# VII. Results and Demonstration

The vegetable cutter was able to repeatably cut squash and cucumbers into 3/16" slices. It was able to accommodate vegetables of various sizes while still cutting smoothly and quietly. As seen in the videos on the right the knife follows a similar motion profile to that of a professional chef and the indexer incrementally moves the vegetable under the blade to make uniform slices.

One limitation of this device is that after running at high power to cut carrots the cam follower was sheared of the carriage due to the carrot slices getting jammed after being cut.

The most important improvement to make to this mechanism is to make the overall design more safe while still maintaining visibility of the different components. To achieve this food safe bearings, stainless steel components and sealed electrical enclosures could be used to allow for easy wash down of the device while preventing foodborne pathogens from proliferating. The device should have a guard over it preventing access to the knife while it is in motion.

The revised design should be more compact overall and should be able to cut tougher food such as carrots and cheese with the use of a more powerful motor. Finally the overall control of the device could be improved with the use of limit switches at the extremes of travel for the indexer carriage allowing it to automatically stop when the vegetable is sliced and to return to its starting position.

Source: BTLS Source: Global Sources