

Title: World Fact Book of Food**Principal Investigator:** Amy Kircher, University of Minnesota-Twin Cities**Center of Excellence:** Food Protection and Defense Institute (FPDI) (Emeritus)**COE Lead/Co-Lead Institution:** University of Minnesota**Project Start Date:** 07/2015**Project Completion Date:** 06/2016**Project Status:** Complete**Research Theme:** Information Sharing**Participating State(s):** Minnesota**Amount Awarded to Date:** \$107,477**Award Number:** 2010-ST-061-FD0001

Abstract: Throughout FPDI's tenure, there have been repeated requests, requirements, and inquiries for a central reference repository that holds data on food. These requests have come from government and industry alike to support risk and vulnerability assessments as well as understanding real-time disruptions to the food system. In support of various projects, FPDI has collected some of this data for use to meet specific Center needs. This project proposes to build a factbook patterned after The CIA World Factbook to serve as a central reference for the food and agriculture sector. Both food and country profiles will be built to support food and agriculture activities occurring from farm to fork. Food products and country profiles will be prioritized according to production or history of high risk foods. Data will include, but not be limited to, typical production (e.g. yields), standards (e.g. grading, testing), value, rankings, adulteration and contamination events, and typical product flow.

Project Type: Research**End User Engagement:**

- Academic Community
- DHS Science and Technology Directorate
- Food and Agriculture Industries
- Food and Drug Administration
- U.S. Department of Agriculture

Executive Summary (2016): Throughout FPDI's tenure, there have been repeated requests, requirements, and inquiries for a central reference repository that holds data on food. These requests have come from government and industry alike to support risk and vulnerability assessments as well as understanding real-time disruptions to the food system. A variety of situations may require the food and agriculture sector to perform rapid risk and vulnerability assessments, particularly real-time disruptions to the food system. While a large amount of data exists to support these efforts, current challenges of existing reference databases include limitations in accessing multiple data elements for a single food product in one location lack of dynamically updating data. The World Factbook of Food addresses this need by serving as a central repository for data related to food with infrastructure that can support dynamic updates of data. This project developed a prototype of an online factbook patterned after The CIA World Factbook to serve as a central reference for the food and agriculture sector. Both food and country profiles were built to support food and agriculture activities occurring from farm to fork. Referred to as the "World Factbook of Food," the system includes data such as food and non-food uses, product codes, standards and grades, consumption, production, trade, processing and supply chain characteristics, and food safety and defense concerns. FPDI focused on a prioritized list of "high risk" foods and countries for the initial prototype. High risk foods were defined as those that either had

a history of adulteration for economic purposes, were a likely target for intentional adulteration from a non-EMA food defense perspective, or were major commodities based on global production whereas high risk countries were defined based on their role in the global food trade, food trade with the United States, and geopolitical concerns. FPGI developed "data maps" to consistently capture data from the same sources across profiles. The World Factbook of Food leveraged data and information from a diversity of sources, including the Food and Drug Administration, the United States Department of Agriculture, CODEX, Food and Agriculture Organization, World Health Organization, CIA, internal FPGI databases, as well as trade and industry groups and online journals and university databases. As of June 2016, profiles for over 100 high risk foods and over 70 countries were developed. In collaboration with an IT development group, FPGI developed a custom technology solution to store data, provide a streamlined data entry interface, and display profiles through a user-friendly interface. Additionally, automatic refreshing of data was programmed into the prototype for a select group of data points. World Factbook of Food can be accessed online at <http://facts.foodprotection.io/>. At present, only a select group of profiles are publicly available. FPGI will be offering access to the full suite of profiles in the near future, although specific terms of that access are to-be-determined.

Contact Information:

Food Protection and Defense Institute
University of Minnesota - Twin Cities
R285 LES Bldg
St. Paul, MN 55108
612-624-2458
fpdi@umn.edu