

## Satellites to check insect, disease damage

HARRISBURG — The Pennsylvania Department of Environmental Resources will use earth satellites called Landsat for mapping forest insect and disease damage in the commonwealth.

DER Secretary Clifford L. Jones, who signed the agreement with the National Aeronautics and Space Administration to provide this service, said, "This project has a high priority in our forest pest management program and we are eager to get the system operational."

"Replacing our costly and obsolete survey methods with modern space-age technology will result in a savings of thousands of dollars each year."

He said foresters in DER's Bureau of Forestry each year map insect defoliation by sketch-mapping their observations from the air. This method is time consuming and costs more than \$20,000 each year.

"We hope to replace these obsolete methods by 1983 and the cost will be only a few hundred dollars each year."

"The groundwork will also

be laid for other forest and land resource applications using Landsat."

Detecting and mapping insect damage, notably that caused by the gypsy moth, is necessary for conducting control projects and determining timber losses.

The Division of Forest Pest Management has been working informally with NASA since 1976 to explore the feasibility of utilizing Landsat and preliminary investigations have proven fruitful. The new agreement involves a three-year project to implement an automated system using Landsat digital data.

Also involved in the program will be the Office of Remote Sensing of Earth Resources at Penn State.

That office will develop a base map from Landsat which will depict only forest cover in the commonwealth. Computer tapes containing the extent and severity of forest defoliation imagery from Landsat then can be fed into the system to produce a useable forest survey map of the state.

James O. Nichols, chief of the Division of Forest Pest Management, said, "Gypsy moth defoliation is discernible from Landsat, which operates several hundred miles in space."

"Currently there are two

satellites operating and these provide coverage over any given point every nine days. With only one satellite the coverage is every 18 days.

"Consequently," said Nichols, "there should be no

insurmountable technical problems to implementing the new system.

"We were concerned about cloud cover at the critical times when this mapping has to be done - that is, at the peak of the defoliation but

before the trees could put out a new crop of leaves.

"With two satellites operating, there is a high probability that at least one flyover during the critical period will result in acceptable imagery data."

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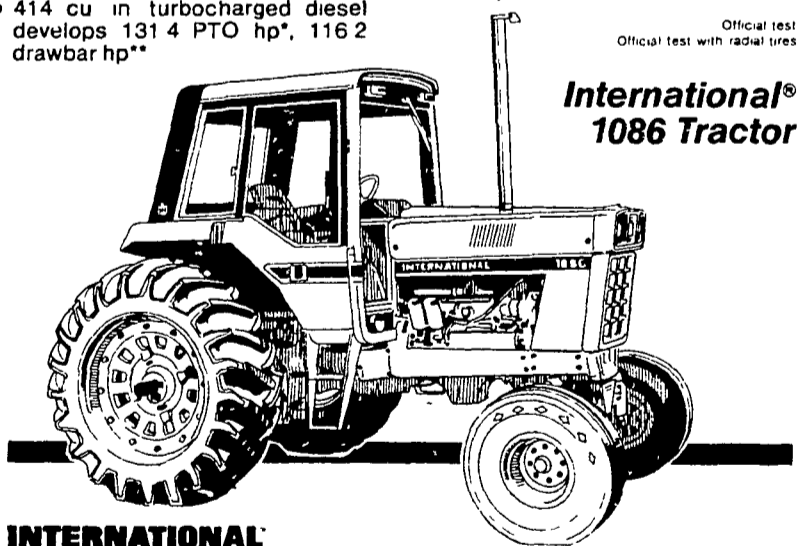
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