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PROGRESS REPORT
From January 1 to June 30, 1987

**APPLICATION OF MONOCLONAL ANTIBODY TO RICE
VIRUS EPIDEMIOLOGY IN THE TROPICS**

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1. Immunization and screening for monoclonal antibody to RTSV and RTBV.

Mice were immunized twice with RTBV and RTSV at USDA and fused cells were screened for virus specific antibodies and to host components. All positive reactions were against the host components. We found that the purified virus preparations were accidentally exposed to room temperature during the delivery from IRRI to USDA. Injected preparations might have denatured particles.

New preparation of purified RTBV and RTSV packed with dry ice were sent from IRRI to USDA through an airline mail. Shipment of the package at the Manila Airport was delayed and when the package arrived at USDA, dry ice had gone. The RTSV preparation showed typical UV adsorption patterns but contained no intact particles. The RTBV preparation had intact particles. Mice were immunized with RTBV.

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2. Detection of grassy stunt virus in the vector brown planthopper.

The monoclonal antibody was used to detect grassy stunt virus in viruliferous vector brown planthopper in ELISA. An Immulon II plate (Dynatech) was coated with globulin at 1.5 µg/ml and globulin-alkaline phosphate conjugate was diluted 500 times. Grassy stunt virus was successfully detected from individual planthoppers.

IRRI have been monitoring brown planthoppers carrying grassy stunt and ragged stunt viruses by testing in ELISA brown planthoppers caught in a light trap which is located in a remote area in Laguna province. We started to use the monoclonal antibody for the detection of grassy stunt virus in individual planthoppers. The monitoring data will be used to forecast possible virus outbreaks and develop virus disease forecasting systems.