At the Start of our Second Century...
making progress and measuring success!

GSI State of the Department Seminar
Manhattan, Kansas
April 5, 2012

Presented by:
Dr. Dirk E. Maier
Professor and Head
Grain Science & Industry
THANK YOU!!!
Feedback from 2011 GSI Climate Survey...

“Overall, the results were encouraging. When asked about departmental climate factors such as collegiality, quality, and morale, most respondents ranked these factors as either exceptional or very good.

Specifically, 77.6% and 73.6% of respondents agreed that the quality of undergraduate programs and graduate program, respectively, was exceptional or very good.”

- From 2011 Departmental Climate Survey
BRAND VALUE!!!
Why I remain Excited about the Department of Grain Science & Industry!!!

*Three Reasons:*

1. Great faculty & staff!
2. Great students!
3. Great career opportunities!
“The global education, research and technology transfer leader for the grain & plant-based food, feed, fiber, fuel and bio-products supply chains.”
Consumer Food System

- Biofuels Co-products
- Forage and Pasture
- Animals & Animal Products
- Grains
- Processed Food & Ingredients
- Fruits Vegetables Nuts
- Consumer

Adapted from Dr. Gary Pierzynski
Danger and Opportunity
New K-State Administration

Dr. Kirk Schulz
President

Dr. April Mason
Provost &
Senior Vice President

Others:
New Deans (Business, Arts & Sciences, Education,
Agriculture, Salina)
New COA DHs (Entomology)
New Graduate School Associate Dean
New Vice Provost for Undergraduate Studies
Interim Associate Provost for International Programs
New Director for Corporate Engagement
New Men’s Basketball Coach (Bruce Weber)

Dr. John Floros
 Incoming COA Dean &
KSRE Director
Comments from Provost Mason...

“The Strategic Plan will translate into an operational plan which will relate to budgeting and evaluation.”

1. Resource what works
2. Improve institutional systems and processes
3. Provide incentives for the actions needed to reach our vision
4. Capitalize on the strengths we have across the university by using cross-campus teams to implement priority concepts in integrated approaches
“Good is the enemy of great!”
- Jim Collins
Good to Great...

• Transformation of an organization from good to great is a **process** of **build up** followed by **break-through**, broken into three broad stages:
  – Disciplined **people** (who)
  – Disciplined **thought** (what)
  – Disciplined **action** (how)
Disciplined People...

• First **Who** then **What**
  – Full contingent of the right **faculty** expertise
  – Optimum mix of support **staff** expertise & experience
  – Undergraduate and graduate **students** with whom we can partner to successfully complete their BS, MS and PhD degrees
  – Committed **stakeholders** who support us through thick and thin

➤ Focus on having the right people on the bus and in the right seats
ONE Faculty Team!!!

KSU Grain Science & Industry Faculty
August 2011
Newest Team Members

Dr. Kingsly Ambrose
Assistant Professor

Fran Churchill
NAMA Instructor of Milling Science & Management

Cassandra Jones
Assistant Professor

Dr. Greg Aldrich
Research Associate Professor

Carlos Campabadal
IGP Outreach Specialist & Instructor
2011 Faculty Recognitions

- Yong-Cheng Shi – Promotion to full Professor
- Fred Fairchild – Gamma Sigma Delta Distinguished Faculty Award
- Dirk Maier – GEAPS Industry Leader Award
  - 2nd in history of our department (Schoeff)
- Xiuzhi Susan Sun – University Distinguished Professor
  - 1st in history of our department
- Xiuzhi Susan Sun – Higuchi-KU Endowment Research Achievement – Irvin Youngberg Award for Applied Sciences
  - 3rd in history of our department (Hoseney, Seib)
- Ron Madl – KSRE Builder Award
- Jon Faubion – 2011 AACC International Excellence in Teaching Award
  - 4th in history of our department (Hoseney, Seib, Rogers)
- Subi Bhadriraju – Donald A. Wilbur Endowed Professor
  - 1st in Stored Product Protection

CONGRATULATIONS!!!
Outstanding Support Staff!!

KSU Grain Science & Industry Staff
Fall 2011
2012 Students, Staff & Faculty Recognitions

• Pls come and join us for the...
  ➔ Scholarship and Awards Banquet April 25, 2012 at 6:30p at IGP Conference Center

2012 Alumni & Friends Recognitions

• Pls come and join us for the...
  ➔ Outstanding Alumni & Service Awards Luncheon April 25, 2012 at 11:00a at IGP Conference Center
Disciplined Thought...

- **Confront the Brutal Facts**
  - Lack of financial discipline
  - Indebtedness and spending beyond our means
  - Living off our past glory
  - Taking stakeholder support for granted
  - Neglecting our teaching mission
  - Failing and antiquated facilities (incl labs, classrooms)

  ➔ Identifying and acknowledging our weaknesses and threats to our future success

  ➔ some of this is part of our 2025 discussion!
Disciplined Thought...

• Hedgehog Concept
  – See updated vision and mission statements
  – See our top initial priorities
  – See our Strategic Plan

➔ Being the best we can be at what we are best at in the world
➔ Being deeply passionate about what we do
➔ Building on our strengths; taking advantage of new opportunities

Do we have a clear **vision** of how our future will be different from our past?
Do we have an effective **strategy** to make that future a reality?
Do we have a real sense of **urgency** to grab our opportunities?
“The real power of teamwork is achieving more than individuals could ever imagine doing alone.”

