United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

APHIS 10-05-007

A 25-Year Retrospective of the Animal and Plant Health Inspection Service, 1972–1997

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Introduction

April 1997 marks the 25-year anniversary of the Animal and Plant Health Inspection Service (APHIS).

This short retrospective begins by examining the early animal and plant health bureaus. For most of the 20th century, these bureaus operated independently of one another. Eventually, these animal and plant health functions were consolidated under the APHIS structure. The bulk of this report assesses APHIS' development over the past 25 years, focusing on the eight APHIS administrators and their particular visions and goals.

Interviews with the surviving administrators, internal documents, and other materials of historical significance were the major sources used in writing this history.

The effort here was not to capture each and every animal and plant health event or organizational change that occurred during APHIS' first 25 years. Rather, this report is intended to identify some of the outstanding issues and events that have contributed to the agency's development. Identifying the organization's roots and past accomplishments may help us move into the decade ahead with greater confidence about our basic organization, mission, and capabilities.

Early History of Plant and Animal Regulatory Authority

The U.S. Department of Agriculture (USDA) was established in May 1862. Its original function was to acquire and disseminate agricultural information. To carry out this mission, a USDA Commissioner was appointed and authorized to conduct experiments, collect statistics, and to collect, test, and distribute new seeds and plants. This mission, as it was originally conceived, continues to be the basic function of the Department.

USDA's first regulatory activity involved the livestock industry. The Bureau of Animal Industry was established in 1884 after outbreaks of contagious animal diseases led to the barring of U.S. meat from some European markets. This ban on U.S. meat exports focused attention on the need for controlling animal diseases. Regulatory activities to protect U.S. crops began three decades later with the 1912 Plant Quarantine Act. This section reviews the early development of the U.S. plant and animal health bureaus.

Animal Protection Authority

In 1883, the USDA Commissioner established the Veterinary Division. One year later, it became the Bureau of Animal Industry (BAI). Congress established the Bureau in order to promote livestock disease research, enforce animal import regulations, and regulate the interstate movement of animals.

Subsequent legislation, such as the 1891 and 1906 Meat Inspection Acts and legislation to regulate veterinary biological products under the Virus–Serum–Toxin Act of 1913, enlarged the BAI. During this time, inspection and quarantine functions were created within the Bureau to support inspection activities at U.S. ports of entry and elsewhere within our borders. Over the next 50 years, BAI's inspection and quarantine divisions were reorganized on several occasions.

Plant Protection Authority

In 1912, the Federal Horticultural Board was established to administer the 1912 Plant Quarantine Act. The Board included representatives from the Bureau of Entomology, the Bureau of Plant Industry, and the Forest Service. The following excerpt from a 1922 Federal Horticultural Board report describes the general responsibilities of the Board:

The Federal Plant Quarantine Act has for its object the prevention of entry into the U.S. of new and important insects or plant diseases injurious to agriculture, horticulture, and forestry....

Hence, the history of plant quarantine operations essentially began in 1912.

In 1928, the Federal Horticultural Board was abolished. Over the next 40 years, the plant health bureaus were reorganized numerous times.

Consolidation of Plant and Animal Bureaus

In 1942, the BAI—along with the other agencies whose missions related to animal health—was transferred to the Agricultural Research Administration, although each maintained its separate organizational identity. The intent of this reorganization was to better coordinate the scientific work conducted within the bureaus. This was the first effort to streamline the animal and plant protection organizations, or at least to consolidate agricultural research in these areas.

In 1953, the plant protection bureau and the BAI (both of which operated under the auspices of the Agricultural Research Administration) were abolished, and their functions were transferred to the Agricultural Research Service (ARS). Under the ARS structure, plant and livestock responsibilities devolved to either the research or regulatory division, depending on the nature of the activity. This reorganization reflected the continuing effort of the Department to consolidate and centralize animal and plant protection activities.

In 1971, the animal and plant regulatory functions were separated from ARS to become an entity known as the Animal and Plant Health Service (APHS)—the direct progenitor of today's APHIS.

Emergence and Evolution of APHIS

Birth of the Agency

The underlying rationale for consolidating plant and animal research and regulatory activities under the ARS structure (1953–71) was that regulatory work depends upon research to guide its programs and to provide new technologies to solve problems in the field.

Problems, however, eventually developed under the ARS structure. Balancing the competing demands of research and regulatory enforcement became increasingly difficult. ARS work was oriented toward basic scientific research while regulatory and control activities required practical pest and disease management tools to use in the field. By 1971, competition between the regulatory and research programs had reached a crisis. USDA Assistant Secretary Richard Lyng played a significant role (serving under Secretary Clifford Hardin) in the Department's decision to remove the regulatory functions from ARS and create a separate agency. The new agency was called the Animal and Plant Health Service (APHS).

Five months later (1972), the meat and poultry inspection divisions of the Consumer and Marketing Service (later known as the Agricultural Marketing Service) were added to APHS. The organizational realignment was intended to group functions that rely on similar professional disciplines (e.g., veterinary expertise, inspection, and quarantine) together into one agency. This 1972 change gave our agency its present name.

APHIS Evolves Under Various Administrators

For the most part, each APHIS administrator has had to respond to many of the same political and social issues. Throughout the 1970's, 1980's, and into the 1990's, the agency faced increasing public concerns with the environment, animal welfare, and food safety. Budget constraints, waxing and waning during this period, also influenced APHIS' staffing decisions and program priorities.

Throughout this period, APHIS administrators also saw a steady increase in international travel and agricultural trade. Maintaining effective protection against the introduction of foreign diseases and pests continues to be a challenge as travel and trade increase each year.

While the major issues faced by each of the eight APHIS administrators may have been similar, each brought a distinct personal and professional orientation to his work as the APHIS senior manager. The following section examines each of the eight APHIS administrations and their major concerns and accomplishments.

