Experiment Station Dietary Studies Prior to World War II: A Bibliography for the Study of Changing American Food Habits and Diet Over Time

Robert Dirks and Nancy Duran*

Anthropology Program and *Milner Library, Illinois State University, Normal, IL 61790–4640

ABSTRACT Dietaries reported by previous generations of researchers, originally collected to advance the science of human nutrition, now have considerable value as primary historical documents. USDA experiment station reports and bulletins represent the single largest collection of such documents. Our annotated bibliography of experiment station studies is meant to facilitate their use in historical and other diachronic studies of American food habits and diet. J. Nutr. 128: 1253–1256, 1998.

KEY WORDS: • American food habits • diet history • agricultural experiment stations

The bibliography presented here contains references to studies of the American diet from the earliest days of fieldwork to the beginning of World War II. Its purpose is to draw attention to the great wealth of history produced as the unintended legacy of early dietary studies.

Field scientists always write history whether they are aware of it or not. Depending on the subject, it may be cultural history or cultural history, but seldom is it the main purpose of the work. The history emerges from the background of facts. Although collected to address current issues, the issues sooner or later become matters of the past.

Human nutritional data became subject to this ineluctable process once investigators stepped out of their laboratories to record what people ordinarily ate. The discipline at that moment took on an ethnographic dimension and in the process, began producing a stream of papers and monographs destined in time to become primary historical documents. Today those documents go back more than 100 years. There have been immense changes in the science. What was conceptually and methodologically leading edge a century ago has less worth as far as today's work is concerned. But, yesteryear's field data remain valuable, particularly in the eyes of those concerned with developing diachronic perspectives on food habits and diet.

The dietaries collected by previous generations of researchers should be of utmost interest along those disciplinary borders where nutrition, anthropology and history meet. The past 25 years have witnessed the development of cultural nutrition, nutritional anthropology and a florescence of food and nutrition-related historical studies. Yet, there appears to be little awareness from any quarter of the wealth of reliable, systematically collected information that lies waiting in decades-old field reports. These data beg to be recycled into social and historical investigations and the kind of evolutionary food systems research envisioned by Jerome (1981).

We see our bibliography as helping facilitate this. It focuses on dietary studies conducted under the auspices of the USDA Office of Experiment Stations and its state affiliates. We exclude other works in the interest of economy. Were we to include experiment station projects dealing with related topics such as cooking or food budgets, the bibliography would more than double in length. It would likely double again were we to include reports appearing under the imprint of other organizations.

Although the construction of an even more extensive list of works remains a goal, there is no question that the dietary research of the experiment stations is the place to begin. Altogether, experiment station reports and bulletins represent the largest body of work about food intake. The stations initiated and published nearly all of the very early studies. The data are easily situated in fairly precise social context and analyzed in light of other historical materials because researchers for many years reported consumption by household instead of lumping data together. In some studies, such as the work of Atwater and Woods (1897) on black families in Alabama, the report itself contains considerable information about the economic and social environment. Knowledge of local conditions environing food habits and nutrition received a big boost in the mid-1920s when the experiment stations undertook work in the areas of home economics and rural sociology.

Our citations come from the Experiment Station Record, Agricola and various other sources. The Experiment Station Record, the richest source of references, was published by the Office of Experiment Stations from 1889 until 1946. It ran through 95 volumes, providing an on-going account of research attuned to agricultural and rural interests. The Bibliography of Agriculture superseded it and continues to be published both under its own name and, in electronic form, as Agricola. Citations to many other dietary studies can be found in Agricola thanks to a retrospective project at the University of Illinois at Urbana-Champaign (Thomas 1988).
Our bibliography orders citations by date. The dates cluster into two periods. The first, running from 1891 through 1911, can be referred to aptly as the “Atwater Period.” W. O. Atwater originated American field investigations and set the standards for the period. Research dealt with various individuals and groups, but most often the unit of study was the family household. Atwater’s method was to weigh the food on hand and all of the food entering the house for at least a week. Researchers calculated the quantity consumed by deducting from the total weight whatever went out the door as waste and the food remaining at the end of the study. Reports usually included a brief description of household members, their activity levels, a list of the foods consumed, an analysis of the foods, and tables showing the energy, carbohydrates, fats, and protein consumed per 150-pound, moderately active, adult male (or his equivalent) per day.

The second period of station dietary studies began in 1926. At this point home economists and rural sociologists brought diverse formulas to the enterprise; generally speaking, however, the use of household account books, recall interviews and survey questionnaires expanded the scope of inquiry beyond a handful of households. Nutritionally, protein and energy were central but not fats or carbohydrates as such. Researchers added data on vitamins and minerals as knowledge increased, rated diets against then current recommendations and made the cost of food a matter of even greater concern than before.

Between 1911 and 1926, experiment station publications contained no reports of dietary studies. What is more, outside the USDA, relatively little appeared in print. Still, researchers were not entirely inactive. Sherman and Gillett (1917), for example, published 102 urban dietary, and the Women’s Educational and Industrial Union (1917) released its findings about the diets of Boston’s working women.

Our annotations, in keeping with our purpose, are concerned less with methods and findings than with situating subjects geographically, socially and culturally. The inclusion of studies published by other agencies certainly will increase the diversity of subjects. Nevertheless, as far as experiment station works are concerned, we believe our bibliography is nearly complete and contains all of the major landmarks for studying dietary changes over a period of dramatic developments in American society and culture at large.

LITERATURE CITED


Sherman, H. O. & Gillett, L. (1917) The Adequacy and Economy of Some City Diets. Publication No. 121. Bureau of Food Supply, the New York Association for Improving the Condition of the Poor, New York, NY.


