

**CIRAS USDA BioPreferred<sup>SM</sup> RESEARCH REPORT ANNOUNCEMENT**

Comparison and Analysis of Biobased/biodegradable and Petrochemical Cutlery Flexibility  
Master of Science Thesis

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The plastics industry is currently the third largest manufacturing industry in the U.S., grossing \$374 billion in annual sales and employs more than 1.1 million workers. Resins that are used to manufacture non-biorenewable plastics are 95% petroleum-based. Biorenewable plastics are one potential solution to the growing problems of pollution caused by petroleum-based plastics, overcrowded landfills and America's dependency on foreign petroleum.

- Thirteen biobased/biorenewable cutlery brands and six petrochemical cutlery are compared.
- Bioplastics are made from dextrose (sugar) and glucose that is derived from field corn.
- The Commercial Item Description (CID) created by the General Services Administration (GSA) is the standard that defines the basic governmental specifications for biobased cutlery.
- Characteristics of weight, stiffness, maximum load at failure and specific stiffness (stiffness/weight) were tested.