

When the Growing Season Ends Before the Crop is Mature
Notes from presentation made by Joel Ransom

Late planting coupled with below average GDD during the season resulted in considerable corn not reaching maturity in 2019 in North Dakota and Minnesota. The cool and wet conditions in October and November resulted in very little field drying of the corn. That coupled with conditions that were not conducive to harvest resulted in half of the corn in North Dakota remaining in the field this winter. In hybrid trials planted in early May in southeastern ND, grain moisture content exceeded 30% moisture in hybrids later than 90-day RM. For many of these hybrids, test weight was less than 52 lbs/bu suggesting that they did not reach physiological maturity. Potential yield losses associated with this short growing season were estimated to be less than 10% so the major challenges with the crop are discounts due to low test weight and high moisture levels, not yield per se. Incomplete grain filling may have been exacerbated by premature black layer formation that can occur when temperatures are below 55 degree F for a week. The rate of field drying is largely driven by the equilibrium moisture content and to a lesser extent wind speed and kernel characteristics. The equilibrium moisture content can be 20% or greater during the months of December through February, so grain should not be expected to dry below these levels until after the middle of March. Fields of standing corn sampled at the end of January averaged about 20% moisture content. Yield losses during winter of standing corn will depend on how well the crop stands, ear drop, development of ear diseases and damage caused by animals. Test weight values may be higher in fields left over the winter than when harvested wet and artificially dried, particularly at high temperatures, but will likely remain low if the corn was immature when the season ended.