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Atwater, W. O. & Bryant, A. P. (1896) Studies of dietaries. In: Storrs Station Report for 1896, pp. 117–158. Storrs Agricultural Experiment Station, Storrs, CT [nine additions to Storrs series, including Hartford families, farm families, man being treated for consumption and camping party in Maine; table categorizes and aggregates data for 41 studies in series by occupation].

Gibson, H. B. & Woods, C. D. (1896) Dietary Studies at the University of Missouri in 1895, and Data Relating to Bread and Meat Consumption in Missouri. USDA Office of Experiment Stations Bulletin 71. Government Printing Office, Washington, DC [two investigations of students’ clubs; includes data on household bread and meat consumption based on student recall; comments compare Missouri student dietaries with data for Tennessee and Connecticut].


Wait, C. E. (1896) Dietary Studies at the University of Tennessee in 1895. USDA Office of Experiment Stations Bulletin 29. Government Printing Office, Washington, DC [results of work with students’ boarding club and “typical mechanic’s family” in the Knoxville area; comments compare findings with data collected elsewhere].


Atwater, W. O. & Milner, R. D. (1899) Studies of dietaries of college students and members of families of professional men. In: Storrs Station Report for 1899, pp. 124–149. Storrs Agricultural Experiment Station, Storrs, CT [nine investigations, including Connecticut Hospital for the Insane and individual college students].


Physical Well-Being. Utah Agricultural Experiment Station Bulletin 246. Utah State Agricultural College, Logan, UT [work conducted in six rural communities based on periodic two-day dietary recalls, surveys, physical examinations and medical records].

Whitacre, J. (1934) The Diet of Texas School Children. Texas Agricultural Experiment Station Bulletin 489. Agricultural and Mechanical College of Texas, College Station, TX [based on eight-day food diaries kept by white, Mexican and black second graders in three regions of the state; comparisons by season, region, race, sex and household occupations].

Mckay, H. & Patton, M. P. (1935) A Study of the Food Habits and Physical Development of Preschool Children over a Two-Year Period, with Special Reference to Seasonal Variation in Growth. Ohio Agricultural Experiment Station Bulletin 549. Ohio Agricultural Experiment Station, Wooster, OH [diets of nursery school children 19 to 40 months of age; list of specific foods eaten].

Moser, A. M. (1939) Food Consumption and Use of Time for Food Work among Farm Families in the South Carolina Piedmont. South Carolina Agricultural Experiment Station Bulletin 300. Clemson Agricultural College, Clemson, SC [data for 106 white and 53 black households from five counties; includes diets, homemakers’ time budgets and sample menus].

Moser, A. M. (1935) Farm Family Diets in the South Carolina Piedmont. South Carolina Agricultural Experiment Station Circular 53. Clemson Agricultural College, Clemson, SC [one-week, four-season diets for 178 white and 97 black households].

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McKay, H. & Patton, M. P. (1938) Nutritional status of college women in relation to their dietary habits. In: Progress in Agricultural Research in Ohio, 1936–1937, pp. 108–110. Ohio Agricultural Experiment Station, Wooster, OH [energy value of four freshmen’s food intake for periods of up to 5 weeks; also frequency of food types consumed based on records kept by 124 subjects].

Moser, A. M. (1939) Farm Family Diets in the Lower Coastal Plains of South Carolina. South Carolina Agricultural Experiment Station Bulletin 319. Clemson Agricultural College, Clemson, SC [from week-long food records for 214 white and 183 black households; describes seasonal diets and distinguishes home-produced from purchased items; includes typical menus].


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Britton, V. (1941) Food Consumption of 538 Farm and 299 Village Families in Vermont. Vermont Agricultural Experiment Station Bulletin 474. University of Vermont and State Agricultural College, Burlington, VT [data collected in 1936 as part of Study of Consumer Purchases (see Stiebeling et al. 1941)].

Virginia State Nutrition Committee (1941) Preliminary Findings of the Virginia Nutrition Study: First Seasonal Survey. Virginia Agricultural Experiment Station Rural Sociology Report 20. Virginia Agricultural Experiment Station, Blacksburg, VA [one-week diet records for 5700 white and black school children in Danville, Roanoke and scattered rural areas].


Blackstone, J. H. & Irman, B. T. (1942) Food Habits of Consumer Groups in Small Towns of Alabama that Affect Farmers’ Markets. Alabama Agricultural Experiment Station Bulletin 252. Alabama Polytechnic Institute, Auburn, AL [recall data reported by income group and race for three towns].


Parker, G. (1942) Nutrition of Virginia People as Indicated by Diets of School Children. Virginia Agricultural Experiment Station Rural Sociology Report 34. Virginia Agricultural Experiment Station [recall data for 5th–10th graders; includes rural and urban schools, both white and black children].

Virginia Agricultural Experiment Station. (1942) The Virginia Nutrition Study: a Progress Report. Virginia Agricultural Experiment Station Rural Sociology Report 22. Virginia Agricultural Experiment Station [focuses on 6th–11th graders and adds 4700 cases to Parker’s study (see Parker 1942)].


Whitacre, J. (1942) The Food Supply of Texas Rural Families. Texas Agricultural Experiment Station Bulletin 642. Agricultural and Mechanical College of Texas, College Station, TX [recall data for 400 white, black and Mexican households; focuses on 201 food items].

McKay, H. & Patton, M. B. (1943) Food Consumption of College Men. Ohio Agricultural Experiment Station Bulletin 646. Agricultural Experiment Station, Wooster, OH [compares food consumption in cafeteria and family-style dining halls by men at Ohio State University].

Clayton, M. M. (1944) A Four-year Study of the Food Habits and Physical Condition of Grade-school Children in Newport, Maine. Maine Agricultural Experiment Station Bulletin 430. University of Maine, Orono, ME [recall data and one-week food records collected in Newport between 1934 and 1940; gives typical day’s diet].