

A National Center of Disease Research in Iowa—NADC

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Each year U.S. livestock producers lose an estimated \$2 billion in profits due to infectious animal diseases. One important weapon the U.S. Department of Agriculture uses to fight these losses is the research done at the National Animal Disease Center (NADC) in Ames, Iowa.

To relieve overcrowding at other animal disease research centers and to consolidate facilities, Congress created NADC in 1958. The initial facilities were completed in 1961 at a cost of \$16.5 million. The Center's ultimate goal is a livestock population as free as possible from disease. Both solutions to current problems and new methods of basic research are sought at the facility.

Presently the facilities cover 343 acres. An area equivalent to five city blocks is contained within 33 fire resistant buildings. Three research buildings are the heart of the Center. The main laboratory contains 36 individual units all served from a central service core. Two other animal isolation laboratory buildings are equipped for the holding of larger farm animals used in experimental work. All other buildings in the Center support the research by providing necessary services.

NADC employs over 500 people with one-fifth of the staff consisting of research veterinarians, microbiologists, biochemists, physicists and other biological specialists. The laboratory combines several specialists making up a team to research a given experiment for information on cause, transmission, diagnosis and control of animal diseases.

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These teams are supported by technicians, secretaries, animal caretakers, maintenance workers and personnel in other occupations. The director of NADC is Dr. Phillip A. O'Berry.

To prevent the spread of infectious agents, the center is equipped with numerous safety features that protect both researchers and nearby communities. All sewage is steam heated, chopped into quarter inch particles, and steam-sterilized again before entering the Ames sewage system. Air lock systems, bacterial air filters and negative air pressure within laboratories are used to prevent the spread of contaminants. All contaminated materials are sterilized or incinerated before leaving a building. In addition, facilities are designed for ease of cleaning and disinfection.

NADC has 2 functioning agencies. One is the National Animal Disease Center itself, a branch of the Agricultural Research Service (ARS). It involves nearly 70% of the facilities at the site in active research on animal infectious diseases. "We focus our research on the economically important diseases and the ones affecting public health and safety," says Dr. O'Berry. "When hog cholera was prevalent in the U.S. we went into high gear with our research in that area. We developed the diagnostic test which eventually helped to contain the hog cholera problem. Since that time hog cholera research has been phased out of the program and new areas have since been concentrated on," continued Dr. O'Berry.

Today research is being conducted on the isolation of the agent causing Bovine Leukemia. Immunization methods are being developed for Transmissible

Gastroenteritis in swine. Also researchers are attempting to produce an effective vaccine against Bovine Infectious Keratoconjunctivitis. In all about 25 different diseases are studied at any one time. Included in the research program are 25 cooperative projects in 14 U.S. universities and 8 projects in 3 foreign countries.

ARS serves the practitioner in the field in 2 important ways. First, methods of disease control are perfected. This is usually accomplished through the production of new vaccines or improving existing ones. Once the vaccines have proven to be effective, drug companies buy the license to produce them and the improved products are passed on to the veterinarian. Secondly, new diagnostic tests are developed or old ones perfected for more efficient detection of disease. These advances are passed on to the diagnostic laboratories across the nation providing the most up-to-date services available.

The second agency associated with NADC is the Veterinary Services Laboratory (VSL) of the Animal and Plant Health Inspection Service. Under the direction of Dr. M. T. Goff, the VSL is an important national center for veterinary diagnostic work and veterinary biologics quality control. It represents the 1973 consolidation of the former Veterinary Services Biologics Laboratory and the Veterinary Services Diagnostic Laboratory.

All veterinary vaccines produced for interstate commerce are tested at VSL for safety, purity, efficacy, and potency. In addition, VSL gives diagnostic assistance to various state and national agencies. The

services provided include diagnostic reagent production, diagnostic examination, field consultation away from the central facility, and research projects seeking new and improved diagnostic procedures. Finally, VSL serves as a training center for State and Federal regulatory and diagnostic personnel.

VSL will soon start construction of a new laboratory just south of the main complex of buildings at NADC. At present, VSL has buildings at various locations around Ames. The consolidation and expansion with the new buildings will provide promise to increase productivity, efficiency, and economy of the agency. Work on the new laboratory is expected to start this coming summer and should be completed by the summer of 1978. The new facility will provide 45,000 square feet of laboratory space and 35,000 square feet of animal holding space on 153 acres of land.

Thus, NADC and VSL make Ames, Iowa one of the world centers for veterinary research in the fields of disease control, monitoring of biologics, and diagnostic work.

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A Public Health Mystery

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The next time you hear a public health official describing in glowing terms the challenge of his work, dramatically

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likening it to that of a master detective, don't be too quick to scoff. In the tedious gathering of every available fact, the careful sifting among them for the valuable versus the misleading, and the final arrival (hopefully) at an educated and logical conclusion, the two disciplines are quite