Amore frozen foods essay

Assumptions: -Production Rate 1, 000 dozen pies every 20 minutes -Monthly Production – 60, 000 dozen pies -Yearly production – 720, 000 dozen pies – Thrift store demand – 240 dozens per month -Thrift store storage max – 1000 dozen pies -Rejected batches are first sold at the Thrift Store and excess donated to charity -The threat of situation similar to energy crisis period is minimal and fines for substantially underweight pie is nonexistent -Five samples taken from QC during manufacturing are independent Questions: What is the potential risk for the company if the fill target lowered to 8. 2 oz per pie? What are the actions should you recommend to Mr. Jenkins? Current situation: Fill target 8. 44 oz.

Five Samples taken from every batch of 1, 000. (Please find conversion table of the sampling and averages on Appendix 1) Advantages: Based on the current fill target more than 95. 45% of packages are with weight above 8oz and probability of package to be underweight is less than 0. 0063 % (more than 4 STD from the mean) z=(8-8.

49)/STD/SQRT/(5) Potential fine for underweight package is practically nonexistent. (We apply the Central Limit Theorem) Disadvantages: Based on the higher fill target every pie is filled with additional 0. 22oz of macaroni and cheese, which add a significant cost. The annual impact is 0. 22oz* 60, 000*12 (dozens)*12(months) = 1, 900, 800 oz.

The cost is 1, 900, 800*1. 82/8. 44= $ 409, 888. 15. This is a significant opportunity for savings given the current no energy crisis and. Change of the fill target to 8.

22 oz. Advantages – Savings of $ 409, 888 which is a considerably high amount Risk -Probability that a batch of 1, 000 will be lower than 8 oz will be: z=(x-m)/STD/SQRT (5) or (8-8. 2)/0. 22/SQRT (5)=-2.

24 If z=-2. 24 p= 0. 0125 or probability of a batch to be less than 8oz is 1, 25%. This could give an annual impact of 9, 000 dozens or 108, 000 pies. As the FDA charge is $ 15 for an underweight batch less than 7. 50 oz we can find what is the probability to have such pie.

z=(x-m)/STD/SQRT (5) or (7. 50-8. 22)/0. 22/SQRT (5)=-7. 32 which means that this is more than 6 STD of the mean and probability to have a pie with weight less than 7. 50 oz is less than 4 per million pies or less than 35 pies for the whole year manufacturing.

From practical purposes the risk for such package could be considered as a " 0". Given the potential of 108, 000 pies to be less than 8 oz and capacity of the thrift store of approx 240*12(dozens)*12(months) = 34, 560 packages where the cost will be recovered the company can experience a loss of 73, 440 pies or 73, 444*$3= $220, 320. This is half of the benefits that could be gained lowering the fill target to 8. 22oz.

After further analyses we would recommend to Mr. Jenkins to hire two more Quality Inspectors for control of the process. This will add $ 49, 920 additional cost but will decrease the inspection process to 1/3 of a time. Once this implemented the potential annual impact would be 36, 000 pies and 34, 560 could be sold through the thrift store. The new Quality Inspectors could be utilized in some other product lines when macaroni and cheese line is not running and help resolving other quality issues.

Based on the use of these two employees the company would benefit at least $ 359, 968 additional cots savings. Based on the data above we would recommend the fill target to be reduced to 8, 22 oz.