

Brief Summary of Minutes of Annual Meeting – July 12-13, 2012

The meeting of WERA-97 was held at Washington State University in Pullman July 12-13, 2012 and was hosted by Tim Murray. The meeting was held with the Western Wheat Workers and the Western Society of Crop Science.

Field tours for all three groups were conducted Wednesday afternoon to the Cook Farm to demonstrate georeferenced cropping systems research and the Spillman Farm to show regional and international wheat nurseries, T-CAP research and stripe rust and soil borne disease research. Additional field tours were conducted with WERA 97 members on Thursday afternoon to the Plant Pathology research fields to view Eyespot variety trials and Cephalosporium stripe variety trials being conducted by Tim Murray. Foliar fungicide trials conducted by Xianming Chen were observed on Friday morning.

On Thursday afternoon, the business meeting was held, followed by state reports. The 2013 meeting is planned for Pendleton, OR with the Western Wheat Workers. The potential for a joint meeting with NCERA 184 in 2014 was discussed. The meeting was adjourned at noon, July 13th.

Presentations

Dr. Sanford Eigenbrode from the University of Idaho, described research being conducted under a large interdisciplinary grant on Climate Change and Cropping Systems in the Pacific Northwest. Goals include adaption (development and use of new technologies); mitigation (use of practices to decrease warming and improve C and N use efficiency); Education and Extension; and capacity building (development of long term research, education and extension capabilities).

Cal Qualset from UC-Davis, described research conducted over the years with numerous collaborators on “Observation on and resistance to BYDV”. He considers this disease, along with the related Cereal Yellow Dwarf virus (CYDV), to be understudied and under-estimated in terms of significance as a disease of cereals. He presented considerations to be taken into account for breeding BYDV resistance into wheat and the critical need to do so.

Dr. Devon See, USDA ARS, presented an update on research funded by the Triticeae CAP grant, a \$25 million multi-institutional grant from USDA-NIFA. The vision of this research is to improve and accelerate the deployment of beneficial genes; improve the technology to do that; and train the next generation of breeders. The major emphases are on water use efficiency, nitrogen use efficiency, disease resistance (primarily the rusts) and education. Dr. See described the significant results that have been accomplished to date.

In addition, there were 19 posters available for viewing and time allotted for discussion with the presenters from all three of the participating groups.

State Reports

California

Lee Jackson reported that about 800,000 acres of wheat were grown, including hard red, hard white and Durum. Last year was very dry, with about 70% of the average yield. This, however, also resulted in fewer typical diseases. Stripe rust was wide spread, but symptoms were not severe. There were high levels of BYDV, but there was high variability in severity. There was some leaf rust and powdery mildew on wheat and barley. Xanthomonas bacterial streak and Russian wheat aphid were also detected. Dr. Jackson continues rust monitoring as part of the T-CAP project.

Idaho

Juliet Marshall reported a 2% increase in wheat acres and 500,000 acres of barley. The big issue has been drought, so she expects a poor crop in dryland areas but great if irrigated. There has been wind damage, heat damage and frost damage. An increase in the incidence of Xanthomonas has been seen. Wire worm incidence is high as is damage by Hanchen barley mealy bug. Cereal cyst nematode and Russian wheat aphid occurrences are also high. Stripe rust has been late coming in, so damage should not be too severe.

Montana

Alan Dyer reported that Montana was, overall, having average precipitation, but with some areas of high rain and others in drought. Total wheat acres were up 400,000 acres and barley up 200,000 acres. There has been some stripe rust, Fusarium Crown Rot and Xanthomonas. He has noticed a slow yield decline under irrigation; this seems associated with wire worm, but it is not clear if that is the sole cause. Bill Grey reported that stripe rust was bad in 2011, with varieties Genou and Decade susceptible. MT has released several new wheat varieties; Judee and Bearpaw winter wheats and Duclair spring wheat.

Oregon

Chris Mundt reported record yields in 2011. Fungicide applications controlled stripe rust and a warm winter increased winter survival. New rust resistant varieties are being developed; they are looking for quantitative resistance and hope to pyramid resistance genes. So far in 2012, stripe rust has not been a problem due to the weather. BYDV seems to be getting worse; in 2010, some areas saw 40% yield losses.

Washington

Tom Murray reported that the number of wheat and barley acres increased in Washington this year and precipitation has been above average. Stripe rust has been really bad, but growers were prepared and treating effectively. There is increased eye spot (*Tapesia* sp.) and *Cephalosporium* stripe; it is thought this was due to decreased fungicide use because of the increased use of resistance to other diseases usually controlled by spraying. The increased use of Clearfield varieties lacking resistance was also a factor. Snow mold was not an issue in spring 2012 due to a lack of snow cover. Soil-borne WMV (wheat mosaic virus) is an increasing concern which could cause greater than 20% yield loss. There has been increased observance of BYDV because of early planting. WSMV was also prevalent and widespread. Root lesion nematode and cereal cyst nematodes were present and widespread. Take-all was up due to high rainfall.