P09712: Commercial Roll Line Shrink Reduction

Faculty Lead: John Kaemmerlen

Team Members:
- Evan DeCotis (IE)
- Levi Stuck (IE)
- Joseph Fitzery (IE)
- Cinthia Sanchez (ME)
- Ryan Dennison (ME)

**Problem**
The Wegmans Bakery in Rochester is responsible for producing over 8 million packages of fresh rolls a year. There is a defect rate of 4-12% across their product lines. The goal of the project was to discover the cause of the defects and to reduce their occurrence.

**Key Objectives**
- Weeks 0-11
  - Why is the rate so high?
  - What causes defects?
  - Where do defects occur?
  - When are defect rates highest?
- Weeks 11-22
  - Create and implement new process procedures.
  - Design and install visual aids for workers.
  - Collect follow-up data on process improvements.
  - Create performance management checklists for managers to follow.

**Defect Graph**
- Most defects were Dry Hamburgers.
- Highest defect rates with 2 K-Roll Machines running.
- Generated 3 areas of process improvement.

**Quality Control Visual Aid**
- Groups of four rolls come at a rate as fast as 1 every 0.5 seconds.
- Visual aids for workers reduces stresses of knowing when a roll is a defect.
- Barely passing rolls are shown along side a perfect roll to compare.
- A visual aid was made for each different categories of roll.

**Visual Aid Stand**
- A visual aid stand was designed and created to hold the roll pictures above.
- Each group of rolls shown in the K-Roll Machine Speeds has a set of pictures.
- The stand is easily removable to allow access to both sides of the conveyor.

**Prevention of Dry Spots on Rolls**
- Dry spots occur from exposure to dry and cold air.
- Most defects are seen on the top tray on a rack.
- The rack cover prevents direct air blowing on rolls.

**Results**
42% reduction in defects for Hamburgers (9.5% to 5.5%), and a 32% reduction in Hot Dogs (5% to 3.5%)!