- Adapted from The Five Dysfunctions of a Team
“To **educate** students and professionals, conduct innovative **research**, **transfer** new technologies and knowledge, offer high-quality **outreach** programs and services that **impact** the global grain & plant-based food, feed, fiber, fuel and bio-products supply chains.”
Initial / Continued Priorities

- Grow our student enrollment
- Grow our research enterprise
- Grow our outreach efforts
Strategic Plan Themes

1. Educate undergraduate and graduate students, and industry professionals.
2. Conduct innovative basic and applied research, and transfer new technology and knowledge to end users.
3. Offer high-quality outreach programs and services to meet domestic and international customer needs and stakeholder expectations.
4. Recruit, retain, reward and develop high quality faculty, and professional and classified staff.
5. Develop, maintain and utilize state-of-the-art facilities and equipment.

→ Department strategic plans have to align with K-State Visionary Plan by early of 2013!
KSU 2025 Initiative – Metrics

1. total research and development expenditures
2. total endowment
3. number of national academy members
4. number of faculty awards
5. number of doctorates granted annually
6. freshman-to-sophomore retention rate
7. six-year graduation rate, and
8. percent of undergraduate students involved in research

→ Our department strategic plan has to have its own metrics that support the metrics of the COA/KSRE and K-State strategic plans!
Strategic Plan Themes

1. **Educate** undergraduate and graduate students, and industry professionals.

2. Conduct innovative basic and applied research, and transfer new technology and knowledge to end users.

3. Offer high-quality outreach programs and services to meet domestic and international customer needs and stakeholder expectations.

4. Recruit, retain, reward and develop high quality faculty, and professional and classified staff.

5. Develop, maintain and utilize state-of-the-art facilities and equipment.

“Preparing the Next Generation of Professionals for the Global Grain-based Food & Feed Industry”
Undergraduate student enrollment and gender diversity in the Department of Grain Science & Industry’s three B.S. degree programs (2007-2011).

<table>
<thead>
<tr>
<th>Year</th>
<th>FSM</th>
<th>BSM</th>
<th>MSM</th>
<th>Total</th>
<th>5-yr Avg</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2007</td>
<td>31</td>
<td>33</td>
<td>79</td>
<td>143</td>
<td>136</td>
<td>62.2</td>
<td>37.8</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>41</td>
<td>45</td>
<td>83</td>
<td>169</td>
<td>144</td>
<td>58.6</td>
<td>42.6</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>39</td>
<td>63</td>
<td>82</td>
<td>184</td>
<td>156</td>
<td>59.2</td>
<td>40.8</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>43</td>
<td>71</td>
<td>92</td>
<td>206</td>
<td>171</td>
<td>57.3</td>
<td>42.7</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>46</td>
<td>67</td>
<td>91</td>
<td>204</td>
<td>181</td>
<td>58.3</td>
<td>41.7</td>
</tr>
</tbody>
</table>

What are our targets?
New Student Enrollment - Fall 1997-2011

<table>
<thead>
<tr>
<th>Year</th>
<th>FSM</th>
<th>BSM</th>
<th>MSM</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998</td>
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<td>1999</td>
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<td>2010</td>
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<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fall 2012 Estimate:
- **FSM**: 17 (+3)
- **BSM**: 27 (+3)
- **MSM**: 18 (+2)
- **Total**: 62 (+8)
## Undergraduate Program Metric 2 – Retention

Retention of undergraduate students entering KSU and enrolling in one of the Department of Grain Science & Industry’s three B.S. degree programs (2008-2010).

<table>
<thead>
<tr>
<th>Fall New Full-time Freshmen Enrollment</th>
<th>Leaving KSU by next Fall</th>
<th>Continuing in GSI</th>
<th>Continuing in COA</th>
<th>Continuing in other College</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 2009 33</td>
<td>3 9.1%</td>
<td>22 66.7%</td>
<td>7 21.2%</td>
<td>1 3.0%</td>
</tr>
<tr>
<td>2010 33</td>
<td>6 18.2%</td>
<td>17 51.5%</td>
<td>8 24.2%</td>
<td>2 6.1%</td>
</tr>
<tr>
<td>2011 33</td>
<td>7 21.2%</td>
<td>16 48.5%</td>
<td>7 21.2%</td>
<td>3 9.1%</td>
</tr>
<tr>
<td>2009 2010 41</td>
<td>6 14.6%</td>
<td>20 48.8%</td>
<td>6 14.6%</td>
<td>9 22.0%</td>
</tr>
<tr>
<td>2011 41</td>
<td>8 19.5%</td>
<td>18 43.9%</td>
<td>6 14.6%</td>
<td>9 22.0%</td>
</tr>
<tr>
<td>2010 2011 45</td>
<td>5 11.1%</td>
<td>27 60.0%</td>
<td>4 8.9%</td>
<td>9 20.0%</td>
</tr>
</tbody>
</table>

**What are our targets?**
Graduating Seniors from the Department of Grain Science & Industry’s three B.S. degree programs (2007-2011).

