Materials/GMO ad hoc Subcommittee Notes Tuesday, December 10, 2019 2:00 pm ET

Attending: Dave Mortensen (DM), Chair; Chair; Harriet Behar (HB); Dan Seitz (DS); Steve Ela (SE); Asa

Bradman (AB) - observer; Jerry D'Amore (JD) - observer; Wood Turner (WT) - observer

Absent: Emily Oakley (EO); Lisa de Lima (LD)

Staff: Michelle Arsenault (MA); Devon Pattillo (DP)

Agenda

November 12 meeting notes (All)

- TR and Materials Update (DP)
- Sanitizer panel update (All)
- Excluded Methods discuss 2020 goals (HB/DM)
- Additional items
- Adjourn

- November 12 meeting notes were accepted with no changes.
- TR and Materials Update (DP)
 - Chitosan petition was sent to the Crops Subcommittee and will be posted on the website soon. The Program is working through some technical issues around getting the petition posted to the website.
 - Whey protein concentrate petition (for removal) is under review by NOP
 - Several other new petitions were recently received and are under NOP review.
 - One TR out for contracting for sodium carbonate lignin. NOP anticipates that it could be back for the spring meeting.
 - There are five TRs in progress, with four of those due back to the Program in the next month (insecticidal soaps, konjac flour, sodium hydroxide, and ion exchange filtration).
 NOP is waiting for questions on fenbendazole from Livestock. HB will touch base with SB about them.
- Sanitizer panel update. The MS is working on organizing a panel for the Spring meeting. Several
 members suggested potential panelists to ensure there is a breadth of experience and expertise.
 Members will identify folks and coordinate with each other to discuss further. MA will check
 with DP about a possible Federal representative.
- Excluded Methods (HB). The lead noted that she will transition duties to DM when she rotates off the NOSB in January. In support of that she will introduce him to stakeholders who are engaged in this topic and have provided support. The goal is to put forth a discussion document at the Spring 2020 meeting and a proposal in Fall 2020. HB will develop the next template for the spring.
- Contamination of farm Inputs. DM reached out to stakeholders regarding the contamination of farm inputs work agenda item. The scope of the issue was quite broad water quality, contaminants in manure, etc. The NOP has put this item on hold, but the MS is proposing to put it back on its agenda, perhaps for the Fall 2020 meeting, if they determine it is important. HB and DM will discuss this more on next call.
- Additional items. None
- The meeting was adjourned

Future Call Schedule (2nd Tuesday 2:00 ET)

November 12, 2019

Explore Sanitizers panel abstract

December 10, 2019

January 14, 2020

Sanitizer panel - discuss potential panelists/charge to panel

Excluded Methods - discuss draft proposal

Marine Materials - discuss draft proposal

Contamination of farm Inputs - discuss.

February 11, 2020

March 10, 2020

April 14, 2020

May 12, 2020

June 9, 2020

July 14, 2020

August 11, 2020

September 8, 2020

October 13, 2020

November 10, 2020

December 8, 2020

Work agenda

| Work agenda | | | | |
|-------------------------------|---------|------------------------------------|---------------------|----------------|
| Materials Projects | Contact | Notes | Discussed, Voted | Meeting |
| December Driemities Dress and | DNA | Cyle a granitta a magasta NAC | | DD Coming 2020 |
| Research Priorities Proposal | DM | Subcommittee reps to MS | 11 12 19 | DD Spring 2020 |
| May 2012 Framework Proposal | | DS - Livestock | | |
| | | DM - Crops | | |
| | | LD - Handling | | |
| | | RPs from Subcomm due to MS in July | | |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |
| GMO Projects | Contact | Notes | Discussed, | Meeting |
| | | | Voted | |
| Excluded Methods | НВ | Proposal | TBD | TBD |
| | | | | |

| Project | Contact | Notes* | Discussed, Voted | Meeting |
|---|------------|---|---------------------|-------------|
| Sanitizers: Assessing Cleaning and Sanitation Materials | HB, EO, AB | Pending NOP approval. NOP approved 03 16 18. TR request | 11.12.19 | Panel |
| and Samilation Materials | | sent to NOP 02 27 19. | | Spring 2020 |

| Used in Organic Crop, Livestock and Handling | | | | |
|---|----|---|----------|----------|
| Marine Materials | EO | Pending NOP approval. NOP approved request 01 12 16. TR request sent to NOP 02 05 16. TR expected Jul 2016. TR sent to CS and HS 08 10 16. TR suff due 10 11 16. TR found sufficient 09 06 16. Voted 09 06 16. Proposal in development 12 06 16. Voted 01 17 17. Referred back to CS and HS at Spr 2017 NOSB meeting. Moved to MS for completion 03 16 18. Panel Fall 2019. Proposal Spr 2020 | 11.12.19 | Spr 2020 |

| Spring 2020 Milestones | Target dates (tentative) |
|---|--------------------------|
| NOP - Publish FRN, Open public comment | Nov 15, 2019 |
| NOSB - Spring 2020 proposals due to NOP | Feb 20, 2020 |
| New NOSB member training | Feb 25 - 26, 2020 |
| NOP - Draft Spring 2020 NOSB meeting tentative agenda | Mar 2, 2020 |
| NOP - Post proposals | Mar 5, 2020 |
| Public comment closes | Apr 3, 2020 |
| NOP - Send compiled public comments to NOSB | Apr 7, 2020 |
| Public comment webinars | Apr 21 & 23, 2020 |
| Spring 2020 NOSB meeting – Crystal City, VA | Apr 28 - May 1, 2020 |

Materials/GMO ad hoc Subcommittee Notes Tuesday, November 12, 2019 2:00 pm ET

Attending: Emily Oakley (EO), Dave Mortensen (DM), Vice Chair; Chair; Harriet Behar (HB); Steve Ela (SE)

Absent: Lisa de Lima (LD); Dan Seitz (DS)

Staff: Michelle Arsenault (MA)

Agenda

October 8 meeting notes (All)

- TR and Materials Update (DP)
- Sanitizers review panel abstract and discuss potential panelists (HB)
- Research Priorities discuss spring discussion document (DM/all)
- Contamination of Farm Inputs discuss any next steps?? (all)
- Update on Marine Algae Spring Proposal (EO)
- Excluded Methods discuss 2020 goals (HB/DM)
- Additional items
- Adjourn

- October 8 meeting notes were approved as is.
- TR and Materials Update (DP)
 - TR status five TRs in process, with first drafts due back to NOP mid-November through December:

| Insecticidal soaps | Crops | 11/18/19 |
|-------------------------|-----------|---------------------------|
| Konjac flour | Handling | 11/23/19 |
| Sodium hydroxide | Handling | 12/23/19 |
| Ion exchange filtration | Handling | 12/23/19 |
| Sodium carbonate lignin | Crops | TBD |
| Fenbendazole? | Livestock | TBD - awaiting Qs from LS |

- Petitions three under review by NOP for completeness (chitosan as pesticide, whey
 protein concentrate removal, biochar from manure); waiting for NOSB petition
 sufficiency determination for low-acyl gellan gum and red jalapeno pepper; NOSB
 deemed two petitions sufficient (fenbendazole, sodium carbonate lignin).
- Sanitizers (HB). The group discussed possible panelists and the abstract/charge for the panel. HB will reach out to NOP for suggestions about other panelists and expertise.
- Research Priorities (DM/all). The MS intends on incorporating the Fall 2019 public comments
 into the previous research priorities document, making any suggested changes and perhaps
 adding questions, and reposting it as a discussion document for the Spring 2020 meeting. The
 goal is to solicit feedback from stakeholders earlier in the review process.

