CONTENTS:

VOLUME I

Foreword (Z. Foltynowicz) XV

Professor Jacek Kozioł – half a century of research in the field of commodity science (B. Tyrakowska) XVII

I. GENERAL QUALITY PROBLEMS

K. AIVAZ, A. TITEI
Measuring consumers satisfaction 3

T. ARTYUKH, V. INDUTNY, E.P. TYUTCHENKO
Peculiarities of values commodity control 9

Z. BALANTIC
The man - work - efficiency electronic publication and multimedia supported study 14

E. CONDREA
Importance and scope of employee involvement 20

E. CONDREA, A. STANCIU
Role of quality in strategic planning 25

L. CRISTEA
The growth of the quality in educational management connecting with the institutional financial management 30

D. DIMA, R. PAMFILIE, C. PAUNESCU
Commodity paradigm: consonance and differentiation 36

S. DOROSZEWICZ
Comparative analysis of the structures of competitive positions of products in the mature and immature markets 42

A. FILIP
Methods of life cycle impact assessment 48

J. KALL
Customer satisfaction in building strong brands 54

M. KAŹMIERCZAK
Necessary elements of improving the processes with Six Sigma method in manufacturing and services 61

N.K. KISLYAK, G.F. PUGACHEVSKIY, L.M. KHISTOVA
Modern methodology of science of commodities researches 69

A. KOBYLIŃSKA
Determinants of service quality in Polish retail banking 72

J. KOZIOŁ
Perspectives of commodity science 76

L.S. KYRYCHENKO, E.P. TYUTCHENKO
Methodological approach to commodity science learning at KNUTE 83

J. ŁUCZAK, J. JASICZAK
Quality management in education services. ISO 9000 for universities 87

A. MALESZKA
Proposal of statistical techniques in process attitude for ISO 9001 98

R. PAMFILIE, R. PROCOPIE
National specific or universality in reconsideration of design and aesthetic elements 104

D.A. PLESEA
A multimedia solution for teaching commodity science 110

D.A. PLESEA
Domotics implications in the information society 116

A. PODSIADŁOWSKA, Z. FOLTYNOWICZ
Life cycle assessment – quality aspects 122

N. PRYTULSKA
Optimization of consumer characteristics of foods 128

P. PRZYBYŁOWSKI, J. WIERZOWIECKA, A. KRAWCZYK
The education of quality management specialists in Gdynia Maritime Academy 131

A. RUDAVSKA, B. HOLUB
Using of instrumental methods of testing with the purpose of assured quality achievement 138

A. STANCIU
Quality by desing 142

A. STANCIU, E. CONDREA
Human resources management for quality 146

S. SUPINO, M. PROTO
A tool for sustainability: voluntary agreements 149

R.I. ZALEWSKI
Beyond quality 153

II. QUALITY MANAGEMENT

P. ADAMCZEWSKI
Trends of ERP – systems as tools for TQM. Aspects of implementation 163

K. AIVAZ
Creative problem - solving methodology and tools for quality improvement 169

K. AIVAZ
Basic statistics in experimental design 175

G.M. CAPPELLETTI, G.M. NICOLETTI
Sustainable forest management tools 181

A. GAJEWSKI
Ensuring reliabilty of the measurement results. Requirements of ISO and ISO/IEC standards 187

A. GAJEWSKI
Metrology in the systems of quality management 195

C. GROZEA, A. STANCIU
Benchmarking and total quality management 200

W. HAUPT
Sales management is thinking about the roots of selling arguments 204

M. KOTERWA
Eco-balances in decision making processes 211

R. LEŚMIAN-KORDAS, J. KRĘCISZ
Diversification of structures of integrated management systems
in Polish maritime economy 218

J. KRĘCISZ, R. LEŚMIAN-KORDAS
New elements in quality management standards 225

H. KUBERA
Analysis of the production management system and product distribution 231

H. KUBERA
An attempt to elucidate analytical quality assessment 239

Li KAI:
Quality determinants for Polish consumers to buy Chinese apparels
from marketing point of view 247

A. MATUSZAK–FLEJSZMAN
Integration of management systems in Polish companies 253

P. RATAJCZYK, B. SOJKIN
Information in product management process 260

M. SZUSTER
Influence of supply chain management on manufacturing of goods 268

J. SZYMCZAK, M. ANKIEL-HOMA
Individual package as a creator of the product's image 275

J. SZYMCZAK, M. URBANIAK
Country origin of supplier as a factor of perceive quality in Polish
business-to-business market 278

A.M. TOMESCU, M.M. ABRUDAN
Conflict resolution and human resources management.
Case of study – a Romanian experience..... 284

