



BALL HORTICULTURAL COMPANY
2025 SUMMER INTERNSHIP PROGRAM

For well over two decades, Ball Horticultural Company has offered a wide variety of internships to students majoring in Horticulture, Plant Science, Agribusiness, and related fields. Each year, our internship projects are linked to specific business initiatives, which encompass a range of horticulture disciplines including advanced research, breeding and genetics, marketing, business operations, production, and trialing.



All internships require a minimum of Junior-level standing at an accredited, four-year university or college. Historically, Ball interns arrive with significant academic and/or related extracurricular accomplishments, although consideration is also given to those students demonstrating exceptional promise. When applying for these internship projects, students should consider the following:

- All internships are offered during the summer months for a period of 10-12 weeks.
- Start and end dates are relatively flexible, depending upon the student's availability and the needs of the department; we prefer interns start no later than the day after Memorial Day.
- Unless otherwise noted, internships are located in West Chicago, Illinois, a suburb approximately 35 miles west of Chicago.
- Rate of pay is \$15.00 per hour. Students work a minimum of 40 hours/week; some internships require overtime during critical periods.
- We provide fully furnished and appointed apartments in a nearby apartment complex and absorb the rental costs. Food, transportation, and other living costs are the responsibility of the student. Students are required to have their own transportation since housing is not within walking distance from work locations and public transportation is not readily accessible.

- A major goal of the program is to expose students to multiple aspects of our business operations; presentations and tours of departments throughout the company are provided during the summer. Similarly, interns are expected to participate in company and industry events including AmericanHort's Cultivate '25 in Columbus, OH and Ball Customer Days.
- All internships culminate in mid-August with a final presentation made by each intern on his/her experiences and accomplishments; these presentations are made to members of Ball's Management Teams.
- The application deadline is November 1st, 2024. Intern selections will be determined by December 13th, 2024. All applicants will be notified of our decisions.



Students interested in pursuing one of these internships should forward a cover letter and resume to:

Ball Horticultural Company

Attn: Emma Ryan

622 Town Road

West Chicago, IL 60185

630-588-3223, ext. 3223

E-mail: eryan@ballhort.com

<https://www.ballhort.com/Careers/Internships/>

MARKETING COMMUNICATIONS INTERNSHIP

WEST CHICAGO, IL

Supervised by: *Katie Rotella and Alyson Upshaw*

The intern's primary responsibilities will include developing standardized descriptions for each business unit's channel, creating video thumbnails for cohesive branding, building an analytics report for the clients, and organizing video content for sharing on social/Ball Community/campus TV/websites. Optimize the Ball business YouTube channels with new-variety videos through enhanced descriptions, creative thumbnails, strategic playlists, video chapters, etc., and document progress and growth through analytics/reporting for Ball's marketing clients.

The ultimate goal will be to increase subscriptions for the channels and build digital exposure for each brand. The intern may also capture their own video to document The Gardens at Ball and collaborate on video projects with the Creative Director and Account Executives.

For Ball corporate events (e.g., Cultivate, Ball Seed Customer Days) the candidate will create a comprehensive plan for video promotions on social media and YouTube channels.

Duties may also include consumer events and local press opportunities to assist the Public Relations and Brand Managers.

Candidate may also monitor and analyze competitor video activity to increase Ball awareness to current campaigns. They will support Marketing Communications as needed on other projects, too, including photo library, project management, websites, social media, etc.

Requirements

A junior or senior-level student majoring in Horticultural marketing with an emphasis on digital marketing or new media, and/or a strong personal interest in promotional strategies. Knowledge of social media platforms (YouTube, Instagram, Pinterest, and LinkedIn) is a strong plus, as are skills in digital photography and video production platforms (Adobe Premier, Canva, Photoshop, etc.). This position requires a person who has developed communication aptitude and a flair for creative work. In addition, this individual should be a self-starter, collaborative, and have strong organizational skills.

