NRCS – NIFA Background
July, 2016

NOTE: This information contains portions of emails sent/received between individuals not for public distribution; please treat this as an internal use-only document.

Summary
With what is normally a good, collaborative relationship between NRCS/UDSA and NIFA/USDA, where NIFA (research) provides a research base, NIFA (extension) provides producer education and NRCS provides technical and financial assistance, there are two current issues that have a degree of tension associated with them: the first is mission creep, i.e., NRCS doing Extension work, and the second is a questionable science base for defining and measuring soil health and recommending management practices to improve soil health.

There is a growing concern about the efforts of NRCS to develop and provide educational programming to farmers. At best these NRCS efforts are duplicative of Cooperative Extension Service (CES) educational programming efforts and in some cases the NRCS educational programs are in conflict with science-based Extension programs developed by the Land Grant University (LGU) research system. As a case in point: NRCS is recommending to farmers that they use the Haney Soil test method; LGUs do not recommend the use of the Haney Soil Test due to a lack of yield response data for this soil test method.

On March 17, 2014 SERA-6, the Southern Extension and Research Activity Information Exchange Group, wrote a letter to NRCS Chief Jason Weller expressing concern, but no response was received.

Subsequently, as part of its Soil Health initiative, NRCS has recently hired 16 soil health educators across the nation. The job descriptions for these positions specify that these individuals are responsible for the same overall mission as Cooperative Extension faculty and staff – developing and delivering educational programs for farmers. This redundant effort is further complicated by the fact that the information being provided by NRCS to farmers is sometimes in direct conflict with science-based LGU recommendations.

Our goal is to work cooperatively with all agencies, especially other USDA agencies, so that both agencies can better fulfill their congressionally mandated missions in the most efficient and effective manner possible and be of more productive service to US agriculture and the environment. The situation with field-level professionals is strained due to perceived mission creep and a weak science base for recommendations. This tension and noise in the system is detrimental to both NRCS and NIFA, as well as to LGUs.

Background
Here is information gleaned from a few emails/letters (shown from most recent to older):

(July 2016): At a joint meeting of SERA-6 (Southern Extension and Research Activity) and North Central and Northeast region colleagues, there was a presentation by the NRCS Soil Health Division's Northeast Team Leader. The topic was "Soil Health Assessment and Conservation Planning." One observer noted that after the NRCS representative finished, one could just feel the tension in the room from 70+ people involved in soil testing across most LGUs in the eastern part of the USA. The NRCS rep was peppered with questions; most questions centered on the lack of sufficient science behind a soil health rating (other than what is coming out of Cornell, which is not much and very regional) and the lack of communication between NRCS and the LGUs. There is legitimate trepidation and borderline anger at

how NRCS is covering the soil health initiative. The states in the three regions represented at this conference have experienced a serious lack of cooperation from NRCS. The problem appears to be getting worse, not better.

(July 2016): At a different meeting, NRCS Soil Health director Bianca Möbius-Clune shared during her presentation that a primary goal of the NRCS Soil Health program is providing educational training for producers. This mission issue is also observable in the following article about NRCS's soil health initiative and their education efforts: http://www.agri-pulse.com/Opinion-NRCS-soil-health-effort-is-deep-impactfu-and-taking-root-across-the-nation-07052016.asp

(April 2016): Job descriptions for the NRCS Soil Health Team Leaders and Specialists: https://www.usajobs.gov/GetJob/ViewDetails/406646800

(Sep 2015): SERA-6 has expressed concerns with the NRCS Soil Health Initiative and the chair has written a letter to NRCS headquarters, but no response was received. There is a concern that this program will duplicate the education role of Cooperative Extension and that some recommendations may be based on an inadequate science foundation.