Francis J. Mulhern, previously the ARS Associate Administrator for Regulatory and Control, was the first APHS Administrator. A veterinarian by training, Mulhern had a long history of service with the various animal health bureaus (e.g., BAI, the Agricultural Research Administration, and ARS). He became the head of an animal and plant health agency with 5,000 employees.

From APHS to APHIS.—APHIS personnel were drawn from the animal health, veterinary biologics, plant protection, and agricultural quarantine inspection divisions at ARS. Five months after Mulhern took charge of the newly created APHS, the agency was enlarged by the addition of the meat and poultry inspection programs (putting the “I” into APHIS). Mulhern reported directly to the USDA Assistant Secretary for Consumer and Marketing Services (later known as the Marketing and Inspection Services).

Five years after APHIS was established (1977), its meat and poultry inspection functions were transferred to the newly created Food Safety and Quality Service (later reorganized as the Food Safety and Inspection Service). Removing these food safety responsibilities from APHIS further defined APHIS as primarily an animal and plant health agency rather than a provider of consumer services.

Building a Model Agency.—Mulhern’s first major task was to establish APHIS’ identity as a “model agency.” To accomplish this, Mulhern sought to articulate in clear and simple language APHIS’ distinct mission—protecting the health of U.S. agricultural resources. The significance and simplicity of this mission helped him rally APHIS employees and create, in their minds and in the minds of the agency’s constituents, a clear and distinct organizational purpose and identity.

Mulhern’s model agency gets things done, spends its money wisely, regulates firmly but fairly, trains its people, and rewards its outstanding personnel. To build a model agency, Mulhern believed it was necessary for APHIS’ top decisionmakers to adopt a philosophy of participatory management. He encouraged open communication between his managers and APHIS employees, hoping that such communication would allow agency decisionmakers to utilize the views and input of APHIS personnel and thereby know how management decisions would affect programs in the field before decisions were made.

In the spirit of open communication, Mulhern conducted an employee survey immediately after becoming administrator. Results of the survey showed a high level of employee dissatisfaction. This dissatisfaction, Mulhern believed, was related to the 1971 reorganization and the lingering confusion over employees’ new roles and organizational relationships.

The 1977 removal of the meat and poultry inspection functions allowed APHIS to simplify and consolidate its basic quarantine responsibilities. In addition, a subsequently smaller agency provided a better opportunity for Mulhern to try to foster a sense of identity and agency esprit de corps. A later survey showed that employee morale had improved, but management still had a long way to go in achieving Mulhern’s vision of a model organization.

PPQ and the Consolidation of APHIS’ Quarantine

Functions.—Within the APHIS structure, the animal quarantine inspection activities at ports of entry had been conducted by the Veterinary Services (VS) division. In 1974, these inspection responsibilities were transferred to APHIS’ Plant Protection Division, which promptly changed its name to the one in use today, Plant Protection and Quarantine (PPQ). More significantly, this transfer made agricultural quarantine and inspection (AQI) a single line item in the agency’s budget structure. AQI is now the largest and most important program priority for the agency.

As a result of this program realignment, PPQ received approximately 70 animal technicians who had previously reported to VS. Here we can see, at least on one front, an early merging of the veterinary and plant health programs and personnel. Since 1974, port inspection responsibilities—or regulating both animal and plant products—have resided with PPQ.

The Brucellosis Saga.—Since the agency's inception, the Cooperative State–Federal Brucellosis Eradication Program has been the subject of much controversy and the symbol of a basic agency dilemma.

Brucellosis is a cattle (and human) disease that makes pregnant cows abort spontaneously. Funds appropriated to eradicate this disease are a significant line-item in APHIS' annual budget. In Mulhern's time, the funds appropriated for the brucellosis program were used not only to carry out that eradication effort but also to support other animal disease-control activities. Brucellosis funding continues in this multiple role today. For many at APHIS, the brucellosis line-item represents the backbone of VS' infrastructure. Eliminating it from the APHIS budget would affect other basic agency activities that are critical for ensuring the health of U.S. livestock.

Upon the eve of his departure from APHIS in 1980, Mulhern reflected on a general concern regarding the role of VS after brucellosis was eradicated. The concern over APHIS' future in a brucellosis-free Nation was rooted in what has become a continuing organizational issue for the agency—how to maintain an animal disease-fighting infrastructure if an important funding source disappears. On this point, Mulhern advised that the agency and industry needed to establish a new philosophy about eradication. Mulhern urged that the agency should stress the goal of reducing infection to the lowest possible level. Eradication, if achieved, would be a fringe benefit. This view reflects Mulhern's effort to address the controversies and excessive costs surrounding eradication programs.

Mulhern's vision foreshadowed the philosophy of later administrators—that the agency should go from being a reactive organization to one that promotes agricultural health through ongoing disease and pest surveillance and control activities. The brucellosis program would continue to reveal the intrinsic dilemma of a line-item budget for an organization dedicated to protecting a wide variety of the country's agricultural resources.

Major Events and Issues of the Mulhern Period.—

- 1972: An agreement was signed with Mexico to eradicate screwworms and, in 1976, a new production plant in southern Mexico began producing up to 500 million sterile flies a week.
- 1973: Sheep scabies was eradicated.
- 1974: A serious outbreak of exotic Newcastle disease in poultry in southern California (1971–74) was eradicated.
- 1977: The North American Plant Protection Organization (NAPPO) was established.

Mulhern established a Brucellosis Technical Commission to review the brucellosis program and provide recommendations. The Commission concluded that eradication was feasible. This Commission was critical in strengthening industry resolve in eliminating brucellosis from U.S. cattle herds.

- 1978: The United States was declared “hog cholera free,” the culmination of a 15-year effort against the disease.
- 1979: The Harry S Truman Animal Import Center, a high-security facility through which animals from countries with foot-and-mouth disease could be imported, was established.

In 1980, Mulhern left APHIS to direct the animal health program of the Inter-American Institute for Cooperation in Agriculture.

