Task Book Report Generated on: 07/05/2025

PI Name: Cooper, Maya M.S. Project Title: Literature Review of Factors Affecting Food and Nutrient Stability Division Name: Human Research Program/Discipline: HUMAN RESEARCH Program/Discipline- Element/Subdiscipline: HUMAN RESEARCH—Space Human Factors Engineering Human Research Program Elements: (1) SHFH:Space Human Factors & Habitability (archival in 2017) Human Research Program Risks: None Space Biology Element: None Space Biology Cross-Element Discipline: None PI Email: mava.cooper@mass.gov Fax: FY PI Organization Type: NASA CENTER Phone: 281.483.1892 Organization Name: Leidos/NASA Johnson Space Center PI Address 1: 1300 Hercules MC:C09 PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 22 Comments: Project Type: Ground Solicitation / Funding Source: Directed Research Start Date: 0930/2013 End Date: 0331/2015 No. of Pab Candidates: No. of Master' Degrees: No. of PD Candidates: No. of Master' Degrees: No. of Master's Candidates: No. of Master' Degrees: No. of Master's Candidates: Monitoring Center: NASA JSC Contact Monitor: Douglas, Grace Contact Phone:			
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Key Personnel Changes/Previous PI:	ey Personnel Changes/Previous PI:		
COI Name (Institution):	OI Name (Institution):		
Grant/Contract No.: Directed Research	rant/Contract No.:	Directed Research	
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NASA, in planning for long duration missions, has an imperative to predict and plan for the shifting nutritional queries of space food provisions to ensure sustainment of crew health and performance. No cumulative source of nutrient kinetic information is available for perusal. The purpose of this task is to conduct a literature review of nutrient degradation kinetics under different processing, storage, and formulation conditions. The review will identify whe information is insufficient and must be measured empirically in the space food system to determine the expected lenutrition. The Specific Aims are as follows:		of space food provisions to ensure sustainment of crew health and performance. No cur kinetic information is available for perusal. The purpose of this task is to conduct a lite degradation kinetics under different processing, storage, and formulation conditions. The information is insufficient and must be measured empirically in the space food system nutrition.	nulative source of nutrient rature review of nutrient he review will identify where
Task Description: 1. Review current scientific knowledge on degradation kinetics of naturally present nutrients under various process and storage conditions that potentially will be used for spaceflight foods, and within the context of different ingred	<u></u>		

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	interactions and product structural matrices. 2. Review current scientific knowledge on fortification nutrient stability under various processing and storage conditions that potentially will be used for spaceflight foods, and within the context of different ingredient interactions and product structural matrices.
Rationale for HRP Directed Research:	The review will contain both published and internal NASA documents on space food stability - information not accessible to the general public. Additionally, the processing variables which impact the stability of space food are well understood by the space food experts assigned to task.
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2013.
Bibliography Type:	Description: (Last Updated: 04/23/2019)