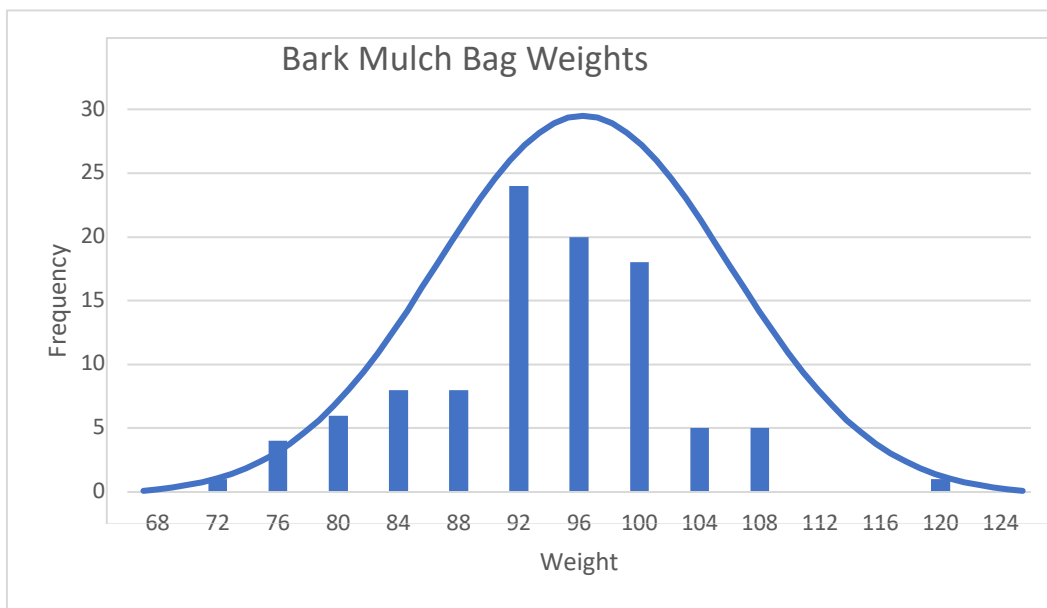


Statistical Process Control Report

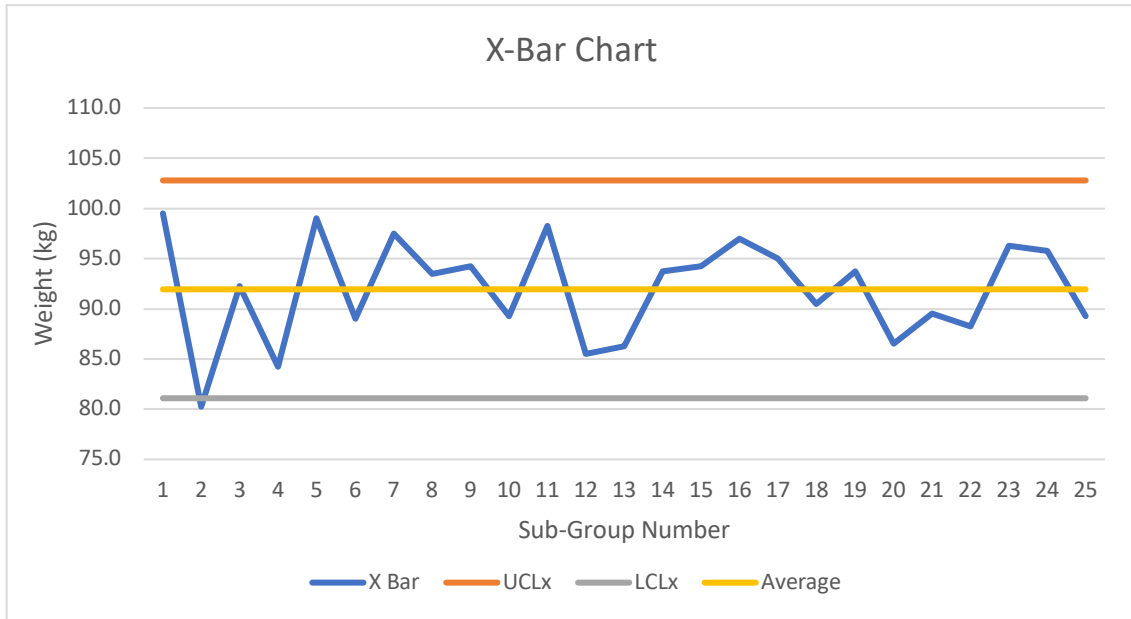
The purpose of this lab was to analyze these 25 groups of data that contain 4 cypress bark weight readings. The specifications were that there is a minimum of 75 kg and a maximum of 130 kg for each bag. The assignment was to learn how to create and read four different types of charts, an average chart, range chart, x chart, and a histogram, which were then used to find other values such as C_p and such.