Harry Mussman came to APHIS after serving as director of animal production and health for the United Nations Food and Agriculture Organization (FAO) in Rome. He joined APHIS in 1971, eventually serving as associate administrator under Frank Mulhern between 1975 and 1977.

Promoting the Model Agency Concept.—While Frank Mulhern actively used participatory management practices, he never formally articulated or communicated this philosophy. Mussman made a major contribution to defining APHIS' organizational identity by developing a document known as "APHIS Philosophy." This document, which was subsequently distributed throughout the agency, articulated and communicated APHIS' management philosophy and what was expected of APHIS employees.

Mussman's management document addressed issues such as promoting an organizational climate that enables employees to work at their highest potential, maintaining open communication with the agency's constituents and other interest groups, maintaining a lean administrative structure in order to maximize spending on program delivery, and emphasizing APHIS' action orientation. These were essentially the same principles that Mulhern had sought to practice.

Mussman's document was significant because it identified and communicated the agency's core values, responsibilities, and expectations. Mussman's document reaffirmed Mulhern's vision of a model agency.

Expanding APHIS' International Role.—As a result of his FAO experience, Mussman was familiar with animal health institutions and pest and disease situations around the world. During his tenure, Mussman repeatedly asserted the importance of assisting other nations in dealing with plant and animal health problems before their pests and diseases reached American shores.

Mussman put this philosophy into action when he decided to assist Haiti and the Dominican Republic in eradicating African swine fever. More significantly, Mussman's position on the importance of overseas pest and disease control programs has become a standard APHIS view, supported by the agency's many foreign cooperative programs.

APHIS Faces New Budget Constraints.—During Mussman's tenure, there was increasing recognition of the need to reduce Federal expenditures and to shift appropriate Federal responsibilities to the States and private industry. As a reflection of this need, significant decreases were proposed for APHIS' fiscal year (FY) 1983 budget, with further reductions contemplated for subsequent years.

In light of the proposed cuts, APHIS embarked on an internal review of its plant and animal health mission and organizational structure. The goal of this review was to identify the basic organization and resources required by the Federal Government in order to maintain an effective agricultural protection program. In early 1982, APHIS contracted with a private consulting firm to perform this agency review and to make recommendations for streamlining APHIS.

The consultants' report concluded that there were few ways in which to reduce APHIS' role and still provide an effective system of agricultural protection. The analysis indicated general satisfaction with existing APHIS programs in Congress and among the agency's constituents. Furthermore, reorganizing APHIS along functional lines was impractical because the work and skills of the plant and animal protection staffs were not interchangeable.

The Continuing Brucellosis Saga.—Mulhern noted on the eve of his departure from APHIS that the brucellosis program was meeting increasing controversy. When Mussman became administrator, he encountered a divided cattle industry. Some segments of the industry were opposed to the eradication program while others supported it. At the same time, agency veterinarians, accustomed to a perfect record in combating animal diseases, were not prepared to abandon the brucellosis eradication program and allow it to mar this record.

Mussman played a key role in developing a government-industry consensus that put the eradication program on a path to completion. Industry's renewed support for brucellosis eradication was in part the result of the Brucellosis Technical Commission's recommendations favoring eradication. The subsequent infusion of government support and industry's close cooperation were the basis for striking a massive and final blow against brucellosis.

Eradicating brucellosis continues to be an important agency effort today. Administrators succeeding Mussman continued to confront the dilemma of phasing down the brucellosis program in a way that would not undermine the other disease-control activities supported with brucellosis funding.

Major Events and Issues of the Mussman Period.—

- *1980:* International programs against the Mediterranean fruit fly (Medfly) in Guatemala and cooperative programs to eradicate African swine fever in the Dominican Republic and Haiti were initiated.
- *1982:* X-ray detection devices for screening baggage for illegal material were introduced on a trial basis at international airports.

Bert W. Hawkins (1983–87)

Bert W. Hawkins (1983–87)

Bert Hawkins, a former rancher and cattle industry leader, liked to depict APHIS' role as the "three-horse eveners," a hitching device used to distribute the load evenly among a team of three horses. The three horses represented industry, the States, and the Federal Government. APHIS played a role in evenly balancing the responsibilities undertaken by the three horses. In trying to balance these roles, Hawkins sought to reduce APHIS' dominant position and emphasize industry's responsibility in APHIS' cooperative programs.

Expanding APHIS International Programs.—Hawkins shared Mussman's interest in international programs. For example, screwworm eradication advanced from Mexico southward into Central America. The Medfly program in Mexico also continued to receive significant agency support. During Hawkins' tenure, APHIS enhanced its presence abroad by stationing inspectors in other countries to preclear products destined for the United States. Also, at this time APHIS' International Services personnel were granted Foreign Service status. This enhanced APHIS credibility, prestige, and influence in matters related to international agriculture.

APHIS Enters the Biotechnology Era.—During Hawkins' tenure, the private sector made many advances in biotechnology. In 1985, the Secretary of Agriculture designated APHIS as the agency responsible for regulating biotechnology-derived products that affect animal and plant health. It was not until 1987, however, that the agency made a request for additional appropriations to establish a separate biotechnology program. At that point, Hawkins established a Biotechnology and Environmental Coordination Staff, seeking to demonstrate APHIS' commitment and credibility in the biotechnology field.

APHIS' New Wildlife Damage Control Role.—In 1985, Congress transferred the Animal Damage Control (ADC) program from the U.S. Department of the Interior's U.S. Fish and Wildlife Service to USDA. Secretary of Agriculture John R. Block subsequently assigned the program to APHIS. The transfer of ADC to APHIS had two consequences for the agency. First and most obvious, the ADC acquisition enlarged the agency, adding a new facet of agricultural protection to the APHIS mission. Second, the intense public interest in ADC's predator-control activities has drawn APHIS closer to the tensions between environmental protection and agricultural groups.

Bert Hawkins died at his home in Oregon in November 1992.

