

## CASE EXAMPLES IN PROCESS IMPROVEMENT FOR BIOBASED PRODUCTS FIRMS

*Scott Leavengood*  
Oregon State University  
119 Richardson Hall  
Corvallis, OR, USA

Many times when it comes to process improvement initiatives, hearing examples of how others have approached similar efforts inspires us to take action. And of course, we also get specific ideas from these examples for how we might undertake something similar and potential pitfalls to avoid. Further, while the rare individual or organization may begin the continuous improvement journey by investing in high-tech systems for process monitoring, more commonly firms prefer to begin with familiar systems and software, gain experience ('get their feet wet'), and then explore more advanced systems. In addition, without proper training and follow-up, more advanced tools such as real time measurement and data analysis systems often result in being little more than mysterious 'black boxes' for which only a handful (at most) of personnel in the mill understand how the system works and more importantly, how to interpret and act upon the outputs.

With this as background, this presentation will focus on three case examples of the use of relatively simple tools and techniques for process improvement in biobased products firms. Examples will include 1) the use of Excel for Pareto charts, histograms, and statistical process control (SPC) control charts to solve a problem related to excessive variability in part dimensions for a firm producing small wood components; 2) use of Excel to help a firm integrate its customer orders, inventory data, and product configurations in order to develop the daily production schedule for the mill; and 3) the use of Excel as well as specialized Design of Experiments software to solve challenges with product performance and to optimize processes.

Each case will be presented from the standpoint of what inspired the organization to improve their processes, the specific steps that were taken, benefits obtained, lessons learned, and what the firm did to sustain the gains.