2023 Weed Loss Committee

Committee Name and Code: Weed Loss Committee (E11)

Committee Chair: Michael Flessner (2026)

Committee Members: Albert Adjesiwor (2027), Rui Liu (2027), Anita Dille (2026), Mark VanGessel (2026), Joel Felix (2026), Charles Geddes (2026), Sandeep Rana (2026), Nicholas Basinger (2025), Zahoor Ganie (2025), Wes Everman (2024), Peter Sikkema (2024), and Nader Soltani (2024)

Board of Directors Liaison: Peter Dotray (SWSS Rep)

Committee Members Rotating Off: Peter Sikkema, Wes Everman, Nader Soltani

Recommended Replacements/ Additions: Albert Adjesiwor, Rui Liu

Committee Objectives:

The Weed Loss Committee shall:

1. Consist of a Chair and a minimum of four members, each appointed to a renewable three-year term. The Board Liaison is SWSS Representative.
2. Determine the yield and monetary loss from weed interference of crops grown in the United States and Canada.
    a. Obtain the average yield for crops grown within states and/or provinces.
    b. Establish the percent yield reduction caused by weeds of crops grown within each state or province.
    c. Obtain a market value for each crop and determine the monetary loss due to weed interference.
    d. Compile the monetary loss by state, province, region, and country.
    e. Publish manuscripts in Weed Technology.
    f. Update the manuscripts when relevant based on weed shifts, evolution of herbicide-resistant weeds, significant changes in crop production practices, and the introduction of new herbicide-tolerant hybrids/cultivars.

Rather than annually updating data in the Committee's charge, the Weed Loss Committee has, in practice, published manuscripts by compiling data from WSSA members and other researchers across states/provinces and years to arrive at potential yield loss due to weeds in various crops. The Committee has not felt any of the

recent publications (since 2016) need to be revisited to date. Rather efforts are focused on additional crops and weeds.

Summary of past years activities including:

Goals for 2023:

1. Charles Geddes has prepared a manuscript on canola yield loss due to weed interference for publication in Weed Technology – target completion: 2023.
2. Zahoor Ganie and Nader Soltani have prepared a manuscript on potato yield loss due to weed interference for publication in Weed Technology – target completion: 2023.
3. Michael Flessner is assembling the data on the impact of herbicide-resistant weeds in corn, soybean and cotton in USA for publication in Weed Technology – target completion: 2023.

Accomplishments since last Annual Meeting:

- Goals 1 and 2 were accomplished (see table below).
- Progress was made towards goals 3 in the form of several meetings. The publication has finalized figures and some text. We expect this publication to be submitted to *Weed Technology* in 2024.
- The Committee has been actively publishing in *Weed Technology* since 2016:

Year published	Citations*	Title	Doi
2016	189	Potential **corn** yield losses from weeds in North America.	https://doi.org/10.1614/WT-D-16-00046.1
2017	76	Perspectives on **soybean** yield losses due to weeds in North America.	https://doi.org/10.1017/wet.2016.2
2018	56	Potential yield loss in **dry bean** due to weeds in the United States and Canada.	https://doi.org/10.1017/wet.2017.116
2018	30	Potential yield loss in **sugar beet** due to weed interference in the United States and Canada.	https://doi.org/10.1017/wet.2018.88
2020	22	Potential yield loss in **grain sorghum** with weed interference in the United States.	https://doi.org/10.1017/wet.2020.12
2021	27	Potential **wheat** yield loss due to weeds in the United States and Canada.	https://doi.org/10.1017/wet.2021.78
2022	5	Economic impact of **glyphosate-resistant weeds** on major field crops in Ontario.**	https://doi.org/10.1017/wet.2022.72
2022	0	Potential **spring canola** yield losses due to weeds in Canada and the United States.	https://doi.org/10.1017/wet.2022.88
2023	1	Potential **potato** yield loss from weed interference in the United States and Canada.	https://doi.org/10.1017/wet.2023.5

*according to Google Scholar as of Dec. 18, 2023.

**Presented at the International Weed Science Conference (IWSC) in Bangkok, Thailand in 2023.

Plans for next year

1. Michael Flessner is leading assembling the data on the impact of herbicide-resistant weeds in corn, soybean and cotton in USA – target completion: 2024.
2. Yield and monetary loss due to waterhmp/Palmer amaranth (Dille/Geddes - 2024)
3. Potential yield loss due to weeds in cotton (Rana/Everman/Basinger - 2024)
4. Potential yield loss due to weeds in vegetables (snap beans, tomatoes, sweet corn, lettuce/greens) (Ganie/Rana/VanGessel/Soltani - 2024)

5. Potential yield loss due to glyphosate-resistant weeds in Manitoba, Saskatchewan and Alberta (Geddes – 2024)
6. Long-term potential manuscripts.
    1. Potential yield loss due to weeds in rice (Rana/Everman/Basinger)
    2. Yield and monetary loss due to marestail, horseweed, Canada fleabane (Dille/Geddes)
    3. Potential yield loss due to weeds in peanuts (Everman/Basinger)
    4. Potential yield loss due to weeds in tree fruit crops – apples, pears, peaches, plums, cherries (Lui, Basinger)
    5. Potential yield loss due to weeds due to weeds in perennial grass forages (Basinger, Flessner)
    6. Potential yield loss due to weeds due to weeds in seedling alfalfa (Adjesiwor, Basinger, Flessner)
    7. Potential yield loss due to weeds in vineyards - grapes (Basinger, Lui)
    8. Potential yield loss due to weeds in strawberries, raspberries, blueberries, and cranberries (Thierry Besancon)
    9. Potential yield loss due to weeds in almonds (Hansen)
    10. Revisit SWSS or WSSA weed surveys to update Ted Webster, Harold Coble, et al. papers (Basinger, Ganie)
    11. Conventional vs organic production (Soltani, Ganie)
    12. Comparison to other pests (diseases/insects)?
        a. Similar to Oerke 2006 or Pimentel (invasives)
        b. Potential to cite/compile our previous works

Fund requested for next year with narrative:

- Funds are requested to cover the cost of publication(s) in Weed Technology.

Recommendations for Board Action:

- none