Major Events and Issues of the Hawkins Period.—

- **1984:** APHIS began the "Beagle Brigade" program, using beagles trained to sniff out food in luggage at international airports.
- **1984:** Screwworm in Mexico was eradicated down to the Isthmus of Tehuantepec near Mexico's southern border. A biological barrier was established to prevent screwworm reinfestation and its northward movement.
- **1985:** Hawkins proposed a compromise 5-year close-out program to reduce APHIS' brucellosis responsibilities and costs. According to the close-out plan, APHIS would cut funding after the fifth year and be responsible for interstate inspection, surveillance, and certain other Federal functions only.
- **1986:** The Grasshopper Integrated Pest Management project was initiated as a 5-year research effort to develop alternatives to chemical pesticides to control grasshoppers.
- **1986:** APHIS licensed the world's first vaccine derived from recombinant DNA. This vaccine, used against pseudorabies in swine, led to licensing of subsequent genetically engineered pseudorabies vaccines.
- **1987:** APHIS' international programs staff (within PPQ and VS) was given Foreign Service status, thereby increasing the influence of our personnel in the international arena.

In 1987, Donald Houston left his post as Food Safety and Inspection Service administrator to take the same position with APHIS.

Houston Launches APHIS' Reorganization.—One month after Houston's appointment, Kenneth Gilles, Assistant Secretary of Agriculture for Marketing and Inspection Services, sent Houston a memorandum directing him to conduct a thorough review of APHIS' organization and its management processes (November 1987). Gilles requested recommendations for reorganizing APHIS in a way that would strengthen its scientific base and allow the agency to operate more effectively and efficiently.

Houston subsequently established a management review group to conduct the internal review and to formulate a strategy for reorganizing APHIS. The group's report was completed and delivered to Assistant Secretary Gilles in March 1988.

Houston's Legacy.—Sadly, Houston died before the group had completed its report (Preparing for Future Challenges in Agricultural Health Protection). James Glosser, Houston's successor, implemented the subsequent APHIS reorganization plan.

A message composed by APHIS staff and published on the occasion of Houston's death presents an inspiring account of his vision for APHIS:

...During the 100 days he spent as administrator of APHIS, he charted a clear course of action to strengthen the agency and lead it into the future. He recognized the importance of the agency's programs and had implemented action to improve management and strengthen the agency's scientific and technical base.

Houston envisioned an APHIS whose laboratories and staffs received worldwide recognition as centers of excellence and whose employees were among the foremost experts in the world in the areas of animal and plant health. He wanted the industry and the public to better understand the agency's role in maintaining an abundant, safe, and affordable food supply for Americans and the world.

The dramatic reorganization that followed the management review group's recommendations, and the current structure of the agency, are the direct result and product of Houston's vision and initiative.

As administrator, James Glosser's first major task was to spearhead the 1988 reorganization. Based on recommendations from the management review group's analysis and supplemented with ideas developed by an APHIS team of deputy administrators, this reorganization led to the creation of five new units.

The APHIS Reorganization.—The new APHIS structure consisted of 11 programs, each headed by a director or deputy administrator sharing equal access to the administrator. The existing and new functions included the following:

*Existing**

- Plant Protection and Quarantine
- Veterinary Services
- Animal Damage Control
- Legislative and Public Affairs
- Biotechnology, Biologics and Environmental Protection
- Management and Budget

New

- International Services
- Regulatory Enforcement and Animal Care
- Policy and Program Development
- Science and Technology
- Recruitment and Development

* Some divisions listed above had different names prior to the 1988 reorganization.

Some of the more significant goals of the reorganization were to establish a strong, cohesive APHIS top management team, enhance the agency's planning and decisionmaking processes (e.g., strategic planning), and establish an integrated human resource management system. Glosser hoped that stronger recruitment programs would strengthen the agency's scientific and technical base.

The creation of new units and responsibilities within the agency presented new linkage and internal communication problems. Building agency cohesiveness continues to be a major APHIS concern. In March 1991, Glosser reactivated the management review group to evaluate the 1988 reorganization, setting the agency on a course for further organizational adjustments.

Recasting the Perception of APHIS.—Glosser, like Hawkins before him, found that the public perception of APHIS as a "regulatory policeman" put the agency in an unnecessarily adversarial relationship with the regulated community. Glosser attempted to recast this agency–industry relationship by emphasizing APHIS' role as a service provider and by taking measures to increase the participation of affected groups in developing regulations.

As a result of Glosser's interest in improving agency–industry relations, he championed a new approach for writing regulations known as negotiated rulemaking (or "reg-neg"). This regulation-writing method allows affected groups to participate in the early stages of drafting new regulations.

APHIS first employed the negotiated rulemaking approach with the honey bee industry in response to industry concern with the spread of the *Varroa* mite. Soon afterwards APHIS used the "reg-neg" approach with the sheep industry in formulating a regulatory response to scrapie.

The Core-Funding Concept Emerges.—It became apparent from the strategic planning process that an appropriate budget-allocation process was also required. Glosser subsequently became interested in modernizing APHIS' budget structure so it would be compatible with the agency's strategic plans. This interest in modernizing the budget evolved into what became known as the "core-funding" concept.

Traditionally, Congress has provided line-item funding for approximately 37 individual APHIS programs. There is no specific funding for some of the agency's basic activities, such as identification systems, surveillance for exotic diseases, and interstate inspection and compliance. These activities are funded by taking money from each of the individual programs.

Like Mulhern, Mussman, and Hawkins, Glosser grappled with the dilemma of the line-item budget structure. These administrators understood that once a specific program, such as brucellosis, is brought to completion, its funding would be terminated. This, in turn, would reduce funds that support some of the agency's basic activities, such as its systems for detecting and responding to emergency outbreaks.

Glosser believed the future direction of APHIS called for a new funding approach—one that would help the agency maintain its infrastructure so it could always provide surveillance, information analysis (e.g., the National Animal Health Monitoring System, NAHMS), and ongoing laboratory support services. These activities are essential to preventing and/or combating disease and pest outbreaks.