M. URBANIAK
Quality as a factor of creating the image of the supplier in business-to-business marketing in Poland 290

N. YASYNSKA, V. OSYKA, A. LATYGINA
Priority directions of quality management in Ukraine 296

S. ZAPŁATA
Effectiveness and efficiency of quality management systems 301

III. ECOQUALITY

G. AMENTA
Multinational enterprises, foreign direct investment and environmental implications 311

V. AMICARELLI, G. LAGIOIA, A. PAIANO
Municipal Italian waste analysis: problems and perspective 318

M. BINIECKA, P. CAMPANA, I. IANNILLI, M. CANINO
Municipal wastes - economic aspects of selective gathering in Italy 325

B. BŁYSKAL
Assessment of microorganisms' ability to degrade starch-containing Polyethylene 332

G. CAMAGGIO, G. LAGIOIA
Waste cooking oil: environmental problems and recycling 339

L. CRISTEA, D. CONDEIU, N. PANAIT, Gh. DOBRA
Fight against the pollution in aluminium manufacturing 347

B. DRZEWIENIECKA, R. LEŚMIAN-KORDAS
The application of environmental life cycle assessment to loose loads transported by sea 354

V. DUSHEIKO, V. BURYAK
Research and development of pollution-free chemical power sources in Ukraine 361

Z. FOLTYNOWICZ, M. URBANIAK
Aspects of environmental protection in building of strategic objectives of companies in business market 366

A. HEIMOWSKA, K. KRASOWSKA, M. RUTKOWSKA, P. DACKO
Biodegradation of biocorp in natural environment 371

P. JAKUBIAK, D. KASZUB, Z. FOLTYNOWICZ
New derivatives of lactic acid for biodegradable packaging 378

A. KORZENIOWSKI, Z. FOLTYNOWICZ
Logistic systems for collection and utility of packaging waste 385

A. KORZENIOWSKI, Z. FOLTYNOWICZ, K. SEIFERT, F. DOMKA
Desulfurication of waste coal pyrite by microbiological method 392

B. KUBIK
Beet pulp biomass as a source of heat energy in sugar factory 398

M. LISIŃSKA-KUŚNIERZ
Assessment of the ecological value of a unit packaging 403

M. POPEK
Influence of zinc blend production method on the sea transport safety 409

M. SENEGAČNIK, D. VUK
Possibilities of automotive catalytic converters recycling 415

A. SPADA, M. LOMBARDI, R. RANA
Statistical analysis of last century rainfalls data in the province of Foggia (Italy) 421

O. SYDORENKO, L. BERBENETS
Present day problems of fresh water fish processing in Ukraine 427

J. SZOSTAK-KOTOWA
Photodegradation and biodegradation of polypropylene film 434

C. TRICASE
Energy production from vegetable biomass 440

J. WITCZAK
Marketing of green products – a challenge to companies 445

J. ŻUCHOWSKI
Collagen amino-acid index as a quality indicator of feed meal wastes 451

VOLUME II

IV. COMMODITY SCIENCE OF FOOD PRODUCTS

R. BOREK-WOJCIECHOWSKA
L-ascorbic acid and quality of milk and milk products - stability of L-ascorbic acid and in goat's milk and yoghurts 457

T. BORKOWSKI, B. TYRAKOWSKA, J. OSZMIAŃSKI
Antioxidant activity of wine pigments 467

B. BUCZEK, W. CHWIAŁKOWSKI
Purification of used frying oil by active carbon adsorption 474

K. BUHŁAK, R.I. ZALEWSKI
Classification of selected edible fats using NIRS 481

K. BUHŁAK, R.I. ZALEWSKI, J. GÓRNA
Prediction of yogurt composition using NIR spectroscopy..... 487

A. DUBININA
Grading specifics of accumulating toxic substances by carrot roots and pumpkin 493

U. EL-SAYED, D. BARAŁKIEWICZ, M. ŚMIECHOWSKA, M. FILIPIAK
Quality of commercial infant formulae available on Polish and Egyptian markets 499

I.N. FURS
Problems connected with working out an optimal offer and quality of grain products in Belarus 506

L.A. GALUN
Theoretical approaches and practical application of the complex quality evaluation of foodstuffs 510

P. GIUNGATO, L. NOTARNICOLA, L. COLUCCI
Evaluation of fluorescence spectroscopy potential in edible oil analysis 513

A. GLISZCZYŃSKA-ŚWIGŁO, B. TYRAKOWSKA, I.M.C.M. RIETJENS
The involvement of quinone chemistry in toxicity of some flavonoids 519

I. GNIADEK, A. JURSZA, A. SOBCZYŃSKI
Preliminary studies on quantitative determination of phosphorous added during meat processing 524