- **Contamination of Farm Inputs (all).** The MS will place this project on hold as this is not a priority for the USDA. The entry in the work agenda table below was removed.
- Marine Algae Spring Proposal (EO). The Chair shared feedback from the Fall 2019 meeting
 regarding the question of developing an annotation vs. requiring certification. The lead will
 continue to work on this project, and asked for feedback from the other members.
- Excluded Methods (HB/DM). Deferred to next call due to lack of time.
- Additional items. None.
- The meeting was adjourned

Future Call Schedule (2nd Tuesday 2:00 ET)

October 8, 2019

November 12, 2019

Explore Sanitizers panel abstract

December 10, 2019

January 14, 2020

February 11, 2020

March 10, 2020

April 14, 2020

May 12, 2020

June 9, 2020

July 14, 2020

August 11, 2020

September 8, 2020

October 13, 2020

November 10, 2020

December 8, 2020

Work agenda

| Work agenda | | | . . | |
|------------------------------|---------|--------------------------------------|------------|----------------|
| Materials Projects | Contact | Notes | Discussed, | Meeting |
| | | | Voted | |
| | | | | |
| Research Priorities Proposal | DM | Subcommittee reps to MS | 11 12 19 | DD Spring 2020 |
| May 2012 Framework Proposal | | DS - Livestock | | |
| | | DM - Crops | | |
| | | LD - Handling | | |
| | | RPs from Subcomm due to MS in July | | |
| | | The strong subcommunication with any | | |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |
| _ | | | | |
| GMO Projects | Contact | Notes | Discussed, | Meeting |
| | | | Voted | |
| | | | | |
| Excluded Methods | НВ | | TBD | TBD |
| | | | | |
| | | | | |

| Project | Contact | Notes* | Discussed, Voted | Meeting |
|--------------------------------|------------|----------------------------------|---------------------|-------------|
| Sanitizers: Assessing Cleaning | HB, EO, AB | Pending NOP approval. NOP | 11.12.19 | Panel |
| and Sanitation Materials | | approved 03 16 18. TR request | | Spring 2020 |
| Used in Organic Crop, | | sent to NOP 02 27 19. | | |
| Livestock and Handling | | | | |
| Marine Materials | EO | Pending NOP approval. NOP | | Spr 2020 |
| | | approved request 01 12 16. TR | | |
| | | request sent to NOP 02 05 16. | | |
| | | TR expected Jul 2016. TR sent to | | |
| | | CS and HS 08 10 16. TR suff due | | |
| | | 10 11 16. TR found sufficient 09 | | |
| | | 06 16. Voted 09 06 16. Proposal | | |
| | | in development 12 06 16. Voted | | |
| | | 01 17 17. Referred back to CS | | |
| | | and HS at Spr 2017 NOSB | | |
| | | meeting. Moved to MS for | | |
| | | completion 03 16 18. Panel Fall | | |
| | | 2019. Proposal Spr 2020 | | |

| Spring 2020 Milestones | Target dates (tentative) |
|---|--------------------------|
| NOP - Publish FRN, Open public comment | Nov 15, 2019 |
| NOSB - Spring 2020 proposals due to NOP | Feb 20, 2020 |
| New NOSB member training | Feb 25 - 26, 2020 |
| NOP - Draft Spring 2020 NOSB meeting tentative agenda | Mar 2, 2020 |
| NOP - Post proposals | Mar 5, 2020 |
| Public comment closes | Apr 3, 2020 |
| NOP - Send compiled public comments to NOSB | Apr 7, 2020 |
| Public comment webinars | Apr 21 & 23, 2020 |
| Spring 2020 NOSB meeting – Crystal City, VA | Apr 28 - May 1, 2020 |

Materials/GMO ad hoc Subcommittee Notes Tuesday, October 8, 2019 2:00 pm ET

Attending: Emily Oakley (EO), Chair; Dave Mortensen (DM), Vice Chair; Harriet Behar (HB)

Absent: Dan Seitz (DS); Lisa de Lima (LD)

Staff: Michelle Arsenault (MA); Devon Pattillo (DP)

Agenda

- September 10 meeting notes (All)
- Contamination of Farm Inputs (DP/all)
- Sanitizer Spring Panel (HB/all)
- Additional items
- Adjourn

Discussion

- September 10 meeting notes were approved as is.
- Contamination of Farm Inputs (DP/all). Members discussed the importance of this issue and
 what the best path forward would be. The NOP is focused on Strengthening Organic
 Enforcement and fraud prevention and this is not a priority at this time. It will remain on the
 work agenda and members will discuss at a future meeting.
- Sanitizer Spring Panel (HB/all). Members discussed the intent and goal of the panel, and what the anticipated result would be. The members also discussed possible panelists. NOP suggested having an expert who could address regulatory aspects.
- Additional items. None
- The meeting was adjourned

Previous MS Notes

Future Call Schedule (2nd Tuesday 2:00 ET)

September 10, 2019

New work agenda item suggestion - Development of criteria for evaluating products of fermentation processes.

Sanitizers - discuss panel

Contamination of Farm Inputs Discussion Document

Update on marine algae panel

October 8, 2019

November 12, 2019

Explore Sanitizers panel abstract

December 10, 2019

Work agenda

| Materials Projects | Contact | Notes | Discussed, Voted | Meeting |
|--|---------------|--|----------------------------------|-----------|
| Research Priorities Proposal May 2012 Framework Proposal | DM | Subcommittee reps to MS DS - Livestock DM - Crops LD - Handling RPs from Subcomm due to MS in July | 06 17 19 07 30 19 08 13 19 | Fall 2019 |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |
| GMO Projects | Contact | Notes | Discussed, Voted | Meeting |
| Genetic Integrity Transparency of Seed Grown on Organic Land (formerly Seed Purity from GMOs) | DS, DM, HB | | 08 13 19 | Fall 2019 |
| Excluded Methods: Induced mutagenesis and embryo transfer in livestock discussion document | НВ | Discussion Document | 08 13 19 | Fall 2019 |

| Project | Contact | Notes* | Discussed, Voted | Meeting |
|--|------------|--|----------------------------------|----------------------|
| Contamination of Farm Inputs Discussion Document | НВ | Moved to Materials from Crops for continued work. | 09 10 19 | TBD |
| Sanitizers: Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling | НВ, ЕО, АВ | Pending NOP approval. NOP approved 03 16 18. TR request sent to NOP 02 27 19. | 07 30 19 08 13 19 09 10 19 | Panel Spring 2020 |
| Marine Materials | EO | Pending NOP approval. NOP approved request 01 12 16. TR request sent to NOP 02 05 16. TR expected Jul 2016. TR sent to CS and HS 08 10 16. TR suff due 10 11 16. TR found sufficient 09 06 16. Voted 09 06 16. Proposal in development 12 06 16. Voted 01 17 17. Referred back to CS and HS at Spr 2017 NOSB meeting. Moved to MS for completion 03 16 18. | 07 09 19 07 30 19 09 10 19 | Panel Fall 2019 |

| Fall 2019 Milestones | Target dates (tentative) |
|---|--------------------------|
| New NOSB member training | TBD Feb/Mar 2020 |
| NOP - Publish FRN, Open public comment | May 3, 2019 |
| NOSB Request for TRs for 2022 sunset materials | Jun 12, 2019 |
| NOP - Draft Fall 2019 NOSB meeting tentative agenda | Aug 5, 2018 |
| NOSB - Fall 2019 proposals due to NOP | Aug 15, 2018 |
| NOP - Post proposals | On or before Sep 4, 2018 |
| Public comment closes | Oct 3, 2019 |
| NOP - Send compiled public comments to NOSB | Oct 7, 2019 |
| Discuss/finalize work agendas on ES call | Oct 14, 2019 |
| Public comment webinars | Oct 15 & 17, 2019 |
| Fall 2019 NOSB meeting - Pittsburgh, PA | Oct 23-25, 2019 |

Materials/GMO ad hoc Subcommittee Notes Tuesday, September 10, 2019 2:00 pm ET

Attending: Emily Oakley (EO), Chair; Dave Mortensen (DM), Vice Chair; Harriet Behar (HB); Dan Seitz

(DS); Lisa de Lima (LD)

Absent: None

Staff: Michelle Arsenault (MA)

Agenda

August 13 meeting notes (All)