Glosser, like Mulhern, tried to promote a philosophy that agricultural health is best ensured by employing surveillance systems and activities rather than depending solely on emergency eradication or control programs. Through the core-funding concept, Glosser hoped to establish a funding base that would allow the agency to carry out ongoing health monitoring functions instead of depending on disease outbreaks for special appropriations from Congress.

There has been some success in implementing the core-funding concept, with increased recognition and funding for some surveillance and detection activities. Full implementation remains an agency goal.

Major Events and Issues of the Glosser Period.—

- **1988:** The boll weevil eradication program was expanded into Georgia, Florida, and Alabama.
- **1989:** The Rapid Completion Plan for brucellosis eradication was developed with industry participation. This plan featured the same program activities that had always been in place (e.g., testing herds, depopulation, whole-herd vaccination). But the plan also featured an additional \$10 million (from approximately \$55 million in FY 1989 to \$65 million in FY 1990) appropriation for the brucellosis program. This infusion was thought to provide the necessary resources to finally “knock out” the disease.
- **1990:** APHIS established the National Biological Control Institute to promote the use of biocontrol tools in and outside of APHIS.

Robert Melland (1991–present)

In November 1991, Robert Melland was named administrator of APHIS. Melland's relationship with the agency began in 1987, when he served as an assistant to the Assistant Secretary of Agriculture for Marketing and Inspection Services. In 1990, he became APHIS' associate administrator. Like former administrator Bert Hawkins, Melland is not a veterinarian.

Melland comes from a private-business and public-service background. He owned and operated a farm machinery dealership in North Dakota. During that time, Melland also served as a member of the North Dakota Senate. Following a period as director of the State's Office of Management and Budget, he came to Washington as a special assistant to a U.S. Senator from North Dakota.

Given the increasing number of competing demands made on APHIS (e.g., from trade, environmental, food safety, and animal welfare groups), Melland's political and private-sector experience could serve the agency well.

Melland's Focus: Refining the Organization.—Melland's particular focus is on refining the existing organization. Like Glosser before him, Melland recognizes that organizational and cultural barriers remain among the agency's program areas as a result of the 1988 reorganization. This, he

believes, has impeded the effective cross utilization of program expertise and has inhibited the agency from developing a single APHIS culture and identity. Melland's goal is to take the agency another step toward integration as a single team.

For Melland the notion of an integrated team also means eliminating any barriers that prevent the full participation of minorities and women in the agency's decisionmaking and program development and delivery.

In addition, Melland recognizes that disciplinary differences between the agency's veterinarians and plant personnel have, in the course of APHIS' evolution, impeded the development of a single agency culture. Historically, veterinarians have been perceived as assuming a dominant role within the agency. As this retrospective shows, all previous APHIS administrators were veterinarians or came from the livestock arena. The perception of lack of parity between animal and plant health programs within the agency has prompted Melland's interest in measures that would establish greater equality between the livestock and plant health program areas.

Significant Events of Melland's Tenure.—

- **1991:** Increasingly required to "do more with less," the agency institutes user fees to cover some of the costs of its services. These fees allow APHIS to charge directly those who directly benefit from its services.
- **1992:** Under Melland, APHIS tests a new, multidisciplinary staff concept—a staff dedicated exclusively to managing trade issues. The new group, made up of representatives from various APHIS programs, reflects the agency's increasing need to respond to changes in the global economy. As agricultural trade expands, the agency seeks to enhance its role and identity as an active facilitator of trade.

Melland dissolved the Science and Technology division, transferring its laboratory and methods-development functions to APHIS' various operational programs (VS, PPQ, or ADC). This action, which reduced the number of APHIS divisions from 11 to 10, was undertaken in order to better integrate the agency's methods development research with its action programs. The position of science advisor was subsequently created to provide the administrator with direct, competent support on scientific matters.

To demonstrate the agency's ongoing commitment to seeking and promoting alternative control tools, Melland has directed the National Biological Control Institute—formerly a part of the Science and Technology division—to report directly to the Office of the Administrator.

- 1993: A major event involves the upcoming headquarters relocation, planned for 1993. Moving headquarters personnel to new office space is intended to centralize APHIS activities in a single place and to enhance employees' work environment. This, Melland hopes, will improve agency morale, strengthen internal linkages, improve APHIS' delivery of services, and enable the agency to bring closure to projects, commitments, and regulations that remain uncompleted.
- 1994: Melland seeks to establish a special pest and disease emergency fund that can be carried over from year to year, allowing it to grow. Currently, when the agency is required to respond to serious pest or disease outbreaks, it seeks Commodity Credit Corporation funds from the Department. This is a time-consuming and uncertain source of emergency funding. The new general (not program-specific line-item) fund exemplifies Melland's interest in exploring a budget structure that will give APHIS greater flexibility to respond to pest and disease emergencies and in general to operate more efficiently.

Lonnie J. King (1992–96)

Lonnie King, a veterinarian, rose through the ranks to be named acting APHIS administrator in October 1992. Before that, he served as deputy administrator of Veterinary Services from 1988 to 1991 and as the agency's associate administrator under Bob Melland. King was confirmed as APHIS Administrator in July 1995.

King brought with him a vision of where the agency might go after active eradication programs, such as brucellosis, were completed. In part due to his prior staff work with the VS National Animal Health Monitoring System, King focused on moving APHIS from active animal disease control and eradication programs to surveillance, information analysis, and management of animal health.

Major Challenges.—King recalled four major challenges during his time as administrator. First was the shift toward globalization and a new interest in international trade and how industry and the agency interacted to meet these needs. Second was a new emphasis on food safety and consumerism, with resulting APHIS activities in preharvest food safety efforts, such as *Salmonella enteritidis*, *Escherichia coli*, and preventing the entry of bovine spongiform encephalopathy (BSE) or “mad cow” disease.

