

ASPB Pioneer Member

Terry Wright

How did you spend your career? (How did you get started in plant biology?)

At this point in my career, it is amazing to look back and watch how God guided me through life and to where I am today, placing amazingly talented and diverse influencers in my life at just the right time.

I'd have to say my passion for plants and agricultural sciences started very young. Both of my parents grew up on farms in South Dakota and had deep roots there. But my father heard a calling to research in the Ag Industry and moved his young family to the Mississippi Delta to begin a research career with Dow Chemical Ag Division at the Wayside Research Station. While too young to appreciate the research, I did get to spend time at 'the farm' and enjoy the tractors, sprayers, and harvesting equipment. At home, I spent countless hours with Mom planting flowers, weeding flowerbeds, and when old enough...mowing the grass—and I enjoyed the hard work and satisfaction the visual beauty from horticultural efforts.

The family relocated about every 4 years while I was growing up, but we ended up in Dow's headquarters in Midland, MI (the second time), where I finished high school, where my Advanced Biology teacher, Lee Koski, was probably the first push down my career path. I was enthralled by biochemistry and the fledgling power of microbial biotechnology. I applied and was



accepted to the Michigan State University Biochemistry department. But while seeking scholarships to pay for school, the Department of Crop and Soil Sciences offered about half-tuition, so I started a double major which pushed me into agronomy sciences...and ultimately into weed science with Professor Jim Kells. Killing weeds has been a generational constant in my family and my hook to this path was complete when, as a senior, I took a graduate level Herbicide Mode of Action course with Dr. Don Penner where I learned how to combine my love of biochemistry with the practical application of herbicides for selective weed control, understanding weed resistance mechanisms, and managing farming as a system.

I was hooked and motivated to pursue a graduate degree. I followed conventional wisdom to get exposure to new thinking at a different institution, which led me to Washington State University of a Master's degree with Drs. Pat Fuerst and Alex Ogg as co-advisors. There I worked on both field validation and mode of action / mechanism of dissipation of an experimental herbicide from Uniroyal Chemical company (UCC-C4243). The project ultimately

trained me on the excitement of and risks of research in nascent discovery areas. While the herbicide was de-phased before it was ever launched, I learned invaluable lessons on fate of herbicides in the environment, collaborative research with remote labs, including efforts with Dr. Steve Duke's lab at the Southern Weed Science Lab (Mississippi). Many future colleagues and growth of my scientific network began at WSU.

I was called to come back to Michigan State for my Ph.D., and had the fortune to join Dr. Penner's lab back at Michigan State, learning herbicide physiology while focusing on development of sugar beets tolerant to imidazolinone and sulfonylurea herbicides, protecting this valuable crop from injury caused by carryover-residues from rotational crops, but also enabling new, selective weed control options. This technology was patented, licensed to American Cyanamid (becoming BASF), but was never actually launched. Amazingly, however, the experience, learnings, and the network of individuals I met from this project has continued to impact me my entire career. Mark Dahmer was an AmCy researcher sponsoring the research who ultimately was a member of my last research team at Corteva Agriscience. Wendy (Pline) Srnica was an undergraduate research assistant, who later became my field research intern at Dow AgroSciences, but ultimately became my last supervisor at Corteva! Pat Tranel was my roommate during our overlap at MSU who has been a consistent inspiration of bringing new technology to weed science which has been worth way more than our apartment cost-sharing benefit of '200 bucks a month'.



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After graduation from MSU, I was intent on applying my training to create innovative solutions for farmers. I joined the Herbicide Biology group at BASF in RTP, NC, but ultimately was recruited to backfill a field biology role at Dow AgroSciences held by David Simpson, who I would backfill again in a couple years, and who has been influential in a variety of joint-research and development efforts throughout our careers.

My Industry research history began in 1989 as a Dow Chemical, Ag Products Division summer intern (Tifton, GA), continued as a DowElanco Co-op (Midland, MI), and joined Dow AgroSciences full-time in 1998 and have now worked for DowDuPont and Corteva Agriscience. I have worked in numerous R&D subfunctions including Field R&D (Minnesota, and a return to Wayside, MS), Discovery (both chemistry and traits) in Indianapolis, IN, Trait Product Development, Intellectual Property Development, External Technology, Integrated Field Sciences, and Biotechnology over the years. Along the way, my career development and success was positively impacted by nearly every person I met or interacted with. But two individuals who nominated me for this honor have repeatedly returned to my circle throughout my career and whose influence and impact have been remarkable. I am grateful for the friendship and partnership of Pon Samuel and Carla Yerkes over the past 25 years.

What do you consider to be your most important contributions to science?

A motto we have used in my time in Industry R&D that I really

appreciated has been “Science to Solutions.” I have been fortunate to have worked in so many different technology areas and across different areas of Research and Development. I would say my greatest general contribution has been in “connecting” technological experts and practitioners with important problems that need solving or investigation. My diverse experience and broad network has served me extremely well in fostering research U development of these solutions. Probably my most notable contribution has been to have led teams (co-led with Justin Lira) involved in the discovery and development of Enlist™ Weed Control System in soy, cotton, and corn. As I retire, there are a number of next generation herbicide tolerant trait offerings in various stages of discovery and development that I am proud to have contributed my knowledge and experience to.

I was trained in Weed Science and Herbicide Physiology but have worked across traits and chemistry platforms seeking integrated solutions my entire career. Other significant contributions in crop protection includes development and launch of acetochlor, cyhalofop, and penoxsulam herbicides, and the termiticide noviflumuron. I also was a team member involved in the development and launch of Herculex™ and Widestrike™ insect protection traits in corn and cotton, respectively.

And just in case it isn't clear, every effort above is attributable to many talented team members contributing their expertise and sweat to joint projects. These solutions can take 12-20 years to become realized products and then efforts to support and defend them for the next 15-20

years of their life cycle require dedication and persistence. That is what I have brought to action in my career.

What important advice would you give to individuals at the start of their career in plant science?

So, I really don't think there is a formula for “success” but there are a few key attributes I have come to value. I think I started (and ended) this biography by pointing out the Network of colleagues and friends that you have to help you along the way and that they likewise can rely on you for assistance (**Teamwork**). Efforts you make on others behalf may return dividends to you (or more likely others you don't know) in ways you could not imagine. I have derived satisfaction from driven teams comprised of complementary skills and focused on delivering critical needs, and that has driven my career path.

I have sometimes had to embrace that I would work in areas completely outside of my training. But lessons learned (from trial and error) can sometimes bring valuable insights or networks to apply to other problems in the future. So **diversity in experience** would be advice number two.

For an Industry Scientist, understanding what critical customer/market needs is important in providing the types of solutions that ultimately will be successful. Having **business acumen** and awareness of market influences and competitive pressures is a skill sometimes elusive to really good scientists. One should embrace learning in these areas to focus efforts where the greatest impact will be felt.

My final bit of advice is familiar from



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anyone who has been through a job interview with me in the past 25 years. Data-based decisions and recommendations are the key to influencing organizations and seeking support. I have asked of almost every candidate, what is the “Scientific Method.” I never cared for an exact textbook recitation, but I wanted to know they had received training to create a clear, testable hypothesis based on observations and to hear how controlled experiments would lead to data they could use to make decisions or inform the next steps of learning.

Having a prepared mind and knowing how data will be used is paramount to making the most insightful and impactful scientific discoveries.