- TR and Materials Update (MA)
- New work agenda Item suggestion Development of criteria for evaluating products of fermentation processes (all)
- Sanitizers discuss panel (HB)
- Contamination of Farm Inputs Discussion Document (all)
- Update on Marine Algae Panel (EO)
- Additional items
- Adjourn

Discussion

- August 13 meeting notes were approved as is.
- Technical Reports (TRs) and Materials Update (MA). NOP will be sending out bids for three TRs, all for the Handling Subcommittee: Konjac flour, sodium hydroxide, and ion exchange filtration. The TR for insecticidal soaps in Crops is in development by the contractor.
- New work agenda Item suggestion Development of criteria for evaluating products of
 fermentation processes (all). The group discussed the addition of this project, which was
 suggested by a stakeholder group. The Chair suggested this might best fit in Handling. Members
 would like to discuss this further with the stakeholder group to clarify what they are seeking,
 and the MS will discuss it at the next Executive call.
- Sanitizers discuss panel (HB). The NOSB discussed a panel for the Spring 2020 meeting. Members discussed the scope and charge for the panel and potential panelists. The MS will continue this conversation on the November MS call.
- **Update on Marine Algae Panel (EO).** The MS Chair updated the members about the four panelists that have been invited to sit on the panel.
- Contamination of Farm Inputs Discussion Document (all). MS would like to discuss this further
 with the NOP to clarify the history of the project and to determine what the NOP is seeking. DM
 and EO will work on this project.
- Additional items. None
- The meeting was adjourned

Previous MS Notes

Future Call Schedule (2nd Tuesday 2:00 ET)

August 13, 2019

Genetic Integrity of Seed (HB). Discuss/vote

Excluded Methods proposal (HB). Discuss/vote Research Priorities Update (DM). Discuss/vote

September 10, 2019

New work agenda item suggestion - Development of criteria for evaluating products of fermentation processes.

Sanitizers - discuss panel

Contamination of Farm Inputs Discussion Document

Update on marine algae panel

October 8, 2019

November 12, 2019

Explore Sanitizers panel abstract

December 10, 2019

Work agenda

| Materials Projects | Contact | Notes | Discussed, Voted | Meeting |
|--|---------------|--|----------------------------------|-----------|
| Research Priorities Proposal May 2012 Framework Proposal | DM | Subcommittee reps to MS DS - Livestock DM - Crops LD - Handling RPs from Subcomm due to MS in July | 06 17 19 07 30 19 08 13 19 | Fall 2019 |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |
| GMO Projects | Contact | Notes | Discussed, Voted | Meeting |
| Genetic Integrity Transparency of Seed Grown on Organic Land (formerly Seed Purity from GMOs) | DS, DM, HB | | 08 13 19 | TBD |
| Excluded Methods: Induced mutagenesis and embryo transfer in livestock discussion document | НВ | Discussion Document | 08 13 19 | TBD |

| Project | Contact | Notes* | Discussed, Voted | Meeting |
|--|------------|---|----------------------------------|----------------------|
| Contamination of Farm Inputs Discussion Document | НВ | Moved to Materials from Crops for continued work. | 09 10 19 | TBD |
| Sanitizers: Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling | НВ, ЕО, АВ | Pending NOP approval. NOP approved 03 16 18. TR request sent to NOP 02 27 19. | 07 30 19 08 13 19 09 10 19 | Panel Spring 2020 |

| Marine Materials | EO | Pending NOP approval. NOP | 07 09 19 | Panel Fall 2019 |
|------------------|----|----------------------------------|----------|-----------------|
| | | approved request 01 12 16. TR | 07 30 19 | |
| | | request sent to NOP 02 05 16. | 09 10 19 | |
| | | TR expected Jul 2016. TR sent to | | |
| | | CS and HS 08 10 16. TR suff due | | |
| | | 10 11 16. TR found sufficient 09 | | |
| | | 06 16. Voted 09 06 16. Proposal | | |
| | | in development 12 06 16. Voted | | |
| | | 01 17 17. Referred back to CS | | |
| | | and HS at Spr 2017 NOSB | | |
| | | meeting. Moved to MS for | | |
| | | completion 03 16 18. | | |
| | | | | |

| Fall 2019 Milestones | Target dates (tentative) |
|---|--------------------------|
| New NOSB member training | TBD Feb/Mar 2020 |
| NOP - Publish FRN, Open public comment | May 3, 2019 |
| NOSB Request for TRs for 2022 sunset materials | Jun 12, 2019 |
| NOP - Draft Fall 2019 NOSB meeting tentative agenda | Aug 5, 2018 |
| NOSB - Fall 2019 proposals due to NOP | Aug 15, 2018 |
| NOP - Post proposals | On or before Sep 4, 2018 |
| Public comment closes | Oct 3, 2019 |
| NOP - Send compiled public comments to NOSB | Oct 7, 2019 |
| Discuss/finalize work agendas on ES call | Oct 14, 2019 |
| Public comment webinars | Oct 15 & 17, 2019 |
| Fall 2019 NOSB meeting - Pittsburgh, PA | Oct 23-25, 2019 |

Materials/GMO ad hoc Subcommittee Notes Tuesday, August 13, 2019 2:00 pm ET

Attending: Emily Oakley (EO), Chair; Dave Mortensen (DM), Vice Chair; Lisa de Lima (LD); Harriet Behar

(HB); Dan Seitz (DS) **Absent:** None

Staff: Michelle Arsenault (MA); Devon Pattillo (DP)

Agenda

- July 30 meeting notes (All)
- Materials and TR Update (DP)
- Excluded Methods proposal (HB). Discuss/vote
- Genetic Integrity of Seed (HB). Discuss/vote
- Research Priorities Update (DM). Discuss/vote
- Sanitizers
- Additional items
- Adjourn

Discussion

- July 30 meeting notes were approved with no changes.
- Materials and TR Update (DP). The TR for paper pots has been posted on the AMS website.
- Excluded Methods: Induced Mutagenesis and Embryo Transfer in Livestock proposal (HB). The lead summarized the current iteration of the proposal and the group moved to a vote.

Motion to accept the excluded methods proposal

Motion by: HB Seconded by: DS

Additional discussion: None

Yes: 5 No: 0 Abstain: 0 Absent: 0 Recuse: 0

Genetic Integrity of Seed (HB). The lead summarized the document for the group noting that it
is a good start. Members discussed the language and made some minor modifications before
proceeding to a vote.

Motion to accept the genetic integrity of seed proposal

Motion by: HB Seconded by: DM

Additional discussion: None

Yes: 5 No: 0 Abstain: 0 Absent: 0 Recuse: 0

Research Priorities Update (DM). The lead summarized the major changes since the last version of the research priorities. The NOSB has added four (4) new research priorities, 3 of them are Crop related.

Motion to accept the 2019 research priorities proposal

Motion by: DM

Seconded by: LD

Additional discussion: None

Yes: 5 No: 0 Abstain: 0 Absent: 0 Recuse: 0

• Sanitizers. The NOP suggested that the MS convene a panel in Spring 2020 to help inform this work and the MS will not proceed with a document at this time. Members discussed further the need to review sanitizers as a group. The lead noted that the goal was to help inform future NOSB reviews when new sanitizers are petitioned. The MS will provide a verbal update at the fall 2019 meeting and will continue to discuss a panel on the next call.

The meeting was adjourned

Previous MS Notes

Future Call Schedule (2nd Tuesday 2:00 ET)

July 30, 2019 - Additional call

New work agenda item suggestion - Development of criteria for evaluating products of

fermentation processes

Contamination of Farm Inputs

Sanitizer Update (HB)

Research Priorities Update (DM)

Marine Materials panel (All) - discuss

August 13, 2019

Genetic Integrity of Seed (HB). Discuss/vote

Excluded Methods proposal (HB). Discuss/vote

Research Priorities Update (DM). Discuss/vote

September 10, 2019

New work agenda item suggestion - Development of criteria for evaluating products of fermentation processes.

