The Chemistry of Food: Mapping the Emergence of Industrial Agriculture in Federal Farm Science

Prof. Josh MacFadyen
History

The Central Experimental Station of the Canadian Federal Department of Agriculture was established in Ottawa in 1886 as the nerve center of a network of agricultural experimental stations. The career of its first and most important chemist, Frank T. Shutt, spanned the next 47 years, and his tenure reflected and shaped key transitions in both the scale and the orientation of Canadian agriculture. The nation’s farms grew dramatically with the end of Eastern settlement and the complete transformation of the Western plains, but the most important shift from an environmental history perspective was the intensification of industrial agriculture through the adoption of chemical fertilizers and the related decline of mixed husbandry. Shutt also reflected changes in federal farm science. Shutt spent at least the first two decades of his career using chemistry to promote the use of organic soil management such as nitrogen-fixing legumes and improved manure and livestock use. However, by the 1930s, Shutt began to work more closely with the chemical fertilizer industry and he adopted a more intensive approach to agriculture based on the application of synthetic chemicals.

Research assistant's duties:
The professional letterbooks of Canada's top federal farm chemist, Frank T. Shutt, covered an immense geographic area and over 45 years of Canadian history (1888-1933). The content of these letters represents a critical period of agricultural chemistry and federal farm policy history; by helping to process and map the correspondence the research assistant (RA) will contribute to a future publication on these trends. The RA will meet with Prof MacFadyen in person or via videoconference for an initial training session followed by shorter fortnightly updates. The RA will read the federal chemist's correspondence online, and create a database of the content and metadata that will be readable by both Geographic Information Systems (GIS) and Qualitative Data Analysis Program (QDAP). No technical expertise beyond MS Office or Google Documents is required, but a familiarity with databases and GIS would be an asset.

Required skills, languages or qualifications:
Required: English language research using primary sources; Desirable: reading-level knowledge of French

Skills student will acquire:
The student will acquire a knowledge of primary source archival research, database development, and geospatial data preparation. Research in these primary sources will also enhance the student's knowledge of Canadian and US historical geography, and it will provide the student with a greater knowledge of early twentieth century applied chemistry, agriculture, and federal farm science.