<table>
<thead>
<tr>
<th>Year</th>
<th>BSM</th>
<th>FSM</th>
<th>MSM</th>
<th>BSM</th>
<th>FSM</th>
<th>MSM</th>
<th>BSM</th>
<th>FSM</th>
<th>MSM</th>
<th>Total</th>
<th>5-Yr Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>13</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>2008</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td>4</td>
<td>3</td>
<td>10</td>
<td>6</td>
<td>5</td>
<td>20</td>
<td>31</td>
<td>27</td>
</tr>
<tr>
<td>2009</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>10</td>
<td>4</td>
<td>6</td>
<td>10</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>12</td>
<td>5</td>
<td>5</td>
<td>16</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td>2011</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>6</td>
<td>12</td>
<td>11</td>
<td>13</td>
<td>18</td>
<td>43</td>
<td>30</td>
</tr>
</tbody>
</table>

What are our targets?
# Undergraduate Program Metric 4 – Placement

## Job Offer Statistics by Undergraduate Major

<table>
<thead>
<tr>
<th>Major</th>
<th>Graduates</th>
<th>Employed</th>
<th>Total Reporting</th>
<th>High Salary</th>
<th>Average Salary</th>
<th>vs prior year</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBUS</td>
<td>53</td>
<td>93%</td>
<td>28</td>
<td>$55,000</td>
<td>$37,882</td>
<td>$36,383 (+4.1%)</td>
</tr>
<tr>
<td>AGRON</td>
<td>30</td>
<td>70%</td>
<td>16</td>
<td>$55,000</td>
<td>$41,522</td>
<td>$40,387 (+2.8%)</td>
</tr>
<tr>
<td>ASI</td>
<td>166</td>
<td>59%</td>
<td>52</td>
<td>$70,000</td>
<td>$34,256</td>
<td>$29,133 (+17.5%)</td>
</tr>
<tr>
<td>BSM</td>
<td>5</td>
<td>100%</td>
<td>3</td>
<td>$60,000</td>
<td>$52,667</td>
<td>$51,500 (+2.3%)</td>
</tr>
<tr>
<td>FDSI</td>
<td>30</td>
<td>63%</td>
<td>10</td>
<td>$70,000</td>
<td>$42,332</td>
<td>$42,754 (-0.99%)</td>
</tr>
<tr>
<td>FSM</td>
<td>8</td>
<td>86%</td>
<td>4</td>
<td>$67,000</td>
<td>$46,250</td>
<td>$44,333 (+4.3%)</td>
</tr>
<tr>
<td>HRT</td>
<td>40</td>
<td>89%</td>
<td>20</td>
<td>$47,000</td>
<td>$28,876</td>
<td>$27,151 (+6.4%)</td>
</tr>
<tr>
<td>MSM</td>
<td>17</td>
<td>94%</td>
<td>7</td>
<td>$60,000</td>
<td>$55,500</td>
<td>$53,188 (+4.3%)</td>
</tr>
</tbody>
</table>

Information from Career and Employment Services (8/10, 12/10, 5/11; 2011)
Undergraduate Program Metric 4 – Placement

Companies and Job Titles

- American Italian Pasta Company
- ADM Milling
- Bartlett Grain Company
- Bay State Milling Company
- Bimbo Bakeries USA
- Bunge
- Cargill Horizon Milling
- ConAgra Foods
- Del Monte Foods
- Flowers Foods
- General Mills
- Mennel Milling Company
- New Cooperative Inc
- Nutro Company
- PepsiCo / Frito-Lay / Quaker Foods
- Viterra
- Assistant Manager
- Associate Head Miller
- Farmer/Rancher
- Front Line Leader
- Management Trainee
- Manufacturing Engineer Associate
- Milling Assistant
- Milling Associate
- Milling Manager Trainee
- Operations Intern
- Process Engineer
- Production Supervisor
- Quality Control Supervisor
- Quality Systems Coordinator
- Supervisor

Information from Career and Employment Services (8/10, 12/10, 5/11; 2011)
Students becoming Professionals...

2011 Feed Industry Expo Atlanta
Graduate Program

“Preparing the Next Generation of Researchers and Innovators for the Global Grain-based Food, Feed & BioProducts Industry”

<table>
<thead>
<tr>
<th>Year</th>
<th>M.S.</th>
<th>Ph.D.</th>
<th>Totals</th>
<th>5-Yr Avg</th>
<th>URM</th>
<th>URM (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2007</td>
<td>23</td>
<td>23</td>
<td>46</td>
<td>31</td>
<td>1</td>
<td>6.7%</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>24</td>
<td>20</td>
<td>44</td>
<td>34</td>
<td>2</td>
<td>12.5%</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>27</td>
<td>26</td>
<td>53</td>
<td>40</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>27</td>
<td>28</td>
<td>55</td>
<td>47</td>
<td>3</td>
<td>15.8%</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>27</td>
<td>21</td>
<td>48</td>
<td>49</td>
<td>3</td>
<td>13.0%</td>
</tr>
</tbody>
</table>
Graduate student enrollment by degree, nationality and gender in the Department of Grain Science & Industry’s M.S. and Ph.D. degree programs (2007-2011).