Sanitizers - discuss panel

Contamination of Farm Inputs Discussion Document

Update on marine algae panel

October 8, 2019

November 12, 2019

December 10, 2019

Work agenda

| Materials Projects | Contact | Notes | Discussed, Voted | Meeting |
|---|---------|--|----------------------------------|-----------|
| Research Priorities Proposal May 2012 Framework Proposal | DM | Subcommittee reps to MS DS - Livestock DM - Crops LD - Handling RPs from Subcomm due to MS in July | 06 17 19 07 30 19 08 13 19 | Fall 2019 |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |

| GMO Projects | Contact | Notes | Discussed, Voted | Meeting |
|--|---------------|---------------------|---------------------|---------|
| Genetic Integrity Transparency of Seed Grown on Organic Land (formerly Seed Purity from GMOs) | DS, DM, HB | | 08 13 19 | TBD |
| Excluded Methods: Induced mutagenesis and embryo transfer in livestock discussion document | НВ | Discussion Document | 08 13 19 | TBD |

| Other Projects | | | Discussed, | |
|--|------------|--|----------------------------------|----------------------|
| Project | Contact | Notes* | Voted | Meeting |
| Contamination of Farm Inputs Discussion Document | НВ | Moved to Materials from Crops for continued work. | 09 10 19 | TBD |
| Sanitizers: Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling | HB, EO, AB | Pending NOP approval. NOP approved 03 16 18. TR request sent to NOP 02 27 19. | 07 30 19 08 13 19 09 10 19 | Panel Spring 2020 |
| Marine Materials | EO | Pending NOP approval. NOP approved request 01 12 16. TR request sent to NOP 02 05 16. TR expected Jul 2016. TR sent to CS and HS 08 10 16. TR suff due 10 11 16. TR found sufficient 09 06 16. Voted 09 06 16. Proposal in development 12 06 16. Voted 01 17 17. Referred back to CS and HS at Spr 2017 NOSB meeting. Moved to MS for completion 03 16 18. | 07 09 19 07 30 19 09 10 19 | Panel Fall 2019 |

| Fall 2019 Milestones | Target dates (tentative) |
|---|--------------------------|
| New NOSB member training | TBD Feb/Mar 2020 |
| NOP - Publish FRN, Open public comment | May 3, 2019 |
| NOSB Request for TRs for 2022 sunset materials | Jun 12, 2019 |
| NOP - Draft Fall 2019 NOSB meeting tentative agenda | Aug 5, 2018 |
| NOSB - Fall 2019 proposals due to NOP | Aug 15, 2018 |
| NOP - Post proposals | On or before Sep 4, 2018 |

| Public comment closes | Oct 3, 2019 |
|---|-------------------|
| NOP - Send compiled public comments to NOSB | Oct 7, 2019 |
| Discuss/finalize work agendas on ES call | Oct 14, 2019 |
| Public comment webinars | Oct 15 & 17, 2019 |
| Fall 2019 NOSB meeting - Pittsburgh, PA | Oct 23-25, 2019 |

Materials/GMO ad hoc Subcommittee Notes Tuesday, July 30, 2019 2:00 pm ET draft

Attending: Emily Oakley (EO), Chair; Lisa de Lima (LD); Harriet Behar (HB); Dan Seitz (DS)

Absent: Dave Mortensen (DM), Vice Chair

Staff: Michelle Arsenault (MA); Devon Pattillo (DP); Paul Lewis (PL)

Agenda

July 9 meeting notes (All)

- Materials and TR Update (DP)
- Sanitizer Update (HB)
- Research Priorities Update (DM)
- Genetic Integrity of Organic Seed Update (HB)
- Marine Materials panel discuss
- Excluded Methods Update (HB)
- Additional items
- Adjourn

- **July 9 meeting notes were** reviewed and accepted with minor corrections.
- Materials and TR Update (DP).
 - The draft TRs for fish-based fertilizers and paper pots & containers were sent to the Crops Subcommittee July 26.
 - o The revised TR for ascorbic acid was sent to the Handling Subcommittee July 24.
 - A petition for sodium carbonate lignin was sent to the Crops Subcommittee on July 29.
 NOP encouraged the subcommittee to put forward a discussion document for the fall meeting, as time permits.
 - o A petition to add nonorganic red jalapeño peppers to §205.606 is under review by NOP.
 - There are several petitions currently under review by the Board, including potassium hypochlorite, fenbendazole, and fatty alcohols.
 - NOP received a petition for potassium sorbate as a crop input, and it was returned to the petitioner for additional information.
 - O The group discussed the request to add a work agenda item to the Handling Subcommittees work agenda to annotate fish oil. The NOP previously asked that the Subcommittee determine if this overlaps with the liquid fish annotation work agenda. The members indicated that they are not similar and there is not enough overlap, since one is listed for crops use and one if for handling use, and conflating the two might be confusing. The HS is seeking a decision from NOP on moving forward with the work agenda item before the vote on the sunset review, August 6.
- Sanitizer Update (HB). The group discussed the best approach moving forward: a panel or technical report (TR). The NOP feels the request is too broad and a technical report would not be successful. NOP is supportive of a panel, which could produce a white paper or written proceedings, and could be a good first step. The group discussed the goals of this project, which they envision would include a comparison and assessment of classes of sanitizers, such as alcohols or chlorine based sanitizers, based on the OFPA criteria. The Materials Subcommittee is seeking a resolution by the Fall 2019 NOSB meeting as to how they are going to move forward.

- Research Priorities (RPs) Update (DM). The Materials Subcommittee will vote on the final research priorities proposal on the next call.
- Genetic Integrity of Seed (HB). The lead author relayed feedback from commenters regarding
 the last proposal and the group discussed this feedback in light of the current state of seed
 testing. The MS intends on putting forth a proposal for the Fall 2019 meeting. The goals of this
 proposal are 1. Lessen the percentage of GE contamination in seed corn, and 2. Increase
 transparency so farmers can make informed decisions when purchasing seed. The lead will be
 discussing this with the Organic Seed Alliance, and the MS will continue the conversation on the
 next call.
- **Excluded Methods proposal (HB).** The MS will present a proposal at the Fall 2019 meeting that will include embryo transfer in livestock and induced mutagenesis.
- Marine Materials panel (All). The MS Chair has discussed this topic with many stakeholders and
 the NOP, and the MS is moving forward with panelist selection. The MS will invite four (4)
 panelists who represent a wide swath of the community, including two (2) scientists specializing
 in marine ecology and seaweed, one (1) certifier, and one (1) harvester. The MS has proposed a
 broad list of questions and will ask each of the panelists to address those which they feel most
 qualified to answer.
- Additional items. None
- The meeting was adjourned

Future Call Schedule (2nd Tuesday 2:00 ET)

July 9, 2019

July 30, 2019 - Additional call

New work agenda item suggestion - Development of criteria for evaluating products of fermentation processes

Contamination of Farm Inputs

Sanitizer Update (HB)

Research Priorities Update (DM)

Marine Materials panel (All) - discuss

August 13, 2019

New work agenda item suggestion - Development of criteria for evaluating products of fermentation processes.

