



**North Central Regional Association of State Agricultural  
Experiment Station Directors**

**204<sup>th</sup> Meeting**  
**The Ballantyne Hotel and Lodge**  
**Charlotte, NC**  
**Monday, September 28, 2015**  
**3 to 6 pm, Room: Ballantyne B (lobby level)**

**Final AGENDA and [MINUTES](#)**

<i>Time</i>	<i>Item #</i>	<i>Topic</i>	<i>Presenter</i>
3:00 pm	1.0	Welcome and Call to Order	Ernie Minton, NCRA Chair 2015
	2.0	Approval of Summer 2015 Minutes, see: <a href="http://ncra.info/docs/Historical/Minutes/July2015.pdf">http://ncra.info/docs/Historical/Minutes/July2015.pdf</a>	
	3.0	Adoption of the Agenda	
	4.0	Interim Actions of the Chair 4.1 NCRA Office Budget Discussion	
3:10 pm	5.0	NCRA Office Report 5.1 Budget Update/Discussion 5.2 NIMSS Update 5.3 Spring 2016 NCRA meeting	Jeff Jacobsen and Chris Hamilton
3:40 pm	6.0	LEAD21 Update	Dave Benfield
3:45 pm	7.0	NCRCRD Projects <ul style="list-style-type: none"> <li>• Faculty perspectives on technology transfer</li> <li>• Federal R&amp;D impacts on urban and rural areas</li> </ul>	Scott Loveridge, John Mann
4:30 pm	<a href="#">8.0</a>	Update on Central State University	Steve Slack, Dave Benfield, Jeff Jacobsen
4:45 pm	9.0	State Reports and Unique Facilities in the NCR (e.g. UNL Greenhouse and Plant Imaging Facilities, NDSU Greenhouses, Purdue and Plant Science Initiative, etc.)	All
5:20 pm	<a href="#">10.0</a>	Resolutions	Marc Linit
5:45 pm	11.0	Spring 2016 NCRA Meeting Topic suggestions (Infrastructure update, etc.)	Ernie Minton, All
5:55 pm	12.0	NCRA Officer Changing of the Guard	Ernie Minton, 2015 NCRA Chair; Deb Hamernik, 2016 NCRA Chair
		Future Meetings: <a href="http://ncra.info/Organization_UpcomingMeetings.php">http://ncra.info/Organization_UpcomingMeetings.php</a>	

		<ul style="list-style-type: none"> <li>• APLU Annual Meeting, November 15-17, 2015, JW Marriott Hotel, Indianapolis, IN</li> <li>• 2016 Joint CARET/AHS Meeting, March 6-9, 2016, The Westin Alexandria Hotel</li> <li>• 2016 NCRA Spring Meeting, TBD</li> </ul>	
6:00 pm	<i>Adjourn</i>		

**Written Briefs (attached as .pdfs at the end of agenda):**

POW Panel Recommendations ESCOP Letter to Dr. Sonny Ramaswamy  
 ESCOP NRSP-RC Fall Agenda Brief

## MINUTES

**Attendees:** Ernie Minton (KSU), Jeff Jacobsen (NCRA), John Mann (NCRCRD), Ken Grafton (NDSU), Doug Buhler (MSU), George Smith (MSU), Marc Linit (Univ of MO), Daniel Scholl (SDSU), Marshall Martin (Purdue), Rick Lindroth (UW-Madison), Scott Loveridge (NCRCRD), Karen Plaut (Purdue), Dave Benfield (OSU), Connie Kays (NC CARET), Steve Slack (OSU), Parag Chitnis (NIFA), Deb Hamernik (UNL), Greg Cuomo (UMN)

Item #	Notes	Action Items
2.0	Approval of summer 2015 NCRA minutes	July 2015 NCRA meeting minutes approved
3.0	Approval of fall 2015 minutes	September 28, 2015 NCRA meeting agenda approved
4.0	<p>Interim actions of the NCRA Chair</p> <ul style="list-style-type: none"> <li>• There is a new NRSP on Crop and Livestock Big Data currently under development (not yet in NIMSS). Karen Plaut has agreed to serve as the NC AA. George Smith will take Karen's place on NRSP10 (Database Resources for Crop Genomics, Genetics and Breeding Research)</li> <li>• ESCOP Diversity Task force was charged by Bob Shulstad and members have been identified. Karen Plaut has agreed to serve as chair.</li> <li>• NCRA Exec Committee continues to hold monthly calls.</li> </ul>	Chris will make the AA changes in NIMSS and inform the other AAs on NRSP10 and regional EDs/Ads.
5.0	<p>NCRA Office Update</p> <p>NCRA office budget: Four scenarios were presented for the FY 2017 NCRA office budget: 1) Keep the same, 2) 1% increase, 3) \$10,000 increase, 4) \$55,000 increase. \$55,000 increase would allow assessment to cover expenses once Jeff and Chris spend down surplus and is the only sustainable one going forward, unless programs are cut. This amount doesn't include changes to fringe and salaries. Ken Grafton moved that we adopt scenario 4, the \$55,000 increase. Motion was seconded by Karen Plaut. Jeff/Chris/EC will develop FY17 budget with \$55,000 increase in mind. Formal FY17 budget approval will occur during spring NCRA meeting. Discussion also ensued regarding how to approach budget changes as expenses increase, mainly to cover increases in salaries, fringe, and travel. Also, Jeff noted that to reduce transaction costs, Chris' 2016 LEAD21 training costs will come directly out of the MSU</p>	<p>Budget: Ken Grafton moved that we adopt scenario 4, the \$55,000 increase. Motion was seconded by Karen Plaut. Jeff/Chris/EC will develop FY17 budget with \$55,000 increase in mind.</p> <p>NIMSS: Consider future agenda items to identify ways to simplify the approval processes and increase the data REEport can pull from NIMSS.</p>

