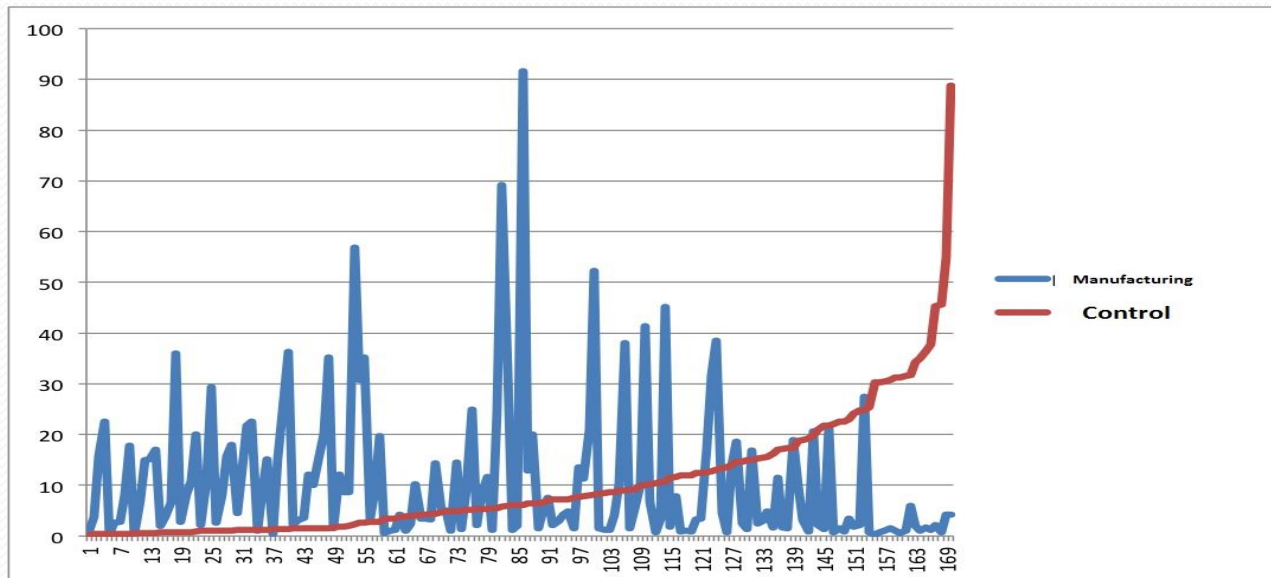# Process Control

By: Sergio Valle

Staying in control of your process

Process Control:

Is a system used to streamline your production input and output, ensuring that your product is consistent and of highest quality. This allows you to operate at targeted levels of performance with normal variations. And also allows you to have better control and knowledge of your operation.

Why do we need to measure?

If you cannot measure an activity you cannot control it.

If you cannot control it you cannot manage it.

So without dependable measurements, smart

decisions cannot be made.

Measurements can be used for;

1. Controlling – to reduce waste, costs and improve efficiencies and productivity.

2. Self-Assessment – they can be used to assess how well a process is doing

3. Continuous Improvements – Measurements can be used to identify process trends, problematic areas, and determine process effectiveness as well as opportunities for improvements.

4. Management assessment – helps in better planning and detecting deviations from planned levels and allows restoring performance to planned levels, achieving goals.

What is the foundation for a Process Control System?

For a successful Process Control systems work need to stick to these principles.

- Measure only what is important. Do not measure too much; measure things that impact your production.
- Focus on your product specs and identify variabilities
- Most important is to involve your employees, so they can understand what and why you are measuring and communicate results.

What are the most important reasons to implement a Process Control System?

1. To Reduce Variabilities
2. To Increase Productivity
3. To Increase Efficiencies
4. To Control Cost

1. Reduce Variabilities

By reducing variabilities in your process you can ensure a consistent high quality product.

a. Ingredients – analyze and inspect incoming materials, help control consistency

b. Measuring – apply smallest measuring units to obtain most consistency product and most accurate measurements. Example: using ounces and grams

c. Temperatures – determine proper masa/dough temperatures

d. Moistures - maintain adequate moisture percentage to ensure smooth runs and consistent bake.

e. Weights - controlling your weights helps keep consistent bake, size and overall controls your finish weights.

