My Vision as Head of K-State’s Grain Science & Industry Department

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Dept of Agricultural & Biological Engineering
Purdue University
Outline

• Brief biographical sketch
• Administrative philosophy
• A vision for K-State’s Grain Science & Industry Department
Summary of Qualifications

• Faculty member in Purdue University’s Ag & Bio Engineering Dept since 1991
  – Research, extension and teaching

• Associate Department Head
  – Graduate Program Coordinator
  – Research Program Coordinator

• Founding Director of Purdue’s …
  – Grain Composition Analysis Service
  – Post-Harvest Education & Research Center
Summary of Qualifications

• Significant Research & Technology Transfer Experience
  – Grain quality assessment & preservation
  – Stored product protection
  – Adoption of best management practices
  – Commercialization of several technologies

• Extensive national & international experience
  – Latin America, Southeast Asia, China, Europe, Australia
Technologies and Practices

• Preventive Tools
  – Practices
    • Best Management Practices (SLAM)
  – Technologies
    • Grain drying
    • Heat treatment
    • Grain chilling
    • Physical exclusion
    • Insect monitoring
    • Early spoilage detection
135,000 bu Bin of Corn during Summer Storage in Indiana – Non-aerated on 7/28/89
Equilibrium Moisture Content Controller

DRY-N-STOR

Ricardo Bartosik – Ph.D. Final Defense
Real-time Remote Monitoring of CO\textsubscript{2} Levels for Early Grain Spoilage Detection

The Andersons, Delphi, IN
Technologies and Practices

• **Control Tools**
  – **Practices**
    • Best Management Practices
      • Insect identification & control selection
  – **Technologies**
    • Protectants (Spinosad)
    • Ozonation
    • Biological control
    • Biomodified & controlled atmospheres
    • Fumigation (structural)
Ozonation treatment with recirculation and sampling points (X) at the top and bottom of the grain mass.
Wind Induced Pressure Profile –
1 million ft³ 6-floor wheat flour mill under SF fumigation

Speed = 4 m/s
Dir = 30 degree
Summary of Qualifications

• Close cooperation with grain industry
  – Grain producers, handlers, processors
  – Equipment and service suppliers
  – Producer and industry associations

• Close cooperation with colleagues
  – Purdue Grain Quality Team
    • Engineering, entomology, economics, plant pathology
  – Consortium for Integrated Management of Stored Product Insect Pests
    • Purdue, OK State, K-State, USDA-ARS GMPRC
Purdue Colleagues

Dr. Linda J. Mason
Entomology

Dr. Klein E. Ileleji
Ag & Bio Engineering

Dr. Corinne Alexander
Ag Economics

Dr. Charles Woloshuk
Botany & Plant Pathology

Dr. Richard L. Stroshine
Ag & Bio Engineering

Dr. Dale Moog
Ag & Bio Engineering

Dr. Raj Hulasare
Ag & Bio Engineering
(formerly)

Post-Harvest Education and Research Center, Purdue University
CIMSPIP Colleagues

Dr. Bh. Subramanyam
Grain Science
Kansas State University

Dr. Frank Arthur
Biological Research Unit
USDA-ARS-GMPRC

Dr. Ron Noyes
Ag & Bio Engineering
Oklahoma State University

Dr. Tom Phillips
Entomology
Kansas State University

Dr. Gerrit Cuperus
Entomology & Plant Pathology
Oklahoma State University

Post-Harvest Education and Research Center, Purdue University
Summary of Qualifications

• Numerous leadership experiences
  – NC-213 Executive Committee Member
  – International Quality Grains Conference Organizer
  – International Working Conference on Stored Product Protection Permanent Committee Member
  – GEAPS-Purdue Distance Education Program Director
    • APOSGRAN-GEAPS-Purdue Distance Education Program Co-Director

• Formal leadership training
  – Land Grant University College of Agriculture
    • ESCOP/ACOP Fellow Class 14
    • New Administrators Workshop
Summary of Qualifications

• Recognition of Impact
  – Purdue College of Agriculture Dean’s Team Award
  – PUCESA Junior, Senior & Team Awards
  – ASABE Young Extension Worker Award
  – Andersons Excellence in Grain Quality Research Award
  – Purdue University Agricultural Research Award
  – University Faculty Scholar

• Impact on Next Generation
  – Completed: 15 M.S., 5 Ph.D., 8 post-docs
  – Current: 3 M.S. (incl 1 NSF Fellow), 3 Ph.D., 2 post-docs
Students & Staff
Ride Across Indiana
160 miles (257 km)
One way (IL to OH)
One day (July 16)
9 h 13 min
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Administrative Philosophy

• Success of K-State’s GS&I Department depends on all of our successes
  – “Team GS&I”
• My guiding principles are to …
  – serve others and lead by example
• My leadership qualities…
  – Character/integrity
  – Communication
  – Competence
  – Focus
  – Initiative
  – Listening
  – Responsible
  – Positive attitude
  – Problem solving
  – Servanthood
  – Self-discipline
  – Transparent/open
Responsibilities of the Department Head