A. JACH
Polish tea market based on consumers opinion 528

B. JASIEWICZ, E. SIKORSKA, I.V. KHMELINSKII, M. SIKORSKI
Application of diffuse reflectance spectroscopy to solid-state structural investigation of metal sparteine complexes 533

E. JOŃSKA-MUTEBA, N. NOWOTNA-KROMOLICKA
Estimation of the knowledge level about concentrating sweeteners in selected groups of population 539

I. KLIMCZAK, M. MAŁECKA, B. PACHOŁEK
Amaranth seeds as a source of natural antioxidants 545

A. KOZIOŁOWA, M. MAŁECKA, D. JANKOWIAK, K. SIKOROWSKA
Application of thermochemical methods in quality evaluation of fats 550

K. KWIATKOWSKA-SIENKIEWICZ, K. BARCEWICZ
Research into ground coffee adulterants. Malt (1) 557

K. LEMAŃSKA, B. TYRAKOWSKA, I.M.C.M. RIETJENS
Antioxidant properties of some dietary flavonoid methabolites 561

T. LESIÓW, J. KIJOWSKI
Impact of PSE and DFD in poultry processing 567

M. MAŁECKA, M. SZLACHTA, U. SAMOTYJA
Antioxidant activity of different fruit juices 573

V. MIKHAYLOVSKY, N. BESSARAB
Improvement of the range of meat products for prophilactic nutrition made from unconventional raw materials in Ukraine 579

M. MIŚNIAKIEWICZ
Foodstuffs labelling as a means of creating consumer satisfaction 584

M. MITSUI
Safety, reliability and palantability of foods in Japan 590

N. ORLOVA, S. BELYNSKAYA
Quality management of frozen vegetables and fruits 597

B. PACHOŁEK, J. ZIELNICA
Content of metals in leaves of green tea 601

A. PIOTRASZEWSKA-PAJĄK
Changes of sugars content in nectar honeys stored in different conditions 606

A. PODLEŚNY, M. ZIEMKOWSKI
The applications of AHP method in sensorial analysis of food products 612

S. POPEK
Comparison of total ash amounts contained in selected bee honeys 620

E. SIKORSKA, I.V. KHMELINSKII, M. SIKORSKI
Effect of position of methyl group on spectral and photophysical properties of alloxazines in acetonitrile solution 623

M. SIKORSKI, I.V. KHMELINSKII, R. GONZALEZ-MORENO, J.L. BOURDELANDE, E. SIKORSKA
Diffuse reflectance laser flash photolysis - applications to alloxazine on cellulose 629

K.A. SKIBNIEWSKA, M. FIEĆKO, Ł. FORNAL, S.S. SMOCZYŃSKI
Influence of starter culture and complex dough improver on *in vitro* digestibility of some minerals from bread 635

A. SKOLIK, J. JASICZAK, D. KIKUT-LIGAJ
Shape of bitter taste receptors studied by computer modeling 640

G. SUWAŁA
Color determination of carrot juices as one of the most important product product quality features 646

H. SZYMUSIAK
Predicting the activity of food phenolic antioxidants using molecular modeling 651

M. ŚMIECHOWSKA, P. DMOWSKI, J. NEWERLI-GUZ
New trends in using selected teas ingredients 660

A. WILCZYŃSKA, P. PRZYBYŁOWSKI
Honey's quality in comparison with Polish and European standards 666

K.A. WILK, B.W. DOMAGALSKA, A. ANTOS, K. GRABAS
Oil-in-water emulsions stabilized by sugar-derived emulsifiers 672

K. WYBIERALSKA, D. WIECZOREK, H. SZYMUSIAK, R. ZIELIŃSKI
Potential mechanism of antioxidant activity of food colorant – curcumin ... 679

R. ZIELIŃSKI, H. SZYMUSIAK
Interpretation of ^{1}H and ^{13}C NMR spectra of diterpene antioxidants from sage supported by DFT GIAO method 685

V. COMMODITY SCIENCE OF INDUSTRIAL PRODUCTS

A. BERNACKA-FRĄCKOWIAK
Laminates with COC layer as primary packaging materials for pharmaceuticals 695

B. BORYCKA
Dietary properties of pomace fibre preparations in view of the EU regulations 702

T. BOZHKO
Comparative commodity analysis of balsams which are on sale in Ukrainian market 709

R. CIERPISZEWSKI
Recent development in extractants 713

A. CHOCHÓŁ
Studies of enamel coating destruction 720

M. DENAC, I. ŠVAB, V. MUSIL
Influence of styrenic block copolymers on mechanical and morphological properties of PP and PP/talc composites 727