(July 2015): Following the June 2015 meeting where NRCS discussed the Soil Health plans and referred to NRCS educational programs as "Extension on steroids," there were efforts to increase the frequency and quality of communication between NRCS and Extension that included key leaders from the Southern and North Central Extension regions and Drs. Honeycutt and Moebius-Clune. Several solid ideas were discussed and some were executed, but significant issues were not resolved. Since that time, there has been turnover of some key individuals and progress has stalled.

(Mar 2014 Letter from SERA 6 to NRCS)
Southern Extension and Research Activity Information Exchange Group 6

March 17, 2014

Mr. Jason Weller
Chief, NRCS-USDA
1400 Independence Ave., SW, Room 5105-A Washington, DC 20250

Dear Mr. Weller:
The Southern Extension & Research Activity Information and Exchange Group 6 (SERA-IEG-6) (http://www.clemson.edu/sera6/index.htm) wishes to express concern over the adoption and promotion of new soil testing methods by the Natural Resource Conservation Service (NRCS)-USDA. As an introduction, the SERA-IEG-6 is comprised of membership from Land-Grant Universities representing 13 Southern states and Puerto Rico including Texas and Oklahoma to the west, Florida in the south and Kentucky and Virginia in the north. Since the inception of the workgroup in 1954, the focus has been to further data sharing and provide a forum for scientific debate on soil testing, soil fertility and nutrient utilization. This group has hundreds of peer-reviewed articles, numerous Extension and Outreach publications, and national and international recognition in soil testing methodology, correlation, calibration and interpretation. Many of today's widely used methods were conceived by past participants including Mehlich, Adams, Evans, and Lancaster. This expertise has been relied upon by local, state and federal agencies as well as private laboratories and urban and agricultural clientele. This very expertise coupled with a demand for scientific validity is one reason NRCS, under Code 590, and

many state environmental agencies have turned to the Land-Grant University system for assistance with nutrient management needs.

The development of new methodology and correlation with plant nutrient uptake may occur in a few months or years; however, determining critical values (calibration) and nutrient recommendations (interpretation) can take years and always requires multiple calendar years at numerous sites throughout a region for a given crop. The process is repeated for each additional crop of major economic importance. The resulting information on nutrient recommendations for a certain crop could either be specific to a state or shared among geographic areas with similar soils, climate, and environmental concerns.

The recent NRCS promotion of soil testing components for the Soil Health Nutrient Management Test appears to have skipped the important steps of correlation, calibration, and interpretation. A careful and extensive literature review for the Haney H3A-1 method yielded two articles that were published to introduce the new soil test extractant, with each article having comparisons to other widely used extractants such as Mehlich 3. However, extensive searches of the literature failed to provide any scientific publications on correlation of this new extractant with P and K uptake (as compared to that obtained with other commonly used extractants) or field calibration followed by interpretation for determining P and K recommendations. Yet, it appears that P and K fertilizer recommendations are being provided by users of this extractant based on information found for the few private labs now offering this method. The SERA-IEG-6, along with similar workgroups in the other United States regions, have worked for decades with private laboratories, the agricultural industry, regulatory agencies and NRCS to ensure science-based methodologies and nutrient recommendations are utilized. These efforts have developed a level of goodwill and confidence in soil testing with our agricultural clientele. The broad scale adoption and promotion of a method to provide nutrient recommendations by an agency of the U.S. Government, without strong scientific basis, risks eroding this confidence.

The recent promotion of these tests by NRCS in the absence of any involvement with the Land Grant Universities is unfortunate. In the next few months, SERA-IEG-6 will prepare a more detailed position paper that will outline key steps where NRCS' efforts in soil health and conservation can be linked to the existing body of soil fertility research. Additionally, we will provide suggestions on pathways toward correlation, calibration and interpretation of the newly proposed soil health tests. SERA-IEG-6 would like to foster a renewal of historically strong synergistic relationships between NRCS and the soil fertility programs at Land Grant Universities, thereby spearheading developments in the next generation of soil management.

Sincerely,
SERA-IEG-6 Membership
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