<table>
<thead>
<tr>
<th>Year</th>
<th>M.S. (%)</th>
<th>Ph.D. (%)</th>
<th>Domestic (%)</th>
<th>International (%)</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2007</td>
<td>60.9%</td>
<td>39.1%</td>
<td>32.6%</td>
<td>67.4%</td>
<td>50.0%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>56.8%</td>
<td>43.2%</td>
<td>36.4%</td>
<td>63.6%</td>
<td>54.5%</td>
<td>45.5%</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>50.9%</td>
<td>50.9%</td>
<td>41.5%</td>
<td>60.4%</td>
<td>50.9%</td>
<td>49.1%</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>45.5%</td>
<td>54.5%</td>
<td>34.5%</td>
<td>65.5%</td>
<td>49.1%</td>
<td>50.9%</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>50.0%</td>
<td>50.0%</td>
<td>47.9%</td>
<td>52.1%</td>
<td>56.3%</td>
<td>43.8%</td>
</tr>
</tbody>
</table>

What are our targets?
Graduate Program Metric 2 – Graduates

M.S. and Ph.D. graduates from the Department of Grain Science & Industry’s graduate degree programs (2007-2011).

<table>
<thead>
<tr>
<th>Year</th>
<th>M.S.</th>
<th>Ph.D.</th>
<th>Totals</th>
<th>5-Yr Avg</th>
<th>URM</th>
<th>Domestic PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>7</td>
<td>2</td>
<td>9</td>
<td>7</td>
<td>0</td>
<td>0</td>
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<td>2008</td>
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<td>13</td>
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<tr>
<td>2009</td>
<td>6</td>
<td>3</td>
<td>9</td>
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<tr>
<td>2010</td>
<td>8</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2011</td>
<td>5</td>
<td>7</td>
<td>12</td>
<td>11</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

⇒ What are our targets?
## Graduate Program Metric 3 – Publications

M.S. and Ph.D. graduate student publications from theses and dissertations in the Department of Grain Science & Industry’s graduate degree programs (2007-2011).

<table>
<thead>
<tr>
<th>Year</th>
<th>M.S.</th>
<th>Peer Articles</th>
<th>Ph.D.</th>
<th>Peer Articles</th>
<th>Total Graduates</th>
<th>Total Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>7</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>2008</td>
<td>11</td>
<td>8</td>
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<td>13</td>
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<tr>
<td>2009</td>
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<td>10</td>
<td>3</td>
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<td>19</td>
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<tr>
<td>2010</td>
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<td>2</td>
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<td>6</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>2011</td>
<td>5</td>
<td>1</td>
<td>8</td>
<td>23</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>Totals</td>
<td>37</td>
<td>31</td>
<td>18</td>
<td>40</td>
<td>55</td>
<td>71</td>
</tr>
</tbody>
</table>

→ What are our targets?
Graduate Program Metric 4 – Placement

Companies and Job Titles (2007-2011)

- AIB International
- Bartlett Grain Co
- Cargill Horizon Milling
- Intl. Meat Processing Co (Canada)
- JR Short Co
- Kemin Industries
- Kerry Ingredients
- Kraft Foods
- Maine General Hospital
- Nestle
- Pepsico / Frito Lay /Quaker
- Schwan’s
- Food Scientist
- Miller
- Product Developer
- Project Manager
- Quality Assurance Supervisor
- Researcher
- Research Manager
- R&D Senior Scientist
- Scientist

Information from Department Exit Interviews (2007-2011)
Graduate Program Metric 4 – Placement

Academic Institutions and Job Titles (2007-2011)

• Hyejeon College (Korea)
• Kansas State University
• KU Leuven (Belgium)
• Michigan State University
• North Carolina State University
• UC Davis
• Instructor
• Graduate Student
• Post-doctoral Researcher

Information from Department Exit Interviews (2007-2011)
New Graduate Fellowship

• Dr. C.E. Walker International Graduate Fellowship:
  • 2 x $25,000 stipends (incl tuition waiver)

• Purpose:
  • To honor Dr. Chuck Walker for his dedication to helping international students, and to provide financial assistance to an international graduate student enrolled in the Grain Science graduate program
  • Established by TMCO Inc., Lincoln, NE in 2010; quasi-endowed in 2011

• Eligibility:
  • Must be an international graduate student enrolled in Grain Science at the M.S. or Ph.D. level
  • Graduate Research Assistantship in baking science and technology; rheology applied to cereal grains or their products; or cereal chemistry related to baking
  • M.S. limited to 24 months; Ph.D. limited to 36 months
Strategic Plan Themes

1. **Educate** undergraduate and graduate students, and industry professionals.

2. **Conduct innovative basic and applied research**, and **transfer** new technology and knowledge to end users.

3. **Offer** high-quality **outreach** programs and services to meet domestic and international customer needs and stakeholder expectations.

4. **Recruit**, retain, reward and develop high quality **faculty**, and professional and classified **staff**.

5. **Develop**, maintain and utilize state-of-the-art **facilities** and equipment.