	<p>office account, rather than UW as previously indicated.</p> <p>NIMSS update: The new system is very close to completion, all functions have been completed and work as they should. Chris Hamilton and Sarah Lupis are now working to make sure all the approval steps and user permissions are correct. Chris Hamilton and Sarah Lupis have been in contact with Clemson developers weekly, working through these issues. Directors suggested that going forward we consider simplifying these steps when possible and work to improve the data REEport pulls from NIMSS, reducing duplicate entry work into REEport.</p> <p>NCRA Spring Meeting 2016, April 4-7, 2016, Monday through Thursday. Marriott Courtyard, Isla Verde, San Juan, PR. Monday afternoon will be the MRC meeting, followed by a reception. Tuesday will be the NCRA business meeting. Wednesday will include a Univ of PR AES tour, meetings with Monsanto, PR and other PR farmers. All arranged by Hector Santiago at UNL, so please be aware that reg fees will go to UNL this year, not Chris at UW. More details on registration and hotel reservations coming soon. About five directors indicated they will bring their spouses. New, as of 10/1: Hector Santiago has also offered to create a guest attendee agenda, focusing on tourism and other activities. This will be covered with a separate registration fee.</p>	
6.0	<p>LEAD21 update: (Additional information will be included with 9/30/2015 ESS business meeting agenda.) LEAD21 is currently on class XI. The program is growing and had over 100 applicants this year, but can only handle about 80 per session. Facilitator time issues currently limit the number of classes they can do in a year and maintain program quality. The program allows at least one participant per institution, which includes both LGU and non-LGU institutions and NIFA. About 800 participants have been trained over the last 10 years and participants indicate the program is very valuable and worth the time spent. Recently, UGA moved the program under Extension. This is the last year for the first session at Kansas City. They will meet in Phoenix, AZ going forward.</p>	None, for information only.
7.0	NCRCRD Projects: See slide presentation Chris	NCRCRD will create a main-point

	emailed to directors (also attached as .pdf to end of briefs)	document for directors to share.  Please contact John Mann if you have names of more people to talk to regarding training, VC issues, IP, etc.
8.0	Discussion ensued regarding Central State University and Grambling (potential).	Steve Slack recommends contacting Cynthia Montgomery directly to see if your institution has any part of the ~\$100M unused funds that may be subject to return to the federal government  Parag Chitnis indicated he will make sure this information is sent to the regional offices, as well.
9.0	<p>State Reports and Unique Facilities</p> <ul style="list-style-type: none"> <li>• OSU: New greenhouses and Ag Engineering facilities completed to replace those destroyed in 2010 tornado. Steve Slack working towards retirement, Dave Benfield is taking over Wooster AES. OSU will split Steve's position and will start recruitment later this fall.</li> <li>• MSU: Dean search underway, interviews soon. New genomics positions opening up and will be advertised soon.</li> <li>• Purdue: New phenotyping facility moving forward. Tuition freezes continue.</li> <li>• WI: 15% UW-Madison budget cut on top of previous year cuts. Very little hiring, many cuts, including at AES. Meat and muscle biology lab will be under construction soon. Regional NMR facility funded by NIH.</li> <li>• MN: Have BSL2 and BSL3 BSL = BioSecurity Level) facilities, dairy pilot plant. MN looking into establishing core instrument facilities to share across departments.</li> <li>• MO: Flat budget, but also need to apply 2% salary increases from that. 20 targeted hired on campus, four will be joint hires with the Donald Danforth Plant Sciences Center in St. Louis. Facilities: Largest research nuclear reactor in the country. Drought simulators. Flood tolerance labs.</li> <li>• ND: New provost, new strategic plan. 17% budget increase over biennium. 2M</li> </ul>	None, for information only

	<p>increase in base budget for equipment. New veterinary diagnostic lab and high tech beef research facility BSL2 and BSL3 facilities.</p> <ul style="list-style-type: none"> <li>• SD: Cow/calf research and education unit coming online in February, swine teaching and research facilities, onsite farrowing barn with raised walkway for observation outside of the biosecure area. May be building a new greenhouse. Planning and development occurring for a new veterinary diagnostic lab.</li> <li>• NE: New president of four campus system launching a new food for health initiative. Facilities: Three new greenhouses being built. NE innovation campus opened this summer with 3D scanner, multi-spectral imaging available. New veterinary diagnostic center.</li> <li>• KS: Flat budget. New VP for research opening and department head. National Bio and Agro-Defense Facility (NBAF) breaking ground, Also BSL2 and BSL3 facilities available, new feed mill.</li> </ul>	
11.0	<p>2016 Spring meeting topics</p> <ul style="list-style-type: none"> <li>• NCRA office budget</li> <li>• Infrastructure follow-up</li> <li>• NIMSS (training, improvements, questions)</li> <li>• User fees and the NERA document, how this applies to NC, best practices</li> <li>• Winter nurse activities in PR? Talk with Hector about possibly incorporating this into the agenda/field day?</li> <li>• Significant others to PR? About 5 or so</li> </ul>	Chris and Jeff will talk with Hector Santiago about incorporating winter nursery activities into field day.

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## AGENDA BRIEFS

### **Item 8.0: Update on Central State University**

**Presenters: Steve Slack, David Benfield, Jeff Jacobsen**

#### **For information only.**

On February 7, 2014 Central State University (CSU) in Wilberforce, Ohio received federal designation as an 1890 Land Grant Institution as recognized in the current Farm Bill. In October 2014, Secretary of Agriculture Vilsack visited CSA as did a NIFA team to discuss program objectives and administration of projects and programs. Ohio State University's College of Food, Agricultural and Environmental Sciences, as the 1862 Land Grant University, has been in communication and met with CSU for the last few years to discuss function and structure issues associated with the Land Grant University structure and in August 2015 the presidents of the two institutions signed a joint MOA focused on extension partnerships and collaborations. CSU also initiated a Land Grant Advisory Council, which met for the first time in May 2015; OSU's Experiment Station and Extension Directors are on this Council. CSU's College of Science and Engineering is establishing a new Department of Agricultural Sciences in Fall 2015 and is in the process of developing programs to meet research and extension guidelines. Ohio has a biennial budget process and the biennium starting July 2015 has a commitment to CSU for research and for extension in recognition of federal match requirements.