SEED PRODUCTION AND TECHNOLOGY INTERNSHIP

WEST CHICAGO, ILLINOIS

Supervised by: Dr. Nicholas Genna

Position Description

PanAmerican Seed is a global leader in hybrid and open pollinated seed production for the floriculture market. Our business is driven by efficient production of high-quality seed for our customers. This requires engaging in research that improves our understanding of the impact of the environment and genetics on seed and pollen quality and how seed germination and uniformity can be improved through seed cleaning, conditioning, and post-harvest technology.

The objective of this internship is to expose the intern to the principles of seed production. The intern will engage in an independent research project that will involve plant production in a controlled environment, pollen collection and testing, pollination, fruit harvest, seed cleaning, and seed testing. Specifics of the project will be determined based on current research needs and may involve:

- Treatments to study watering, nutrition, and environmental effects on pollen quality
- Understanding the impact of pollen amendments on fruit and seed set
- Post-harvest conditioning research to improve seed quality

This internship will expose the student to a career in the seed industry. The intern is expected to participate in weekly lab meetings to discuss research progress and to learn about our global research operations. Additionally, the intern will gain research experience in experimental design, data collection, and data analysis in R statistical software.

Requirements

We are looking for a junior or senior level student who is majoring in horticulture or a related biological discipline with an interest in greenhouse production. The candidate must be individually motivated, possess an attention to detail, and be able to write and present work clearly. The ability to work in a variety of environmental conditions including controlled environment chambers is also required.

BIOINFORMATICS AND DATA SCIENCES INTERNSHIP

WEST CHICAGO, IL

Supervised by: Dr. Shankar Shakya, Ball Helix

Bioinformatics Support for Plant Molecular Breeding

The prospective intern will work as the third member of the Bioinformatics and Data Sciences team at Ball Helix. The successful candidate will have basic prior experience using bioinformatics software via the command line. The prospective intern should be an enthusiastic, self-motivated person who is interested in rapidly expanding their existing skill set. Potential supervised projects include genome assembly, read mapping, sequence variant calling, RNA-seq, and genetic association.

The successful candidate should be excited to learn about the application of genomics in plant breeding and be interested in pursuing genomics as a future career. This internship is highly collaborative and requires real time communication of analysis results with Ball Helix team and plant breeders. The prospective intern will be primarily working in an office environment and will be expected to work at a desk for 6-8 hours at a time, with possible greenhouse and field experiences.

To be developed: First-hand experience with an array of bioinformatics techniques, exposure to advance breeding concepts including genetic association, application of different sequencing technologies, pipeline development, interpretation of bioinformatics results, and communication as a key member in a collaborative science environment.

Requirements:

Junior or senior level student majoring in plant pathology, molecular biology, plant biology, horticulture, plant breeding, plant physiology, genetics, or a related major is ideal. All skill levels will be earnestly considered and are encouraged to apply. Some coding experience in any language is preferred. Basic proficiency in plant molecular genetics. Basic knowledge of statistics and data visualization. Prior exposure to core bioinformatics concepts including read mapping, alignment, and assembly.

PLANT PATHOLOGY INTERNSHIP

WEST CHICAGO, IL

Supervised by: Kasey Shazer and Dr. Coralie Farinas

The goal for this internship is to introduce a student to the principles and practice of plant pathology, plant disease diagnostics, molecular, and serological pathogen detection techniques. Throughout the course of the internship the student will gain skills in disease symptom recognition, triage, culturing techniques, understanding of disease triangle, host-pathogen interactions, nucleic acid extraction, serological techniques, and become capable of independently performing a range of molecular tests including, but not limited to conventional PCR, qPCR, and sequence analyses.

