

Description of oat growing seasons at Lafayette and Wanatah Indiana, 2008, 2009, 2010.

2010 Oat Growing Season: The seedbed at both Lafayette (the Agronomy Center for Research and Education - ACRE) and Wanatah (Pinney Purdue Farm) were prepared for oat seeding by discing after soybean harvest in fall, 2009. Fall seedbed preparation enables us to seed earlier in the spring, sometimes two to three weeks earlier than tilling the soil in the spring, because one does not need to get on the seedbed with heavy tillage equipment in wet soil conditions. We seeded at both Lafayette and Wanatah on March 19. Oat emergence and stand establishment were excellent at both locations. Temperatures were below normal until mid April, when temperatures abruptly became above normal and remained above normal through oat harvest, although luckily night temperatures were generally low enough so that night-time respiration was not excessive. Fortunately, rainfall was above normal with frequent rains throughout the growing season until mid grainfill. The warm and rainy conditions allowed excellent oat growth and grain development, resulting in high grain yield. However, rainfall decreased, and thus, soil moisture was limiting beginning in late June, reducing grain fill late in the oat growing season, so test weights were somewhat low, especially in later maturing oat lines. The rainy and sometimes windy conditions resulted in significant lodging, although this occurred late in the season, so grain yield was not significantly reduced. The typical oat diseases - yellow dwarf virus disease and crown and stem rusts, were negligible.

2009 Oat Growing Season: Nurseries were seeded March 6 at Lafayette and March 21 at Wanatah - in good soil conditions and reasonably early, especially considering the rainy spring season. Weather conditions were very favorable (cool nights and ample soil moisture) for oat crop growth and production until early June, when, although sufficient soil moisture continued through June, day and night temperatures were too warm for oats. By July 1, temperatures were quite high and soil moisture was limiting, reducing grain fill and test weight, although grain yields were good – likely due to extensive tillering and large panicles that resulted from the excellent conditions for oats earlier in the season. Yellow dwarf disease was significant and natural infection was uniform, resulting in very reliable disease notes from the yield nursery plots. Crown rust and stem rust developed very late in the season and were not significant, even on inoculated disease spreader rows.

2008 Oat Growing Season: Oat nurseries were seeded March 26 at Lafayette and April 7 at Wanatah – in good soil conditions and reasonably early, especially considering the rainy spring season. Weather conditions were very favorable (cool nights and ample soil moisture) for oat crop growth and production until early June, when, although sufficient soil moisture continued through June, day and night temperatures were too warm for oats. By July 1, temperatures were quite high and soil moisture was limiting, reducing grain fill and test weight, although grain yields were good – likely due to extensive tillering and large panicles that resulted from the excellent conditions for oats earlier in the season. Nurseries were harvested on July 15 at Lafayette and July 21 at Wanatah. Yellow dwarf disease was significant at Lafayette and natural infection was uniform, resulting in very reliable disease notes from the yield nursery plots. Crown rust and stem rust developed very late in the season and were not significant, even on inoculated disease spreader rows.