Pesticide Use and Produce Quality

Proceedings of a Workshop
Sponsored by
Agricultural and Food Marketing Consortium
Farm Foundation
FOREWORD

There has been ongoing discussion in recent years about the use of chemicals in the produce industry, the role of "cosmetic" grade standards in encouraging use of chemicals and consumer preferences for various attributes in fresh produce. Some argue that sensory-based grade standards ignore nutritional quality and other intrinsic attributes and encourage use of chemicals to produce aesthetically attractive products. Those within the industry argue that the consumer will only buy attractive produce and that external appearance really reflects the internal attributes consumers desire.

Why is there disagreement and controversy on this topic? Because the use of chemicals, especially pesticides and fungicides, involve some degree of uncertainty. FDA monitoring results show very low percentages of domestic and imported foods containing above-tolerance levels of chemical residues. Many scientists argue that pesticide residues are so insignificant as to pose no health threat. But consumers continue to be skeptical of such assurances and concerned enough to fuel demand for organically grown or reduced-pesticide-use food products. And growers are adopting more alternative pest control methods. Fresh produce is perhaps the greatest concern since much of it is consumed in raw form as brought from the field. Given consumer perceptions and the fact that scientists do not unanimously agree on the risks involved with chemical use, this topic continues to merit our attention.

This workshop explored the knowledge base about the issues involved in this arena in order to identify research needs, educational opportunities and policy issues needing attention. The program was structured to bring research findings to bear on the discussion related to consumer preferences for produce quality attributes; producer and marketing firm behavior and incentives related to the use of chemicals; correspondence between grade standards and consumer preferences; and the relationships between chemical use and residues on produce.

After these topics were addressed in opening presentations, participants had the opportunity to interact during discussion periods, as well as to explore, in small groups, the research, education and policy agendas for future progress on this topic. The program was designed to facilitate discussion and interaction among a cross-segment of academic, government and industry and academic experts working on these topics.
Thanks go to those who made presentations for helping make this a productive dialogue based on the latest available knowledge. We need to explore their ideas and think about opportunities for taking the next steps, be they related to research, education or policy dialogue and development. Together we can have a positive impact on these important issues.

Thanks to Neil Conklin & Jinx Farley for their efforts in organizing the program, and to the other Planning Committee members, Julie Caswell, Carol Kramer and John Love.

Walter J. Armbruster
Farm Foundation

CONTENTS

Pesticide Use and Consumer Demand for Produce Quality: A Survey of Evidence ....... Robert D. Weaver 1

Impacts of Reduced Pesticide Use on the Produce Industry ................... Ronald D. Knutson 13

Who Makes Pesticide Use Decisions: Implications for Policymakers ........ David Zilberman, David Sinding Michael Dobler, Mark Campbell, Andrew Manale 23

Pesticide Use and Produce Quality: Evaluating the Role of Private Sector Institutions .................. Enrique E. Figueroa 40

The Role of USDA Grade Standards in Quality Determination .............. Pamela A. Mischen Nielson C. Conklin 53