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**Item 10.0: Resolutions**  
**Presenter: Marc Linit**

**A Resolution of Appreciation to Dr. Steven A. Slack**  
**The Ohio State University**

**WHEREAS**, Steven A. Slack has recently left his position as Associate Vice President for Agricultural Administration and Director, Ohio Agricultural Research and Development Center (OARDC) at The Ohio State University; and

**WHEREAS**, during his tenure at OARDC, Dr. Slack oversaw the establishment of the BioHio Research Park and facilities improvements that included a state-of-the-art nutrition and feed formulation Feedstock Processing Research Facility, the Ralph Regula Plant and Animal Agrosecurity Research facility, a new Agricultural Engineering building and a new greenhouse complex; and

**WHEREAS**, Dr. Slack has had a distinguished career as a plant pathologist as a faculty member at the University of Wisconsin-Madison and as the Henry and Mildred Uihlein Professor of Plant Pathology and Chair of Plant Pathology Department at Cornell University and has authored over 100 scientific publications; and

**WHEREAS**, Dr. Slack is a fellow and past President of the American Phytopathological Society, an honorary life member and past President of the Potato Association of America, a fellow of the American Association for the Advancement of Science; and

**WHEREAS**, Dr. Slack has received the USDA Group Honor Award for Excellence, the meritorious service award for research by the National Potato Council, the Outstanding Achievement Award by the Ohio Soybean Council and the Outstanding Alumnus Award from the Dale Bumpers College of Agricultural, Food and Life Sciences at the University of Arkansas; and

**WHEREAS**, Dr. Slack represented the NCRA as ESCOP Chair for 2013-2014 and served on the Board on Agricultural Assembly Policy Board of Directors from 2010 to the present, the 2008 FARM Bill/CREATE-21 committee, the ESCOP budget and Legislature Committee and the APLU Systems Integration Task Force; and

**WHEREAS**, Dr. Slack lead the fiscal and emotional recovery from the devastating tornado in 2010 that caused \$30 million in damage to the Wooster campus; and

**FURTHER**, Steve has a very thoughtful, soft-spoken yet direct approach that challenges and enriches all interactions and enhances the impact and outcomes of all activities with which he is involved; and

**THEREFORE**, the NCRA hereby expresses its appreciation, respect and sincere thanks to Steve Slack for his long-term dedication, leadership and impact on advancing research programs to enhance the lives of people throughout the region, nation and globe.





## EXPERIMENT STATION COMMITTEE ON ORGANIZATION AND POLICY

Experiment Station Section  
The Board on Agriculture Assembly  
Association of Public and Land-grant Universities

Dr. Sonny Ramaswamy, Director  
National Institute of Food and Agriculture  
United States Department of Agriculture

September 10, 2015

Dear Dr. Ramaswamy,

We recently received a copy of the *POW Panel of Experts Final Report (Aug 2015)* and the *FINAL POW Panel Recommendations (8-27-2015)*. A review of these documents and feedback from our regional representatives on the Panel of Experts demonstrates that there is a clear vision for moving forward to improve the reporting process for capacity funds. All reports are that the Panel worked effectively together and that USDA provided an effective framework for progress to be made. Thank you.

ESCOP supports implementing the report's recommendations as quickly as possible. We are aware of a related letter from ECOP and wish to reinforce several points that we believe are critical to an improved process and provides an efficient means by which USDA and the Experiment Station system can access information on the many positive impacts of capacity funds. In particular,

- It is essential to continue the regular communication to the ESCOP membership about evolving changes to the reporting process, through subcommittees and otherwise.
- The existing POW system must not co-exist with the new reporting system that develops out of these recommendations and their implementation.
- The software platform developed for the new reporting system must be user-friendly, reliable, and easy to access for both input and extraction of impacts. This is probably the most important step towards development of a useful database.
- USDA should only seek data that is required by law or that is necessary for its reports to Congress and others.
- The development of subcommittees, addressed on page 14 of the Final Report, is very important because they will consider details critical to success. We believe that there is merit in considering membership to one or more of these subcommittees from outside of the Panel of Experts when necessary to ensure that the items under discussion are informed by the range of institutions (type/size) that constitute the Experiment Station system. ESCOP would be happy to nominate membership for one or more subcommittees, if that would help. We hope that as new subcommittees are formed we will be made aware of their establishment and charge. This will allow us to more meaningfully contribute to the discussion through our representatives.

Thank you again for facilitating the Panel and for the contributions of your USDA colleagues. We look forward to implementing the new reporting system in the future.

Sincerely,

Bob Shulstad, ESCOP Chair

cc: Bart Hewitt

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NRSP Review Committee Agenda Brief (Fall Meeting)

Presenters: Bret Hess and Mike Harrington

For information only

**NRSP Review Committee Members**

<p>Bret Hess, Chair (WAAESD)</p> <p>Delegates:</p> <ul style="list-style-type: none"><li>• Fred Servello (NERA)</li><li>• Shirley Hymon-Parker (ARD)</li><li>• Doug Buhler (NCRA)</li><li>• Tom Bewick (NIFA)</li><li>• Clarence Watson (SAAESD)</li><li>• L. Washington Lyons (Cooperative Extension)</li></ul>	<p>Executive Directors:</p> <ul style="list-style-type: none"><li>• Eric Young (SAAESD)</li><li>• Mike Harrington, Executive Vice-Chair (WAAESD)</li></ul> <p>Interim Delegate:</p> <ul style="list-style-type: none"><li>• Tim Phipps (NERA)</li></ul> <p>Stakeholder Representative:</p> <ul style="list-style-type: none"><li>• Don Latham (CARET)</li></ul>
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**Background:**

The NRSP Review Committee (NRSP-RC) met in Denver, CO on May 28, 2015 for its annual meeting to review proposals, budgets, and guidelines and make recommendations for funding. The committee recognized the need for additional clarification regarding peer review of proposals and is currently drafting an appendix to the guidelines to more clearly outline this processes. Recommendations are presented below.

**NRSP 2015-2016**  
**Requests for Off-the-Top Funding**

Project	Request FY2013	Authorized FY2013	Request FY2014	Authorized FY2014	Request FY2015	Approved FY2015	†Request FY2016	NRSP Review Committee Recommendation
NRSP1	50,000	50,000	75,000	75,000	300,000	300,000	183,500	
NRSP3	50,000	50,000	50,000	50,000	50,000	50,000	50,000	
NRSP4	481,182	481,182	481,182	481,182	481,182	481,182	<i>see below</i>	
NRSP6	150,000	150,000	150,000	150,000	150,000	150,000	<i>see below</i>	
NRSP7	325,000	325,000	325,000	325,000	325,000	325,000	<i>see below</i>	
NRSP8	500,000	500,000	500,000	500,000	500,000	500,000	500,000	
NRSP9	175,000	175,000	175,000	175,000	175,000	175,000	175,000	
NRSP10					398,631	398,631	370,165	
NRSP_TEMP004 (NRSP4)							481,182	<i>Approve proposal &amp; 5-year budget request.</i>
NRSP_TEMP006 (NRSP6)							150,000	<i>Approve proposal &amp; 5-year budget request; require committee to investigate alternative funding models and report back to NRSP-RC at mid-term review. See attached.</i>
NRSP_TEMP7 (NRSP7)							325,000	<i>Reject proposal &amp; 5-year budget request; with 1-year transition funding for \$325,000. See attached.</i>
NRSP_TEMP9 (NRSP9)							225,000	<i>Approve proposal &amp; 5-year budget request.</i>

†As of 2012, all NRSP budgets are approved for the duration of their current 5-year cycle, assuming an acceptable mid-term review.

