

**Evaluation of Environmental Monitoring
as a Tool for
Nursery Insect and Disease Pest Management**

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Nurseries are high-value commodity areas that require an exceptional level of freedom from pest injury. Nursery integrated pest management (IPM) is dependant on regular, on-site pest monitoring to assure prompt diagnosis of pest problems. Environmentally driven predictive pest models to provide advance warning of potential pest outbreaks have considerable potential to fine tune and focus field scouting efforts. This project was an initial effort in what will be a long process to see if useful, pest models can be developed for southeastern nursery IPM.

1997 Results:

Sky Bit, a satellite-based environmental monitoring service was compared to highly sophisticated, on-site environmental monitors. We found that:

1. CANR data, and similar data from several other sites across the Southeast, demonstrated that for insect pest management decision-making purposes the satellite-base environmental monitoring service appears to be competitive with the on-site monitors.
2. On-site environmental monitors, two different systems were tested in 1997, are extremely accurate and hence are superior research tools. However, sophisticated environmental monitors require considerable technical expertise to keep on-line. The high, up-keep requirement of on-site environmental monitors certainly calls to question the utility of such systems as commercial IPM management tools.

Long-term implications of the CANR's initial nursery modeling effort are upbeat. Our experiences suggest doable, pragmatic tools can be developed to augment regular IPM monitoring. CANR's pest modeling effort has been re-directed to a more rapidly attainable, intermediate goal of software development to record and chronicle on-site pest infestations. This electronic record keeping effort, along with use of existing predictive pest models such as the pine tip model, will be used to heighten awareness of potential pest events. And by archiving on-site weather data, we retain the potential to eventually correlating pest infestations events with temperature, etc. We feel this pragmatic approach will help now, while also facilitating our examination of pest models as nursery IPM tools for the Southeast.