2. Increase Productivity

To improve productivity we must implement controls and apply desired ranges along with proper team, and equipment.

a. Form strong "TEAM"
- Production Operators
  - Should be capable of setting equipment and maintain product within set ranges to ensure highest of quality and output.
- Quality Control
  - gather analytical data and inform operators so as to help guide them in the process
- Maintenance
  - Must have proper PM's in place (Preventative Maintenance Program) in order to control downtime
- Sanitation
  - Have a Foods Safety and Sanitation Program in place.

b. Have a better understanding of you process and when to take corrective actions

c. Have ability to track your progress and focus on areas that are problematic.

3. Increase Efficiencies

By being proactive maintaining control of your process you can maximize efficiencies.

- You will have less waste and more productive runs
- You will have less downtime
- Better control of your production scheduling
- Better control of labor, employees will work under better conditions

4. Control Cost

When you have minimized variabilities and maximized efficiencies you have improved your costs and have better control of your manufacturing.

- Keeps you with in your budget
- Gives company ability to be more competitive
- Allows for potential improvement projects

How to implement a Process Control System

1. Identify critical control points throughout your process
2. Monitor and gather analytical data to demonstrate variabilities
3. Measure using time charts and entering data gathered
4. Identify variabilities
5. Implement improvement projects
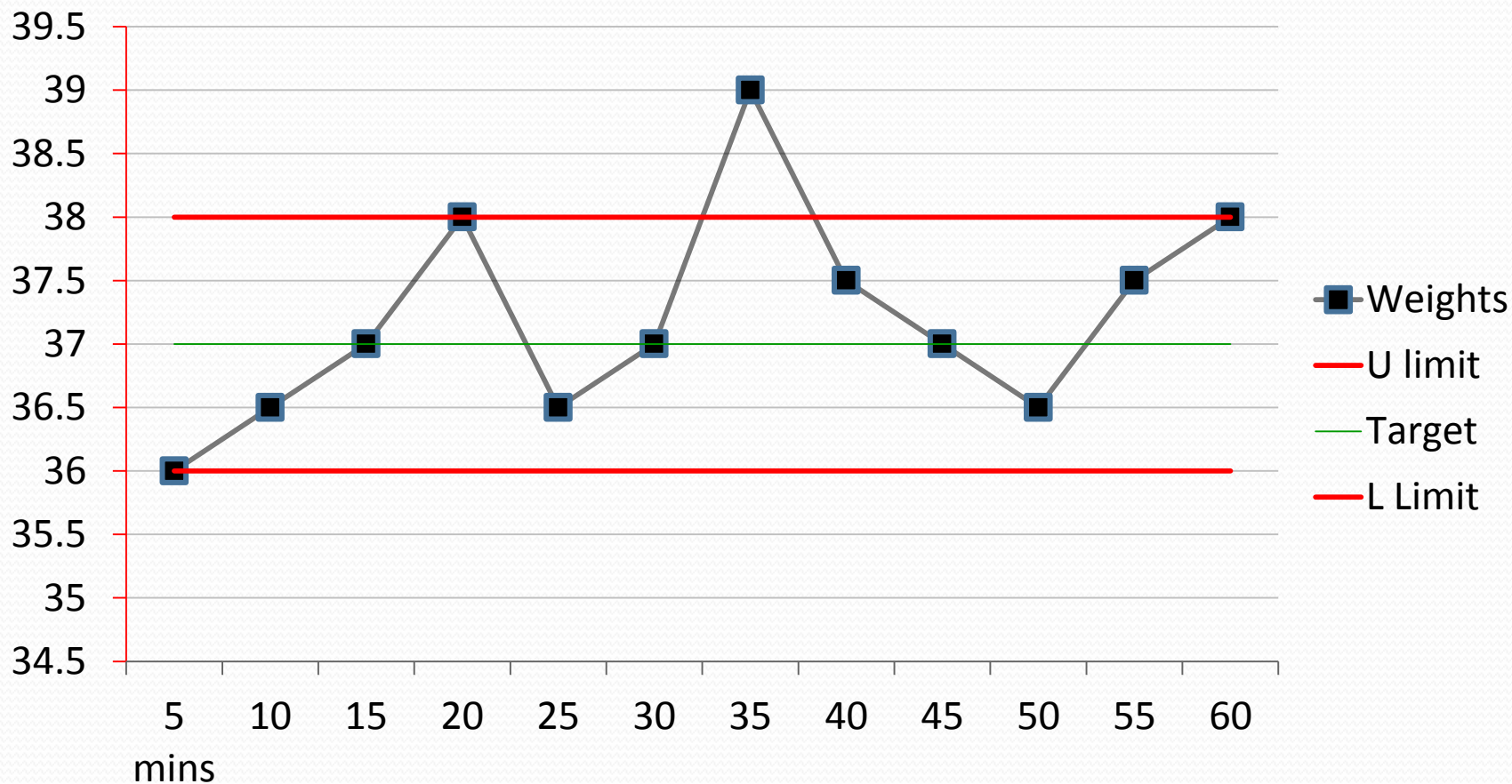
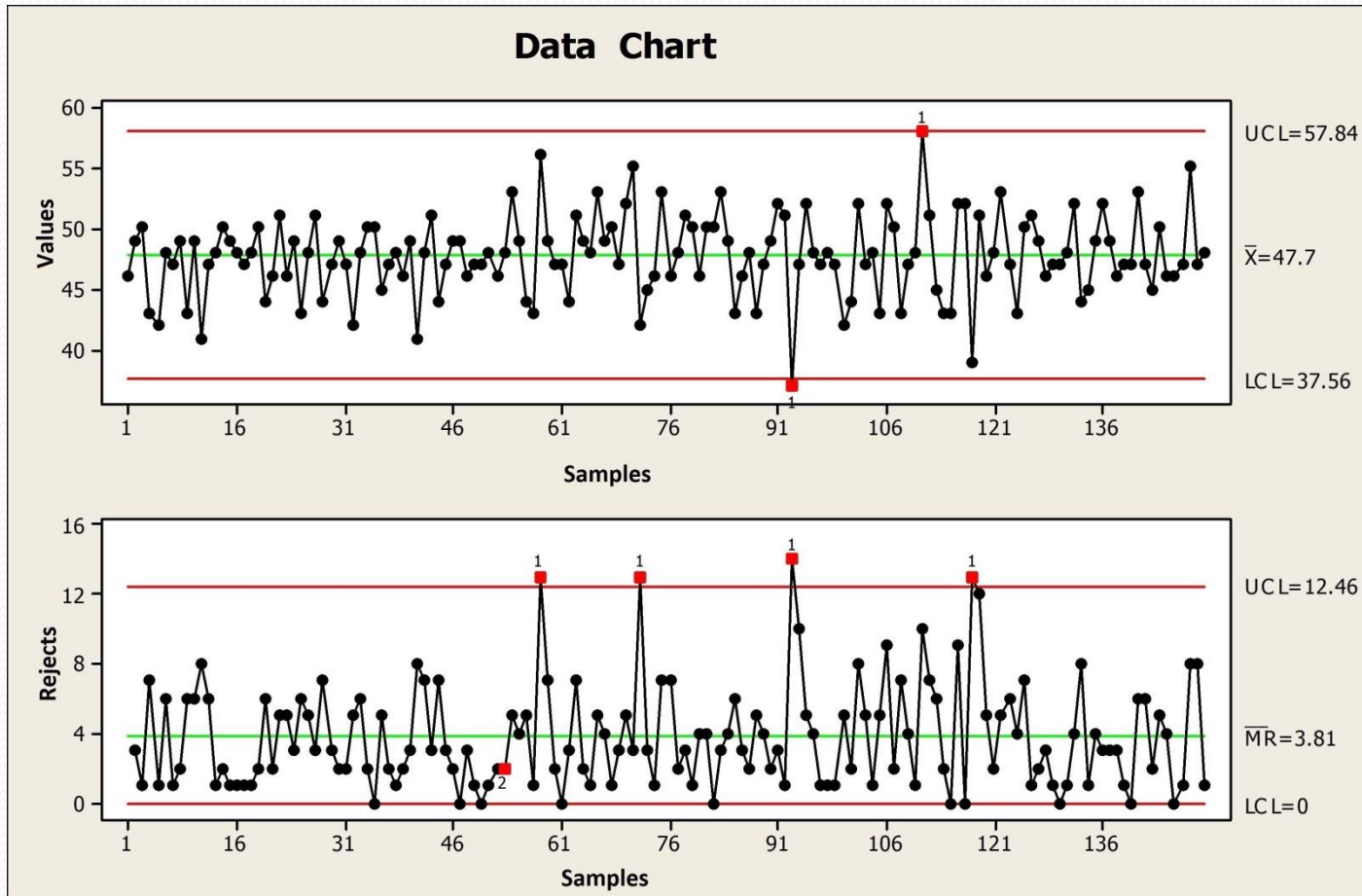# How to set up Process Control Charts