- Work with plant pathology and other Ball Helix research teams to learn scientific techniques.
- Assist laboratory scientists and associates to advance and expand our diagnostic toolbox.
- Learn sampling and tissue preparation techniques used in plant diagnostics.
- Become familiar with a range of methodologies and technologies used in a diagnostic lab.
- Assist in plant disease screens of selected germplasm under controlled environment.
- Learn about plant pathogens diversity and their virulence on selected germplasm.
- Rate disease resistance trial and analyze results.
- Learn plant diagnostic techniques such as ELISA, RT-PCR, PCR, qRT-PCR, qPCR.

This internship is tailored for a self-driven, passionate, exceptionally curious, enthusiastic, and self-motivated student. Undergraduates interested in plant pathology and plant disease diagnostics with an acute attention to detail, ability to work independently, and as a part of a team people are encouraged to apply.

Requirements:

Junior or senior level student majoring in plant pathology, molecular biology, plant biology, horticulture, plant breeding, plant physiology, genetics, or a related major is ideal. Student should have taken at least one plant pathology course before the start of the internship. Selected intern must have good communication skills, be self-motivated, can organize and prioritize their work, and has a high level of attention to detail. Similarly, this internship requires that the student can work in a laboratory environment, follow safety procedures, and will be expected to work in the lab for 6-8 hours at a time. Student may also be asked to assist with a wide range of research tasks as they arise, a positive attitude is essential for these tasks.

SEED BREEDING AND CULTURE RESEARCH INTERNSHIP

ELBURN, IL

SUPERVISED BY: HANNAH SWEGARDEN, PANAMERICAN SEED

You're not afraid to get dirty and have a passion for plants and want to gain experience in bringing new varieties of plants to market. You're ready to learn the ins and outs of plant breeding, growing, culture research, and product development with a focus on container growing, and are ready to research and develop creative solutions in these disciplines.

Your primary work location will be at the PanAmerican Seed product development research station in Elburn, Illinois, about 30 minutes from the Ball Horticultural headquarters in West Chicago, Illinois. At Elburn you will be working alongside a diverse team of plant breeders, growers, technicians, product managers and culture researchers.

Get ready for a busy and engaging summer including participation at the PanAmerican Product Advancement meeting, a great experience to meet with stakeholders from around the world.

Product Development Intern Summer Projects *may include*•:

- Growing
 - Automation and optimization of plant watering which may include research and evaluation of moisture sensors, drip emitters, automation programs, and different fertigation doses
- Breeding and Culture Research
 - Developing creative solutions to overcome breeding challenges such as hybridization of plants with small flowers and/or induction of flowers in crops that are slow to flower
 - Influence of cultural practices (including pruning) and container growing on flavors and plant architecture
- Product development
 - Evaluation and data collection of new varieties
 - Presentation of new varieties to stakeholders at Product Advancement meeting

**Projects are subject to change and will not be finalized until start of internship in May 2025*

Requirements

Junior or Senior level Student majoring in horticulture, plant breeding, crop production, plant science, agriculture, or related field. Experience in data collection is a plus. Comfortable working alone and in a team environment, confident in problem solving and self-organizing time management for multiple projects. This hands-on internship requires that the student be able to work under a variety of indoor/outdoor environmental conditions, including heat and humidity for prolonged periods of time, as well as lift 50+ pounds and perform physical labor. Must have strong computer skills, specifically a comfort working in a Microsoft environment, and good writing/documentation skills.

VEGETATIVE ANNUALS PRODUCT DEVELOPMENT INTERNSHIP

WEST CHICAGO, IL

Supervised by: Sarah Hernandez Swofford, Ball FloraPlant

This internship will provide an understanding of product development and what it takes to bring new plants to the annual market. The Ball FloraPlant intern will work with our product development team to help evaluate new plant varieties.

Take the opportunity to work with product management to collect data vital in making decisions to launch new products. Get ready for a busy and engaging summer including participation at the Ball FloraPlant Product Confirmation meeting, a great experience to meet with stakeholders from across the business.