Genetic Integrity of Seed (HB). Discuss/vote

Excluded Methods proposal (HB). Discuss/vote

Research Priorities Update (DM). Discuss/vote

September 10, 2019

October 8, 2019

November 12, 2019

December 10, 2019

Work agenda

| Materials Projects | Contact | Notes | Discussed, Voted | Meeting |
|--|---------------|--|----------------------|-----------|
| Research Priorities Proposal May 2012 Framework Proposal | DM | Subcommittee reps to MS DS - Livestock DM - Crops LD - Handling RPs from Subcomm due to MS in July | 06 17 19 07 30 19 | Fall 2019 |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |
| GMO Projects | Contact | Notes | Discussed, Voted | Meeting |
| Genetic Integrity Transparency of Seed Grown on Organic Land (formerly Seed Purity from GMOs) | DS, DM, HB | | | TBD |
| Excluded Methods: Induced mutagenesis and embryo transfer in livestock discussion document | НВ | Discussion Document | | TBD |

| Project | Contact | Notes* | Discussed, Voted | Meeting |
|--|------------|--|----------------------|------------------------------------|
| Contamination of Farm Inputs Discussion Document | НВ | Moved to Materials from Crops for continued work. | 07 30 19 | TBD |
| Sanitizers: Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling | HB, EO, AB | Pending NOP approval. NOP approved 03 16 18. TR request sent to NOP 02 27 19. | 07 30 19 | Discussion doc Fall 2019 |
| Marine Materials | EO | Pending NOP approval. NOP approved request 01 12 16. TR request sent to NOP 02 05 16. TR expected Jul 2016. TR sent to CS and HS 08 10 16. TR suff due 10 11 16. TR found sufficient 09 06 16. Voted 09 06 16. Proposal in development 12 06 16. Voted 01 17 17. Referred back to CS and HS at Spr 2017 NOSB meeting. Moved to MS for completion 03 16 18. Panel approved by NOP 7/17/2019 | 07 09 19 07 30 19 | Discussion doc /Panel Fall 2019 |

| Fall 2019 Milestones | Target dates (tentative) |
|---|--------------------------|
| New NOSB member training | TBD Feb/Mar 2020 |
| NOP - Publish FRN, Open public comment | May 3, 2019 |
| NOSB Request for TRs for 2022 sunset materials | Jun 12, 2019 |
| NOP - Draft Fall 2019 NOSB meeting tentative agenda | Aug 5, 2018 |
| NOSB - Fall 2019 proposals due to NOP | Aug 15, 2018 |
| NOP - Post proposals | On or before Sep 4, 2018 |
| Public comment closes | Oct 3, 2019 |
| NOP - Send compiled public comments to NOSB | Oct 7, 2019 |
| Discuss/finalize work agendas on ES call | Oct 14, 2019 |
| Public comment webinars | Oct 15 & 17, 2019 |
| Fall 2019 NOSB meeting - Pittsburgh, PA | Oct 23-25, 2019 |

Materials/GMO ad hoc Subcommittee Notes Monday, July 9, 2019 2:00 pm ET

Attending: Emily Oakley (EO), Chair; Dave Mortensen (DM), Vice Chair; Lisa de Lima (LD); Harriet Behar

(HB); Dan Seitz (DS) **Absent:** None

Guest Speaker: Patricia Bianchi

Staff: Michelle Arsenault (MA); Devon Pattillo (DM)

Agenda

June 17 meeting notes (All)

- Guest speaker from ASC-MSC
- Marine materials/algae panelist discussion (all)
- Materials and TR Update (DP)
- Sanitizer Update (HB)
- Research Priorities Update (DM)
- Additional items
- Adjourn

Discussion

- June 17 meeting notes were accepted as is.
- Guest speaker from Marine Stewardship Council Aquaculture Stewardship Council (ASC-MSC).
 Patricia Bianchi, Policy Manager of ASC-MSC joined the call to discuss the Marine stewardship
 council (farm focus), and aquaculture stewardship council (aquaculture and seaweed focus). Ms.
 Bianchi described how their environmental standards were developed and how they are being
 measured and verified in practice, and members asked follow-up questions about harvesting
 and sustainability. Ms. Bianchi offered to forward additional resources to the MS and the
 Subcommittee would like to reach out again as they continue to work on the Marine Materials
 project.
- Marine algae panelist discussion (all). The MS members discussed the logistics and desired
 expertise for a panel on marine materials. The lead suggested a certifier, two marine scientists,
 and a harvester. The group also discussed the utility of holding two panels the first of which to
 discuss harvesting and production, and the second to address environmental concerns. The lead
 will reach out to previous commenters for additional feedback.
- Materials and TR Update (DP). Deferred to next call.
- Sanitizer Update (HB). Deferred to next call.
- Research Priorities Update (DM). Deferred to next call.
- Additional items. None
- The meeting was adjourned

Previous MS Notes

Future Call Schedule (2nd Tuesday 2:00 ET)

June 17, 2019, Monday. Rescheduled from June 11 July 9, 2019 July 30, 2019 - Additional call New work agenda item suggestion - Development of criteria for evaluating products of fermentation processes.

Contamination of Farm Inputs

Sanitizer Update (HB).

Research Priorities Update (DM)

Marine Materials panel - discuss

August 13, 2019 September 10, 2019

October 8, 2019

November 12, 2019

December 10, 2019

Work agenda

| Materials Projects | Contact | Notes | Discussed, Voted | Meeting |
|--|---------------|--|----------------------|-----------|
| Research Priorities Proposal May 2012 Framework Proposal | DM | Subcommittee reps to MS DS - Livestock DM - Crops LD - Handling RPs from Subcomm due to MS in July | 06 17 19 07 30 19 | Fall 2019 |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |
| GMO Projects | Contact | Notes | Discussed, Voted | Meeting |
| Genetic Integrity Transparency of Seed Grown on Organic Land (formerly Seed Purity from GMOs) | DS, DM, HB | | | TBD |
| Excluded Methods: Induced mutagenesis and embryo transfer in livestock discussion document | НВ | Discussion Document | | TBD |

| Project | Contact | Notes* | Discussed, Voted | Meeting |
|---|------------|--|----------------------|------------------------------------|
| Contamination of Farm Inputs Discussion Document | НВ | Moved to Materials from Crops for continued work. | 07 30 19 | TBD |
| Sanitizers: Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling | НВ, ЕО, АВ | Pending NOP approval. NOP approved 03 16 18. TR request sent to NOP 02 27 19. | 07 30 19 | Discussion doc Fall 2019 |
| Marine Materials | EO | Pending NOP approval. NOP approved request 01 12 16. TR request sent to NOP 02 05 16. TR expected Jul 2016. TR sent to CS and HS 08 10 16. TR suff due 10 11 16. TR found sufficient 09 06 16. Voted 09 06 16. Proposal in development 12 06 16. Voted 01 17 17. Referred back to CS and HS at Spr 2017 NOSB meeting. Moved to MS for completion 03 16 18. | 07 09 19 07 30 19 | Discussion doc /Panel Fall 2019 |

| Fall 2019 Milestones | Target dates (tentative) |
|---|--------------------------|
| New NOSB member training | TBD Feb/Mar 2020 |
| NOP - Publish FRN, Open public comment | May 3, 2019 |
| NOSB Request for TRs for 2022 sunset materials | Jun 12, 2019 |
| NOP - Draft Fall 2019 NOSB meeting tentative agenda | Aug 5, 2018 |
| NOSB - Fall 2019 proposals due to NOP | Aug 15, 2018 |
| NOP - Post proposals | On or before Sep 4, 2018 |
| Public comment closes | Oct 3, 2019 |
| NOP - Send compiled public comments to NOSB | Oct 7, 2019 |
| Discuss/finalize work agendas on ES call | Oct 14, 2019 |
| Public comment webinars | Oct 15 & 17, 2019 |
| Fall 2019 NOSB meeting - Pittsburgh, PA | Oct 23-25, 2019 |

Materials/GMO ad hoc Subcommittee Notes Monday, June 17, 2019 2:00 pm ET

Attending: Emily Oakley (EO), Chair; Lisa de Lima (LD); Harriet Behar (HB); Dan Seitz (DS)

Guest: Bob Durst, Oregon State University (OSU)

Absent: Dave Mortensen (DM), Vice Chair

Staff: Michelle Arsenault (MA); Devon Pattillo (DM); Paul Lewis (PL)

Agenda

May 14 meeting notes (All)

- Sanitizer TR Request Meet with Bob Durst of Oregon State University (HB)
- MS 2019 Research Priorities Review last year's MS research priorities to keep/edit/delete/add.
- Marine algae panel Discuss timeframe, questions, and inviting panelists. (EO)
- Additional items
- Adjourn