# FY16 National Research Support Projects

## National Research Support Program (NRSP) Ballot

\* 1. What station do you represent?

\* 2. Do you approve the NRSP Review Committee recommendation to approve the proposal and 5-year budget for the following projects:

	Yes	No
NRSP_TEMP004, "Enabling Pesticide Registrations for Specialty Crops and Minor Uses" (2015-2020), \$481,182	<input type="radio"/>	<input type="radio"/>
NRSP_TEMP006, "The U.S. Potato Genebank: Acquisition, Classification, Preservation, Evaluation and Distribution of Potato (Solanum) Germplasm" (2015-2020), \$150,000	<input type="radio"/>	<input type="radio"/>
NRSP_TEMP009, "National Animal Nutrition Program" (2015-2020), \$225,000	<input type="radio"/>	<input type="radio"/>

If "NO" suggest an alternative

\* 3. Do you approve the NRSP Review Committee recommendation to reject the proposal and budget for NRSP\_TEMP007, "A National Agricultural Program for Minor Use Animal Drugs" (2015-2020), \$325,000?

Yes

No

If "NO" suggest an alternative

### Summary of NRSPs

Project Number	Project Name	Project Period	Mid-term Review Year
NRSP-1	National Information Management and Support System (NIMSS)	2014-2017	2016
NRSP-3	The National Atmospheric Deposition Program (NADP)	2014-2019	2017
NRSP-4 (NRSP_TEMP4)	Enabling Pesticide Registrations for Specialty Crops and Minor Uses	2015-2020	2018
NRSP-6 (NRSP_TEMP6)	The U.S. Potato Genebank: Acquisition, Classification, Preservation, Evaluation and Distribution of Potato ( <i>Solanum</i> ) Germplasm	2015-2020	2018
NRSP-7 (NRSP_TEMP7)	A National Agricultural Program for Minor Use Animal Drugs	2015-2016	-
NRSP-8	National Animal Genome Research Program	2013-2018	2016
NRSP-9 (NRSP_TEMP9)	National Animal Nutrition Program	2015-2020	2018
NRSP10	Database Resources for Crop Genomics, Genetics and Breeding Research	2014-2019	2017

# **A Synopsis of the U.S. Potato Genebank: Acquisition, Classification, Preservation, Evaluation and Distribution of Potato (*Solanum*) Germplasm (NRSP6)**

## **Background**

The official National Plant Germplasm System project for the US potato genebank is in the National Research Support System designated as NRSP6. The NRSP system is a key facet of the State Agricultural Experiment Station (SAES) System. NRSP6 provides germplasm stocks, germplasm data, R&D techniques and tools and custom materials for germplasm evaluation to the stakeholders such as public and private plant breeders, potato researchers, food suppliers and processors both domestically and internationally. NRSP6 has been a viable national project (since the 1950s) with current top 10 state (unit) users from CA, IA, ID, MD, MI, MN, NY, OR, WA and WI and, in reality, nearly 50 states using the Genebank over short timeframes. The Genebank has over 5,000 items of germplasm for the world's most important non-cereal crop with 45% of these being unique. While the demand for Genebank services is increasing, the overall financial health is declining; thereby creating uncertainties that project evaluators recommend broader discussions to identify options for a more sustainable future. Very preliminary conversations have occurred with the National Potato Council leadership and staff, a NRSP review team member, a state breeder, state potato commission and a regional agricultural research association. Other key leaders, users and stakeholders must be consulted and fully engaged in order to design alternative funding models.

## **Challenges**

- Potato is a prohibited import crop, so current genetic resources in the US genebank are the only ones readily available to users. Continued restrictions on international germplasm collection and distribution limit new discoveries, thereby increasing the importance and use of the current stocks.
- Historical purchasing power erosion and direct cuts in program support across all of the primary funding sources (USDA Ag Research Service, State Ag Experiment Stations, University of Wisconsin-Madison, Industry, grants) and numerous in-kind contributions negatively impact the overall operation of NRSP6. Budget pressures have negatively impacted: personnel, operations, maintenance, facility and equipment. The end result is a tenuous future.
- A key essence of the NRSP system is to leverage expertise and resources across priority projects such that the SAES System and other users (as appropriate) benefit and share the costs. This is a strength as well as a weakness.

## **Next Steps**

- Fortuitously, several key meetings are occurring which will allow for a more inclusive discussion and evaluation of future prospects for action (National Potato Council board and managers summer meeting, NRSP6 and regional ag research association(s)).
- Assuming that these discussions are favorable, key individuals should be identified to serve on a committee to delve deeper into the challenge and identify potential solutions that will lead to a consistent and sustainable funding model that will ensure a quality, financially stable and comprehensive US Potato Genebank well into the future.

## **A Synopsis of the National Agricultural Program for Minor Use Animal Drugs. (NRSP-7)**

### **Background**

The minor use animal drug program has been in existence since 1983 with the following mission/objectives:

1. *Identify* animal drug needs, including naturally occurring biotherapeutics and feed additives, for minor species and minor uses in major species,
2. *Generate* and *disseminate* data for safe and effective therapeutic and biotherapeutic applications, and
3. *Facilitate* FDA/CVM approvals for drugs and biotherapeutics identified as a priority for a minor species or minor use.

NRSP-7 functions to coordinate efforts among animal producers, pharmaceutical manufacturers, FDA/CVM, USDA/ Research, Education, and Extension, universities, State Agricultural Experiment Stations and veterinary medical colleges throughout the country.

The project has received off the top funding since USDA NIFA funds have not been available for the past 6 years. After efforts to join forces with NRSP4 failed in 2014, the NRSP Review Committee (RC) provided a one year approval with a requirement of leveraging off the top funding and also emphasized the importance of engaging stakeholders in support of the project.

A majority of NRSP-RC members felt that the committee did not demonstrate “new” leveraged funds, as required, and, rather, only did a better job of reporting funds that already existed (based on explanations provided in the proposal). In addition, the RC expressed concern that, even with NRSP funding, there would not be sufficient funds to make the program effective or impactful. Finally, there was concern about a lack of stakeholder involvement.

Thus, by a **7-1 vote, the committee approved a recommendation to reject the proposal and budget.** Assuming the recommendation is upheld at the Experiment Station Section Meeting in September, NRSP7 will receive 1-year of funding at the current level to phase out activities.

