BALL HORTICULTURAL COMPANY
2019 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 $14.00 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 majority of the rental costs. The student portion of housing is $200.00 per month. 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 '19 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 February 28, 2019. Intern selections will be determined by March 15, 2019. 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: Mike Williams
622 Town Road
West Chicago, IL 60185
630-231-3600, ext. 3308 E-mail: mwilliams@ballhort.com
Fax: 630-231-3592 www.ballhort.com

Ball

SEEDLING DEVELOPMENT INTERNSHIP

WEST CHICAGO, ILLINOIS
Supervised by: Robert Conrad

Description

The student will work in our Premier Seed Research Lab on a variety of projects involving evaluations of seedling development via various seed treatment processes and use of biological controls. Projects will also include laboratory testing of selected seed species utilizing various LED light source wavelengths.

Principal projects include:

1. Evaluating the effects of various commercial treatments such as priming, coating and pelleting on the survivability and root colonization of biological controls.

2. Assessing outcome differences in laboratory testing of Petunia, Pansy and Verbena via measuring roots versus leaves. Correlation between root emergence and leaf emergence under various conditions will be evaluated.

3. Work to establish a testing protocol for oxygen consumption of multi seed pellets.

Examples of the activities involved in these projects will include setting up growing facilities and grow-out standards for each crop, data collection and interpretation, and evaluation of technologies employed in seed testing. Use of proprietary seed testing methods will be employed. Participation in the evaluations of various controls such as optimum light spacing, intensity and watering requirements per crop will also be performed.

Requirements

Junior or senior level student majoring in horticulture with an emphasis on propagation and young plant production research or greenhouse production is ideal. This internship requires intermediate-level proficiency with MS Word, Excel, Outlook and PowerPoint. Selected intern must be self-directed, have the ability to organize and prioritize their work, as well as work a flexible schedule during peak periods. Similarly, this hands-on internship requires that the student is able to work under a variety of environmental conditions, including heat and humidity for prolonged periods of time, as well as lift 20+ pounds and perform physical labor.

Ball

MARKETING COMMUNICATIONS INTERNSHIP

WEST CHICAGO, ILLINOIS
Supervised by: Tim Duffin

Description

Assist Marketing Communications with executing our social media strategy for the Ball brands. Primary responsibilities include developing content and posting on various social platforms based on customer traffic.

- Create and update branded presence on social channels (Twitter, Instagram, Facebook, Blog, YouTube and Pinterest).
- Develop and run campaigns for two consumer brands, Burpee and Wave, and one B2B brand (Ball Seed or Ball Landscape).
- For Ball corporate events (Darwin Perennial Day, Cultivate '19, The Gardens at Ball Day), develop a comprehensive plan for photos, videos, interviews and posts for the Ball brands.
- Curate an overall posting calendar and create content that inspires our target audiences for brands as determined by the Social Media Manager.
- Respond to social media posts and reply to inquiries on behalf of the brands.
- Monitor and analyze competitor activity.
- Determine which social channels work best for which brands and why.
- Support Marketing Communications as needed on other projects, photography support and videography support.

Requirements

Junior or senior-level student majoring in horticulture, agribusiness or related field with an emphasis and/or strong personal interest in marketing and product promotion. Knowledge of web, app, and social media platforms (i.e. YouTube, Vine, Instagram, Pinterest and Twitter) is a strong plus, as are basic skills in digital photography and video. This position requires a person who has good communication and a flair for creative work. In addition, individual should be a self-starter and have strong organizational skills.

Ball

BIOINFORMATICS AND DATA ANALYSIS INTERNSHIP

WEST CHICAGO, ILLINOIS

Supervised by: Megan Bowman

Description

Whole genome resequencing analysis to identify unique single nucleotide variants in Impatiens walleriana.

- Analyze large genomics data sets to study an important flowering trait in plants
- Learn core bioinformatics data analysis skills (Linux, Python, R)
- Learn high throughput sequencing data quality control and analysis
- Learn basic software development for bioinformatics pipeline development

The student will learn fundamental concepts in plant computational biology and get hands-on experience in computer programming and software development.

Plan:

- Weeks 1-3 – establish standards, expectations and foundations of the work planned for the summer
- Weeks 4-7 – independent time for the intern to work through programming language and methods, with regular check-ins by supervisor
- Weeks 8-10 – finish expected project outputs (identification of SNPs in genes of interest), dive into the biology and broader impacts of analysis work and the benefits to Ball
- Weeks 11-12 – summarize summer's project to highlight impacts for Ball, write summary and complete code documentation

The student should be an enthusiastic, self-motivated person who is interested in learning the essential skills to work with "big data", specifically high throughput sequencing data.