6. **Broaden** **funding** base and improve financial stewardship.
Grant and contract totals, awards received and proposals (some data missing) submitted as reported by the KSU Office of the Vice President for Research for the Department of Grain Science & Industry (2007-2011) and 2012 through December 31. Award yield was calculated.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Grants Totals</th>
<th>5-yr Average</th>
<th>Awards Received</th>
<th>Average Award</th>
<th>Proposals submitted</th>
<th>Proposal Total</th>
<th>Award Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$2,058,140</td>
<td>$2,121,885</td>
<td>24</td>
<td>$85,756</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2008</td>
<td>$1,408,563</td>
<td>$1,826,982</td>
<td>31</td>
<td>$45,437</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2009</td>
<td>$3,396,240</td>
<td>$2,010,975</td>
<td>36</td>
<td>$94,340</td>
<td>57</td>
<td>$12,691,089</td>
<td>26.7%</td>
</tr>
<tr>
<td>2010</td>
<td>$1,582,167</td>
<td>$2,251,729</td>
<td>35</td>
<td>$45,205</td>
<td>53</td>
<td>$7,463,093</td>
<td>21.2%</td>
</tr>
<tr>
<td>2011</td>
<td>$1,376,246</td>
<td>$1,964,271</td>
<td>29</td>
<td>$47,457</td>
<td>58</td>
<td>$15,081,893</td>
<td>9.1%</td>
</tr>
<tr>
<td>2012</td>
<td>$1,192,225</td>
<td>--</td>
<td>21</td>
<td>--</td>
<td>34</td>
<td>$3,724,242</td>
<td>--</td>
</tr>
</tbody>
</table>

What are our targets?
# Extramural Funding Support

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>5yr Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT</td>
<td>$325,671</td>
<td>$387,539</td>
<td>$633,383</td>
<td>$1,046,426</td>
<td>$1,082,763</td>
<td>$514,216</td>
<td>$368,293</td>
<td>$543,000</td>
<td>$729,016</td>
</tr>
<tr>
<td>GSI</td>
<td>$815,578</td>
<td>$2,376,352</td>
<td>$2,058,140</td>
<td>$1,408,563</td>
<td>$3,396,240</td>
<td>$1,582,167</td>
<td>$1,376,246</td>
<td>$1,293,833</td>
<td>$1,964,271</td>
</tr>
<tr>
<td>ENTM</td>
<td>$1,507,496</td>
<td>$2,784,940</td>
<td>$2,848,309</td>
<td>$2,075,416</td>
<td>$1,560,774</td>
<td>$1,898,520</td>
<td>$2,347,047</td>
<td>$543,395</td>
<td>$2,031,801</td>
</tr>
<tr>
<td>AGEC</td>
<td>$1,773,947</td>
<td>$2,028,162</td>
<td>$2,292,428</td>
<td>$2,529,003</td>
<td>$1,350,847</td>
<td>$2,408,959</td>
<td>$2,179,162</td>
<td>$1,656,140</td>
<td>$2,152,080</td>
</tr>
<tr>
<td>ASI</td>
<td>$1,568,014</td>
<td>$1,707,054</td>
<td>$2,988,255</td>
<td>$2,855,594</td>
<td>$1,882,156</td>
<td>$1,327,458</td>
<td>$2,019,348</td>
<td>$320,262</td>
<td>$2,328,775</td>
</tr>
<tr>
<td>AGRY</td>
<td>$3,069,983</td>
<td>$3,732,199</td>
<td>$7,031,838</td>
<td>$3,402,577</td>
<td>$4,892,905</td>
<td>$6,779,713</td>
<td>$4,911,685</td>
<td>$4,056,376</td>
<td>$5,403,744</td>
</tr>
<tr>
<td>PP</td>
<td>$4,105,332</td>
<td>$4,214,156</td>
<td>$5,343,061</td>
<td>$3,714,770</td>
<td>$7,607,972</td>
<td>$6,754,886</td>
<td>$5,449,762</td>
<td>$3,526,882</td>
<td>$5,774,090</td>
</tr>
<tr>
<td>COA totals</td>
<td>$15,413,931</td>
<td>$20,599,579</td>
<td>$25,515,848</td>
<td>$19,324,431</td>
<td>$24,476,049</td>
<td>$24,522,693</td>
<td>$21,187,744</td>
<td>$11,030,028</td>
<td>$23,005,353</td>
</tr>
</tbody>
</table>

*Note: 5-yr avg is for FY 2007-11; 2012 is through 1/31/12*

GSI faculty & staff generated about $10 million in extramural support during the past 5 years!
“I encourage you to work on increasing extramural funding for the department’s research activities. The COA and KSRE have substantial investments in infrastructure for GSI and I believe there is unrealized potential for extramural funding, particularly when the new feed mill is operational.”

- From 2011 Annual DH Evaluation
### Research Program Metric 3 – Peer Journal Manuscripts

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011*</th>
<th>5-yr Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asst Profs</strong></td>
<td>8</td>
<td>12</td>
<td>6</td>
<td>10</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td><strong>Assoc Profs</strong></td>
<td>0</td>
<td>2</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td><strong>Full Profs</strong></td>
<td>20</td>
<td>24</td>
<td>21</td>
<td>35</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>28</td>
<td>38</td>
<td>36</td>
<td>52</td>
<td>43</td>
<td>39</td>
</tr>
</tbody>
</table>

*published that year so far

GSI faculty published **197** peer manuscripts in the past 5 years!
**Research Program Metric 3 – Disclosures & Patents**

<table>
<thead>
<tr>
<th>Research Program</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>5-yr Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI</td>
<td>4</td>
<td>2 (1)</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>GSI</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4 (1)</td>
<td>4.0</td>
</tr>
<tr>
<td>ENTM</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>0.6</td>
</tr>
<tr>
<td>AGRY</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td></td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>PP</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>0.8</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td></td>
<td>5</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1.4</td>
</tr>
<tr>
<td>COA Total</td>
<td>13</td>
<td>8</td>
<td>22</td>
<td>8</td>
<td>8</td>
<td>11</td>
<td>11.4</td>
</tr>
<tr>
<td>KSU Total</td>
<td>43 (4)</td>
<td>34 (1)</td>
<td>47</td>
<td>24</td>
<td>24</td>
<td>31 (3)</td>
<td>32.0</td>
</tr>
</tbody>
</table>

(#{}) denotes issued U.S. patents from disclosures

GSI faculty filed 21 disclosures and had 1 patent issued in the past 5 years!