Projects may include responsibilities such as:

- Plant production – sticking/sowing, irrigation, pinching, transplanting, etc.
- Research – treatment applications, data collection, photography, statistical analysis, reporting
- Event participation – technical meetings, customer and supplier visits, Cultivate

Examples of Essential Job Duties:

- ✓ Conduct greenhouse trials of key varieties
 - a. Manage trials of new introductions and experimental varieties to help optimize for customer success
 - b. Collect data on best practices and document in PPT report
- ✓ Evaluate and oversee experimental container and in-ground annual trials.
 - c. Complete independent projects on key genera under evaluation: compile side-by-side comparison data and photography on new varieties vs. current commercial items; evaluate data/images from other research sites and customer trials; conduct market research on top selling varieties. Present findings to product management for use at Product Confirmation Meeting to recommend varieties for advancement.
 - d. Conduct weekly evaluation of experimental varieties in container trials: photograph and collect measurements and flowering data to inform advancement decisions
 - e. Travel to Elburn location weekly to evaluate in-ground performance on experimental varieties
- ✓ Assist with Ball FloraPlant Product Confirmation Meeting, Cultivate tradeshow and Customer Days event

Requirements

- ✓ Junior or senior-level student majoring in horticulture, plant science, agriculture, or related fields.
- ✓ Intermediate-level proficiency with MS Word, Excel, Outlook, and PowerPoint.
- ✓ Must be self-directed, able to work independently and in a team environment, can organize and prioritize their work, as well as work a flexible schedule during peak periods.
- ✓ Can work under a variety of indoor/outdoor environmental conditions, including heat and humidity for prolonged periods of time, as well as lift 50+ pounds and perform physical labor.

BIOENGINEERING RESEARCH INTERNSHIP

WEST CHICAGO, IL

Supervised by: Dr. Rakesh Kumar/Dr. Jon Mahoney

Ball Horticultural Company is the global leader in the breeding, production, and distribution of ornamental horticulture products. The Ball Helix Molecular Biology and Tissue Culture Transformation Teams are searching for a Bioengineering Research Intern to assist with research initiatives that will ultimately help bring new and exciting products to the market. At Ball, we are committed to advancing next generation technologies and infrastructure to assure technology and product leadership in the horticultural industry. Essential components of our next generation innovation strategy include investments in our team and the design, build out, and management of a best-in-class Ball Helix Innovation Center.

The successful candidate will assist the Molecular Biology and Tissue Culture Transformation Teams in conducting various laboratory and greenhouse research contributing to the development of new products for Ball Horticultural Company. She/he will primarily work in the areas of plant tissue culture, bioengineering, and molecular biology.

- Initiating and maintaining in vitro cultures for tissue culture and transformation experiments.
- Implementing experiments under the supervision of scientists, focusing on tissue culture, transformation, gene cloning, and construct design.
- Create and perform transient assays in a controlled environment to test gene constructs.
- Learning different methodologies and technologies to create new bioengineered products.
- Collecting, recording, and evaluating various experimental data.
- Participating in lab meetings and journal clubs.
- 50% Molecular Biology and 50% Tissue Culture Transformation

Requirements:

- Junior or Senior level standing at an accredited, four-year university or college.
- Prior experience working in a molecular biology lab and has performed basic molecular techniques such as DNA/RNA extraction, PCR, and gel electrophoresis.
- Work in a laboratory environment, follow safety procedures, and will be expected to work at a bench for up to 6-8 hours throughout the day. Capable of working under greenhouse conditions and performing greenhouse tasks when necessary.
- Interest in tissue culture and sterile techniques, bioengineering, plant biology, genetics, and chemistry.
- Good verbal and written communication skills and strong organizational and prioritization skills.
- Ability to work in a team setting but also able to work independently when necessary.
- Good observational skills and detail oriented.

GREENHOUSE PRODUCTION RESEARCH INTERNSHIP

West Chicago, IL

Supervisor: Dr. Nathan Jahnke, Ball Seed Technical Services

Take the opportunity to make a difference in the green industry this summer. As an intern in Ball Seed, North America's leading seed and young plant distributor, you will get to be at the forefront of innovative solutions for growers. This experience will help you explore greenhouse production and scientific experimentation. Graduates of this internship have secured positions in commercial production and prestigious graduate programs throughout the country.

