THE POTATO IN THE HUMAN DIET
The potato in the human diet

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with contributions from Susan V. Poats

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‘Oh, it will not bear polish, the ancient potato
Needn’t be nourished by Caesars, will blow anywhere
Hidden by nature, counted-on, stubborn and blind.
You may have noticed the bush it pushes to air,
Comical, delicate, sometimes with second-rate flowers
Awkward and milky and beautiful only to hunger.’

Richard Wilbur, *The beautiful changes and other poems*
(Harcourt, Brace, Jovanovich Inc., 1947)
Preface

The idea for this book arose from the large number of requests to the International Potato Center (Centro Internacional de la Papa) for information on consumption and nutritional aspects of potatoes. There was clearly a need for an up-to-date review, particularly in respect of developing countries. Within its mandate to disseminate information on potatoes, the International Potato Center funded this review of the potato’s nutritional value. The work was part of a larger three-year project on potato consumption and utilization in developing countries carried out by Dr Susan Poats.

Over 700 titles concerning various aspects of the potato as a food were collected, and Chapters 1 to 5 survey this literature. Because there are few data available on potato consumption in developing countries, Chapter 6 presents the results of some case studies in the tropics by Dr Poats.

I hope that the book provides useful information for, and stimulus to, the work of all those concerned with the greater exploitation of the potato as a food contributing significantly to the health and well-being of humankind. It may also be of value to the interested casual reader who simply wishes to learn more about the dietary role of potatoes.

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J.A.W.
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Abbreviations and terms

AIS-N: alcohol-insoluble nitrogen
DM: dry matter
DWB: dry weight basis
FAO: Food and Agriculture Organization
FBS: food balance sheet
FWB: fresh weight basis
LSG: low specific gravity
HSG: high specific gravity
N: nitrogen
NDpCal%: net dietary protein calories percentage
NDpER: net dietary protein energy ratio (0.01 × NDpCal%)
NPN: non-protein nitrogen
PPC: potato protein concentrate
RDA: recommended daily allowance
USRDA: United States recommended daily allowance
WHO: World Health Organization

Biological value (BV): the proportion of absorbed nitrogen which is retained in the body for maintenance and/or growth.
Chemical or protein score: the limiting amino acid in a test protein expressed as a percentage of the same amino acid in a standard (egg or a reference protein)
Essential amino acid index (EAA index): the geometric mean of the ratios of the essential amino acids in a protein to those of a standard (usually egg protein).
Protein efficiency ratio (PER): weight gain per weight of protein eaten (usually measured for rats).