barley and oats) in northern Utah throughout the growing season in 2010 to assess population levels of the cereal leaf beetle (*Oulema melanopus*) and its larval parasitoid, the wasp *Tetrastichus julis*. The beetle is most abundant and causes most damage to crops in this northern region of the state. The wasp has been introduced (originally from Europe) for biological control of the beetle. Sixty-two fields were sampled during May, June and July, with weekly samples providing estimates of numbers of beetles (eggs, larvae and adults) and estimates of parasitism rates. A third cool spring in a row occurred in 2010 (as had occurred in 2008 and 2009), but the large build-up in CLB numbers that occurred from 2007 to 2009 collapsed in 2010, perhaps as the result in part of high levels of parasitism that had occurred in 2009. Thus 2010 CLB egg and larval counts peaked at only 15% of levels recorded in 2009, and CLB feeding damage to most grain fields was very low in 2010. Parasitism rates early in the season in 2010 were very high. As the first generation of wasps completed its egg-laying activity, rates of parasitism dropped to low levels after CLB larval numbers had peaked in the fields. Thereafter, parasitism rates rose quickly to reach very high levels late in the season when a second generation of wasps attacked late maturing larvae. The combination of low numbers of CLB and high rates of parasitism occurring in fields in 2010 offers the prospect that low numbers of CLB may occur again in 2011. Weather as well as wasps, however, appears to strongly influence the numbers of cereal leaf beetles infesting grain fields in a given year, and hence it will be important to monitor fields carefully in 2011 for CLB infestation.