

Research Roadmap Created for Environmental Horticulture

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INTRODUCTION

Environmental horticulture, or the green industry, is an integral component of specialty crops and agriculture. In fact, our industry generates one third of both all specialty-crop revenue (over \$19 billion each year!) and its workforce. Yet, our industry receives only 12% of federal funds earmarked for specialty crops from USDA Agricultural Research Service and USDA's Specialty Crop Research

Initiative. The Horticultural Research Institute (HRI) recognized this disparity and sought a means to bring federal funding levels more in line with our economic contributions.

HRI realized that the industry lacked a unified, strategic vision of research needs to provide a roadmap for future priorities that can be used to better leverage federal funds. With this new mandate, HRI set to work. The

result was a professionally moderated, 2-day stakeholder meeting, where attendees shared their collective understanding of industry challenges, trends, and opportunities. Through these efforts, HRI identified research priorities to tackle the challenges, capitalize on the trends and opportunities, better direct our research investments, and to leverage federal funding.

METHODS

About 45 delegates, representing all segments of environmental horticulture and regions of the country, gathered for a face-to-face summit to listen, learn, and share their insights with each other. Participants were encouraged to expand their reach by engaging in conversations with their peers in advance of the meeting to widen their perspectives. During the summit, the moderator led the group through a series of discussions that culminated in a consensus on four key research priorities.

RESULTS

Four research priorities were identified by the group. They are detailed below.

Quantifying Plant Benefits

Research that quantifies and validates the benefits of plants on ecosystems, human health, and society can be used to craft improved value propositions. Ultimately, this will boost industry sales and services and increase interest in industry careers.

Our industry benefits when society understands how plants contribute to the health and well-being of individuals and their ecosystems, and the undervalued resources plants produce, which are often overlooked or taken for granted. New research regarding plant benefits needs to be aligned with industry priorities to maintain environmental horticulture at the forefront of providing sustainable green solutions for the world.

Creating Innovative Solutions

Research that creates or adapts biological, mechanical, and technological systems makes practices and processes more efficient and productive for horticultural businesses of all segments and sizes. Ultimately, this will increase efficiencies and profits.

Our industry continually needs improved systems to produce new or improved crops with less labor, water, nutrients, time, and/or pesticides in a safe work environment while adding value to quality plants that thrive during shipping, marketing, and consumer use. Whether in the supply chain, current inventory, or on the road to end-users, crops and inputs need to be traced, evaluated, ordered, managed and/or improved upon to continually provide cost-effective solutions for producers to integrate into existing production practices. This would include (but not limited to) advances in plant breeding, crop production and protection, software, automation, mechanization, and logistics. Recognizing and addressing barriers to adoption will be crucial.

Gathering Consumer Insights

Research that evaluates consumer behavior, preferences, and trends empowers horticultural businesses to optimize products and services. Ultimately, this will lead to industry-wide profitability and growth.

Consumers are responsible for the health and prosperity of our industry. Therefore, producers need to understand generational shifts in consumer demographics, as well as how those shifts affect consumer purchasing behaviors. Examples include emerging market preferences, relative purchasing power, and general gardening confidence. Markets, consumers, and the products they desire interact and change over time. To adapt, industry producers need information that considers all this, yet is easily understandable and crafted for various segments of

the industry. Research on consumer preferences, attitudes, needs, motivations, and purchasing behaviors for our industry's products and services will help companies make better business decisions by capturing what consumers want – not what the industry thinks they want.

Producing Practical and Actionable Solutions

Research that tackles ongoing and emergent industry challenges in production, resource management, and pest and disease management provides practical and actionable advice for horticultural businesses to improve sustainability and profitability.

Disruptive, ongoing, emergent issues that challenge short-term profitability and success of environmental horticulture will continue to rise.

Therefore, providing solutions to these challenges must remain a research priority for funding agencies.

Moving forward, HRI has adopted these four research priorities and will use them to guide future HRI funding and leveraging decisions.

HRI, the foundation of AmericanHort, supports scientific research and students for the advancement of the environmental horticulture industry. HRI was established by industry leaders on the premise that no one could better direct needed research to advance environmental horticulture than the very people who work in it. We adhere to that same vision today: we fund and guide environmental horticulture research efforts with direct input from industry professionals. It is the strong foundation upon which to build the industry.