The objective of this internship is to conduct research on plant production techniques and develop solutions for challenges experienced throughout the industry. Interns are trained in scientific experimental design, implement multiple research projects, and present their findings to key stakeholders. Results are used to make best management practices and recommendations to growers which eliminate plant losses and improve plant quality.

Projects may include responsibilities such as:

- Plant production – sticking/sowing, irrigation, pinching, transplanting, etc.
- Research – treatment applications, data collection, photography, statistical analysis, reporting
- Event participation – technical meetings, customer and supplier visits, Cultivate

Previous interns have successfully contributed to the industry with the following projects:

- ✓ Calibrachoa tip atrophy and no-pinch techniques
- ✓ Tissue culture shipping and acclimation
- ✓ Rehydration strategies for unrooted cuttings
- ✓ Water by weight for substrate moisture management
- ✓ Mist strategies using vapor pressure deficit (VPD)

You will be based at heart of the Ball in West Chicago, IL where there are over 2 acres of Research and Development greenhouses, 9 acres of premium display gardens, and the opportunity to work with some of the industry's best researchers with expertise in seed technologies, tissue culture, plant pathology, genetics, breeding, landscape design, construction, and management.

Requirements

- ✓ Junior or senior level student majoring in horticulture with an interest in propagation and young plant production research or greenhouse production is ideal.
- ✓ Intermediate-level proficiency with MS Word, Excel, Outlook, and PowerPoint.
- ✓ Must be self-directed, able to work independently, can organize and prioritize their work, as well as work a flexible schedule during peak periods.
- ✓ Can work under a variety of environmental conditions, including heat and humidity for prolonged periods of time in greenhouses, as well as lift 40+ pounds and perform physical labor.

PERENNIALS PRODUCT DEVELOPMENT INTERNSHIP

WEST CHICAGO, IL

SUPERVISOR: SARA MELLARD

Do you have a passion for perennials? The Darwin Perennials intern will be an integral part of our product development team. They will help evaluate our new products and participate in our product selection process, gaining valuable insight into the perennial market in North America and world-wide!

Essential Job Duties:

2. Evaluate and oversee experimental container and in-ground perennial trials.
 - a. Complete independent project on one or two key genera under evaluation: compile side-by-side comparison data and photography on new varieties vs. current commercial items; evaluate data/images from other research sites and customer trials; conduct market research on top selling varieties. Present findings at Product Advancement Meeting to recommend varieties for advancement
 - b. Conduct weekly evaluation of experimental varieties in perennial container trials: photograph and collect measurements and flowering data to inform advancement decisions
 - c. Travel to Elburn location weekly to evaluate in-ground overwinter performance on experimental varieties
3. Maintain and collect data from the perennial gardens.
 - a. Conduct weekly walkthroughs to keep perennial garden beds in optimal shape; alert grounds crew when pruning, irrigation, or fertilizing is necessary and supervise overall plant health
 - b. Collect flowering data and overwintering data. Photograph and compare Darwin varieties with commercial competitors in comparison beds and send updates to the team
 - c. Update planting and bed location database
4. Conduct rooting trials of key varieties
 - a. Manage rooting trials of new introductions and problem varieties to help optimize rooting success for customers
 - b. Collect data on best rooting practices and document in PPT report
5. Assist with Darwin Perennial Day event

Requirements

Junior or senior-level student majoring in business, horticulture, plant science, agriculture, or related fields. Comfortable working alone and in a team environment, confident in problem solving and self-organizing time management for multiple projects. This hands-on internship requires that the student be able to work under a variety of indoor/outdoor environmental conditions, including heat and humidity for prolonged periods of time, as well as lift 50+ pounds and perform physical labor. Must have strong computer skills with proficiency in MS Word, Excel and PowerPoint.