Dr. Walter Fehr, Iowa State University professor in agronomy, is celebrating a milestone in his professional career. This academic term marks the 30th year that he has been leading an undergraduate internship in soybean breeding, a program that has helped to launch the career of many leaders in plant breeding and genetics research. Dr. Fehr, a member of the Raymond F. Baker Center for Plant Breeding and Charles F. Curtiss Distinguished Professor in Agriculture, is a soybean breeder specializing in the development of specialty soybeans.

This year, seven students were accepted into the program, which provides hands-on experience in the processes and procedures of soybean breeding. By semester’s end, students had learned the genetics involved in plant breeding, worked in the field with plants bred for specific traits, learned methods for trait selection, and practiced techniques and procedures used by plant breeders. For their final project, each student designed a plant breeding program that included a description of the specific trait chosen for cultivar improvement and detailed the timeline, procedures, and expected outcomes for developing the cultivar. Raechel Baumgartner, junior in agronomy and one of this year’s interns, said, “The class was a lot of work, but I also learned a lot. I’m not sure at this point if I want to become a plant breeder, but I certainly have a clearer understanding of what they do.”

For some alumni of the internship program, the experience led to dramatic shifts in career plans. Mark Hayes, a plant breeder with Dairyland Seed, said, “I was a junior in agriculture business, but I knew very early in the intern program that I wanted to choose plant breeding as a future career path.” For James Miller, the internship he completed in 1974 had a “profound impact” on his career. He said, “Thanks to Dr. Fehr, though I thought two years at ISU would be enough, I ended up going to college for 8 years, getting a Ph.D., and securing a job as a soybean breeder in the private sector. My career in plant science research has now stretched past 30 years and culminated in my serving as the head of research for the largest seed company in the world, Pioneer Hi-Bred.”

One aspect of the internship program that current and former students prize is the camaraderie that developed among students and staff. In fact, many former students maintain close contact with Dr. Fehr and with fellow graduates. For Hobart Beeghly, a scientist with Monsanto, the social connections that developed also led to an increase in teamwork. He said, “A lesson I carried with me beyond the internship was the importance of being able to work effectively in a team.” Other lessons that continue to resonate with Dr. Fehr’s former students include the ability to attend to detail, an understanding of the impact of market factors in the development of new cultivars, and, according to Mark Hayes, an awareness that “plant breeding is still both a science and an art.” Brian Alt, a researcher for BASF Plant Science Breeding, values the lessons learned about managing time and personnel. He said, “Now, as a manager, I use some of the same approaches that I learned from the Soybean Breeding project.”

Not all tasks delegated to interns are fun, however. Heath Bliek, junior in agronomy, and Adam Peterson, junior in agronomy, agreed that hand harvesting and pulling soybean plants at the end of the growing season was not a job they enjoyed or looked forward to repeating. Hobart Beeghly recalled, “I still remember the first day of end-trimming plots by hand. End-trimming is honest work, and, at the end of the day, one of my fellow interns calculated the distance we had end-trimmed that day as measured in feet. He also figured the distance we had yet to end-trim as measured in miles.”

Participation in the internship is highly recommended by current and former interns. Susan Johnson, assistant scientist at ISU, said “It’s an excellent opportunity to be introduced to the work involved in a variety development program and research in agriculture. You get introduced to every aspect of a variety development and you learn why you are doing what you’re doing.” Mark Hayes said, “I probably learned more in that internship than in most of my undergraduate classes.” James Miller, who has worked with many students and entry level employees, recognizes the value that internships contribute to the early success of an employee’s career. He said, “Dr. Fehr’s internship program is one of the best I’ve seen anywhere in the world.”