



Miller Highlights

June 2009 Supplement

Yellow or Purple Plants

Due to the cold, wet weather in May, there have been several recent examples of purple and yellow corn. Both are examples of short-term nutrient deficiencies caused by poor early root development and a reduced uptake and utilization of Phosphorous (purpling) or Nitrogen (yellowing). Often these plants are delayed and smaller in size. This condition is more pronounced in continuous corn fields and in compacted or wet field areas. There generally is not much yield damage being done unless the condition persists for extended period of time, but maturity will be delayed and these plants may be more susceptible to herbicide stress in this weakened state. Roger Elmore wrote on this subject <http://www.extension.iastate.edu/CropNews/2009/0605elmoreabendroth.htm> in the latest IPM Newsletter from Iowa State Extension www.extension.iastate.edu/CropNews

A solution to consider, if soils are dry enough, is to cultivate these fields for aeration or inject N into the soil to get more air and Nitrogen in the topsoil to enhance root growth.

Herbicide Stress

There have been many examples of herbicide stress this year. These usually occurred when it turned wet and cold at the time of spraying and are especially noticeable in double sprayed field areas. It is also a bit ironic that some of the fastest growing and best early vigor hybrids, showed the most damage, possibly due to taking in more chemical than other hybrids and not being able to break it down due to the cold.

- 1) The first common problem we have observed is damage from herbicides in the family of acetamides, which are seedling growth regulators or shoot inhibitors including Lasso® (alachlor), Frontier® (dimethenamid), Ramrod® (propachlor), and Harness®, Keystone® or Surpass® (acetachlor) or “generic Dual” (Dual® = metolachlor) products without a safener. Symptoms include leafing under-ground or tightly rolled leaves which are often partially trapped underground. This condition can have a significant impact on final stands and will ultimately impact yield.
- 2) A second common herbicide injury example this year is evident in fields sprayed with Balance Pro® or Radius® herbicides containing [Isoxaflutole](#) without a safener. Yellow and white bleaching and stunted growth are the symptoms observed with this herbicide damage (see picture below). This chemical can cause reduced stands and affect yields on the injured plants that survive.



Balance Herbicide Damage



Acetamide Damage