### **Challenges**

- New Minor Use Animal Drugs have been approved at a rate of 1.6/yr. during the 32 years of the program and 52 applications have been made.
- The cost of the program to provide information to support a single label claim has risen to approximately \$3.1 million. At the current funding level approval of a single drug would require 4-5 years.
- There are currently six active projects.
- There is little or no *organized* stakeholder involvement (i.e., an advisory committee) in identifying priorities.
- The program has struggled to remain in existence.
- The program has been unable to garner broad stakeholder support.

**Additional Comments:**

The NRSP-RC feels that this is an important effort but it needs to have more structure and guidance. This would commence with a retreat of the administrative advisors and other principals at a central location. This meeting would address organizational shortcomings and develop further approaches to codify the program.

A second meeting would bring together stakeholders including the drug industry, producers, USDA, with the aim of directly identifying problems, address funding needs and creating an Advisory Committee.

Several NRSP-RC members are interested in working with the committee to build support for the program to a level that would truly make it effective and impactful.



## NRSP\_TEMP007 Addendum and Response

**From:** Margaret Smith [mailto:mes25@cornell.edu]

**Sent:** Wednesday, August 26, 2015 6:31 AM

**To:** brethess@uwyo.edu; sjhymonp@ncat.edu; cwatson1@uark.edu; tbewick@nifa.usda.gov; buhler@anr.msu.edu; lwlyons@ncat.edu; tphipp@wvu.edu; eric\_young@ncsu.edu; Harrington, H. Michael <Michael.Harrington@colostate.edu>; donel@frontiernet.net

**Cc:** John George Babish <jgb7@cornell.edu>; Frances D. Galey <FGaley@uwyo.edu>; Elzer, Philip H. (PElzer@agcenter.lsu.edu) <pelzer@agcenter.lsu.edu>; George Smith <smithge7@msu.edu>; Sherman, Gary <gsherman@nifa.usda.gov>

**Subject:** NRSP-007 reconsideration request

**Importance:** High

**To:** NRSP Review Committee

**From:** Margaret Smith, Lead Administrative Advisor for NRSP-007

**Re:** Reconsideration of NRSP-007 renewal request

Kindly find attached information requesting reconsideration of the NRSP Review Committee's recommendation to terminate NRSP-007. This information comes from the NRSP-007 chair and regional managers. They make a strong case for the need for continuation of NRSP-007, which I sincerely hope your group will carefully consider. Please note that the essentials are summarized in the prologue and expanded on in only five following pages, the document addresses key concerns regarding the project expressed by your group, and especially note the strong letter of support from the U.S. Food and Drug Administration's Center for Veterinary Medicine at the end of the document.

Thank you in advance for your thoughtful consideration of this document.

Margaret E. Smith

Professor, Plant Breeding & Genetics

School of Integrative Plant Science, Cornell University

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Associate Director, Cornell Univ. Agricultural Experiment Station

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Email [mes25@cornell.edu](mailto:mes25@cornell.edu)

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**Sent:** Fri 8/28/2015 11:27 AM

**To:** Margaret Smith <mes25@cornell.edu>; brethess@uwyo.edu; sjhymonp@ncat.edu; cwatson1@uark.edu; tbewick@nifa.usda.gov; buhler@anr.msu.edu; lwlyons@ncat.edu; tphipp@wvu.edu; eric\_young@ncsu.edu; donel@frontiernet.net; [escop-nrsp@lists.ncsu.edu](mailto:escop-nrsp@lists.ncsu.edu)

**Cc:** John George Babish <jgb7@cornell.edu>; Frances D. Galey <FGaley@uwyo.edu>; Elzer, Philip H. (PElzer@agcenter.lsu.edu) <pelzer@agcenter.lsu.edu>; George Smith <smithge7@msu.edu>; Sherman, Gary <gsherman@nifa.usda.gov>

Colleagues:

We read with interest the addendum provided by the members of NRSP-7.

We want to be clear as to the current status of the project. The NRSP Review Committee (NRSP-RC) provided for a one year project in 2014 with specific guidance that the project seek additional resources (not in kind). In addition, there was an identified need to develop strong connections with industry stakeholders. Unfortunately the proposal fell well short of the committee's expectations so a recommendation, as seconded motion, will be made to the Experiment Station Section (ESS) not to fund this project. The ESS will vote during its annual meeting in late September. A majority of the members must vote against the NRSP-RC recommendation resulting in the Committee developing an alternative motion. Should the vote uphold the committee's recommendation, NRSP-7 will have a final year of funding at the current level of \$325,000 to close out the project.

The NRSP-RC recognizes the importance of NRSP-7 and is most concerned about its long term viability. Regardless of the ESS vote, NRSP-RC members are willing to assist the project team with essential steps toward a sustainable future. The NRSP-RC suggested set of taking points (see attached) providing action steps and guidance to the project were developed and shared early in the summer.

Please feel free to contact either or both of us if you would like to discuss this further.

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## *NCRCRD: Innovation Diffusion*

204<sup>th</sup> NCRA Meeting  
September 28, 2015

John Mann • Scott Loveridge • Jason Parker • Carolyn Hatch

# Happy Monday!

- John Mann ([mannjoh3@anr.msu.edu](mailto:mannjoh3@anr.msu.edu))
- Thanks to Jeff Jacobsen and the AES directors
- NC1100: Innovation diffusion topics
  - Inventor-investing matching program
    - Faculty-entrepreneurs', rural/ag firms', investors' perspectives
    - Expanding our network
  - Investigating “Ag-tech” investment capital resources (e.g. R&D, VC, SBIR, FFAR)

# Our Presentation

1. Federal R&D and the Rural-Urban Innovation/Adoption Gap
2. Technology Transfer: Faculty Perspectives

# Fed R&D and Rural-Urban Gap

## **Our general research question:**

- How has federal R&D impacted the rural-urban innovation adoption/creation gap?

## **Motivation:**

- Potential economic opportunity for rural firms/communities related to climate change, population growth, and new venture capital trends
- Potential opportunity for land-grants help bridge gap

## **Inputs and tools:**

- Model data primarily from BEA, NSF; other data from private firms, USDA
- Developed econometric models for analysis

# Contributors to Rural-Urban Innovation Gap

- Rural: Higher barriers to enter markets/industries
  - e.g., access to capital, university spillovers
- Difference in types of entrepreneurs
  - e.g., necessity, hobbyist v. growth-, innovation-based
- Difference in firm ownership models
  - pass along to children v. shorter exit strategies
- Rural: lower rates of innovation adoption/creation:
  - Methods of measurement (informal, don't patent)
  - Laggards in tech adoption (tie to risk aversion?)

