# Leftovers to Livestock: Turning Leftover Human Food Waste into Feed for Livestock with Consistent Nutrient Values

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A staggering percentage of our time and resources are spent on food production in the U.S. each year, and just under half of the food made goes to waste. This project investigates the possibility of turning this leftover food into a livestock feed by studying the amount and consistency of nutrients throughout the leftover samples. The samples were collected from varied restaurants and establishments and then ground up. The samples were then taken to a lab where specific nutrient values and dry matter content of each were calculated and then compared to the ideal values that a high-value marketed livestock feed would contain, which I found through research. In my hypothesis, I stated that the nutrient values would not remain consistent enough, or contain the correct ratios to make into a viable livestock feed. The experimental results supported my hypothesis by showing that the nutrient values were not close enough to the ideal values to make a livestock feed. With this information, I concluded that additives containing more of the specific nutrients that were lacking could be added to the samples as needed, or some of the different samples could be mixed to make up for eachothers' lack of specific nutrients. When I pursue this idea further, the samples (once they contain the correct nutrients) can be put through a pellet press, and made into the livestock feed that could potentially save us fresh water, land, energy, and money in the future by simply recycling food back into food.

**Awards Won:**