A third challenge was converting the agency from a mindset of responding to headlines and crisis situations to a proactive world view. “This,” King noted, “can be termed ‘the ability to separate the urgent from the important.’” Finally, the fourth challenge was the problems of keeping focused and preparing for the future needs of the agency in the face of reduced public confidence in Government coupled with calls for reengineering, reinvention, and downsizing of Government agencies.

Progress in Eradication and Prevention.—King's term saw continued progress in the national brucellosis eradication program. The Rapid Completion Plan, developed in concert with cattle groups and adopted in 1989, put increased emphasis on herd depopulation as an eradication tool. These continuing efforts brought striking results during King's administration, with the number of cattle herds under quarantine dropping from 415 in October 1992 to only 51 in July 1996. During the same timeframe, the number of States free of the disease rose from 32 to 34.

One vexing problem that remained as King left the agency was how to deal with the problem of brucellosis in bison in Yellowstone National Park and the threat that infected wildlife there poses to cattle in surrounding brucellosis-free States.

The pseudorabies eradication program made steady progress, with 19 States free of the disease by the time King left. An infestation of Asian gypsy moths in North Carolina introduced via a military cargo ship returning from Europe was contained and eliminated.

King's era saw a shift in strategy in dealing with Mediterranean fruit-fly infestations. Instead of focusing eradication efforts around specific areas where Medflies were trapped, the agency began massive releases of sterilized Medflies over the entire Los Angeles basin. This approach successfully eradicated this potentially damaging foreign pest and was instrumental in preventing the establishment of new introductions.

Surveillance, information analysis, and management of animal health took on added importance under King. Started under Glosser and emphasized by King, the position of Veterinary Services' Centers for Epidemiology and Animal Health (CEAH) at Ft. Collins, CO, was solidified. This, in turn, helped legitimize APHIS' animal disease surveillance and monitoring activities.

Responding to Threats.—APHIS played a leadership role with industry and other Government agencies during King's tenure in dealing with problems such as *Salmonella enteritidis* (SE) in eggs, *E. coli* O157:H7, and BSE. In particular, King believed that the United States has dealt with the threat of BSE better than any other nation in the world.

International Trade.—A major accomplishment during King's administration was helping the agency get ready to deal with sanitary and phytosanitary (SPS) trade standards and all the implications stemming from the General Agreement on Tariffs and Trade (GATT) and the North American Free Trade Agreement.

(NAFTA). The Trade Support Team was set up as a separate unit within International Services to coordinate and focus APHIS activities in this area, and the Phytosanitary Issues Management Team was established in PPQ to aid this effort.

The “foundation building” initiative with the APHIS Management Team (AMT) was a significant achievement of King’s administration. Called foundation building to stress the need to clarify the agency’s trade mission in the midst of changes in global agriculture, this exercise with the AMT resulted in a recognition that APHIS must embrace a dual mission of trade facilitation and protecting agriculture. That is, APHIS must effect a paradigm shift in the way the agency looks at itself.

Visioning.—The APHIS Visioning and Future Search, begun under King and continuing under the present administrator, Terry L. Medley, was an important process that helped set new directions for APHIS and produced shifts in the organizational culture of the agency. Reinvention labs helped change the way the agency did business. A number of these efforts received Hammer Awards from Vice President Gore’s National Performance Review.

Finally, King’s tenure saw the agency conduct an “information systems planning” process that helped move information technology and computer programs from an individual unit focus to an APHIS- wide, centralized approach. The agency also awarded a multimillion-dollar contract—the Integrated Systems Acquisition Project or ISAP—to help standardize computer hardware and software within APHIS.

Model Agency.—King viewed a “model agency” as one that is able to successfully convert ideas into action through a three-cycle process of doing, learning, and changing.

This view resulted in an ability to put the overall APHIS mission and vision ahead of the self-interest of individual units and helped create an agency that adopts new techniques, is flexible, has a global perspective, and is outcome based.

Finally, King believed that a model agency is one that has both a passion for its mission and a special care for its employees. He felt this was exemplified by the response to the Oklahoma City bombing in April 1995, when seven APHIS employees lost their lives.

King left the agency in July 1996 to become dean of the School of Veterinary Medicine at Michigan State University.

Major Events and Issues of the King Period.—

- 1993: Planning continued for a headquarters relocation, accomplished in early 1995, to new office space, a move intended to centralize APHIS activities in a single place and to enhance employees’ work environment. The objective was to improve agency morale, strengthen internal linkages, and improve APHIS’ delivery of services.

APHIS simplified its rules for genetically engineered plants by adding a notification system to expedite field testing and a petition process to exempt qualified plants from further regulation.

A joint investigative effort by APHIS and local Oregon officials ended in a criminal prosecution in which three individuals who maintained false records in a dog kennel received jail sentences of 10 to 12 months plus 3 years’ probation.

- 1994: APHIS opened up markets for Washington apples in both China and Japan, with the historic first shipment of Red Delicious apples leaving for the People’s Republic of China in late June.

Ten new teams are added to APHIS’ “Beagle Brigade,” a group of detector dogs at the forefront of agency activities to protect the health of the Nation’s plant and animal resources. Detector dogs are also used in Guam to locate brown tree snakes, an introduced species that has decimated native bird species and threatens Hawaii and other Pacific islands.

To help reduce the level of pathogens before animals reach the slaughter plant, APHIS established a Preharvest Food Safety Team to work with industry, consumer organizations, academic and research communities, and other Federal agencies on preharvest food-safety initiatives.

With fewer than 28,000 of an original 435,000 acres remaining infested with witchweed and eradication in sight, APHIS turned over the eradication program to North Carolina.

- 1995: APHIS negotiated SPS agreements with a number of countries to enhance trade opportunities, including markets in Japan for sweet cherries; in China for cattle, swine, bovine embryos, ostriches, apples from Oregon and Idaho, and sweet cherries from Washington; in South Africa for stone fruit, strawberries, blackberries, and raspberries; in New Zealand for California peaches and nectarines; and in Turkey for an estimated 20,000 to 30,000 cattle over a 2-year period.

