Bipartisan Commission on Biodefense

Statement of Recommendations

*Based on Meeting of the Bipartisan Commission on Biodefense*

*“Too Great a Thing to Leave Undone: Defense of Agriculture”*

*Tuesday, November 5, 2019 at Colorado State University*

On November 5, 2019, the Bipartisan Commission on Biodefense convened a meeting, *Too Great a Thing to Leave Undone: Defense of Agriculture,* to inform its continuing assessment of the biological threat, specific vulnerabilities, and overwhelming consequences to agricultural producers. Topics discussed at this meeting included:

* The catastrophic risks to all components of agriculture;
* Land grant university contributions to national security;
* Public-private partnerships for agrodefense; and
* Challenges to agricultural surveillance, detection, response, and recovery across all levels of government and throughout the private sector.

During the meeting, panelists shared their perspectives and experience, as well as current challenges and recommendations for the Commission’s consideration. The table below summarizes the major recommendations put forward by the panelists, as well as actionable steps related to each recommendation. This document was prepared for distribution to CSU faculty/staff and other external partners, to provide a brief review of the event and highlight the most common recommendations.

**TABLE 1 : Recommendations and Action Items**

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| Recommendation | |  |  |  |  |
| Action Item |  |  |  |  |  |
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| 1. Utilize machine learning and data science to enhance the surveillance and monitoring capabilities across state, federal, and consumer systems. | | | | | |
| a. Develop systems to incorporate epidemiological and situational data to put surveillance results into context, and to de-risk new diagnostic innovations | | | | | |
| *Panel 2: Surveillance & Detection (Dr. Delgado)* | | | | | |
| b. Incentivize industry participation in current voluntary traceability systems | | | | | |
| *Panel 1: Response & Recovery (Dr. Roehr & Mr. Leachman)* | | | | | |
| 2. Support high risk models of innovation investment for enhanced agility and response to threats. | | | | | |
| a. Invest in research and development that offsets the opportunity cost for industry and encourages public-private partnerships (ex: AgARDA) | | | | | |
| *Panel 2: Surveillance & Detection (Dr. Hardham)*  *Panel 3: Land Grant University (Dr. Rudolph, Dr. Christopher-Hennings)* | | | | | |
| b. Encourage development of an Ag ADM network, co-located with land grant universities, to support multiple partners, broad research portfolios, and novel manufacturing | | | | | |
| *Panel 2: Surveillance & Detection (Dr. Hardham)*  *Panel 3: Land Grant University (Dr. Rudolph)* | | | | | |
| 3. Bolster education and training programs that impact university, extension, industry and community partners. | | | | | |
| a. Improve communication channels for threat and response mechanisms so industry and communities can prepare. | | | | | |
| *Panel 1: Response & Recovery (Dr. Roehr & Mr. Leachman)* | | | | | |
| b. Recommend increased funding for externally engaged land grant university offerings, such as online and certificate programs, that address current and future agriculture security workforce skills (ex: data analytics, cyberbiosecurity, CRISPR-Cas) | | | | | |
| *Panel 3: Land Grant University (Dr. Rudolph, Dr. Christopher-Hennings)* | | | | | |
| 4. Reinforce the necessity of international partnerships and collaborative engagement in agriculture biosecurity. | | | | | |
| a. Support the international mission of land grants to establish and engage new programs of international engagement focused on Ag Biosecurity | | | | | |
| *Panel 3: Land Grant University (Dr. Rudolph)* | | | | | |
| b. Encourage enhanced focused support for international land grant activity in Ag Biosecurity and One Health, especially in current international outbreak regions. | | | | | |
| *Panel 3: Land Grant University (Dr. Rudolph, Dr. Mohapatra)* | | | | | |
| 5. Develop a more robust understanding of socio-cultural factors that impact consumer and stakeholder behaviors in Ag Biosecurity | | | | | |
| a. Investigate the underlying barriers to stakeholder, community, and policy adoption and implementation of innovations in Ag Biosecurity  b. Gain an improved understanding of motivations and incentives that might drive increased uptake of innovations and/or that overcome barriers to utilization of best practices | | | | | |
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Role of Land Grant Universities in Agrodefense

*On behalf of the Coalition for Epi Response Engagement and Science (CERES)*

We believe that land grant universities can play an important role in the future of American agrodefense. Land grants focus on translation of ideas into practice, with one of the oldest US knowledge and tech transfer systems in the country. Many house a triple helix of academic, industry, and government discoverers and innovators that collectively bring new solutions forward to enhance agility and resilience. What has emerged from this ecosystem is a unique mix of stakeholders that are co-located on land grant campuses and unique and established collaborative networks that facilitate innovation and translation. In addition to serving as ambassadors of knowledge, innovation, and practice in our local and regional communities, our land grant ecosystem also serves as international ambassadors, a role particularly critical in the global challenges of agrodefense. Land grant institutions present a unique opportunity to create cross-sector partnerships in impactful areas to collectively solve problems that are important to the region and can scale to national and global impact.

A little over one year ago, we established a new coalition, called the Coalition for Epi Response Engagement and Science, or CERES. The founding members of this coalition are 6 land grant institutions, Kansas State University (KSU), Iowa State university (ISU), University of Nebraska at Lincoln (UNL), Texas A&M University (Texas A&M), university of California, Davis (UC Davis), and Colorado State University (CSU). These founding members were selected as land grant institutions that have been invested in for their R&D programs in biodefense and to specifically capitalize on the strengths land grants have in providing a unique ecosystem of innovation that is directly linked through engagement activities to our region, with state and local officials , to our regional commodity producers and directly to the ranchers and farmers and communities in our states. We have identified three pillars of activity in the coalition: agile countermeasure development and manufacturing, surveillance and rapid diagnostics, and engagement. New efforts are being funded in the coalition in each of these areas both through competitive federal opportunities as well as internal seeding by the six institutions.

Continued investment and support for the land grant institutions is critical for the nation’s agricultural biosecurity. The capabilities, expertise, and partnerships found within the land grant ecosystem provide responsive and agile research and development of agrodefense countermeasures, as well as an avenue for communication between all stakeholders in the agricultural sector.

We thank the Commission for their dedication and service to our country, and their work on assessment and advocacy regarding U.S. biodefense.