

Invasive Species Corporation Announces Bioherbicide Screening Platform and Addition of Key Scientific Advisors

Science advisors to assist in AI-guided discovery and development of aquatic and agricultural weed control products

DAVIS, CA, USA, August 8, 2023 /EINPresswire.com/ -- The Invasive Species Corp. (ISC) (a

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Delaware public benefit corporation), announces its AI-guided discovery and development platform of natural products for the control of invasive weeds on land for agriculture and non-agricultural uses, in water and in forests.

According to Statistica, Phillips McDougall and other market research firms, weed control is approximately 44% of the global \$60-65 billion pesticide market. Several herbicides have been restricted around the globe, particularly in Europe. New modes of action are badly needed. The International Herbicide Resistance Database

compiled 521 unique cases of herbicide-resistant weeds with evolved resistance to 21 of the 31 known herbicide sites of action and to 165 different herbicides. In addition, because of sensitive environmental habitats, aquatic weed managers are faced with few tools to control invasive aquatic weeds and toxic algae. The aquatic weed market alone is approximately \$500 million annually (marketsandmarkets).

Bioherbicides comprise an insignificant percentage of the herbicide market. According to Dunham Trimmer, the 2019 bioherbicide market was only \$122 million. ISC's Executive Chair and Co-founder, Dr. Pam Marrone, has written several publications on this topic and in 2022 co-organized a symposium with Dr. Duke and Dr. Mauricio Vurro as to why there aren't more successful bioherbicides on the market. Dr. Duke commented, "it is a technically challenging to find bioherbicides that are as effective, long lasting and low in price as chemical herbicides. I encouraged the ISC to tackle this problem based on their extensive experience and success with natural products as biopesticides. I am happy to lend my expertise in natural products to ISC so we can finally have some significant breakthroughs in this area." ISC believes the discovery and commercialization of a cost effective, efficacious bioherbicide could transform all farm systems,

including regenerative, organic and conventional farming.

Historically, natural products have formed the basis for several blockbuster herbicides. We have tapped only a miniscule percentage of the world's biodiversity to find herbicidal and pesticidal natural products. "New tools such as deep learning, machine learning and artificial intelligence allow us to aggregate and focus our knowledge and others' information to drill down more quickly on the best targets for bioherbicides. We also are forming global partnerships with researchers around the globe, as we have experience licensing others' nascent discoveries and building our own intellectual property around them and getting them to market in four years or less. We are excited to see a few startups working on weed control, but many more are needed," said Dr. Marrone.

Dr. Amit Vasavada joins ISC as Chief Science Advisor. Dr. Vasavada is a recognized leader in bio-based solutions for biopharmaceuticals, food, agriculture and industrial biologicals. He has broad experience in translational R&D, technology development, tech transfer and manufacturing, from foundational science of the microbiome, applied microbiology, synthetic biology, formulation and fermentation. Dr. Vasavada was previously Chief Technology Officer and Senior VP for R&D at ProFarm Group (formerly Marrone Bio Innovations (MBI)). At MBI for nine years, Dr. Vasavada led development of several biopesticide products for insect, nematode, plant pathogen and weed control. His teams drove manufacturing process improvements that were successfully transferred and scaled at the company's own manufacturing facility and with toll manufacturers, resulting in higher product gross margins. He led the development of three new bioherbicides (not yet launched). Prior to MBI he had senior and management R&D positions at Algal Bioproducts, Vical, Diversa and Monsanto-Kelco. Dr. Vasavada has a Ph.D. in applied microbiology from the University of California at Davis.

Dr. Steve Duke spent 21 years in weed management-oriented research at Stoneville, Mississippi with the Agricultural Research Service (ARS) of USDA, where he served as Director of the Southern Weed Science Laboratory. He then spent 24 years as Research Leader of the ARS Natural Product Utilization Research Unit located at the National Center for Natural Products Research (NCNPR) at the School of Pharmacy of the University of Mississippi. He is now a Principal Investigator at NCNPR. While his earlier research focused on weed physiology and herbicides, his recent activities have expanded to include chemistries associated with pest management, especially naturally occurring compounds. His research group discovered the molecular target sites of several natural and synthetic phytotoxins. His research is documented in more than 500 peer-reviewed publications and eleven co-written or edited books. He was President of the Weed Science Society of America (WSSA), the International Weed Science Society, and the International Allelopathy Society (IAS), as well as Chair of the Agrochemical Division (AGRO) of the American Chemical Society (ACS). His awards include fellow of AAAS, AGRO, WSSA, and ACS, as well as winner of the Molisch Award (IAS), inductee into the ARS Science Hall of Fame, and recipient of an honorary doctorate from the University of the Basque Country (Bilbao, Spain). He is currently co-Editor-in-Chief of the journal Pest Management Science. Dr. Duke received his Ph.D. from Duke University in Plant Physiology and Biochemistry.

About the Invasive Species Corporation

The Invasive Species Corporation was founded to discover, develop and market climate friendly bio-based solutions to control invasive species. Invasive species have caused more than \$2 trillion in damage and are considered the second largest cause of the earth's decline in biodiversity. The ISC is currently selling Zequanox® for invasive zebra and quagga mussel control and is developing Piscamycin® exclusively licensed from the US Geological Service for control of invasive carp and other invasive fish. ISC is focused on control of invasive and other problematic species in water, forestry and agriculture, including invasive mollusks, fish, toxic algae, forest pests and weeds.

Pam Marrone and Jim Boyd

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