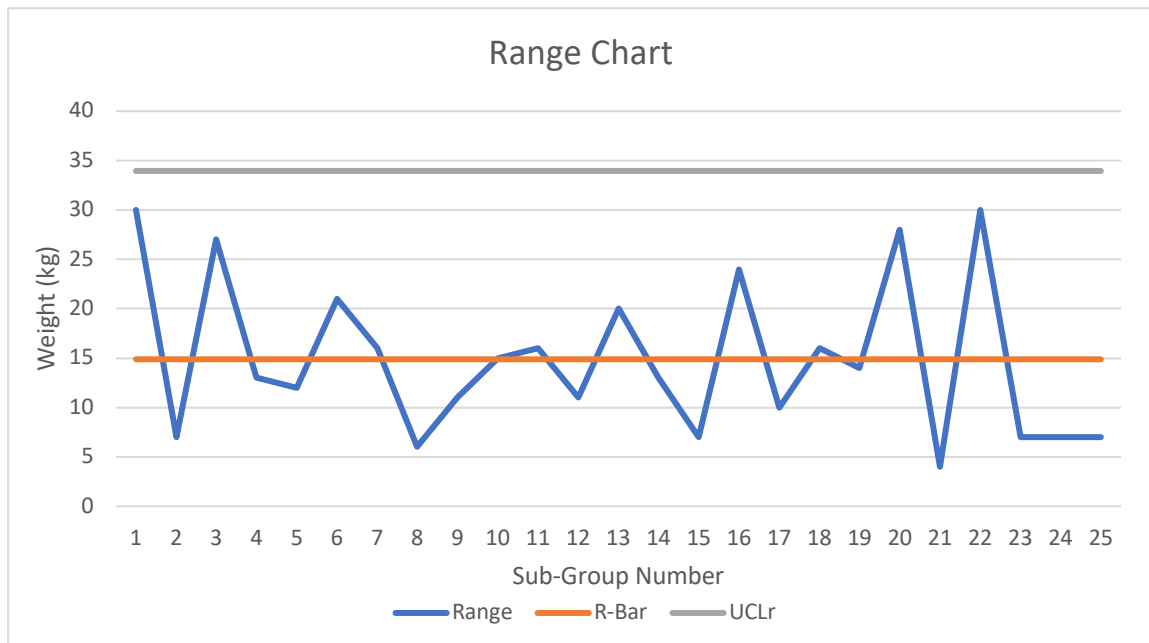
After we see and analyze this histogram, we can clearly see that the process is skewed to the left because the data is leaning more towards the lower control limit of the data. The line chart with the histogram compares the normal distribution curve from the statistical analysis.

SPC	
$C_p =$	1.268425
$C_{pk} =$	1.109511
STD. DEV. =	8.2619

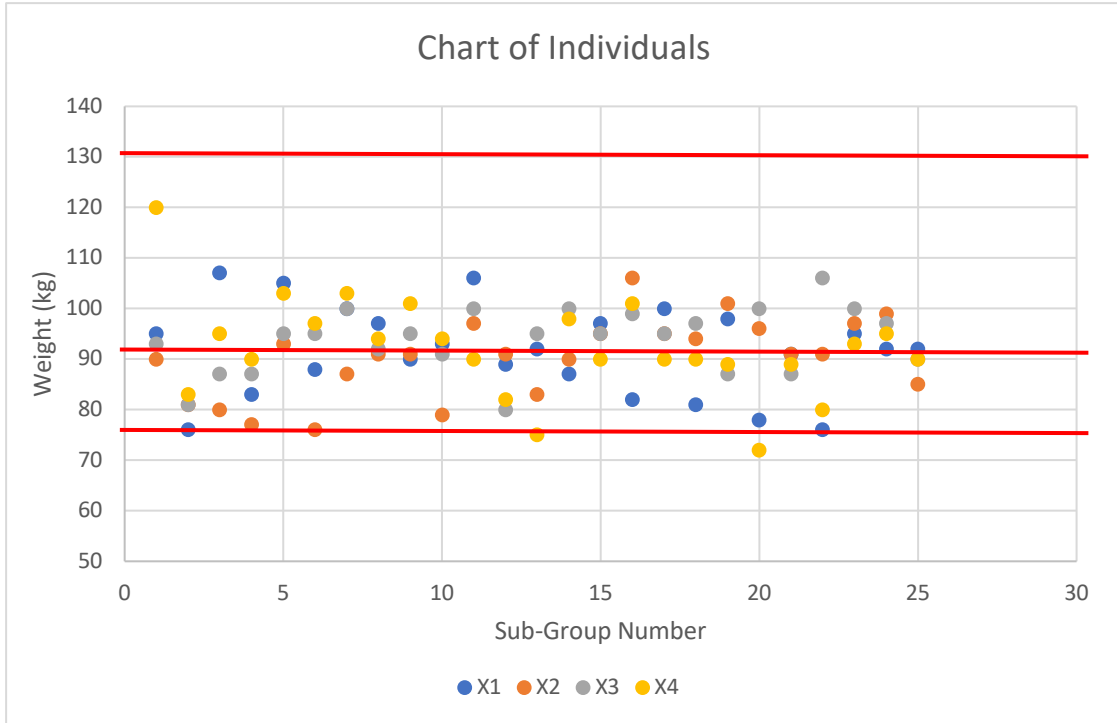
As you can see from the table above, the C_p values are different as one of the values is calculated using the direct data given, whereas the other is calculated using the method of the control charts.



The X-Bar chart that is shown above is to show the comparison of the average of each subgroup to the average of the overall data. The x axis in the chart represents the Sub-Group Number whereas the y axis represents the Average Weight. The orange line is the Upper control limit, the yellow line being the average, and the grey line is showing the lower control limit. The only sub group that is outside of the control limits is subgroup 2.



A R-Bar Chart is used to show the range of the subgroups. The x axis on this chart represents the Sub-Group Number, whereas the y axis represents the Average Weight. The orange line on the chart represents the average range of the subgroups. And the grey line on the chart shows the upper control limit.



The above chart is a chart of individuals, better known as a x chart. The x chart is used to show each and every individual piece of data compares to the overall data given. The top red line shows the upper control limit of the chart, and the bottom red line shows the lower control limit of the chart. The middle red line shows the average of the data set. In this chart, you can get a better sense of which exact point are outliers in the data set.