

## **Liza Gautam**

### **ASPB Ambassador 2025**

#### **End of the year report**

#### **Activity 1: ASPB ambassador presentation on Midwest ASPB conference in Lincoln, Nebraska.**

At the Midwest ASPB Conference (March 2025) in Lincoln, Nebraska I had the honor of representing ASPB as an Ambassador. I opened the meeting with a 15-minute presentation welcoming attendees and introducing ASPB its mission, roles, and responsibilities. I began by sharing my own journey of how I became involved with ASPB, which helped set a personal and relatable tone for the session.

I then spoke in detail about what ASPB is, how to become a member, and the many benefits of membership. I highlighted ASPB's roles in the plant science community, regional section meetings, the International Plant Biology Conference, funding opportunities, journals, the Plantae Fellows Program, the ASPB Ambassador Program, and the various committees within the society. I also encouraged attendees to get involved by becoming members and shared information about available internship opportunities. As part of the program, I was pleased to welcome and introduce Dr. Kent Chapman as the incoming President of ASPB for the upcoming year. Through interactive activities such as a scavenger hunt and QR Quest, I also created an engaging environment that made learning about ASPB approachable and enjoyable. I also addressed individual questions one-on-one and guided participants about ASPB throughout the conference.

In addition to my role as an ASPB Ambassador, I also presented my own PhD research through both an oral presentation (15 mins) and a poster and had the opportunity to interact with many scientists throughout the conference. In contrast to the large and sometimes overwhelming annual Plant Biology meeting, these section meetings gatherings created a relaxed environment and encouraged for more personal and engaging experience. I am grateful for the opportunity, and this experience allowed me to practice science communication and to build professional connections with plant science community in such a meaningful way.

#### **Activity 2: Participated on Plant Biology Conference, Milwaukee, Wisconsin**

I participated in the Plant Biology Conference (July 2025) in Milwaukee, Wisconsin, in support of the plant science community and ASPB initiatives. During the conference, I presented a research poster and competed in the 3-Minute Thesis (3MT) competition, where I communicated my work on pennycress, its biology and potential as a sustainable oilseed crop to a broad, non-specialist audience in a clear and engaging way. I received an overwhelming number of positive comments

from scientists and professors I had not previously known, many of whom expressed strong interest in my research and my presentation. This experience meant a great deal to me and reminded me how powerful it can be to make plant research understandable and meaningful to people beyond our specialized field.

As an ASPB Ambassador, I participated in the “Meet the Ambassadors” session, where I shared what it is like to be an ambassador, discussed the benefits of the program, and encouraged attendees to watch for ambassador application opportunities later in the year. I also took part in the Ambassador Board Game Night and assisted with cleanup afterward, contributing to the community-building aspects of the conference.

Throughout the meeting, I actively greeted and networked with scientists and undergraduate students, attended posters and talks, engaged in conversations about research and encouraged attendees to explore ASPB’s various programs and opportunities. I also directed interested participants to the ASPB booth and connected them with society representatives and helped in increasing awareness of ASPB resources.

### **Activity 3: Involvement in social media and blog writing**

I contributed to ASPB outreach through social media by sharing information about joining ASPB sections, including a post highlighting the value of sectional involvement (LinkedIn post). Although I have not been active on LinkedIn in the past, in fact my first and only post ever on LinkedIn has been promoting ASPB. I plan to become more engaged moving forward by regularly sharing stories, experiences, and opportunities related to ASPB to help increase awareness and participation within the plant science community.

I further supported ASPB’s outreach efforts by contributing written blog content aimed at engaging the plant science community. Below is a section from a blog post I wrote for ASPB.



<https://www.linkedin.com/feed/update/urn:li:activity:7306722127980703745/>.

Working with pennycress has been an incredible journey from studying a small weed to helping shape it into a sustainable oilseed crop. During my PhD, my research focused on improving key traits such as reducing seed glucosinolate content, increasing seed size and oil yield, and enhancing drought resilience. Each project brought me closer to the larger goal of transforming pennycress into a crop that benefits both farmers and the environment. Through this work, I've also realized that many people have never heard of pennycress or understood its potential. Explaining how a



common “weed” can contribute to climate solutions has taught me the importance of clear and engaging science communication. Over the past year as an ASPB Ambassador, I've had the opportunity to share science in ways that truly connect with people. Through outreach activities, community events with farmers, and conversations with students and fellow researchers, I've seen how effective communication can spark curiosity and inspire understanding. This experience has strengthened my ability to bridge science and society, and to represent plant biology beyond the lab. Being an ambassador has shown me that science isn't just about discovery; it's about connection, storytelling, and impact! -Liza Gautam

#### **Activity 4: Participation in outreach**

##### **Celebrating Plant Science: Illinois State University Farmer Outreach Events**

Illinois State University engaged the community in celebrating plant science through two farmer outreach events. The first took place at the Western Illinois University demonstration plots on May 22, 2025, <https://www.wiu.edu/cbt/agriculture/pennycress/field-days/index.php> and the second was organized by ISU at a Lexington farm on April 18, 2025 <https://agriculture.illinoisstate.edu/downloads/ann3-31-25.pdf>. These events provided farmers, students, and community members the opportunity to explore how plant science innovations contribute to sustainable agriculture.