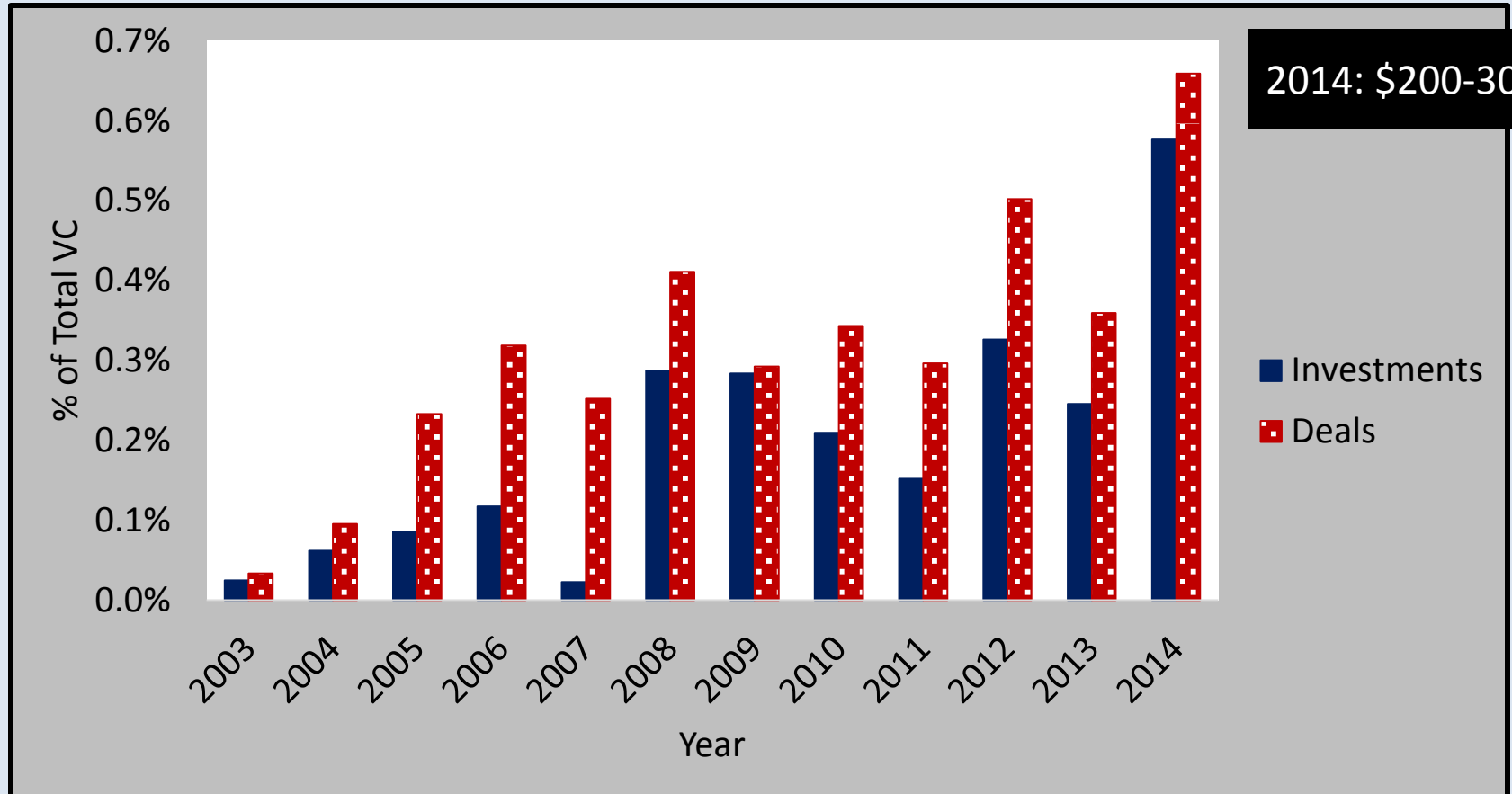
*Acs and Malecki (2003); Knickel et al. (2009); Renski and Wallace (2012); Rubin (2010); Quigley (2002); Yu, Orazem, and Jolly (2011)*

# Rural-Urban Innovation Gap (Our OBS)

- Uncertainly where to get help or begin regarding tech transfer/start-up resources
- Unsure (lacking trust): working with universities
- **Unrealistic expectations regarding process**
  - e.g., entrepreneurship is treated as “buzzword” but not clearly defined or understood
- **Need more formal training, especially regarding:**
  - Business planning
  - Seeking capital (sources and expectations)
  - Making pitches to potential investors



# Opportunity? AG-Tech VC



**Figure 2. The percentage of venture capital investment and deals involving agricultural technologies relative to total venture capital investment and deals, 2003-2014.**

*Source: Special Tabulation of United States Venture Capital Deals by Sector, 2003-2014 (PitchBook, 2015); and PricewaterhouseCoopers Moneytree Survey Data (PricewaterhouseCoopers, 2015).*

