State of Science Reviews

The Organic Center (TOC) develops "State of Science Reviews" (SSR) that address proven and possible benefits of organic food and farming systems. These reviews provide a general overview of current knowledge drawing on recent reports and articles in the peer-reviewed scientific literature, presentations at scientific meetings, government reports, and research findings issued by private organizations and research institutes.

PURPOSE

Consumers recognize the importance of diet and nutrition and many are seeking ways to improve health through lifestyle choices. While information from research in the United States on the health benefits of organic food and farming systems is limited, European science is producing a substantial and growing new body of evidence useful in assessing the health-promoting benefits of organic food. SSRs provide an overview in a specific area of the known and potential benefits of consuming organic food for people of different ages and health status. Each SSR will highlight areas where further research is needed to more fully understand and quantify benefits, while distinguishing generally applicable benefits from those that apply to only a portion of the population or under certain circumstances. SSRs also emphasize areas where innovation on the farm, or changes in food processing and manufacturing technology hold promise in creating new or expanding existing organic benefits.

The scientific literature helpful in understanding the impacts of organic food and farming systems is vast and growing. SSRs will serve as a gateway to important studies, promising analytical methods, key findings, and institutions and research teams carrying out cutting-edge work.

Each SSR has a defined topic and integrates scientific insights from several disciplines and lines of research. These are living documents that are periodically updated on the website as new science is published and/or new information becomes available. The goals of each SSR are:

1. Establish and explain benefits associated with the consumption of organic food and the production of food within organic systems, drawing on published science and technical information.
2. To the extent possible, quantify the benefits of organic food and farming systems.
3. Identify research required to develop: Improved methods to verify and quantify actual and potential benefits, as well as potential problems and food safety risks; and ways to maximize the benefits and minimize potential problems or risks.
4. Prioritize Organic Center investments in research on the benefits of organic food and farming systems.

A completed State of Science Review contains the following sections:

I. Focus Statement
   - Area of focus and importance to human health and/or the environment.
   - Impacts of and linkages to organic food and farming systems.

- Contemporary controversies and conflicting claims (if any).

II. Methods to Study and Quantify Organic Food and Farming System Benefits
  - Overview of existing methods to quantify benefits and identification of methodological and/or data gaps.
  - Identification of experimental designs and analytical methods that offer promise in more solidly proving the existence of benefits and/or more accurately quantifying benefits.

III. Sources of Information and Data to Assess and Quantify the Benefits of Organic Food and Farming Systems
  - Description of existing data sources and accessibility.
  - Quality, relevance, and applications of data.
  - Potential and/or promising new sources of data.

[Note: In some SSRs, sections II and III will be combined].

IV. Review and Interpretive Summary of Existing Studies Assessing the Impacts, Performance, and Benefits of Organic Food and Farming Systems (OF&FSs)
  - Studies comparing the impacts and performance of OF&FSs to conventional food and farming systems.
  - Guidelines or benchmark studies (i.e. impacts and benefits of OF&FSs relative to accepted benchmarks or guidelines).
  - Trend analyses and studies.

V. Conclusions Based on Existing Knowledge and Published Literature
  - Proven benefits of organic food and farming systems will be stated in as direct a way as possible given current scientific knowledge and evidence.
  - Conditional, potential, or limited benefits will be described, as well as the circumstances in which a particular benefit is likely to arise.
  - Proven or potential disadvantages or risks unique to organic food processing and production systems will be identified.
  - Prospective new or expanded health claims will be described and linked to the state of science.

VI. Organic Center Research Priorities
  - Critical research needs and hypotheses to solidify evidence of the nature of the benefits of consuming/growing organic food, and/or to develop improved methods to quantify the benefits of OF&FSs relative to conventional food and production systems.
  - Research needed to better understand the circumstances leading to potential food safety risks unique to organic food production and processing, or adverse impacts on the environment or farmers and farm workers, as well as practical methods to avoid or minimize such risks or problems.
  - Options to create new benefits or expand existing benefits associated with OF&FSs.
  - When appropriate, research needed to gain FDA approval of novel health

claims that appear viable in light of current and emerging scientific knowledge and consensus.

VII. Bibliography and Information Sources