Boll weevil eradication activities were expanded into south Texas, the rest of Alabama, and parts of Tennessee and Mississippi.

A national aquaculture coordinator was named to oversee APHIS efforts in this area.

The APHIS home page was established on the Internet’s World Wide Web in June, providing an additional way to disseminate information about the agency and its programs.

APHIS and State agencies cooperated in the aerial distribution of an oral rabies vaccine for coyotes to combat an outbreak of rabies in Texas.

- 1996: APHIS mobilized a task force to combat an outbreak of Karnal bunt, a fungal disease of wheat, durum wheat, and triticale, first found in Arizona in March.

Terry L. Medley (1996–Present)

Terry L. Medley was named APHIS administrator on July 8, 1996. In making the appointment, Agriculture Secretary Dan Glickman said, "He has extensive experience in managing complex, scientific regulatory programs." When Medley came to APHIS in 1988 to develop the regulatory framework for biotechnology that was to be administered by APHIS, he became the head of the Biotechnology, Biologics and Environmental Protection unit. There, in addition to the biotechnology regulatory process, he administered the only commercial licensing program in the agency as well as an analytical program that developed risk assessments—all areas of increasing importance to APHIS' role in global agriculture.

In February 1993, Medley was named acting associate administrator of APHIS. From February to August 1995, he served as acting administrator of USDA's Food Safety and Inspection Service (FSIS), before being named associate administrator upon his return to APHIS. Before coming to APHIS, Medley spent 10 years as an attorney in USDA's Office of the General Counsel, where he advised APHIS and FSIS on a variety of technical issues.

When Karnal bunt was found in Arizona in March 1996, Medley immediately assumed an important leadership role in the efforts to contain and control this foreign wheat fungus. This involvement continues to the present.

Begun under King and implemented under Medley, the process of restructuring functions within the agency was completed in October 1996. The Biotechnology, Biologics and Environmental Protection unit was dissolved, and its program areas reverted to PPQ, VS, and Policy and Program Development. Reporting lines for the National Biological Control Institute were transferred from the Office of the Administrator to PPQ. The Regulatory Enforcement and Animal Care unit was split, with Animal Care becoming a stand-alone unit and regulatory enforcement functions placed under Management and Budget and renamed Investigative and Enforcement Services.

"Essential Agri-data."—Medley uses the term "essential agri-data" to describe the information necessary to certify the health of our animal and plant resources for export. Building on King's vision and legacy, Medley continues to emphasize the importance of surveillance and monitoring activities within APHIS—the Cooperative Agricultural Pest Survey and National Agricultural Pest Information Service on the plant side and the National Animal Health Monitoring System to record information on animals. A renewed emphasis on monitoring and surveillance points to the critical significance of acquiring and maintaining information on pests and diseases. For Medley, this information also leads the agency to a state of emergency preparedness where it is better positioned to deal with incursions of foreign pests and diseases.

Medley sees several major accomplishments in the relatively brief period he has served as administrator. Following passage of the 1995 farm bill, the agency has implemented procedures to allow APHIS total access to the user fees it collects. In the Karnal bunt program, Medley feels that APHIS has done an excellent job of balancing efforts directed toward the program's three major goals: protecting the Nation's \$5.5 billion wheat export market, containing the disease, and minimizing the regulatory impact on the affected industry.

A Critical Role in Trade.—As with many of the administrators before him, Medley recognizes the importance of trade. He sees APHIS as being increasingly recognized for its critical role in expanding trade opportunities. He cites one recent example in the biotech area where APHIS efforts helped get European approval of genetically engineered corn and soybean exports—an export market estimated at nearly \$1.5 billion a year. "Our expertise is establishing APHIS as a crucial player in maintaining and expanding export markets for U.S. agricultural products," Medley says. He points to trade as one of a number of areas where APHIS is operating with a "team approach" to accomplish its goals.

Medley sees his view of APHIS' role in trade as slightly different from that of his predecessors. He believes that maintaining and expanding agricultural markets is part of APHIS' efforts to protect American plant and animal resources. "This is not an addition or a balance, but an integral part of

our mission," Medley says. He sees expanding markets as critical to the viability of American agriculture. "Protecting American agriculture requires APHIS leadership in SPS issues," Medley says, "so we can apply the same set of standards to both domestic and international markets."

Challenges Lead to Opportunities.—If we have expanded trade, this also provides the potential for more opportunities for pest and disease introductions. Finding the proper balance is both a challenge and an opportunity, Medley believes. Regionalization is one example where the agency is charting new waters, and developing implementation plans in this area is a top priority for the agency.

Reduced resources—both in human and dollar terms—will continue to be a challenge as pressures escalate for Government to be "reinvented" and "downsized." According to Medley, resource restrictions will force expansion of team-based approaches and will expand cross-utilization within the agency. This scenario creates the opportunity for us to maximize our use of resources by maximizing our efficiencies, Medley believes. It also will require greater commitment from employees at a time when the system gives them less security. "How do you get them to make that commitment?" Medley asked. The challenge of change requires one to get maximum individual growth from a job in order to be better prepared if that job changes. Finally, Medley addressed the challenge of making sure the agency respects and values each employee, regardless of his or her position or duty.

Results Oriented.—Medley sees a "model agency" not in terms of a form or structure for APHIS, but rather in looking at results. He believes that the agency's accomplishments should be measured in terms of "four C's"—commitment, competency, communication, and caring. "These can be listed in any order you want," he notes, adding that the agency must have a commitment to its most valuable resource—its people.

Significant Events of Medley's Tenure.—

- 1996: China approved two artificial insemination centers and nine embryo transfer centers, a development that let the United States export bovine semen and embryos to China, a potential \$20-million-a-year market for each.