- May 14 meeting notes were approved as is
- Sanitizer TR Request. Bob Durst, Oregon State University Food Science, was invited to provide guidance regarding the Materials' Subcommittee request for a technical report on sanitizers. Dr. Durst is a food scientist who has spent approximately 40 years in both academia and organic agriculture. He has conducted organic food inspections for Oregon Tilth, been involved in materials reviews for CCOF and OMRI, and has written technical reports (TRs), including the TR for the NOSB on citric acid. He also has extensive experience with processing, and the organic industry in general. Dr. Durst expressed his support for the project to develop a tool to compare various types of sanitizers. The group discussed the draft request for a technical report and noted that while a challenging task, would be worthwhile. Members discussed the format of the TR request and perhaps grouping the sanitizers. Dr. Durst will review the questions and provide feedback to the lead.
- MS 2019 Research Priorities (EO/DM). Each NOSB Subcommittee is reviewing its previous research priorities and making additions or deletions. The Material's Subcommittee discussed modifications a member proposed. One of the leads will incorporate the suggestions, reformat the document into a narrative, and recirculate it to the MS members.
- Marine Algae Panel (EO). The group discussed having a panel at the Fall 2019 meeting. Ideally it would include four experts, and be 1.5 hours long. Each panel member would have approximately 10 minutes for a presentation and then there would be Q & A with the NOSB. Members discussed potential panelists who could represent a breadth of stakeholders. A member suggested inviting an expert to the July 9 MS call to discuss marine materials.
- Additional items.
 - The lead is working with stakeholders to develop discussion documents for the fall meeting for two work agenda items: Genetic integrity transparency of seed grown on organic land (formerly Seed purity from GMOs) and Excluded methods: Induced mutagenesis and embryo transfer.
 - The MS scheduled an additional call for July 30 and may cancel it if it is unnecessary.
- The meeting was adjourned

Future Call Schedule (2nd Tuesday 2:00 ET)

May 14, 2019

June 17, 2019, Monday. Rescheduled from June 11

July 9, 2019

July 30, 2019 - Additional call

New work agenda item suggestion - Development of criteria for evaluating products of fermentation processes.

Contamination of Farm Inputs

August 13, 2019

September 10, 2019

October 8, 2019

November 12, 2019

December 10, 2019

Work agenda

| Materials Projects | Contact | Notes | Discussed, Voted | Meeting |
|--|------------|--|---------------------|-----------|
| Research Priorities Proposal May 2012 Framework Proposal | DM | Subcommittee reps to MS DS - Livestock DM - Crops LD - Handling RPs from Subcomm due to MS in July | 06 17 19 | Fall 2019 |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |
| GMO Projects | Contact | Notes | Discussed, Voted | Meeting |
| Genetic Integrity Transparency of Seed Grown on Organic Land (formerly Seed Purity from GMOs) | DS, DM, HB | | | TBD |
| Excluded Methods: Induced mutagenesis and embryo transfer in livestock discussion document | НВ | Discussion Document | | TBD |

| Project | Contact | Notes* | Discussed, Voted | Meeting |
|--|------------|--|---------------------|------------------------------------|
| Contamination of Farm Inputs Discussion Document | НВ | Moved to Materials from Crops for continued work. | | TBD |
| Sanitizers: Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling | НВ, ЕО, АВ | Pending NOP approval. NOP approved 03 16 18. TR request sent to NOP 02 27 19. | | Discussion doc Fall 2019 |
| Marine Materials | EO | Pending NOP approval. NOP approved request 01 12 16. TR request sent to NOP 02 05 16. TR expected Jul 2016. TR sent to CS and HS 08 10 16. TR suff due 10 11 16. TR found sufficient 09 06 16. Voted 09 06 16. Proposal in development 12 06 16. Voted 01 17 17. Referred back to CS and HS at Spr 2017 NOSB meeting. Moved to MS for completion 03 16 18. | | Discussion doc /Panel Fall 2019 |

| Fall 2019 Milestones | Target dates (tentative) |
|---|--------------------------|
| New NOSB member training | TBD Feb/Mar 2020 |
| NOP - Publish FRN, Open public comment | May 3, 2019 |
| NOSB Request for TRs for 2022 sunset materials | Jun 12, 2019 |
| NOP - Draft Fall 2019 NOSB meeting tentative agenda | Aug 5, 2018 |
| NOSB - Fall 2019 proposals due to NOP | Aug 15, 2018 |
| NOP - Post proposals | On or before Sep 4, 2018 |
| Public comment closes | Oct 3, 2019 |
| NOP - Send compiled public comments to NOSB | Oct 7, 2019 |
| Discuss/finalize work agendas on ES call | Oct 14, 2019 |
| Public comment webinars | Oct 15 & 17, 2019 |
| Fall 2019 NOSB meeting - Pittsburgh, PA | Oct 23-25, 2019 |

Materials/GMO ad hoc Subcommittee Notes Tuesday, May 14, 2019 2:00 pm ET

Attending: Emily Oakley (EO), Chair; Dave Mortensen (DM), Vice Chair; Lisa de Lima (LD); Harriet Behar

(HB); Dan Seitz (DS) **Absent:** None

Staff: Michelle Arsenault (MA); Clarissa Mathews (CM); Devon Pattillo (DM)

Agenda

- March 12 meeting notes (All)
- Update on Materials and TRs (CM)
- Marine Materials in Organic Crop Production (EO)
- for the open docket
- expert panel for fall
- Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling TR Request (HB, EO)
- Research Priorities Fall 2019 (EO, DM)
- Genetic Integrity Transparency of Seed Grown on Organic Land for Fall? (HB)
- Excluded Method Determinations Proposal for Fall? (HB)
- New Work Agenda Item Suggestion "development of criteria for evaluating products of
- fermentation processes"
- Contamination of Farm Inputs
- Additional items
- Adjourn

- March 12 meeting notes were approved as is
- Update on Materials and TRs (CM).
 - Anticipating the paper pot TR in mid-to-late August.
 - The request for a TR for sanitizers was recently revised and the NOP will send it out for bids
 - o Fatty alcohols petition was found sufficient by the Crops Subcommittee
 - Potassium hypochlorite petition in Crops is awaiting sufficiency
 - There are nine (9) other petitions in various stages of review and NOP will forward them when they are complete and ready.
 - The NOP drafted a comparison of the fatty alcohols petitions (the original and the repetition) and will send that to the both the Crops and Materials Subcommittees.
- Marine Materials in Organic Crop Production (EO)
 - NOP will post the Spring document in the open docket for comment once it is open. A
 Materials Review Organization (MRO) is going to put a link to it in their newsletter
 directing people to the document.
 - Expert panel for fall. Although time is more limited at the Fall meeting, the lead feels it
 would be useful to have an expert panel on marine materials. Members supported this
 idea. The MS emphasized that it is important to convene experts and have enough time
 for Q & A after the panel. The members want to ensure that they have the breadth of

- expertise and viewpoints. A member asked what the goal of the panel is and if there is a path forward? EO will send out questions that were posed via public comment.
- The Materials Subcommittee may consider inviting experts to sit in on Subcommittee calls.
- Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling TR Request (HB, EO). The leads revised the TR request and will submit it to NOP soon.
- Research Priorities Fall 2019 (EO, DM). The MS Chair explained the process by which the Subcommittees will complete their priorities' lists, so they can get them to the Materials Subcommittee in time to vote on them in July.
 - O DM offered to look at what was funded in last round of NIFA grants, and will reach out to National program leaders to summarize grants in progress for OREI, NIFA, SARE, etc.
- Genetic integrity transparency of seed grown on organic land (HB). The lead is awaiting
 information from the Seed Alliance regarding unintended negative consequences. A member
 emphasized the importance of focusing on the positive aspects in order to move forward.
 Would like to potentially bring something to the Fall meeting.
- Excluded method determinations proposal for Fall (HB). The lead will reach out to stakeholders to determine how to move forward.
- New work agenda item suggestion Development of criteria for evaluating products of fermentation processes. Deferred to next call
- Contamination of Farm Inputs. Deferred to next call
- Additional items
 - Origin of livestock (OOL). NOP and NOSB received many comments at the Spring NOSB meeting. Members asked if there was anything the Board could do to aid the NOP to move this forward. NOP is hoping to get OOL on the Fall unified agenda for the USDA
- The meeting was adjourned

Future Call Schedule (2nd Tuesday 2:00 ET)

May 14, 2019

June 17, 2019, Monday. Rescheduled from June 11

New work agenda item suggestion - Development of criteria for evaluating products of fermentation processes.