Students who are interested in ornamental horticulture, plant molecular biology and have a high attention to detail should apply.

Computer science students with an interest in plant biology are also encouraged to apply. Students are not required to have previous experience in computer programming and software development.

Requirements

Junior or senior level student majoring in horticulture, plant biology or computer science is ideal. This internship requires proficiency with MS Word and PowerPoint. Selected intern must be self-directed, have the ability to organize and prioritize their work, and have a high attention to detail. Similarly, this internship requires that the student is able to work in an office environment and will be expected to work at a desk for 6-8 hours at a time.

Ball

PERENNIAL YOUNG PLANT PROPAGATION RESEARCH INTERNSHIP

WEST CHICAGO, ILLINOIS

Supervised by: Will Healy, Todd Cavins

Description

Improving Yield and Efficiency in Young Plant Propagation

The continued growth of perennial crop production has identified the need to successfully root vegetative perennial cuttings. Growers continue to struggle with optimizing the cultural requirements for rapid, uniform root development due to water management issues which occur when the media and mist protocols are not correctly integrated. With summer being the primary rooting period, managing and optimizing the environment is even more critical to success Growers have experienced up to 80% rooting losses due to cutting collapse or delayed rooting. The objective of this internship is to develop protocols, based on current best management practices, to eliminate rooting losses. The project will evaluate a wide variety of rooting media to determine the optimum misting regime for soils of different porosity.

This internship will work in our advanced propagation facility to investigate the rooting requirements of the key vegetative crops. During the last several internships, we have created industry leading protocols for the successful propagation of specially spring annuals and perennials. Previous interns have identified the optimum soil moisture levels for root development and developed VPD templates which improve cutting hydration which leads to rapid root development. A recent intern project demonstrated the need for re-hydration of the cuttings prior to sticking to insure uniform, rapid root development, which has revolutionized cutting handling within our rooting station network. The most recent intern developed innovative protocols for rooting of high essential oil perennial crops. These intern projects have now become industry best management practices (BMP). We are now interested in expanding our BMP to include the top 20 perennial crops.

Working in our culture-new variety trials greenhouse in West Chicago will allow you to interact with the production staff on a daily basis to expand your experience in greenhouse production. The summer field trials are in production during the internship which gives you the opportunity to learn about the cultural requirements of the newest genetics in the market place. Past interns have expanded their understanding of greenhouse production requirements by working with the greenhouse staff.

Requirements

Junior or senior level student majoring in horticulture with an emphasis on propagation and young plant production research or greenhouse production is ideal. This internship requires intermediate-level proficiency with MS Word, Excel, Outlook and PowerPoint. Selected intern must be self-directed, able to work very independently, able to organize and prioritize their work, as well as work a flexible schedule during peak periods. Similarly, this hands-on internship requires that the student is able to work under a variety of environmental conditions, including heat and humidity for prolonged periods of time, as well as lift 20+ pounds and perform physical labor.

Ball

VEGETABLES PRODUCTION RESEARCH INTERNSHIP

ELBURN, ILLINOIS

Supervised by: Cheni Filios and Susannah Ball, PanAmerican Seed

Description

Are you interested in vegetable research and want to get your hands dirty for the summer? Our program is developing new vegetable varieties geared for Fresh Market Farmers and Home Gardeners. We're looking for a motivated student who wants to participate in a research vegetable farm for the summer. You're not afraid to get dirty, have a passion for vegetables and want to gain more experience in vegetable production from sowing, transplanting, and pruning to harvest.

Provide support for vegetable program activities and tasks including but not limited to:

1. Hydroponics – leafy greens and herbs
    a. Trial execution - testing mix combinations, determining optimum seeds/pellet
    b. Sowing, transplanting, harvest, post-harvest, photography
    c. Collect and tabulate data
    d. Marketing Strategy development - identify market trends, leading varieties in marketplace, post-harvest requirements, data required for product launch
2. High tunnels – tomato and pepper
    a. Installation – sowing, transplant
    b. Maintenance – staking, trellising, pruning and pest scouting
    c. Collect and tabulate data - days to flower, ripen, Brix, and other data TBD
    d. Harvest and data collection – yields, fruit counts, grading, measurements, etc.
    e. Marketing Strategy development – identify market trends, leading varieties in marketplace, post-harvest requirements, data required for product launch
3. Field and container trials – tomato, pepper, cucurbits, herbs
    a. Installation – sowing, transplant
    b. Maintenance – staking, trellising, pruning and pest scouting
    c. Collect and tabulate data - days to flower, ripen, Brix, and other data TBD
    d. Harvest and data collection – yields, fruit counts, grading, measurements, etc.

