

# **75th Annual Meeting of the North Central Weed Science Society (NCWSS 2020)**

Online

30 November – 3 December 2020

ISBN: 978-1-7138-3221-8

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2020) by North Central Weed Science Society  
All rights reserved.

Printed with permission by Curran Associates, Inc. (2021)

For permission requests, please contact North Central Weed Science Society  
at the address below.

North Central Weed Science Society  
205 W. Boutz, Building 4, Suite 5  
Las Cruces, New Mexico 88005  
USA

Phone: 575-527-1888  
Fax: 575-527-8853

[www.ncwss.org](http://www.ncwss.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)



# Proceedings of the 75<sup>th</sup> Annual Meeting of the North Central Weed Science Society

---

**November 30th to December 3rd, 2020  
Virtual Meeting**

The program and abstracts of posters and papers presented at the annual meeting of the North Central Weed Science Society are included in this proceedings document. Titles are listed in the program by subject matter with the abstract number listed in parenthesis. Abstracts are listed in numerical order followed by the author and keyword listing.

## **Table of Contents**

Posters: Agronomic and Specialty Crops .....	2
Posters: Agronomic Crops I – Corn.....	12
Posters: Agronomic Crops II – Soybeans .....	15
Posters: Equipment and Application Methods .....	31
Posters: Extension.....	45
Posters: Invasive Weeds, Rangeland, Pasture, and Vegetation Management .....	49
Posters: Weed Biology, Ecology, Management .....	52
Posters: Herbicide Physiology & Molecular Biology .....	72
Papers: Herbicide Physiology & Molecular Biology .....	76
Papers: Weed Biology, Ecology, Management .....	83
Papers: Agronomic and Specialty Crops .....	97
Papers: Equipment and Application Methods .....	105
Papers: Agronomic Crops I - Corn .....	123
Papers: Extension .....	135
Papers: Agronomic Crops II - Soybeans .....	136
Papers: Invasive Weeds, Rangeland, Pasture, and Vegetation Management .....	158
Symposium: Technology in Application: Learning From the Past and Building into the Future.....	162
Symposium: Training Tomorrow’s Extension Leaders: What is Working and Where Can We Grow.....	170
Author Index.....	175
2020 NCWSS Society Information .....	182