During the field tours and demonstrations, attendees explored cover crops and CRISPR gene-edited lines in winter oilseed crop, pennycress and cereal rye. As a PhD candidate, I presented multiple mutant lines developed through my doctoral research, including lines with reduced antinutritional seed components, improved drought tolerance, lower glucosinolate levels, and increased seed size, oil content, and protein content, some of which are now being commercialized by CoverCress. I discussed how these innovations improve soil health, reduce carbon emissions, and support sustainable biofuel production. Participants actively engaged by asking questions,

interacting with field plots, and gaining hands-on exposure to real-world applications of modern plant biology. I also provided live demonstrations and hands-on training using a LI-COR photosynthesis system and a seed crusher to extract oil. In addition to the demonstrations, I gave informative talks on other different research projects and the role of biotechnology in sustainable agriculture. The events drew significant interest from local media, highlighting ISU's commitment to connecting research with the community and showcasing the impact of plant science in everyday life. I have been involved in these farmer outreach events since 2021, helping promote plant science beyond academia and connect research innovations with agricultural practice.

By combining demonstrations, talks, and interactive field tours, these outreach events successfully celebrated plant science, inspiring attendees to appreciate how research can directly benefit agriculture, the environment, and society.



Graduate student, Liza Gautam, explain her research on gene-editing new traits into pennycress to increase oil and seed size.

<https://www.wiu.edu/cbt/agriculture/pennycress/field-days/past.php#2024>  
-a picture from 2024. 2025 pictures will be uploaded on the website later by Dr.  
Win Phippen and can be made available upon request: [wb-hippen@wiu.edu](mailto:wb-hippen@wiu.edu).

### **Activity 5: Promotion of ASPB and plant science**

As part of my teaching responsibilities in the *Bioenergy (BSC 365)* course for undergraduates, I actively promoted ASPB and plant science to undergraduate students at the start of my class. I

gave a dedicated 7-8 min presentation introducing ASPB, highlighting its mission, membership benefits, conferences, funding opportunities, journals, and student-focused programs like what I did during ASPB Midwest conference. I also discussed how involvement in professional societies like ASPB can support career development, networking, and research growth.

By sharing my own experiences in plant science and ASPB, I aimed to inspire students to consider research opportunities and attend scientific meetings. This activity reinforced my role as a mentor and advocate for plant science, encouraging the next generation of scientists to engage with the broader scientific community.



*7 min presentation on ASPB to undergraduates on fall 2025*

### **Activity 6: Participation in Sumer Undergraduate Research Fellowships (SURF) Project**

I participated in the ASPB SURF Project, focusing on reconnecting with past SURF participants and supporting the SURF Profile initiative. The project aimed to: (1) assess the impact of the SURF program on undergraduates continuing in plant biology, (2) encourage SURF alumni in plant science careers to join or renew ASPB memberships, and (3) create a “Where Are They Now?” series highlighting past SURF recipients.

First, my work involved locating former SURF participants and identifying their current positions. I contacted 24 past SURFers via email, and when most of the time emails were unsuccessful, I reached out through their supervisors or LinkedIn. I systematically documented all information in a shared Google spreadsheet within the specified deadline. The spreadsheet included detailed records of contact and response dates, SURF participation year, institutional affiliations (past and current), membership status, mentor information, updated contact details, and current organization, location, and role.

Second, as part of the ASPB SURF Profile Project, I was assigned four SURF participants to profile. I reached out to all four and sent follow-up reminders. Three participants (Veronica Casey, Hisham Tadfie and Malay Nanavaty) completed their interviews before the end of the year, and their finalized profiles have been uploaded. I anticipate receiving responses from the remaining participant in January 2026, after which I will upload their completed profiles. Through this effort, I contributed to highlighting the career paths of SURF alumni and strengthening engagement within the ASPB community. This activity enhanced my organizational, outreach, and communication skills while contributing to the visibility of plant science careers.

#### **Activity 7: Applications for *Plantae* Fellow and *The Plant Cell* Assistant Feature Editor**

While serving as an ASPB Ambassador, I applied for both the *Plantae Fellow* program and *The Plant Cell Assistant Feature Editor* (AFE) position with well-developed application as I could. I pursued these opportunities during a particularly demanding period, while under significant pressure to complete my dissertation and prepare for my PhD defense.

Although I was not selected for either role, these applications reflect my strong interest in science communication and my continued commitment to service within the plant science community. I remain dedicated to contributing to ASPB and supporting the broader plant science community to the fullest extent possible.