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## **Book Review**

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**Organic Production and Food Quality: A Down to Earth Analysis**

**by: Robert Blair**

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**by Wiley-Blackwell,**

**9600 Garsington Road, Oxford, OX4 2DQ, UK, 296pp**

**ISBN-13: 978-0-8138-1217-5 Hardcover,**

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This is a remarkable book that uniquely provides an objective, thorough and comprehensible view of an issue of first-rank importance in health, nutrition, food quality, the environment and food production systems. Today, the topic of organic food is confused by prejudice, opinion and ignorance that are fed by the hitherto lack of such a book as this in which the author examines all the published evidence with a dispassionate thoroughness that has no flavour of a preformed opinion. Organic food is of widespread interest among consumers, shoppers, farmers and specialists in nutrition, medicine, the environment and businesses in the food chain. The public has been poorly served to date with reliable guidance and this book brings clarity, factual analysis and rationality. The author writes with skill, objectivity and authority making a significant contribution to transparency on organic food in the public arena.

Organic food is a confused battleground. To appreciate this book, one needs to understand the background to this conflict. To date anyone seeking an independent assessment of the merits and disadvantages of organic food is faced by a barrage of assertions and a lack of organised data. It is difficult to form a satisfactory position. On one side, economic interests dominate the agenda and are often supported by scientists whose worldview has been nurtured, even dazzled, by the spectacular increases in food production arising from conventional, intensive large-scale farming which has an impressive track record. Their argument is simple. We have a proven system – let us keep using it even though it involves massive inputs of chemicals and fossil energy. On the other hand are those who question the perfection of science in food production, suspect that chemical farming has negative long-term side-effects for human nutrition and health, for the soil, plants and animals used in farming, for the environment and for the overall quality of life. They feel their questions are not seriously addressed by the big, the powerful and the wealthy in the business and scientific communities; for many years, their views were perceived by some governments and scientists as marginal, unscientific, irrational, heretical and even prejudicial to feeding the world. Publicly funded scientific research into potentials, problems, benefits and methods of organic food was seriously neglected until recently. Consequently, for many years, data on organic food production were scanty, unreplicated and suspect, thus fuelling derision. Partly due to consumer

demand for organic foods, this situation has changed shown by the many authentic publications marshalled by the author that enable him in the final chapter to highlight areas of apparent similarity and difference between organic and conventional foods.

However, the aura of battle still lingers. At worst, it has resulted in emotional reactions and unsubstantiated assumptions about the other side. Those interested in organic production have been portrayed as ignorant and foolish while mainstream scientists and business interests have been characterised as driven only by profit and disinterested in the quality of life issues that surround agriculture and food. The polemics are sometimes vicious and uncompromising. How is this impasse to be broken? How can each hear the other? How can facts take centre stage over prejudice?

For those who want to listen, learn and understand, this book is an excellent introduction. The author has been careful to search for all the authentic published experience. Significantly, in this endeavour he has not been sponsored, paid or supported by any interests. His goal has been to find and document the published facts. It has not been an easy task and doubtless some may chide him for failing to take sides. He is wise in remaining an independent observer. The serious and thoughtful reader can find herein a comprehensive statement on the current knowledge on any of the major issues associated with organic food production, nutrition and food quality.

The book has major sections on the food types: vegetables, fruit, cereals, meat and fish, milk and milk products and eggs. In each section, evidence is presented on pesticide and chemical residues and contaminants, other toxic and antinutritional compounds, hormones, microbial contamination problems, mycotoxins and antibiotic use and residues. Other topics relevant to certain types of food are covered including the processing of products, raw milk, gene modified crops, cloning, mad-cow disease, cholesterol and food poisoning. Each of these major food sections also presents the evidence on nutrient concentrations, organoleptic quality, preserves, appearance and consumer findings and concludes with a comprehensive list of the references.

An important feature of this book is the extent to which the author presents actual research results from published papers in tables and diagrams that facilitate comparisons between conventional and organic foods. The reader can thus compare, for example, nutrient contents, amounts of residues and toxins, numbers of samples exceeding statutory limits, bacterial and cell counts, polyunsaturated fatty acids, and many other measures. Further, the origins and circumstances of the research figures are given – whether independent or government or business together with references and maximum or minimum levels stated by government regulations. The reader can thus judge the seriousness of differences between organic and conventional products.

In addition to food types, there are major sections on the thorny issues of 'Is organic food safe?' and 'Is organic food more nutritious and tasty?'. Here, the author does not offer opinions but documents the reliable published evidence on each class of food product for residues, frequency of food poisoning, health studies, nutritional analyses, consumer views, health of farmers and farm workers, etc. The book also examines relevant food regulations affecting production and marketing of organic products.

In the final chapter, the author states the current view of many scientists and government agencies worldwide that organic and conventional foods are fairly similar in nutritional quality and freedom from harmful chemical residues. He notes the inability to define 'fairly similar' more precisely. By this point in his study, the author is well-placed to summarise the main differences shown by the evidence examined in the book – differences that probably lead some consumers to prefer organic products despite

the price often being higher. These include, for example, taste and longer storage life of some fruit and vegetables, leaner but less tender beef with less marbling, lower nitrate and higher antioxidants, higher contents of polyunsaturated fatty acids, pig and poultry meat slightly tougher with enhanced flavour and some slight differences in milk and eggs. He concludes that the main differences between organic and conventional foods appear to be in the area of taste, freshness and the issue of nitrates and phenolic contents. He urges more research in these areas and also, on the basis of limited evidence to date, on the production of meat, milk and eggs from animals and birds raised on organic feed or forage.

The author concludes by posing one serious unanswered question. Do people eating organic foods live longer? The author says there is no evidence yet available to support this hypothesis. But as he, and everyone knows, data to address that question are not likely to be available from planned experiments and it may also be difficult to answer using large-scale population data. The author asks speculatively whether the areas in which organic foods show differences that he has listed help to explain the higher life expectancy found in some Asiatic countries.

Everyone with a serious interest in the differences between organic and conventional food should have this book on their coffee table or bookshelf because it is the most comprehensive and objective library of present evidence. The rhetoric should be quieted by this book, but the meta-narrative is far from complete and more research is urgently required. A new edition of this book will undoubtedly be needed in a few years.