# AG-Tech VC (Sidebar)

## Some insights from investors:

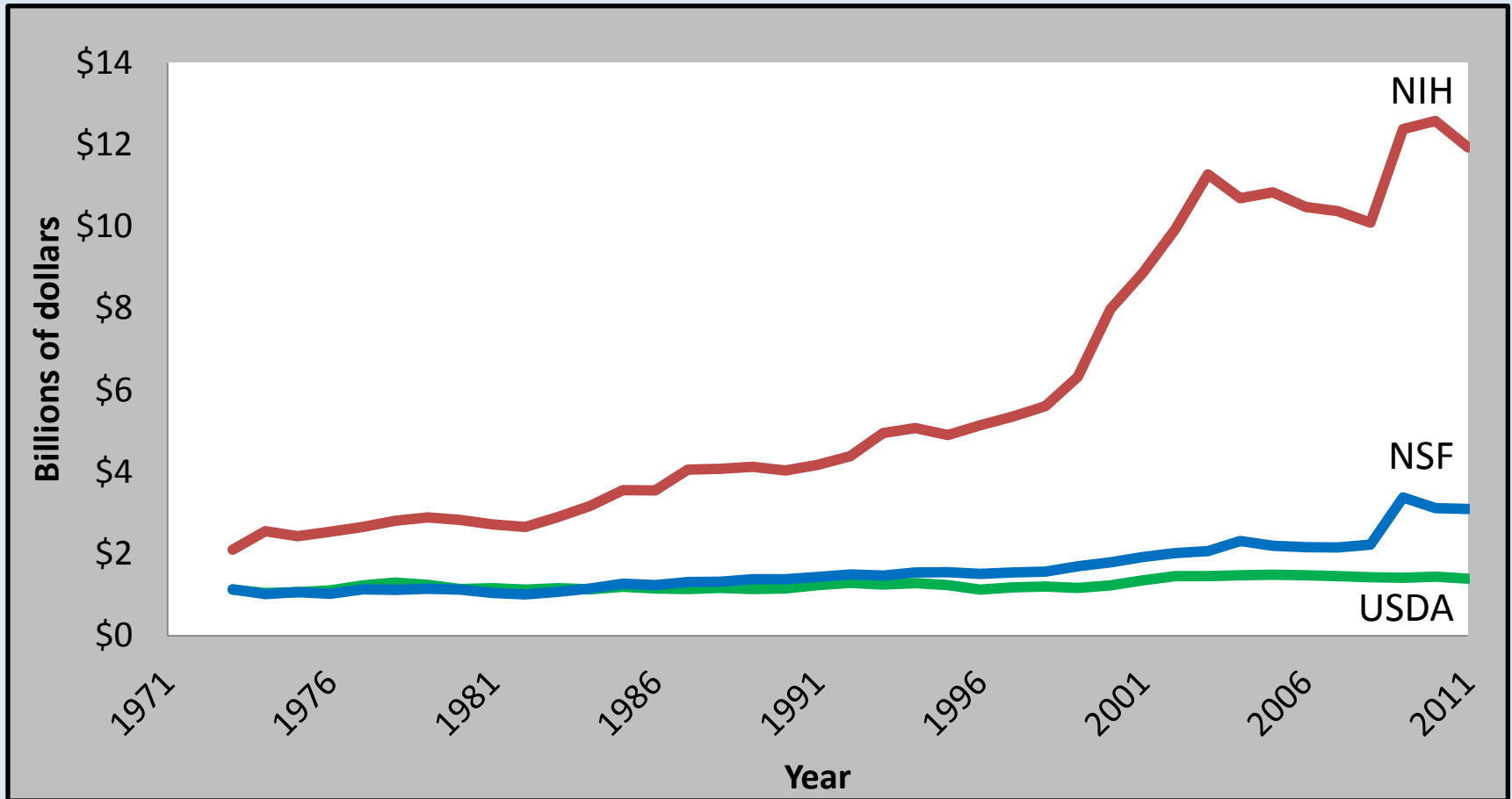
- Difference in expectations about ROIs
  - e.g., non-agriculture are accustomed to quick returns on investments which are atypical for ag-tech startups
- Uncertainty:
  - e.g., will time interval on expected ROI change given the recent increase in ag-tech investments?
- Some investors might be looking for a new “home”

# Opportunity? Role for Land-grants

## **Can land-grants help bridge more of the rural-urban gap?**

- Historic relationship with rural areas
- Infrastructure already in place, e.g., AES and extension
  - Some innovation system adjustments likely needed to accommodate rural firms/communities

# Federal R&D – Funding Challenge?



**Figure 2. Comparison of inflation adjusted (consumer price index) R&D expenditures for National Institute of Health (NIH), National Science Foundation (NSF), and US Department of Agriculture (USDA), 1973-2011**

*Source: Data are from Federal S&E Support to Universities, Colleges, and NPOs, NSF, and BLS.*

# Rural V. Urban - Model Set-Up

**Led to question: is there a difference in federal R&D impact on Rural V. Urban areas?**

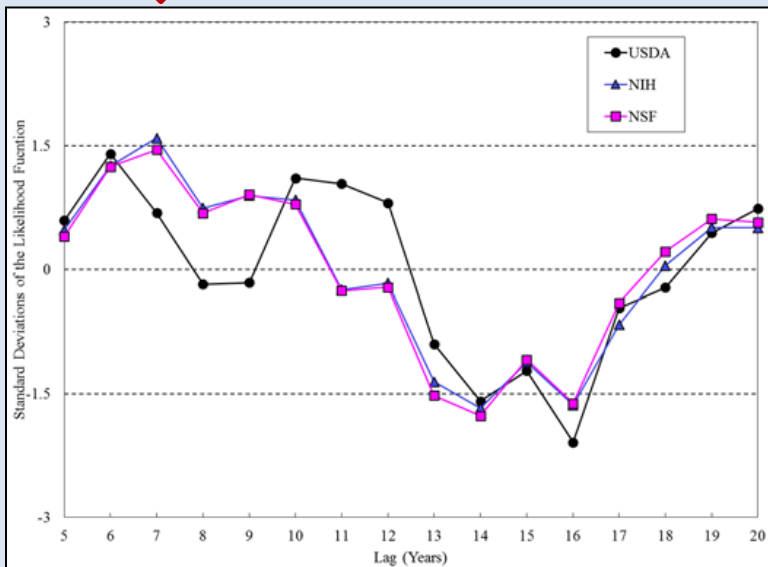
**Model:** Fed R&D Expenditures → Innovation  
Compared impact on Rural V. Urban

**Dependent variable assumption:**

- Difficult to differentiate rural and urban impacts
- Used rural and urban personal income as proxy for “impact” of innovation

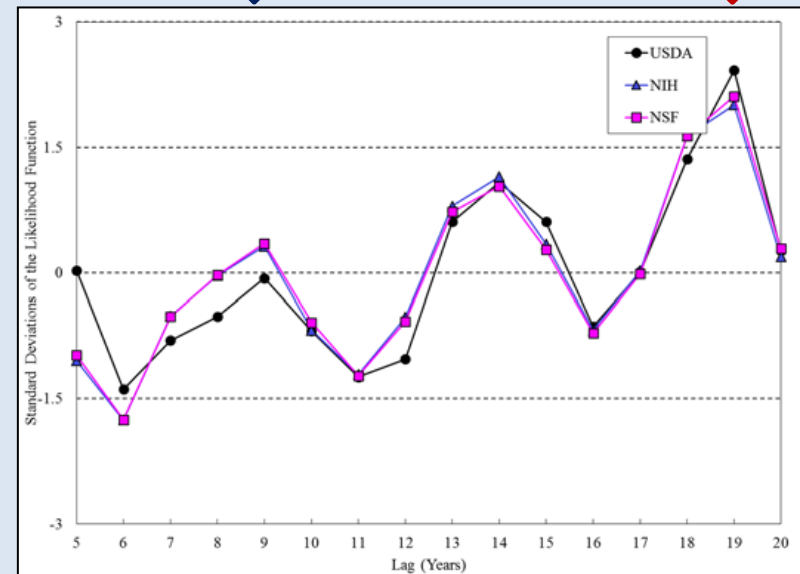
# (1) Model Results: Rural V. Urban

Peak (7 yrs.)