Genetic integrity transparency of seed grown on organic land Contamination of Farm Inputs

July 9, 2019 August 13, 2019 September 10, 2019 October 8, 2019 November 12, 2019 December 10, 2019 Work agenda

| Materials Projects | Contact | Notes | Discussed, Voted | Meeting |
|--|------------|--|---------------------|-----------|
| Research Priorities Proposal May 2012 Framework Proposal | DM | Subcommittee reps to MS DS - Livestock DM - Crops LD - Handling RPs from Subcomm due to MS in July | 5 14 19 | Fall 2019 |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |
| GMO Projects | Contact | Notes | Discussed, Voted | Meeting |
| Genetic Integrity Transparency | DS, DM, HB | | 5 14 19 | TBD |
| of Seed Grown on Organic Land (formerly Seed Purity from GMOs) | | | | |

| Project | Contact | Notes* | Discussed, Voted | Meeting |
|---|------------|--|---------------------|-----------------------------|
| Contamination of Farm Inputs Discussion Document | НВ | Moved to Materials from Crops for continued work. | | TBD |
| Sanitizers: Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling | НВ, ЕО, АВ | Pending NOP approval. NOP approved 03 16 18. TR request sent to NOP 02 27 19. Revisions by NOP and MS in progress. | 05 14 19 | Discussion doc Fall 2019 |
| Marine Materials | EO | Pending NOP approval. NOP approved request 01 12 16. TR request sent to NOP 02 05 16. TR expected Jul 2016. TR sent to CS and HS 08 10 16. TR suff due 10 11 16. TR found sufficient 09 06 16. Voted 09 06 16. Proposal in development 12 06 16. Voted 01 17 17. Referred back to CS and HS at Spr 2017 NOSB meeting. Moved to MS for completion 03 16 18. | 05 14 19 | Discussion doc Fall 2019 |

| Fall 2019 Milestones | Target dates (tentative) |
|---|--------------------------|
| New NOSB member training | TBD Feb/Mar 2020 |
| NOP - Publish FRN, Open public comment | May 3, 2019 |
| NOSB Request for TRs for 2022 sunset materials | Jun 12, 2019 |
| NOP - Draft Fall 2019 NOSB meeting tentative agenda | Aug 5, 2018 |
| NOSB - Fall 2019 proposals due to NOP | Aug 15, 2018 |
| NOP - Post proposals | On or before Sep 4, 2018 |
| Public comment closes | Oct 3, 2019 |
| NOP - Send compiled public comments to NOSB | Oct 7, 2019 |
| Discuss/finalize work agendas on ES call | Oct 14, 2019 |
| Public comment webinars | Oct 15 & 17, 2019 |
| Fall 2019 NOSB meeting - Pittsburgh, PA | Oct 23-25, 2019 |

Materials/GMO ad hoc Subcommittee Notes Tuesday, February 12, 2019 1:30 pm ET draft

Attending: Emily Oakley (EO), Chair; Dave Mortensen (DM), Vice Chair; Lisa de Lima (LD); Harriet Behar

(HB); Dan Seitz (DS) **Absent:** None

Staff: Michelle Arsenault (MA); Clarissa Mathews (CM)

Agenda

- Genetic Integrity Transparency of Seed Grown on Organic Land
- Proposal Excluded Method Determinations
- Induced Mutagenesis and Embryo Transfer in Livestock
- Marine Materials in Organic Crop Production
- Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling
- Update on Materials and TRs
- Additional items
- Adjourn

Discussion

• **Genetic Integrity Transparency of Seed Grown on Organic Land discussion document.** The lead summarized the draft discussion document and the public comments that were submitted to the open docket. The initial intention was to draft a proposal, but the lead felt that based on the need for additional feedback, it is best to have a discussion document for the Spring meeting.

Motion to accept the discussion document on genetic integrity transparency of seed grown on organic land.

Motion by: HB Seconded by: LD

Additional discussion: None

Yes: 5 No: 0 Abstain: 0 Absent: 0 Recuse: 0

• Excluded method determinations April 2019 proposal. The lead reviewed the proposal and the MS members discussed it briefly. After some minor modifications the group moved to a vote.

Motion to accept the proposal on excluded method determinations

Motion by: HB Seconded by: DM

Additional discussion: None

Yes: 5 No: 0 Abstain: 0 Absent: 0 Recuse: 0

• Induced mutagenesis and embryo transfer in livestock discussion document. The group discussed the draft document and members made suggestions for some structural/formatting changes. The MS is seeking more input from the community on these topics and will post the discussion document for the Spring meeting.

Motion to accept the discussion document on induced mutagenesis and embryo transfer in

Motion by: HB Seconded by: DS

livestock.

Additional discussion: None

Yes: 5 No: 0 Abstain: 0 Absent: 0 Recuse: 0

Marine materials in organic crop production discussion document. The lead summarized the
draft document and asked for additional feedback from members. The document contains
public comments from previous iterations, as well as feedback from several stakeholder groups.
The lead suggested sending the document to the entire Board as soon as it's finalized to give
members additional time to read it before the Spring meeting.

Motion to accept the discussion document on marine materials in organic crop production

Motion by: EO Seconded by: HB

Additional discussion: None

Yes: 5 No: 0 Abstain: 0 Absent: 0 Recuse: 0

Assessing cleaning and sanitation materials used in organic crop, livestock and handling
discussion document. The lead summarized the discussion document. The Subcommittee is
looking forward to reading public comment, which they intend on using to develop a TR request.

Motion to accept the discussion document on assessing cleaning and sanitation materials used in organic crop, livestock and handling.

Motion by: HB Seconded by: DS

Additional discussion: None

Yes: 5 No: 0 Abstain: 0 Absent: 0 Recuse: 0

Update on Materials and TRs.

- The NOP received petitions for the following substances. All are currently under NOP review, and will be sent to the Board when completed, except where noted.
 - Fatty alcohols a repetition was sent to the Crops Subcommittee yesterday;
 NOP review indicated there is new information, as the repetition is for use on tobacco only.
 - Sodium carbonate lignin for addition to 205.601j. Originally petitioned in 2011.
 - Gellan gum re-petition for low acyl form for 205.605(b). The previous submission asked for addition to 205.605(a)
 - Magnesium oxide resubmission for making buffered lactic acid; petitioned for addition to 205.601 previously; this petition is for addition to 205.605(b).
- The following TRs are expected soon: Collagen gel (HS), horticultural oils (CS), atropine (LS), xylazine (LS), and malic acid (). The TR for trace minerals and ascorbic acid are both under NOP review, and should be completed by end of week.
- A member asked about a potential TR for sanitizers and asked NOP to consider a limited scope TR.
- A member asked about reviewing substances that may include inerts, and for clarification about how approach a review when they are tasked with only reviewing the individual substance.