Example:
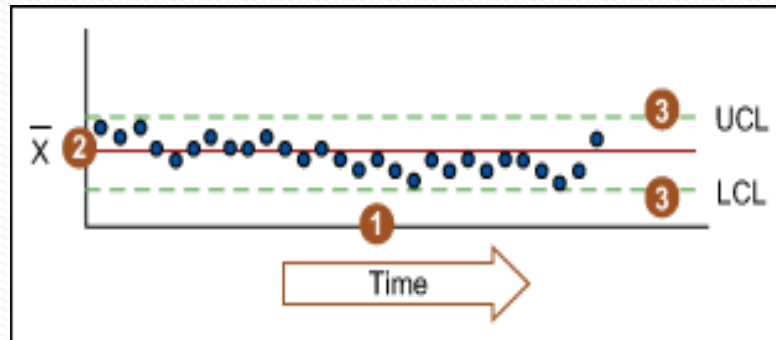
- Time line
- Set Point
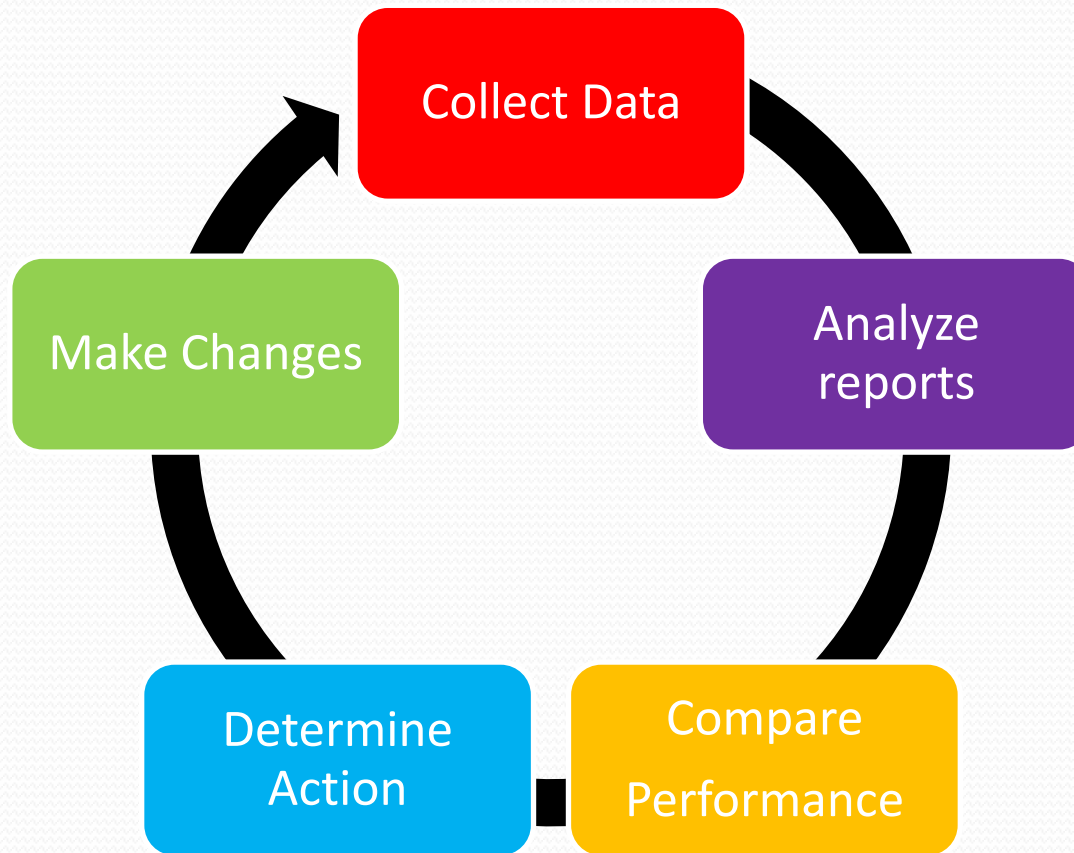- Upper Control Limit
- Lower Control Limit

Weight Chart

Target 37.0 gr ± 1.0 gr

Example: tracking samples

Tasks necessary for process Control to work:

Set Goals for employees

a. Make them attainable
   - Should be met with reasonable efforts

b. Make them applicable
   - If conditions vary make them flexible to meet such variables.

c. Be Consistent
   - In order to keep motivation up