B.W. DOMAGALSKA, H. SZYMUSIAK, R. ZIELIŃSKI
Vanillin and polyenovanillin derivatives as high quality optoelectronic materials 734

Z. DROBNIK, R. ZIELIŃSKI
Studies of wettability of solid surfaces by hair shampoos 743

S. HORNIK
Reuse of aluminium package foil wastes in production of paints and testing the usage parameters of such products 751

M. KLOCEK, R. ZIELIŃSKI
Kinetics of basic hydrolysis of fragrance esters in aqueous alcoholic solutions 757

Z. KOLEK
Parameters determining migration from food contact materials 764

W. KOZAK, Z. FOLTYNOWICZ, R. FIEDOROW
Properties of oxygen absorbers for food packaging based on iron compounds 770

B. KWIATKOWSKA, F. DOMKA, M. WALENCIAK, K. SEIFERT
Microbiological corrosion of gypsum-based construction materials 775

K. KWIATKOWSKA-SIENKIEWICZ, K. BARCEWICZ
Separation of oxidisers and hydrogen ammonium phosphate in sea transport 783

K. KWIATKOWSKA-SIENKIEWICZ, K. BARCEWICZ
Separation of oxidisers and hydrate ammonium phosphate in sea transport 788

M. LISIŃSKA-KUŚNIERZ, A. WALDEN-KOZŁOWSKA, M. UCHEREK
Overall evaluation of packing quality 794

O. MALANDRINO, M. PROTO
Starch: a valuable industrial raw material 798

E. MATUSZEWSKA
Errors in surprints of the EAN bar codes on various packaging materials 803

K. MELSKI
Determination of styrene and ethylbenzene in plastic packaging materials 807

I. OSTROUCH, R. ZIELIŃSKI
Results of survey studies on consumers preferences of cosmetic creams 812

I. PÂRVUTOIU
Mathematical methods for replacing the equipment 818

M. PETRYNA, Z. DEGA-SZAFRAN, E. DULEWICZ, P. SZAFER, R. ZIELIŃSKI
Thermal stability of alkyl acetates of N-alkylpiperidinium chlorides 824

S. PFEIFER
Study of the dynamics of utility changes for some textile products 832

P.R. PIOTROWSKI, K. WIENSKOWSKI
Investigations of bonding soft reline material to base metal in denture technology 838

D. SOBCZYŃSKA
Evaluation of the run of the selective waste collection in a village commune 845

V.E. SYTSKO
Competitive goods – the basis of economic stability 851

M. SZPAKOWSKA, A. MAGNUSZEWSKA, E. PŁOCHARSKA-JANKOWSKA
Molecular recognition of taste substances by liquid membrane oscillators with ionic surfactants 854

J. SZTACHAŃSKI, R. ZIELIŃSKI
Viscosity of aqueous solutions of potato starch modified by sulfoethylation 860

D. WIECZOREK, R. ZIELIŃSKI
Studies on preparation of surfactants with N-alkylaminoglucoside moiety 867

Authors index 875

FOREWORD

On behalf of the Organizing Committee welcome to the 7th International Commodity Science Conference "Current Trends in Commodity Science" (ICScC'02) organized by the Faculty of Commodity Science of the Poznań University of Economics. For the first time it was organized by Professor Dr. Jacek Kozioł in 1987. Since that time this Conference traditionally helds in Poznań every three years. This year Professor Dr. Jacek Kozioł celebrates the 50th anniversary of His scientific work in the field of commodity science at Poznań University of Economics. On this unusual occasion in volume I of the Proceedings we present a short article by Professor Dr. Bożena Tyrakowska describing personality of Professor Dr. Jacek Kozioł and His contribution to the field of commodity science.

The scientific topics of the present Conference are reletad to current topics in commodity science and research projects related to quality problems. The responce to the circulars inviting to the 7th International Commodity Science Conference mailed to all over the world exceeded our expectations giving almost 200 contributions. All submitted contributions were reviewing by specialists in the field and after careful selection by the Scientific Committee only 143 works were qualified to be presented during the Conference. The accepted papers included in these Proceedings are were prepared by 211 authors from 12 countries. The problems presented in the papers were divided into five main groups including the following: (1) *General Quality Problems,* (2) *Quality Managenent,* (3) *Ecoquality,* (4) *Commodity Science of Food Products* and (5) *Commodity Science of Industrial Products.*

We hope that you will find this Conference interesting and profitable in exchanging ideas and starting new personal contacts leading to extended joint international cooperation projects both in teaching and research. Thanking you heartily for comming to the 7th International Commodity Science Symposium I wish you a very enjoyable stay in our city.

Sincerely yours

Chairman of the
Organizing Committee

Prof. Dr. Zenon Foltynowicz