

National Chemical Landmark Award to USDA-ARS Center

Congratulations to the U.S. Department of Agriculture Agricultural Research Service (ARS) and the ARS Western Regional Research Center (WRRC) in Albany, CA, for selection by the American Chemical Society as a National Historic Chemical Landmark for pioneering research in flavor chemistry. WRRC is the first institution to receive two Landmark awards.

The ACS National Historic Chemical Landmark program recognizes seminal achievements in the history of chemical science and technology, to enhance the public's recognition and appreciation of chemistry's relationship to modern life and to increase the sense of pride in their practitioners (www.acs.org/landmarks).

WRRC scientists have studied the chemical essence of flavor for 75 years since the Center was established as the Western Regional Research Laboratory in 1938. Following World War II the poor quality of many processed foods became evident. WRRC was enlisted to conduct research that would extend the availability of fruits and vegetables beyond the foods' natural harvest seasons, drawing largely on the food crops from California's fertile orchards and fields. To accomplish this goal, the underlying basis of flavor and aroma, and how this could be affected by various preservation techniques including canning, freezing, and dehydration, needed to be understood. Studies led to the development of novel extraction systems to isolate and identify individual compounds and mixtures that contribute to flavor and aroma and to the first applications of gas chromatography (GC) (and later gas chromatography–mass spectrometry) for analyzing flavor compounds including development of headspace sampling techniques for key aroma compounds in strawberries, oranges, apples, rice, and many other foods. Keene Dimick, who was one of the first to commercialize a GC instrument, built and applied his first GCs at the WRRC. In addition to food flavor and aroma, the research provided the basis for biocommunications research and for breath analysis as a medical diagnostic.

Much of the research related to food quality, flavor, and aroma at WRRC has been published in the *Journal of Agricultural and Food Chemistry* (JAFC). Chemists Ron Buttery and Roy Teranishi contributed over 150 published manuscripts in this area, over 100 of which were published in JAFC.

USDA-ARS scientists at the regional centers of USDA-ARS have garnered National Historic Landmark recognition for a number of food and fiber and natural product chemistry discoveries. A 1999 Landmark recognized the Northern Regional Research Center (now the National Center for Agricultural Utilization Research) in Peoria, IL, for contributing to increasing the yield of penicillin fermentations and for finding and identifying the especially productive cantaloupe strain. A 2007 award went to the Eastern Regional Research Center for work on food dehydration technology and its applications to creating value-added foods for the American diet. A 2004 Award recognized cotton products research at the Southern Regional Research Center in New Orleans, LA, and a

2002 Award also went to WRRC, for time–temperature–tolerance studies supporting frozen foods research.

Each year the approximately 2000 USDA-ARS scientists at over 100 locations in the United States, including many on university campuses, publish on topics ranging from food chemistry/biochemistry, food safety, antioxidants in foods, nutrition and health, biofuels and biobased products, mycotoxin reduction in foods, applications of molecular biology to improve crops for modern farming and consumer health, and related topics. Since 1941 WRRC alone has contributed nearly 660 papers published in JAFC.

JAFC is proud to be a publication outlet for the Agricultural Research Service's most enviable record of research accomplishments!

James N. Seiber

■ AUTHOR INFORMATION

Notes

Views expressed in this editorial are those of the author and not necessarily the views of the ACS.

■ EDITOR'S NOTE

Editor Seiber was Director of the USDA-ARS Western Regional Research Center, 1998–2009.

Published: August 21, 2013