A Career as a U.S. Department of Agriculture-Agricultural Research Service Scientist

Eliot M. Herman

Among ASPB members, some 211 work for the U.S. Government at one of the many facilities of the U.S. Department of Agriculture-Agricultural Research Service (ARS), primarily as research scientists. These facilities broadly fit into three different categories: the large regional ARS laboratories, small ARS facilities, and groups housed in university departments. The ARS personnel on campuses often work with their university colleagues participating in teaching and other academic functions. The big federal laboratories with their large staffs have considerable breadth of their programs. The smaller federal laboratories are usually focused on a narrower mission goal and are often located in a place appropriate to a specific agricultural problem. Large or small, the federal laboratories are a distinctly different working environment compared with the ARS laboratories residing in university departments. The federal laboratories have a distinctly different culture. The federal laboratories, lacking students, have far fewer transient employees, and much of the research effort is undertaken by a core of permanent scientists and staff sometimes supplemented with temporary employees, postdocs, and visitors. The result is that the federal laboratories tend to be focused on long-term mission and goals with an administrative hierarchy whose role is to facilitate accomplishing the assigned mission within the framework of the federal system. This makes working in a federal facility more stable and routine, lacking both the disruptions and the intellectual curiosity that young students bring. Although it is easy to focus on work in a federal laboratory, it also requires more effort to maintain the excitement of doing science without the stimulation of an ever-changing influx of new students.

The primary objective of an ARS position is research, which can be either applied, basic, or some combination of both. All ARS scientists receive intramural research funding to fund specific mission-oriented projects. The general project objectives are identified by management, and individual scientists are assigned to the projects to accomplish its goals. The projects are called Current Research Information System (CRIS) work units. Unlike industry where a specific and a profitable goal is the objective, or academia with its freedom to investigate what can be funded, ARS scientists are expected to propose new research that addresses questions within a specific assigned mission framework. The CRIS project is proposed by the individual investigator or lead scientist of a group who writes a project statement that is subjected to peer-panel review by extramural scientists before it is approved. This system provides most ARS scientists with their salary, modest supply money, and usually a technician. Some projects are funded at higher levels, allowing the employment of additional staff including students and postdoctoral associates. To have larger groups requires an ARS scientist to seek additional support and compete for grant funds from the National Research Initiative, the Department of Energy, the National Institutes of Health, and other federal and private organizations and companies. Other opportunities for broader projects can come from collaborations with U.S. or international universities as well as companies. The advantage of this system for ARS scientists is that a core of support is available. Although the intramural support is not usually lavish, it is sufficient to maintain scientific productivity. Because ARS scientists do not have many required activities outside of their research project, their annual performance is measured primarily by their contributions, papers, patents, or other forms of tangible demonstration of accomplishment. Many scientists extend their interests well beyond the performance requirements with collateral duties and committee assignments in ARS and service to professional organizations and journals. All of these accomplishments representing the person in the job come into play with periodic evaluation for promotion. In ARS, promotion evaluation is accomplished by a peer-review system called Research Personnel Evaluation System that reviews the entire career accomplishments by a panel of peers, ARS scientists. These panels are able to reclassify a scientist’s position to a higher grade when warranted. This system is unique in the federal government of peer review for promotion rather than by evaluation by either management or personnel offices.

In ARS, missions can change, and one of the greatest challenges for an ARS scientist comes with a redirection, when one’s mission is changed for some new objective mandated by Congress. Changes, often several, are likely over the course of a career, and these changes can be minor or they can be as drastic as altering many years of concentration in a specific field. Sometimes laboratories are dissolved and scientists are reassigned. The ARS administration has protected the jobs of the scientists who are redirected.
and has worked with them to take into account personal needs. Other times it is an individual scientist’s CRIS project that is subject to redirection. It helps to have broad interests and a positive attitude to adapt to changing directions, but even so it takes time and effort to build a new research program and acquire the same level of professional interactions as in the prior specialty. ARS provides assistance to ease the transition in the form of training or visits to other laboratories. These transitions can provide a platform to reassess career goals and interests and if approached positively can lead to the reinvigoration of interests that sabbatical leaves can provide for university faculty. Many ARS scientists take sabbaticals, which provides a means to reinvigorate a research program.

One of the more interesting opportunities working for the government is to participate in other jobs, details, and assignments that can include policy and program aspects of the government. Working in the Washington, DC, area makes this more accessible than it would be at other ARS sites, but temporary details and assignments can be arranged from any location. Some of these assignments are widely available to the scientific community, for example, as granting agency program management. Other jobs are restricted to government employees, such as participating on advisory panels that make policy and regulation or award government funds. Although these collateral duties can be time consuming, they can also be among the most interesting because they can involve allocation of millions or dollars or produce new government policy.

A career as a government scientist can offer a lot of stability and support to do good science. As in most professions, being and succeeding as a government scientist is largely what an individual chooses to make of it. Many ASPB members have found that ARS has provided them with opportunity to be productive members of the plant science community.

Eliot M. Herman
Soybean Genomics and Improvement Laboratory
U.S. Department of Agriculture-ARS
Building 006, BARC-West
10300 Baltimore Avenue
Beltsville, MD 20705