



2021 WSSA Standing Committee Report

February 19, 2022

Committee Name and Code: W15 – Formulation, Adjuvant, and Application Technology committee

Committee Chair: Bryan Young

Committee Members (includes sub-committee members):

Dan Reynolds, Richard Zollinger, Kassim Al-Khatib, Cheryl Dunne, Jerome Schleier, Angela Kazmierczak, Ryan Edwards, Connor Ferguson, William Patzoldt, Matt Faletti

Board of Directors Liaison: Brett Miller

Committee members rotating off and recommended replacements:

- a. Rotating off in 2022:
 - i. Dan Reynolds (S)
 - ii. Rich Zollinger (W)
 - iii. Kassim Al-Khatib (W)
 - iv. Cheryl Dunne (NC)
 - v. Jerome Schleier (NC)
- b. Incoming committee member nominations accepted by committee:
 - i. Ryan Rector (S), RRector@adjuvantsunlimited.com
 - ii. Pete Eure (S), Pete.Eure@SYNGENTA.COM
 - iii. Rich Zollinger (W), RichardZ@amvac.com

Summary of past year's activities including:

- **Committee goals**
 - Develop a symposium for WSSA conference
 - Identify the need for better herbicide label terminology for applications related to site-specific management
 - Determine if our W15 committee is inclusive of new emerging technologies for weed management that don't include liquid spray applications.
- **Committee accomplishments**

- Symposium topics from our committee were shared with Program Chair, Stanley Culpepper in June 2021. Bryan and Stanley discussed the topics and decided that our key topics were already being developed for a symposium at the 2022 conference (e.g. impact of endangered species regulation on future herbicide applications).
- On September 29, 2021, a webinar was hosted by the U.S. EPA with John Deere/Blue River Technologies to discuss herbicide applications using sensors for site-specific weed management. William Patzoldt and Bryan Young were in attendance. The U.S. EPA indicated that as long as herbicide label requirements are followed for ground or aerial applications, and that the specified rate per unit area is consistent with the label, that no special labeling would be required for site-specific weed management. It was made clear that an application of an herbicide using site specific application methods would be considered the same as a broadcast application in terms of in-crop application limits. For instance, if a herbicide is labeled for two broadcast in-crop applications the same limit would apply to site-specific operations, even if the exact treatment footprints were different. The EPA officials did mention that the subject of site-specific applications would most likely justify further consideration as application methods and commercial adoption evolves.
- **WSSA funds requested if any?**
 - None
- **Current state of the committee's projects or activities?**
 - W15 and WSSA Inclusivity for Non-Liquid Spray Operations for Weed Management
 - Concern was expressed by the entire committee that WSSA is not adequately engaged with new emerging technologies related to weed management operations that don't involve liquid spray applications. More specifically, automated or robotic weed control technology involving lasers, electrocution, blue LED light, and other precision-guided mechanical means have been a topic of research for a limited number of our membership. However, the companies developing the technology and the scientists from 'fringe' disciplines (e.g. agricultural engineering) have not been active within WSSA. Our committee wants to provide an appropriate landing spot for these industries in the possible forms of committee structure/activity, a forum within our annual conference program, and recruitment for potential industry sponsors and/or exhibitors.
 - To accommodate these emerging technologies, we debated if our current committee (W15) encompassed the scope to serve as a home for these areas. The committee title is mostly focused on liquid herbicide applications and isn't obviously inclusive of these emerging areas. Thus, is a new committee necessary to serve these technologies? Should W15 become an umbrella committee for "Weed Management Operations" and Formulation, Adjuvant, and Application Technology becomes a sub-committee along with a new sub-committee for non-chemical weed management operations? Should the title and scope of W15 just be revised to accommodate all weed management operations? Our committee did not reach a consensus on what direction should be taken. However, the committee clearly recommended that some action is necessary to be more inclusive of the emerging technologies for weed management.
 - Conference Symposium Ideas for 2023 Conference
 - 1) Navigating the future of herbicide applications - This would include the current and future challenges associated with pesticide regulations, label requirements, endangered species, etc.
 - 2) New technologies for weed management operations – The focus would be on site-specific weed management and the non-chemical, automated or robotic innovations either recently

commercialized or in development. A partial list of scientists active in this space include: Steve Fennimore, Muthu Bagavathiannan, Steven Mirsky, Greg Kruger, Bradley Fritz, William Patzoldt, Tom Peters, Kevin Bradley, Vipin Kumar, Nathan Boyd, Lynn Sosnoskie, and David Songstad.

- 3) Teaching new technologies – This topic may not be just a symposium idea, but also a potential service that the W15 committee along with the Education committee may be able to provide to our membership. A symposium with key innovations highlighted and videos or demonstrations provided to teach practitioners and students the mechanism of weed management efficacy (e.g. blue LED light, laser, electricity, etc.), how site-specific guidance may be enabled, and the practical use of the technology (e.g. weed selectivity, sites, scale, cost, etc.). These demonstrations or videos could be compiled and provided through the WSSA website, similar to the modules on herbicide-resistant weed management. There was also some discussion about how this could be applied to traditional technologies such as spray application basics, formulation chemistry, and tank-side adjuvants. The activities above should be coordinated with the Education committee.

- **Any new information posted on the WSSA website?**
 - None

Summary of plans for next year (changes in goals, key initiatives, plan of action, etc.):

- Continue the conversation and take action, if necessary, on the inclusivity of WSSA and the W15 committee for emerging technologies that don't involve liquid spray operations for weed management.
- Consult with the 2023 conference program chair to potentially develop a symposium as outlined above.

Recommendations for Board or Membership action (funds or other requests):

- We hope to get some feedback from the WSSA board on where non-liquid spray operations for weed management fits within our society. Our committee debated if this subject matter fits within our duties and/or if a change in the title of our committee is appropriate. We are ready to accept a charge from the WSSA board on this matter.