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Progress Report No. 13

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Title: A Study of Early Detection of Insect Infestations and Density/Distribution of Host Plants.

Citrus Insects Research
USDA, ARS
509 West Fourth St., Weslaco, Texas 78596

Period: February 1-28, 1974

EREP Investigation No. 319
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- (A) During this period a total of 29.5 hours were flown. We had the best weather conditions for the photographic missions this month since the beginning of the Skylab program. Flights were made to Seguin to photograph the pecan area in order to record any new growth of leaves on the trees that were defoliated by the walnut caterpillar since early season growth usually develops first on trees defoliated the previous season. We also continued to take weekly photographs of our established test sites. In the effort to obtain photographic records of all citrus in the Rio Grande Valley 34 of the 54 flight lines required have now been completed.
- (B) Aerial photography missions have been maintained on a weekly basis, so that when the S-190B data is received the relationships of ground truth, aerial photographs, S-190A and the high resolution data can be established.
- (C) Accomplishments during the next reporting period will be dependent on the data received from the various data sources. Since we need maximum resolution in order to accurately identify our problem areas, we are hopeful that S-190B data from Skylab 4 will provide the detail required.
- (D) Results to date have demonstrated that patterns of vegetation that relate to the distribution and dispersal of pests under study can be determined with S-190A data. The resolution with this data system is however inadequate to go much beyond identification of

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vegetated and non-vegetated areas. Improved resolution would offer the possibility of crop and host plant identification that would be vastly more significant and valuable. It is our feeling that only a slight increase in resolution would be required to accomplish this and that S-190B offers such a possibility.

- (E) If more complete coverage with the higher resolution S-190B system is obtained from subsequent data, all the objectives of this study should be within reach.
- (F) Outside travel during this period was to Seguin, Texas only. All other travel was local in connection with ground truth data collection and aircraft flights.