Urban (1991-2000)

Spill-over?



Rural (1991-2000)

Figure 3: Likelihoods for Different Lag Lengths of R&D Expenditure in Urban v. Rural Personal Income (Growth Models: 1991-2000)

## (2) Model Results: Rural V. Urban

**We identified potential mid-term and long-term impacts:**

- **NIH:** smaller impact in mid-term compared to the long-term (both urban and rural)
- **NSF:** larger impact in mid-term compared to the long-term
- **USDA:** large (similar to NSF) impact on urban in mid-term

## (2) Model Results: Rural V. Urban

- The contribution of all federal R&D in the 1990s compared to the 2000s helped close some of the rural-urban innovation gap—though only by a small margin.
- However, in absolute terms urban continues to grow more than rural and the gap remains quite large.



# NC States: USDA R&D Impacts

State	Urban/Rural Ratio		
	2000	2010	2013
Illinois	14.2	7.7	7.8
Indiana	5.4	3.2	3.2
Iowa	2.0	1.2	1.2
Kansas	3.2	1.9	1.8
Michigan	8.7	4.3	4.4
Minnesota	6.2	3.3	3.2
Missouri	5.9	3.0	3.1
Nebraska	2.7	1.5	1.4
North Dakota	1.4	0.8	0.6
Ohio	6.9	3.8	3.9
South Dakota	1.3	0.8	0.8
Wisconsin	4.8	2.7	2.7

Ratio of 1\$ USDA R&D impact on Urban PI to that of Rural PI.

*Example:* for Illinois in 2000, the USDA R&D impact on Urban PI was 14 times (in dollar terms) than on rural PI.

**Smaller is “better” in terms of “narrowing of the gap”**

# Potential Actionable Items

Consider this:

- According to PricewaterhouseCoopers and PitchBook, in 2014:
  - About 17% of VC went to health (devices, drugs, services, etc.)
  - Less than 1% of VC went to AG
  - Recall the difference in NIH and USDA, R&D
- Some VC monitors: Ag-Tech is expected to get more VC attention in the coming years

# Potential Actionable Items

- Look for increased opportunities in “AG-Tech” commercialization
  - AG R&D is relevant to urban areas
  - Potential increased interest from VC
- Look for ways to increase USDA R&D, or R&D from other programs that can be directed to agriculture—especially where rural areas can be positively impacted

# Questions





# Faculty Perspectives – Tech Transfer

Qualitative data from:

- Inventor-investor matching program, opportunity to interact/observe/interview faculty-entrepreneurs, firms, and investors.
  - About 30 faculty-entrepreneurs (18 have presented)
  - Interacted with about 800 firms and/or investors
    - Via email, webinar polls, and phone, some in-depth interviews
  - Network is growing with help from organizations like Farm Bureau to expand our national reach

# Faculty and Tech Transfer (Lit)

- Honing in on two general themes:
  1. Faculty-Industry interactions
  2. Faculty perception/responses to commercialization, entrepreneurship, and IP

# Lit: Faculty-Industry Interactions

## **Faculty more likely to engage with industry if:**

- Have more R&D resources—especially industry contracts and institutional R&D
- Are more senior (and hold admin type position)
- Firms interacting with are larger, in science-based industry
- Are supporting grad students
- Have association with research centers
- Have desire to further research (not necessarily commercialize)

*Azagra-Caro (2007); Boardman and Corley (2008); Boardman and Gaughan (2007); D'etes and Perkmann (2011); Ponomariov (2008)*



# Lit: Commercialization & Entrepreneurship

## Faculty perception and response:

- Most do not expect to change university relationship to commercialize
- Most want to retain autonomy (regarding participation in commercialization & IP protection)
- Being a research leader increases participation
- Perception of stronger professional security, advantage, and productivity helpful (risk mitigating)
- Other characteristics indicative of likelihood to engage:
  - Male, tenured, higher allocation of time to research
  - Previous industry experience

*Bird and Allen (1989); Campbell and Slaughter (1999); Grimpe and Fier (2010); Haeussler and Colyvas (2011); Link et al. (2007); Van Dierdonck et al. (1990)*

# OBS: Faculty-Industry Interactions

*Connect to Literature* →

**What we have observed—regarding likelihood to engage with industry:**

- Gender gap and race/ethnic gap
- More senior (in a few cases admin experience)
- Supporting grad students
- Desire to further research—but also wanted to commercialize (this is different from literature)
- Previous industry experience helpful

# OBS: Commercialization & Entrepreneurship

## *Connect to Literature →*

### **What we have observed—faculty perception and responses:**

- Some did want to change nature of relationship with university (where there was a lower perception of support from university/department)
- Leadership experience, tenured/more senior, prior industry experience, gender (male)—also associated with interest/action to commercialize

# Other Observations

## Challenges:

- Communicating their ideas and interacting with a general audience
  - e.g., too technical, not concise, need to better address what is important to investors
- Connecting their ideas to a “business practices”
  - e.g., ROI, marketing
- Uncertainty about their needs to meet next step
  - e.g., many focused on further development but knew needed to “somehow” get more capital; uncertainty how/where to go to get capital

# Other Observations

## **Specific concerns expressed to us:**

- Lack of support to get to commercialization stage regarding: (1) financial support, (2) administrative support, (3) navigating process
- **Many entered with unrealistic expectations— some blamed these on themselves others on the institution/department**
- Desire for more entrepreneurial/business training, coaching, and support

# Potential Actionable Items

1. Expand/improve entrepreneurial training/support tools:
  - **Help set realistic expectations**
  - General concepts (e.g., marketing plan, financial, etc.)
  - Improve interactions/presentations to firms, VC, other stakeholders
2. Increase awareness/use of the existing tools related to:
  - Entrepreneurship, commercialization, tech transfer office, obtaining R&D funding, marketing

# Fed R&D Funding - Sidebar

- We've been looking at SBIR funding and discovered their two types of awardees:
  - Mills versus single-time awardees
  - One lesson learned from the mills: apply outside the "box"
    - E.g., minor alterations to specific applications have led to funding by other agencies
- Why is this relevant?
  - An additional type of support may be to investigate and consider resources outside "funding comfort zone"

# Questions

