

SPEAKER AND POSTER ABSTRACTS HARD WINTER WHEAT WORKERS WORKSHOP

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SESSION I: ADVENTURES IN WHEAT BREEDING

The ghosts of wheat breeding – past, present, and future.

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Most public wheat breeding programs have a long and storied history in the Great Plains. They usually predate commercial programs, although farmer breeders made substantial contributions to early wheat improvement. Large companies often have a shorter history in wheat breeding but have invested considerable resources and have made, and continue to make, significant contributions to wheat improvement. Currently, wheat breeding is undergoing a resurgence of private investment and, as a community, we may need to develop new models for how we interact and how public breeders can be successful in the future. Globally, privatization has occurred in most developed countries. An obvious question is 'What have we learned from our past and the experience of other countries?' First, private investment is a good thing, and the wheat community benefits from greater investment. Hence, private involvement should be embraced and supported. Second, as a wheat community, we will need to decide the future we want to create and how we will determine success (we define ourselves). Clearly, both the public and private sector will evolve. Lessons that we should remember from the first major wave of private investment (when hybrid wheat became an objective and PVP extended intellectual protection to self-pollinated crops) are that 1. we remain a community, 2. we benefit from our collective efforts, and 3. public investment can harm or benefit private investment and vice versa. Retrospectively, a major flaw with our public efforts was that we did not embrace hybrid wheat breeding as an intellectual and practical concept. Only Karl Lucken in the public sector worked diligently on this effort. Private companies invested heavily, but the tools were insufficient and the corporate patience lacking to make this effort successful. Concurrently, public researchers in rice worked for years in the 'wilderness' and eventually created the hybrid rice industry that is now grown on millions of hectares. Accepting the advantages of transgenic traits has similarly limited wheat improvement. On a personal note, every program I have worked with (USDA–ARS, Monsanto, and now the University of Nebraska) has evolved based upon their unique needs and opportunities. Some of the things that I have learned over my career are: 1. Plant breeding is at its core a question driven science, 2. Plant breeding requires logistical and personal skills, and 3. You determine how its impact will shape your program. I also learned that to be successful, it is first important to find a job you love, because you will never work a day in your life (Confucius). Second, be an optimist. Most people prefer to work around happy people. Also, be generous with your time, and when you accept a request, never give it anything less than your best effort. Others count on you and do not let them down. Finally, learn from others as they will teach you what and what not to do, and both are valuable.