- Leadership
- Management
- Advocacy
- Mentorship
Experienced Mentor

“Success is peace of mind, which is a direct result of self-satisfaction in knowing you did your best to become the best that you are capable of becoming.” – John Wooden

• KSU GS&I is successful when our people are successful
  – Help individuals achieve to their potential
  – Professional development, promotion, awards

• Committed to inclusion and diversity among faculty, students and staff
  – Recruitment & retention

⇒ Extensive experience mentoring faculty, staff and undergraduate & graduate students
Effective Advocate for GS&I

“Good is the enemy of great... Greatness is largely a matter of choice.” – Jim Collins

• Important to visibility and recognition
• K-State, GMPRC, AIB
• Partners, Stakeholders
• Community, State, Region
• National, International

⇒ Experience as an effective advocate for my programs and institution
Effective Manager

“Management is the effective use and coordination of already allocated resources to achieve predefined objectives.” - Don Chu

• Make sure things work day-to-day
• Listen and communicate
• Build consensus and make decisions as required
• Empower others and support them
  – Stewardship delegation

Experience as an effective manager of people and programs
Authentic Leader

“Authentic leadership is the ability to bring people together around a shared purpose and a common set of values and motivate them to create value for everyone involved and to achieve sustainable results over time.” - Bill George

• Clear vision for the future
  – Building a great organization

• Visible values, high expectations

• Strategic planning to realize vision
  – Q2 Activities (important, not urgent)

⇒ Experience as an authentic leader of people and programs
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The Vision Thing...

"Even if you are on the right track, you'll get run over if you just sit there." - Will Rogers

“Without vision people perish.”
- Solomon
Vision of K-State GS&I

“To be the center of excellence in research, education, and technology for all aspects of grain handling, storage, quality, processing and utilization.”
Mission of K-State’s GS&I

“Ensure the future competitiveness and profitability of the grain industry by creating –

- **Leaders** with fundamental and professional skills needed to lead grain related clientele through rapidly changing times.
- **Solution-based research** to solve short and long-term problems and issues in grain science and processing.
- **Basic research** to explain the fundamental role of genetics and biochemical components on grain quality, product formulation, processing, and health.
- State of the art teaching, research and pilot **facilities** to ensure that students, faculty and visitors have access to the most modern, efficient and up-to-date resources.
- Strong **partnerships** with AIB, USDA, National Laboratories, Universities, and Industry Associations and Members.”
My View of K-State’s Grain Science & Industry Department
Strategic Growth and Action Plan for K-State’s Grain Science & Industry Programs

- Baking Science Program
  - B.S. in Bakery Science & Management
- Bioprocessing (incl. BIVAP) Program
  - Biorefinery Option in B.S. program
- Feed Science Program
  - B.S. in Feed Science & Management
- Milling Science Program
  - B.S. in Milling Science & Management
- Grain Science M.S./Ph.D. Graduate Program
- International Grains Program

Established goals, identified challenges, developed strategies
“We are a student-focused, research intensive institution.” – Jon Wefald, K-State President

“At a University research is the other half of a great education!” – France Cordova, Purdue University President
A Model of a successful interdisciplinary program in conjunction with international perspective, distance education and strong industry engagement & advocacy

Core Grain Sciences
- Cereal Chemistry
  - Grain Quality
  - Operations
  - Sanitation
    - Milling
    - Baking
  - Bioprocessing
- Feed Technology

Industry Engagement & Advocacy

Strong Undergraduate Programs

Research & Graduate Programs

Internationalized Curricula & Programs and Distance Education

Food Science
Animal Sciences
Human Nutrition
Biological & Ag Sciences
Engineering Technology
Basic Sciences (Chemistry, Physics, Math)
Social Sciences
Communication
Vision for Serving as Head

• Think and plan strategically & cleverly to position ourselves for future success
• Focus on a common purpose
• Consensus to accomplish future goals
• Refine & integrate strategic plan
  – vision, mission, goals, objectives/strategies
    • milestones, target dates
  – work together on a common task
Approach for Developing a Vision

- Honest assessment and thorough evaluation
  - Strengths & weaknesses
  - Opportunities & challenges
- Communication and consensus
  - Faculty, students & staff
  - Strategic partners & stakeholders
- Develop SMART goals and objectives/strategies
  - Specific, measurable, attainable, realistic, timely
  - Overcome weaknesses & challenges
  - Capitalize on strengths & opportunities
K-State’s Grain Science & Industry Department is/has...

- unique in the world
- renowned for teaching, research and outreach
- outstanding faculty, students and staff
- great start on state-of-the-art facilities
- good funding base with room to grow
- strategic partners and alliances
- extensive stakeholder involvement
- fantastic alumni base
K-State’s Grain Science & Industry Department will…

- be recognized as the global leader
- attract and keep outstanding faculty, students, staff
- expand educational offerings and outreach activities
- increase impact & technology transfer of research
- improve & utilize facilities to the fullest
- grow & expand funding base
- strengthen/expand strategic partners & alliances
- increase stakeholder involvement and impact
- refine & pursue an integrated strategic plan
My Vision for K-State’s Grain Science & Industry Department

“The global education, research and technology transfer leader for the grain-based food, feed, fiber and fuel supply chains.”
Thank You!