Source: KSURF 12/8/2011
Research Program Metric 4 – Undergraduate Research

GSI Students, Projects & Advisors

- **Timothy Becker**, MSM Senior, “Physicochemical Properties of Freshwater Macro- and Microalgae Protein and Oil Compared with Soybean Protein and Oil Products”, co-author with Dr. Sun
- **April Hostetler**, MSM Junior, *Functional and Compositional Properties of Reduction and Break Flour Fractions*, Dr. Dogan
- **Westley Hutson**, FSM Junior, *Effect of fat source on pellet quality*, Dr. McKinney
- **Juhui Jeong**, BSM Senior, “Effect of resistant starch on extruded ready-to-eat breakfast cereal quality”, co-author with Dr. R. Miller
- **Shauna Muehlbach**, FSM Junior, *Effectiveness of pellet binders*, Dr. McKinney
- **Mayra Perez**, BSM Freshman & Developing Scholars Program, *Milling and end product characterization*, Dr. Dogan
- **Cole Rickabaugh**, FSM Junior, *Effectiveness of pellet binders*, Dr. McKinney
- **Bethany Vosburgh**, BSM Senior & NSF REU summer student, *Cyanophycin biosynthesis from renewable resources*, Dr. Vadlani
- **Caleb Wurth**, FSM Junior & Developing Scholars Program, *Mold inhibitors in aquaculture feed*, Dr. McKinney
- **Nathan Watson**, MSM Senior & IAOM Student Presenter, *Method for predicting roll wear through sieve analysis*, Prof. C. Miller
Strategic Plan Themes

1. **Educate** undergraduate and graduate students, and industry professionals.

2. Conduct innovative basic and applied **research**, and **transfer** new technology and knowledge to end users.

3. **Offer high-quality outreach programs and services to meet domestic and international customer needs and stakeholder expectations.**

4. **Recruit**, retain, reward and develop high quality **faculty**, and professional and classified **staff**.

5. Develop, maintain and utilize state-of-the-art **facilities** and equipment.

6. **Broaden funding base and improve financial stewardship.**
International Grains Program

Our Mission

To provide innovative and relevant education and technical programs to enhance the market preference, consumption and utilization of U.S. cereal grains, oilseeds and their value added products for the global grain industry.
Outreach Program Metric 1 – Professionals Trained via IGP

Number of industry professionals, short courses and countries organized by the department’s International Grains Program (2007-2011).

<table>
<thead>
<tr>
<th>Year</th>
<th>Flour Milling &amp; Grain Processing</th>
<th>Grain Marketing &amp; Risk Management</th>
<th>Feed Manufacturing &amp; Grain Management</th>
<th>Total Participants</th>
<th>Number of Short Courses</th>
<th>Number of Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>82</td>
<td>78</td>
<td>82</td>
<td>242</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>2008</td>
<td>77</td>
<td>87</td>
<td>27</td>
<td>191</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>2009</td>
<td>176</td>
<td>131</td>
<td>171</td>
<td>478</td>
<td>25</td>
<td>51</td>
</tr>
<tr>
<td>2010</td>
<td>85</td>
<td>284</td>
<td>76</td>
<td>445</td>
<td>27</td>
<td>43</td>
</tr>
<tr>
<td>2011</td>
<td>145</td>
<td>109</td>
<td>374</td>
<td>628</td>
<td>44</td>
<td>43</td>
</tr>
<tr>
<td>Totals</td>
<td>565</td>
<td>689</td>
<td>730</td>
<td>1,984</td>
<td>131</td>
<td>--</td>
</tr>
</tbody>
</table>

➡️ What are our targets?
Outreach Program Metric 2 – Professionals Trained via DE

Number of industry professionals taking the department’s distance education courses in partnership with grain (GEAPS), feed (AFIA) and milling (IAOM) industry organizations (2008-2011).

<table>
<thead>
<tr>
<th>Year</th>
<th>GEAPS Participants – Courses - Countries</th>
<th>AFIA Participants – Courses - Countries</th>
<th>IAOM Participants – Courses - Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>139 – 5 – 8</td>
<td>- – - – -</td>
<td>- – - – -</td>
</tr>
<tr>
<td>2009</td>
<td>258 – 7 – 5</td>
<td>- – - – -</td>
<td>- – - – -</td>
</tr>
<tr>
<td>2010</td>
<td>273 – 9 – 5</td>
<td>22 – 1 – 4</td>
<td>20 – 2 – 6</td>
</tr>
<tr>
<td>2011</td>
<td>344 – 12 – 4</td>
<td>60 – 1 – 5</td>
<td>180 – 4 – 4</td>
</tr>
<tr>
<td>Totals</td>
<td><strong>1014</strong> – <strong>40</strong> – <strong>22</strong></td>
<td><strong>82</strong> – <strong>2</strong> – <strong>9</strong></td>
<td><strong>200</strong> – <strong>6</strong> – <strong>10</strong></td>
</tr>
</tbody>
</table>

➡️ What are our targets?
ICGOP

The primary education and applied research partner to the global grain handling and commodity utilization industry.

