



Research, Education, and Economics (REE) -- Office of the Chief Scientist (OCS)
National Agricultural Research, Extension, Education, and Economics (NAREEE) Advisory Board

August 17, 2023

Dr. Deirdra Chester, Director
Office of the Chief Scientist (OCS)
US Department of Agriculture
1400 Independence Ave, SW
Washington, DC 20250

Dear Dr. Chester:

The Specialty Crop Committee (SCC) of the USDA's National Agricultural Research, Extension, Education and Economics Advisory Board appreciated the presence of Drs. Singer and Zankowski at the July 13, 2023 SCC meeting to walk our members through the thorough and thoughtful Hemp Research Needs Roadmap. We are grateful for the opportunity to provide OCS with our feedback.

We commend OCS' work developing this first-ever Hemp Research Needs Roadmap, acknowledging the critical objective of documenting research needs for a recently legitimized, re-emerging specialty crop whose best-practices for growing and processing may have been otherwise lost. Indeed, a committee member commented on his own experience with hemp production. "We found little help and most knowledge was word of mouth with little reliable information," he said.

We further applaud hemp sector stakeholders for developing this research roadmap in a simple, logical format. It is imperative that administrators of grant funding programs like the Specialty Crop Research Initiative are able to easily access and understand the priorities for particular crops, as your roadmap does well. (We did wonder, however, if there is any question whether hemp will continue to be recognized by the 2023 Farm Bill of which SCRI is a part?) We suggest this roadmap could serve as a template for other specialty crops whose research needs have not yet been similarly clarified.

We would suggest that you consider building out your introduction to include more context, such as hemp's global and US current and projected crop production statistics, its history and uses, and competitive landscape. (We assume the research needs addressed in your roadmap apply only to American-grown hemp.) For those who may be unaware or unfamiliar with hemp as a specialty crop, as many members of this committee are—and many audiences representing funding sources may be—this additional information could help strengthen the case for prospective research funding. We also would suggest adding a hyperlink to your reference to the [National Hemp Industry Needs Workshop](#), as linked here, for additional historical context for this document.



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We also offer suggestions related to the “Needs That Parallel Research” section. We’ve noted that the roadmap appears to marginalize all other supply chain issues (marketing, consumer demand, distribution, etc.) beyond the manufacturing stage by identifying them in an “other” category and indicating that no research is needed here. Supply and demand will shape the future of the hemp industry. To characterize anything beyond manufacturing as “education needs” appears to be a short coming of the roadmap. We suggest this roadmap include research needs from genetics to final market.

In addition, we would suggest changing the phrase, “Needs That Parallel Research,” to something either more descriptive or more germane to the broader research enterprise. A simpler phrase, such as “parallel private/public research,” could be used. Indeed, the section of your document labeled “Potential Roles for Public and Private Sectors” seems to better describe the idea. Or, as an alternative, the phrase “extension, education and economics” would cover the activities it appears you include in this category, such as economics and markets, testing and compliance. (We would argue that sustainable agricultural production could be an area for research as well as extension/outreach.)

The following are line-item comments committee members provided in the Need Area overviews (*Note that you might consider standardizing these as either Need Areas or Needs Areas*):

- **Need Area 1: Breeding and Genetics: Foundational Research:** We wondered if the reference to data-sharing referred to the global community of hemp breeders and geneticists (not just US) and if there are resources planned or in place for enabling and promoting the sharing of genetic assets.
- **Need Area 1: Breeding and Genetics: Trait-Based Goals for Specific End-Uses:** Is the hemp consortium going to aim at double- or triple-use varieties? Or aiming at developing specific varieties for particular end-uses? If the latter, it is suggested that different programs will need to be set up in order to be efficient and achieve high genetic gains.
- **Need Area 1: Breeding and Genetics: Potential Roles for Public and Private Sectors:** To underscore hemp’s value as a commodity, it may be beneficial to reference breeding efforts by major seed companies, if applicable. Such efforts or interest could be viewed as an indicator of the crop’s economic potential.
- **Need Area 2: Best Practices for Growing: Sustainable Production Practices:** Labor seems to be missing from the list of topics to address and/or balance as hemp seeks to develop sustainability practices. A good deal of research is aimed at addressing labor shortages and promoting labor efficiency among other specialty crops. We would presume labor would be a top concern for hemp, as well. Moreover, equitable treatment for employees and meaningful community stewardship are common tenets of sustainability programs; we would recommend these be addressed, as well.
- **Need Area 3: Production for End-uses:** Referencing the hemp industry’s need to measure metabolites and other properties of cannabinoids, one committee member wrote, “To me, this is a thorny issue, which can make the crop less advantageous than others. The fact that we



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will always have to be testing to make sure those compounds are not present will put a premium on to the cost/price of hemp.”

Lastly, we suggest that you may consider bolstering the conclusion of your roadmap with the addition of visionary statements or perhaps a color-coded (e.g., red for critical) graphic depiction of the inter-relationship of the need areas and relevance of public/private partnerships, and/or the different markets and the needs in each of the areas. A committee member suggested the [MindMap app](#) as a tool that could perhaps produce such a dynamic flowchart.

Again, we congratulate OCS and its hemp stakeholders on the inaugural Hemp Research Needs Roadmap and hope that you find this detailed feedback useful. We look forward to seeing the ways in which your roadmap inspires research and extension efforts, not just for hemp, but for other crops that may use your document as a model. Thank you for your work improving US agriculture.

Sincerely,

A handwritten signature in dark ink, reading "Kenrett Jefferson-Moore".

Dr. Kenrett Jefferson-Moore
Chair, NAREEE Advisory Board

A handwritten signature in dark ink, reading "Gregory D. Goins".

Dr. Gregory D. Goins
Chair, Specialty Crop Committee (SCC)

*FY2023 SCC Members include: Donnell Brown, National Grape Research Alliance; Marguerite Green, SPROUT; Carlos Iglesias, NC State University; and Jim Tunier, Post Gardens of Battle Creek.