- Additional items. None
- The meeting was adjourned

Future Call Schedule (2nd Tuesday 2:00 ET)

January 29, 2019

February 12, 2019

March 12, 2019

April 9, 2019

May 14, 2019

June 11, 2019

July 9, 2019

August 13, 2019

September 10, 2019

October 8, 2019

November 12, 2019

December 10, 2019

Work agenda

| Materials Projects | Contact | Notes | Discussed, | Meeting |
|----------------------------------|------------|----------------------------------|---------------------|-----------|
| | | | Voted | |
| Research Priorities Proposal | DM | Subcommittee reps to MS | NA | Fall 2019 |
| May 2012 Framework Proposal | | DS - Livestock | | |
| | | DM - Crops | | |
| | | LD - Handling | | |
| | | RPs from Subcomm due to MS in | | |
| | | July | | |
| Petition and TR tracking | HB/LB | Ongoing | NA | NA |
| GMO Projects | Contact | Notes | Discussed, Voted | Meeting |
| Protecting the Genetic Integrity | DS, DM, HB | Proposal sent back to MS at Fall | 01 29 19 | Spr 2019 |
| of Seed Grown on Organic Land | | 2018 meeting. Reposted for | 02 12 19 | |
| (formerly Seed Purity from | | additional comments for Spr 2019 | | |
| GMOs) | | | | |
| Excluded Methods | НВ | Proposal | 02 12 19 | Spr 2019 |
| Determinations April 2019 | | | | |
| Excluded Methods: Induced | НВ | Discussion Document | 02 12 19 | Spr 2019 |
| mutagenesis and embryo | | | | |
| transfer in livestock discussion | | | | |
| document | | | | |

| Project Idea | Contact | Notes* | Discussed, Voted | Meeting |
|--|------------|--|----------------------|----------------------------|
| Contamination of Farm Inputs Discussion Document | НВ | Moved to Materials from Crops for continued work. | | TBD |
| Sanitizers: Assessing Cleaning and Sanitation Materials Used in Organic Crop, Livestock and Handling | HB, EO, AB | Pending NOP approval. NOP approved 03 16 18 | 01 29 19 02 12 19 | Proposal Spr 2019 |
| Marine Materials | EO | Pending NOP approval. NOP approved request 01 12 16. TR request sent to NOP 02 05 16. TR expected Jul 2016. TR sent to CS and HS 08 10 16. TR suff due 10 11 16. TR found sufficient 09 06 16. Voted 09 06 16. Proposal in development 12 06 16. Voted 01 17 17. Referred back to CS and HS at Spr 2017 NOSB meeting. Moved to MS for completion 03 16 18. | 02 12 19 | Discussion doc Spr 2019 |

| Spring 2019 Milestones | Target dates (tentative) |
|---|--------------------------|
| NOP - Publish FRN, Open public comment | Nov 26, 2018 |
| NOSB – Spring 2019 proposals due to NOP | Feb 21, 2019 |
| NOP - Draft Spring 2019 NOSB meeting tentative agenda | Mar 4, 2019 |
| NOP - Post proposals | Mar 6, 2019 |
| Public comment closes | Apr 4, 2019 |
| Discuss/finalize work agendas on ES call | Apr 13, 2019 |
| NOP - Send compiled public comments to NOSB | Apr 8, 2019 |
| Public comment webinars | Apr 16 & 18, 2019 |
| Spring 2019 NOSB meeting - Seattle, WA | Apr 24 - 26, 2019 |

Materials/GMO ad hoc Subcommittee Notes Tuesday, January 29, 2019 2:00 pm ET draft

Attending: Emily Oakley (EO), Chair; Dave Mortensen (DM), Vice Chair; Lisa de Lima (LD); Harriet Behar

(HB); Steve Ela (SE) **Absent:** Dan Seitz (DS)

Staff: Michelle Arsenault (MA); Devon Pattillo (DP)

Agenda

- Discuss/review notes from December meeting.
- Update on materials and TRs (DP)
- Update on marine materials Emily
- Update on excluded methods Harriet
- Update on sanitizers Harriet
- Proposal genetic integrity transparency Harriet
- Additional items
- Adjourn

- **Discuss/review notes from December meeting (All).** The December notes were reviewed by the Subcommittee and there were no changes
- **Update on materials and TRs (DP).** The NOP updated the MS on the status of several petitions and pending TRs. There are eight (8) TRs under review, some of which were received during the government shutdown: Collagen gel/gelatin/casings, Ammonium soaps, Horticultural oils, Atropine, Xylazine, Trace Minerals, Malic Acid, and Ascorbic Acid). NOP is working on reviewing these documents and will send them to the appropriate Subcommittees when its review is complete.
- **Update on marine materials (EO).** Members discussed the status of this project, including feedback from the community, and will revisit it on a future call.
- **Update on excluded methods (HB).** The lead has been talking with a geneticist to help inform the next iteration of the excluded methods document, specifically sections on transposons, embryo transfer, and mutagenesis. Her intention is to have a draft discussion document ready for discussion on the March 12 Materials call, and to post if for the Spring meeting.
- **Update on sanitizers (HB).** The lead is compiling questions to include in the sanitizer document. The MS will post the document and seek public input to help inform the development of a proposal.
- **Genetic integrity transparency proposal (HB).** Members discussed the draft proposal, which contains modifications from the last iteration as well as feedback from public comments. The group discussed additional changes and will vote on the proposal during the next call.
- Other items:
 - Fatty alcohols. The NOP received a new petition for fatty alcohols and it is currently under review.
 - Methionine task force presentation in April. The NOSB Chair would like to invite representatives from the methionine task force to give a status update at the Spring NOSB meeting. The NOSB Chair will reach out to NOP to discuss this.

- Celery Powder panel. The Handling Subcommittee discussed the celery powder panel earlier today and is moving towards finalizing a list of potential panelists.
- The NOSB Chair is exploring the possibility of inviting a speaker to the April meeting to talk about excluded methods and how testing is keeping up with the new techniques.
 She will discuss this with NOP and update the group at a later date.

The meeting was adjourned

Previous MS Notes

Future Call Schedule (2nd Tuesday 2:00 ET)

December 11, 2018 - Cancelled due to shutdown

January 29, 2019

February 12, 2019

March 12, 2019

April 9, 2019

May 14, 2019

June 11, 2019

July 9, 2019

August 13, 2019

September 10, 2019

October 8, 2019

November 12, 2019

December 10, 2019

Work agenda

| Materials Projects | Contact | Notes | Discussed, Voted | Meeting |
|--|------------|--|---------------------|-----------|
| Research Priorities Proposal May 2012 Framework Proposal | DM | Subcommittee reps to MS DS - LS DM - CS LD - HS RPs from Subcomm due to MS in July | NA | Fall 2019 |
| Petition and TR tracking | ALL | Ongoing | NA | NA |
| GMO Projects | Contact | Notes | Discussed, Voted | Meeting |
| | | | | |
| Protecting the Genetic Integrity of Seed Grown on Organic Land (formerly Seed Purity from GMOs) | DS, DM, HB | Proposal sent back to MS at Fall 2018 meeting. Reposted for additional comments for Spr 2019 | 01 29 19 | Spr 2019 |

| Project Idea | Contact | Notes* | Discussed, Voted | Meeting |
|--|------------|--|---------------------|----------------------------|
| Contamination of Farm Inputs Discussion Document | НВ | Moved to Materials from Crops for continued work. | | TBD |
| Sanitizers | HB, EO, AB | Pending NOP approval. NOP approved 03 16 18 | 01 29 19 | Proposal Spr 2019 |
| Marine Materials | EO | Pending NOP approval. NOP approved request 01 12 16. TR request sent to NOP 02 05 16. TR expected Jul 2016. TR sent to CS and HS 08 10 16. TR suff due 10 11 16. TR found sufficient 09 06 16. Voted 09 06 16. Proposal in development 12 06 16. Voted 01 17 17. Referred back to CS and HS at Spr 2017 NOSB meeting. Moved to MS for completion 03 16 18. | | Discussion doc Spr 2019 |

| Spring 2019 Milestones | Target dates (tentative) | |
|---|--------------------------|--|
| NOP - Publish FRN, Open public comment | Nov 26, 2018 | |
| NOSB – Spring 2019 proposals due to NOP | Feb 21, 2019 | |
| NOP - Draft Spring 2019 NOSB meeting tentative agenda | Mar 4, 2019 | |
| NOP - Post proposals | Mar 6, 2019 | |
| Public comment closes | Apr 4, 2019 | |
| Discuss/finalize work agendas on ES call | Apr 13, 2019 | |
| NOP - Send compiled public comments to NOSB | Apr 8, 2019 | |
| Public comment webinars | Apr 16 & 18, 2019 | |
| Spring 2019 NOSB meeting - Seattle, WA | Apr 24 - 26, 2019 | |