International Center for Grain Industry Operations and Processing

A Path into the Future

In a time of rapid change, it’s time to focus on how to meet the demands of a global industry in need of education and training.
Strategic Plan Themes

1. Educate undergraduate and graduate students, and industry professionals.
2. Conduct innovative basic and applied research, and transfer new technology and knowledge to end users.
3. Offer high-quality outreach programs and services to meet domestic and international customer needs and stakeholder expectations.
4. Recruit, retain, reward and develop high quality faculty, and professional and classified staff.
5. Develop, maintain and utilize state-of-the-art facilities and equipment.
Milling & Grain Processing (10)

Mr. Quenten Allen
Dr. Kingsly Ambrose
Dr. Subramanyam Bhadriraju
Ms. Fran Churchill
Mr. Royal Denning
Dr. Hulya Dogan
Prof. Huseyin Dogan
Mr. Mark Fowler
Prof. Chris Miller

New Buhler Instructor (TBD)

Milling, Component Extraction, Purification, Characterization, Dry-fractionation, Value-added Processing, Process Optimization, Energy Efficiency, Food Safety, HACCP, Stored Food Protection
Dr. Sajid Alavi
Dr. Greg Aldrich
Mr. Carlos Campabadal
Prof. Fred Fairchild
Ms. Cassandra Jones
Dr. Leland McKinney
Dr. Dirk Maier
Mr. Jay O’Neil

Prepare for vice-Behnke/McKinney position

Explore Feed Safety Research Assistant Professor
Dr. Jon Faubion
Prof. Dave Krishock
Dr. Rebecca Miller
Mr. Michael Moore
Dr. Yong-Cheng Shi
Dr. David Wetzel

Prepare for vice-Madl position
Biobased Products & Bioenergy (2)

Dr. X. Susan Sun
Dr. Ron Madl
Dr. Praveen Vadlani

Prepare for shift of vice-Madl position
Strategic Plan Themes

1. **Educate** undergraduate and graduate students, and industry professionals.

2. **Conduct** innovative basic and applied **research**, and **transfer** new technology and knowledge to end users.

3. **Offer** high-quality **outreach** programs and services to meet domestic and international customer needs and stakeholder expectations.

4. **Recruit**, retain, reward and develop high quality **faculty**, and professional and classified **staff**.

5. **Develop**, maintain and utilize state-of-the-art **facilities** and equipment.

6. **Broaden** **funding** base and improve financial stewardship.
Shellenberger Hall Consolidation Considerations

- Complete classroom renovations (301, 311)
- Convert old locker room into Women’s restroom (114B)
- Convert old Specialty Mill into Materials Handling Lab
  - Move/acquire needed specialty equipment to Hal Ross Mill
  - New lab for new Milling/Grain processing faculty
- **Shut down & dismantle old flour mill**
  - Move some older equipment to Hal Ross Mill
  - Convert 4 cleaning house floors into faculty, post-doc & graduate student offices
  - Convert 4 mill floors mostly to laboratories
- Reclaim SH319 as useable lab space
- Abandon old Feed Technology building & offices
  - Move to new Feed Mill and some offices into BIVAP
  - Keep warehouse and shop space for dept use

⇒ Facilities Committee developing recommendations!
GSI North Complex on Kimball Ave
O.H. Kruse Feed Technology Innovation Center

• Teaching, research, service facility
• $12.3 million GMP for Phase I
  – $2.3 million Kruse gift and other cash
  – $1.5 million from KBA Matching Grant
  – $5.8 million in NBAF relocation funds from State of Kansas and Kansas State University
  – $2.7 million from COA Ag Experiment Station
• Need to pay ~$400k for discounted equipment
  – ~$2 million equipment donations & discounts
• Seeking additional $0.5 million cash from grain and feed industry to build grain handling and storage facility
• Phase II: Seeking additional funds and equipment from domestic and international grain, feed, petfood and animal nutrition industry and allied trades to complete Science & Education wing

Project Timeline:
Fall 2011 – secure Phase 1 funds
Spring 2012 – start construction
Summer 2013 – commission & dedicate
Envisioned completion of new Grain Science Innovation Campus

Final Projects:
- Add Milling Science & Education Wing to Hal Ross Flour Mill
- Build Cereal & Bakery Sciences & Technology Building
1. **Educate** undergraduate and graduate students, and industry professionals.

2. Conduct innovative basic and applied research, and transfer new technology and knowledge to end users.

3. Offer high-quality outreach programs and services to meet domestic and international customer needs and stakeholder expectations.

4. Recruit, retain, reward and develop high quality faculty, and professional and classified staff.

5. Develop, maintain and utilize state-of-the-art facilities and equipment.

6. **Broaden funding** base and improve financial stewardship.
### Undergraduate Scholarship Support

Undergraduate scholarship support received by students in the Department of Grain Science and Industry (2007-2011).

