



### Poultry Industry Energy Research

The poultry industry, a multi-billion-dollar business in the United States, uses great amounts of energy in such operations as broiler growing, feed manufacturing, poultry processing and packing. Higher costs and limited supply of fuels common to the industry are predicted, so poultry producers are seeking ways to reduce energy expenditure. NASA is providing assistance to Delmarva Poultry Industry, Inc., an association of some 4,000 growers and suppliers in one of the nation's largest poultry production areas. Delmarva is the East Coast peninsula that includes Delaware and parts of Maryland and Virginia.

The upper right photo shows a weather station in the Delmarva area (wind indicator on the pole, other instruments in the elevated box). The station is located at the University of Maryland's Broiler Sub-station, Salisbury, Maryland, where the university conducts research on poultry production and processing. The sub-station is investigating ways of conserving energy in broiler production and also exploring the potential of solar collectors as an alternative energy source. For these studies, it is essential that researchers have continuous data on temperature, pressure, wind speed and direction, solar intensity and cloud cover. Equipment to acquire such data was loaned and installed by NASA's Wallops Flight Center, Wallops Island, Virginia.

In a related project, Wallops Flight Center is helping Delmarva Poultry Industry establish a seasonal wind profile for the area. The intent is to assess the future potential of wind turbine power systems, now being developed by NASA and the Department of Energy, for reducing costs of Delmarva feed manufacturers. The Center provided and installed wind measuring equipment at a typical site

adjacent to the Chesapeake Food Feed Mill, Princess Anne, Maryland. The equipment will gather data over a two year period.

### Briefcase Communicator

In the photo at bottom right, a U.S. Park Police officer is demonstrating a battery-powered communications system, sufficiently compact to be packed in a briefcase-size container, which can send and receive signals over great distances by means of satellite relay. Key to the system's efficacy is the high-powered transmitting and receiving equipment aboard such NASA satellites as the Applications Technology Satellite-6 (ATS-6) and the joint U.S.-Canadian Communications Technology Satellite (CTS); this enables the briefcase communicator to pick up satellite-relayed signals by means of the small hook-on antenna shown instead of the more elaborate ground equipment customarily needed. Developed by NASA's Goddard Space Flight Center, the communicator is intended for use in emergency situations. It has utility, for example, in disasters, such as

floods and hurricanes, where power failure disrupts conventional communications; for on-the-spot transmissions from major accident sites; or in remote areas where no other means of communication exists.

The system's usefulness was demonstrated last summer in a field exercise conducted at Baltimore/Washington International Airport by the Maryland Institute for Emergency Medical Services. The exercise, one of several similar demonstrations, simulated a major accident and assumed that large numbers of "burn patients" required immediate medical treatment on the scene. The briefcase communicator, used in conjunction with the ATS-6 satellite, provided an on-the-spot method of consulting burn-specialist physicians hundreds of miles away in Boston and Chicago. It was used by emergency medical technicians to describe verbally, and to show via slow-scan TV, the conditions of the "patients." In a real emergency, patients would be treated at the scene by medical technicians remotely directed by specialists.

