College of Agriculture & Life Sciences
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Director of College Leadership & Strategy

Agriculture and Forestry Awareness Study Commission
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Growing People, Programs and Partnerships
Agriculture in NC is STRONG/GROWING

Agriculture and Agribusiness generate $77 billion or 17.5% of $440 billion annual gross state product.

$67.4 billion comes from Food Industries

Source: Walden, Mike. 2013
Agriculture is Key to our Economy

Agriculture and agribusiness account for 642,000 or 17% of the state’s 3.8 million jobs.

Source: Walden, Mike. 2013
North Carolina Life Sciences

- > 520 bioscience companies
- Nearly 60,000 jobs
- NC ranks 3rd in # of companies
CALS Vision and Mission

**Vision**
Create social and economic prosperity and well-being for the state, nation and world through agriculture and life science discovery, learning and engagement.

**Mission**
CALS leads partnership-driven discovery, learning and engagement. We prepare students, create and apply unbiased knowledge through advances in science and technology and drive economic development to improve the quality of life in NC, our nation and the world…. we achieve new scientific breakthroughs that translate into discoveries and meet grand challenges involving food, farming, fiber, feed, families, health, energy, water and the environment.
Overall Picture of CALS at NCSU

In White: Our Target
- Student and Stakeholder Experience

In Red: What we will grow
- People, Programs, Partnerships

In Black: Our Behavior
- Interdisciplinary, Integrated, Collaboration

5 CORE STRATEGIC THEMES
1) Enhancing the production, quality, accessibility, and profitability of food, plant, animal and bioenergy products for North Carolina, the nation, and the world
2) Ensuring environmental stewardship and sustainability of air, land, soil and water resources
3) Creating a food supply that is safe, secure, healthy, affordable and of high quality
4) Improving human health and well-being for individuals, families and communities
5) Preparing students and stakeholders for leadership and success in the global workforce
1. Enhancing production, quality, accessibility and profitability of foods
2. Ensuring environmental stewardship and sustainability
3. Creating a safe and healthy food supply
4. Improving human health
5. Preparing students and stakeholders for leadership
Outcomes: “Pillars of Excellence”

**Pillar 1:** CALS will be a world leader in addressing grand challenges in food, agriculture, energy, and the environment.

**Pillar 2:** CALS will promote a college-wide culture of partnership-driven, integrated, and interdisciplinary teams that are recognized for solving local, state, national, and global grand challenges.

**Pillar 3:** CALS will create innovative public-private partnerships that enhance College programs, capacity, and infrastructure which will enable the University community and stakeholders to prosper.
We are making plants better through Plant Breeding
Better Practices = Increased Yield

2000: 10 growers had yields of 225 bushels/acre
2012: >200 growers had yields of 225 bushels/acre

Average yield of corn as a whole is up more than 25%
We keep bugs and disease away

Dr. Fred Gould
Exceptional Feed Mill Program

Dr. Adam Fahrenholz
Global Leaders in Waste Management

Dr. Mike Williams
Food Safety Programs

- Good Agricultural Practices
- HACCP
- Food Plant Sanitation
- Good Manufacturing Practices
- Better Process Control School
- ISO Standards
- GFSI/SQF Programs
- Food Safety Modernization Act
What are the NEXT ideas that...

• bring together many departments/units/disciplines within CALS and have a foundation of interdisciplinary collaboration,
• greatly strengthen collaboration with other Colleges at NCSU,
• effectively integrate the missions of research/teaching/outreach/international programs,
• benefit by the interaction and partnership with external stakeholders,
• build on current strengths of CALS,
• provide a better experience and opportunities for our students,
• create a competitive niche for NC State where external funding is and will be available,
• are innovative/provide leadership in moving our science/scholarly presence forward,
• help to solve grand global challenges
• will have “leadership champions” in CALS.
What are the BIG IDEAS and KEY Initiatives?

Current BIG IDEAS Being Assessed

- **Plant Sciences Initiative**
- **Student Access to 4-year Degree**
- **Stakeholder Leadership Programs**
One BIG IDEA!

Plant Sciences Initiative

- Plant Breeding Program
- Plant Stress (Kenan)
- AMPLIFY
- Alternative Animal Feed
- Bio-energy
- Ecology/Water/Sustainability
- Nutrition
- Plant Sciences Complex
Plant Sciences Research Complex

The Premier Plant Sciences Infrastructure in the Country

Key Features:
- 2 Leasable Corporate lab suites: 18,000 GSF
- Classroom/Seminar space: 3,000 GSF
- Hearth/Atrium space: 4,000 GSF
- Miscellaneous (housekeeping/loading dock/mail): 3,000 GSF
- Administrative suite: 2,000 GSF
- Faculty offices/research labs: 150,000 GSF
- 60-65 Plant Sciences Research Faculty
- BSL3 Greenhouse on the roof: 8,000 GSF
- BSL2 compliant connection to BTEC
- Additional ~20,000 GSF glasshouse at Partners II site
Thank You!

The NC State University College of Agriculture and Life Sciences....
We Grow our People, our Programs, and our Partnerships Everyday!
Questions?

... Discussion