<table>
<thead>
<tr>
<th>Year</th>
<th>BSM</th>
<th>MSM</th>
<th>FSM</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>$71,771</td>
<td>$41,099</td>
<td>$25,000</td>
<td>$137,870</td>
</tr>
<tr>
<td>2008-09</td>
<td>$86,055</td>
<td>$58,609</td>
<td>$32,150</td>
<td>$176,814</td>
</tr>
<tr>
<td>2009-10</td>
<td>$87,825</td>
<td>$57,500</td>
<td>$30,525</td>
<td>$175,850</td>
</tr>
<tr>
<td>2010-11</td>
<td>$94,815</td>
<td>$69,750</td>
<td>$30,000</td>
<td>$194,565</td>
</tr>
<tr>
<td>2011-12</td>
<td>$113,307</td>
<td>$88,780</td>
<td>$27,040</td>
<td>$229,127</td>
</tr>
<tr>
<td><strong>5-yr Totals</strong></td>
<td><strong>$453,773</strong></td>
<td><strong>$315,738</strong></td>
<td><strong>$144,715</strong></td>
<td><strong>$914,226</strong></td>
</tr>
</tbody>
</table>

**What are our targets?**

- 60% of students received scholarships in 2011-12
Faculty Recognition & Sustainability

Dr. Jon Faubion
Charles D. Singleton
Endowed Chair in Grain Science & Industry

Dr. Subi Bhadriraju
Donald A. Wilbur
Endowed Professor of Stored Product Protection

Prof. Dave Krishock
Bakers National Education Foundation
Instructor of Bakery Science & Management

Prof. Fran Churchill
NAMA Instructor of Milling Science & Management
Faculty Recognition & Sustainability

Dr. xxx
G.M. Ross Endowed Professor of Milling Science & Industry

Dr. yyy
Gary & Betty Lortscher Professor of Renewable Energy

Prof. xxx
Buhler Instructor of Milling Science & Management

Dr. yyy
Jim & Carol Brown Endowed Professor in Feed Science & Management
Current Grain Science Distance Ed Courses

Available
• GRSC 101 Introduction to Grain Science (3 offerings, 75 students)
• GRSC 602 Cereal Science (5 offerings, 45 students)
• GRSC 745 Fundamentals of BioProcessing (Fall 2012)

In Development
• GRSC 310 Materials Handling
• GRSC 510 Feed Technology I
• GRSC 625 Flour & Dough Testing
• GRSC 635 Baking Science I
• GRSC 636 Baking Science I Lab
• GRSC 655 Cereal Food Plant Design & Construction
• GRSC 661 Qualities of Feed Ingredients

Proposed
• GRSC 637 Baking Science II
• GRSC 710 Fundamentals of Grain Storage

120 students have taken GRSC dist ed classes for college credit since Fall 2010!
Disciplined Action...

• The Flywheel
  – No single defining action
  – No one killer innovation
  – No miracle moment
  – No one single person

⇒ Relentlessly pushing a giant, heavy flywheel in one direction, turn upon turn, building momentum until a point of breakthrough, and beyond

Teamwork!!!
“Greatness is largely a matter of conscious choice, and discipline!”

- Jim Collins
Do we have a clear **vision** of how our future will be different from our past?  
Do we have an effective **strategy** to make that future a reality?  
Do we have a real sense of **urgency** to grab our opportunities?
My Key Priorities for 2012

• Fill vacant Feed Tech tenure track position, IGP Feed/Grain specialist position, Buhler Instructor position, recruiter position, and advertise 2 tenure track positions before end of Spring 2012 semester
  – Asst Professor in Feed Technology offer accepted in February 2012
  – IGP Feed/Grain specialist offer accepted in February 2012
  – Recruiter position to be filled in April 2012
  – Interviews for Buhler Instructor position in April or May 2012
  – Request to refill vice-Madl and vice-”Fairchild” positions to Dean in March 2012
    • Waiting on permission to advertise; need to develop position descriptions

• Get Feed Mill construction underway in Spring 2012 and explore funding opportunities for Phase II
  – Contract with GC to signed February 2012; construction to start May 2012
  – Pursue funding for Science & Education Wing via petfood industry

• Complete departmental 2025 Strategic Plan including SMART goals, KSU metrics and common elements before end of Summer 2012
  – Present DRAFT plan to dept advisory council in April 26, 2012

• Complete departmental space utilization plan including Shellenberger Hall consolidation before end of Fall 2012 semester
  – Present DRAFT plan to dept advisory council in October 2012
Upcoming Events

- Accreditation Visit by the Higher Learning Commission – April 8-11, 2012
  - Review the quick guide and pocket guide
- Open House – April 21, 2012
  - Great team effort, lots of opportunities to volunteer
- Spring Awards Banquet – April 25, 2012
  - Recognize our awardees and scholarship recipients & donors
  - Recognize Outstanding Alumni & Supporters
- Dept Advisory Council meeting – April 26, 2012
  - Present Strategic Plan development DRAFT
- Stakeholder Group meetings – April 25-26, 2012
  - AFIA Executives meeting with feed science faculty
  - NAMA Milling Science Committee visiting MSM classes and meeting with milling science faculty
  - GEAPS Executive Officers meeting with KSU administrators and GSI faculty regarding distance education partnership
- COA Distinguished Alumnus Dale Rodman, FSM’63 – May 5, 2012
- 5-year Department Head Administrative Review – Fall 2012