Requirements

Junior or senior-level student majoring in horticulture, plant science, agriculture or related field. Experience in vegetable production is a plus, along with experience in data collection and statistical analysis. Comfortable working alone and in a team environment, confident in problem solving and self-organizing time management for multiple projects. Local travel for data collection and visiting farms approximately 10% of time. 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.

Ball

GROWIT! MARKET RESEARCH AND PRODUCT DEVELOPMENT INTERNSHIP

WEST CHICAGO and at We Work (CHICAGO), ILLINOIS

Supervised by: Mason Day

Description

GrowIt! is a consumer technology division of Ball Horticultural Company launched in 2014 which seeks to use consumer information to help our industry better understand who is buying our products. GrowIt! runs an app by the same name which provides consumers across the country a social community for sharing plant information and experiences within their geographic location. In this internship there will be two distinct project responsibilities, requiring someone who is a fast thinker and has the ability to switch through multiple projects in a given time period.

Project One: Consumer Insights

GrowIt! is built upon a proprietary plant database. It's unique because it seeks to maintain the balance of providing enough information to consumers while not being overcomplicated or intimidating. Every day, thousands of people use the app to share their favorite plants, and talk to their planting neighbors. We can use those interactions to better understand where the consumer plant market is heading. In the past five years GrowIt! has collected hundreds of millions of data points. In this project you will work with our community and data team to unravel our user activity, and begin to find trends and insights in the data we have. Knowledge of Advanced Excel, SQL, Python, Databases, and Data Visualization Software is strongly recommended. The results of this project have the opportunity to bring change to multiple levels of the industry.

Project Two: Consumer Testing

For the past three years GrowIt! has offered a sample program to its most influential members. Members agree to sample products throughout the spring season and submitting feedback. The GrowIt! team compiles the feedback along with insights from the app to offer plant breeding companies a look at how consumers feel about their product. We are looking to expand our sample program further this year. There is a huge opportunity to expand what we are currently doing into a program where consumers can act as pre-launch market trial groups. In this role you would work with the marketing team and various breeding companies to develop a framework for creating and delivering a consumer testing program that can yield results that companies can use in their product launch efforts.

Requirements

Junior or senior level student majoring in horticulture, agriculture, agribusiness or other related field. This position requires a person who has outstanding communication skills and ability to work well in a high-functioning group. Must have strong computer skills, specifically a comfort working in a Microsoft environment, operating in databases and using data visualization software to conduct analyses. In addition, individual should be a self-starter, and good writing/documentation skills. Previous leadership experience will be helpful. Time management and organizational skills are a must in this fast paced startup internship.

Ball

PanAmerican Seed Product Management & Culture Research Internship

West Chicago, IL and Elburn, IL
Supervised by: Scott Rusch & Shannon Carroll

Description

PanAmerican Seed is a world leading breeder and producer of flower seed and sells its products through wholesale distributors around the globe. We strive to solve grower challenges with high-quality products whose benefits are carried all the way to the consumer level.

Do you have a passion for landscape & patio plants as well as for business? Then product management may be a great place to enhance your skills. Product management is charged with moving new product ideas that solve growers' challenges into the commercial assortment through trialing, production, culture research, and developing marketing information. At each step of the process, you'll have to evaluate the information that you have to keep the product moving forward or re-work in some part of the process.

Developing relevant protocols for growers is one of the most critical areas in bringing new products to market. In this internship you'll also have an opportunity to work with the culture research team to collect information and photography to develop internal training documents and materials that may be used helping to sell or share information to growers or distributor customers.

In both projects you will focus on products that will be new in garden centers in spring 2021; we plan ahead in Product Management…come help bring the future to life!

Project 1: Support Product Management activities and tasks including but not limited to:

- Photography and data collection-analysis in Summer container, landscape, and field trials
- Seed form trials execution and data collection & analysis.
- Organize product management photography and create presentations for 2021 introductions
- Reporting and analysis for finalizing the 2021 introductions week 26
- Help prepare for and participate in the annual product advancement meeting week 30

Project 2: Support for Culture Research activities and tasks including but not limited to:

- Photography and Data Collection & Analysis of culture research trials for key 2021 introductions
- Organize culture research photography and create presentations to support the 2021 introductions
- Help prepare and assist with implementing fall forcing trials with Annual & Perennial crops

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, specifically a comfort working in a Microsoft environment, and good writing/documentation skills.

Ball