**Important Questions**

**Title:**

1) Is your presentation an:  oral presentation or  poster presentation

2) Which division is your abstract relevant to (double-click grey box and select ‘checked’, then ‘OK’):   
 Natural Rubber & Resins |  Oilseeds |  Medicinal &Nutraceuticals |  Fibers & Cellulosic |  General Crops *Note: Attendees only coming to the IOCC submit your abstracts to the Oilseeds Division*

Using the section above, please indicate if the abstract included is for an oral presentation or a poster, and to which AAIC Division the submission is relevant ([AAIC Divisions](https://aaic.org/divisions/)). As noted, all IOCC abstract submissions should indicate submission to the Oilseeds Division. **Make sure to copy the ‘Important Questions’ boxes above into your abstract submission, as they will be necessary for sorting incoming submissions.**

**Abstract Format Guidelines (mandatory)**

Abstract submissions should be written single-spaced, in Times New Roman with font size 12 with 1-inch (2.54 cm) margins on all sides. The abstract should briefly state the purpose of the research (rationale), the objectives, a brief methodology, the principal results, and the major conclusions. All plant, animal, or microbe common names must be followed by their *Latin binomial name* (*Genus species* Authority), i.e. corn (*Zea mays* L.). All units must be stated in standard international metric units. Pictures, figures, graphs, and references should not be included in the abstract. Also, non-standard or uncommon abbreviations should be avoided, though if deemed essential, they must be defined at their first mention in the abstract. Acknowledgment of funding sources is optional and go below the abstract with text in *italics*. The abstract must fit within the 1-page limit. The contact details of the presenting author should be reported at the bottom of the page.

All abstracts should be submitted in Word document file format via email to [Dr. Marisol Berti](mailto:marisol.berti@ndsu.edu?subject=AAIC%202025%20Abstract%20Submission), marisol.berti@ndsu.edu. Oral presentation abstract submissions will be accepted until April 30, 2025, while poster abstract submissions will be accepted until May 15, 2025.

A complete example of an abstract is provided on the next page.

STEM INJURY EFFECTS ON INDUSTRIAL HEMP GRAIN AND BIOMASS YIELD IN NORTH DAKOTA

D. J. Eisinger1, M. E. Zarnstorff2, and Burton L. Johnson1

1North Dakota State University, Fargo, ND, USA

2National Crop Insurance Services, Overland Park, KS, USA

Crop plant injury from weather related events such as hail storms and wind can cause broken or cut off stem damage that reduces crop grain and biomass yields. Studies were initiated to quantify stem damage effects on industrial hemp (*Cannabis sativa* L.) grain and fiber yield in collaboration with the National Crop Insurance Services. Experiments were conducted at the North Dakota State University Prosper off-station research site in the 2021 and 2022 growing seasons. Studies were a randomized complete block design (RCBD) with a factorial treatment arrangement with 4 replicates and experimental units consisting of 6 rows, spaced 30-cm apart, and 4-m in length. Treatments involved three factors (i.) cultivars, (ii.) growth stage (13, 55, and 67), and (iii.) stem injury (non-injured control, cutoff, and broken-over). Hemp cultivars Katani and Canda are diecious and monecious, respectively. Traits determined were grain and fiber yield and stem injury response categorized as straight (non-damaged), gooseneck, and branched. The growth stage (GS) by stem injury (SI) interaction indicated grain yield reduction increased as growth stage advanced with the greatest grain yield reduction for the stem cutoff treatment and less yield reduction for the broken-over treatment when compared with the control. Greater grain and fiber yield reduction for the cutoff compared with broken-over stem injury treatment was related to cutoff plants having to regrow stems (branches) from leaf node axillary buds whereas broken-over stems either straightened or developed a gooseneck. As treatments were applied at later growth stages the level of straightened stems decreased and goosenecks increased. For the stem cutoff treatment branching from lower stem nodes was more common at earlier stages and branching at higher leaf nodes was more common at the later growth stages. The GS main effect and GS x SI interaction were not significant for fiber yield, but the main effect of SI indicated a 12 and 33% reduction in fiber yield for the broken-over and cut off stem treatments, respectively, when compared with the control. These studies are ongoing and provide the base information for formulating stem damage loss charts for industrial hemp crop loss procedures.

*Acknowledgments: (Optional)*

*Contact: B.L. Johnson, Dept. of Plant Sciences, NDSU Dept. # 7670, PO Box 6050, Fargo, ND 58108. USA. Tel: 701-231-7971. E-mail: burton.johnson@ndsu.edu*