Ceremonies in October in Tokyo, Honolulu, and Washington, DC, marked the inaugural shipment of potted plants from Hawaii to Japan under a new certification program with a market that could be worth an added \$10 million over the next couple of years.

The screwworm eradication program in Latin America continued to make progress toward its goal of establishing a barrier zone in Panama as Honduras was declared free of the flesh-eating pest.

APHIS joined international efforts to eradicate the Carambola fruit fly from Suriname and Guyana.

The National Wildlife Research Center relocated from Denver to Ft. Collins, CO.

- 1997: After an extended rulemaking period, APHIS issued a final rule establishing a "systems approach" with nine overlapping safeguards under which commercial shipments of fresh Hass avocado fruit grown in approved orchards in the state of Michoacan, Mexico, can be imported into the Northeastern United States. This action demonstrated APHIS' commitment to science-based regulatory decisions, as mandated by APHIS trade policy and the World Trade Organization/SPS agreement.

The APHIS Center for Plant Health Science and Technology was established in Oxford, NC, to provide the best possible scientific and technical support for the protection of U.S. plant resources and the facilitation of agricultural trade.

A letter signed by Medley and former administrator Harry Mussman formally established a linkage between the agency and the APHIS Alumni Organization to allow people from both groups to "meet challenges by working together."

APHIS made significant progress in working with the Forest Service and the National Park Service to resolve the problem of straying Yellowstone National Park bison that threaten cattle in surrounding brucellosis-free States.

Mexico allowed the importation of U.S. sweet cherries from California, Oregon, and Washington—an action estimated to be worth several million dollars to U.S. cherry growers.

APHIS Today and Tomorrow

While APHIS' mission has remained essentially the same over its 25-year history, the number of actors involved in the agricultural policy arena, both inside and outside of government, has grown, as have the number and type of agricultural issues.

Today, interest groups that demand to have a voice in agricultural policy include commodity groups, specialized trade associations, grassroots agricultural reform organizations, agribusiness, and environmental and animal welfare groups. Furthermore, agricultural policy is more than just farm policy. Today, agricultural policy encompasses farm, food and fiber, trade, environmental, and macroeconomic policy.

Meeting Societal Changes

In the course of the past 25 years, APHIS has adapted to societal changes by changing its organizational structure and adopting innovative approaches in the way it develops regulations and conducts its programs.

For example, as a result of new environmental concerns and subsequent legislation, APHIS has been required to create new staffs to provide environmental documentation and conduct environmental-monitoring activities. Similarly, animal welfare legislation, enacted because of a public concern that evolved during the sixties, seventies, and eighties, culminated in new regulatory responsibilities for APHIS. APHIS responded by creating an animal care staff and later establishing a formal division to enforce animal care regulations.

Another example of the way APHIS has responded to the challenge of incorporating and balancing the conflicting demands of new and traditional interest groups can be seen in Glosser's effort to institute the negotiated rulemaking process. This regulation-writing method attempts to reconcile competing interests by inviting affected groups into the regulation-writing process.

Finally, APHIS administrators, beginning with Mulhern, sought to demonstrate a management mindset that welcomes both internal and external criticism. Mulhern, and Mussman later, emphasized that critics, such as animal welfare and environmental groups, are the agency's best allies. Their views keep the agency in the dynamic process of self-assessment and improvement. Their criticism can be the basis for positive change.

Looking Ahead

Environmental and food safety concerns will continue to require APHIS attention in the future. However, the emphasis will be on improving the agency's risk-management and risk-communication capabilities. The critical challenge for the agency is to provide eradication and control programs or license biotechnology products while at the same time responding to the concerns of those who oppose the use of tools perceived to present an unacceptable risk to human or environmental health.

Another challenge APHIS has faced and will continue to face is how to modernize its budget structure to reflect a philosophy that emphasizes maintaining agricultural health instead of responding to agricultural-health emergencies. APHIS has built an enviable record and reputation for its quick emergency response capability. This has been evident in the successes of both its animal and plant health and disease-fighting programs. However, each administrator has sought to make APHIS more than an emergency response organization by promoting a vision of an agency that can provide ongoing disease and pest surveillance and prevention services.

This vision of an agency oriented to prevention has been evident at various times in APHIS' history. For example, the expansion of APHIS preclearance and control and eradication programs in foreign countries demonstrated a prevention philosophy for it attempted to stymie pests and diseases before they could reach U.S. shores. James Glosser also emphasized prevention approaches and activities. His core-funding concept was the first step to promote a budget that would support an agency capable of protecting agricultural resources through ongoing animal and plant health monitoring services.

Today, the Department of Agriculture has come under intense scrutiny. Questions come up often about USDA efficiency and relevance in a world that has changed dramatically. This scrutiny by members of Congress and by the media has put the spotlight on all USDA agencies, including APHIS. APHIS' challenge in the immediate future will be to continually modernize and demonstrate its vitality and significance to farmers, exporters and importers, and consumers.

Every administrator has faced the challenge of trying to maintain a dynamic, highly competent, and responsive organization in the face of changing needs and perceptions. However, Frank Mulhern's statement that "management in all government is going to come under close scrutiny and that mediocrity is not going to be tolerated because we don't have all those resources we had at one time" seems especially prescient today.

The basic challenge of building and maintaining an effective organization will continue to depend on cultivating productive management–employee relationships. Twenty years ago, Mulhern recognized the value of participatory management and open communication.

Robert Melland also recognized the talent and energy that exist among APHIS employees and sought ways to tap into it. His interest in equal opportunity policies, workplace issues, program parity, and measures for consolidating and strengthening field operations reflected a vision, conceived 25 years ago, of making APHIS a model agency.

Today, SPS issues play an increasingly important role in international trade. Both GATT and NAFTA affect APHIS' decisions in this area. Science-based import-export regulations must form the long-term basis of APHIS' trade policy.

As this history demonstrates, the path to agency preeminence never reaches an endpoint. Instead, we find that attaining excellence is a dynamic, ongoing process.

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