

COMPLETE ALFALFA CROP CARE USING A MICROCOMPUTER

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Ag Data Handler

Microcomputers are a new tool the PCA can use to implement the art of pest management.

Basically most farmers hire PCAs to take care of their crop protection problems without a thought as to how growing practices and pest suppression interrelate.

Microcomputers have the capability of bridging the gap of crop protection and crop production and establishing a real crop-pest management approach.

In general, the Ag Data Handler performs the following functions to assist the PCA in his pest management approach.

1. Analyzes field inspection records for immediate decision making purposes.
2. Summarizes the information and reports it to the farmer on a "timely" basis and in a "graphic" manner.
3. Improves the PCA's "forecasting ability" both in plant growth prediction and insect population dynamics.
4. Assists the PCA in measuring the impact of various recommendations on insect populations and compares the effects of various treatments.
5. Assists the PCA in determining the impact of growing practices on insect populations as well as production.
6. With further expanded programs and enough field documentation the PCA will be able to tell a farmer what he can expect in the way of expenses and production, under a given set of parameters, (temps, soil type, salinity and fertility, etc.).

Specifically, the Ag Data Handler contains eight modules which operate as a total unit or as individual components based on one's needs.

To begin with, a Farmer-Field Directory is necessary to track information about the farmer (name, address, permit, etc.), crop location, various crop dates and varieties.

The Crop Production module manages information in the following areas for each field: 1) field preparation; 2) water records; 3) soil analysis; 4) soil characteristics; 5) soil modifications and improvement; 6) fertility records; 7) petiole analysis; and 8) plant growth data.

The Crop Protection module manages information for each field in the following areas 1) pest and beneficial data including every development stage measured, sample method, number of sample dates and so on; and 2) plant injury evaluations.

The Forecasting module manages information used to generate plant growth predictions and insect population dynamics. There are three sub-sections which 1) maintain temperature data for up to 10 stations, 2) maintain heat unit models (day-degree or hour degree) for generating forecasts (up to 100 models can be maintained) and 3) generating forecasts

The Recommendations module manages information associated with pesticide applications by maintaining for each field location: 1) date and time of application; 2) type, amount, applicator and supplier of pesticide; 3) method of application; and 4) cost and regulatory information.

The Chemicals module manages and maintains information about: 1) pesticides, fertilizers and foliar; 2) suppliers and applicators; 3) chemical composition; 4) costs; 5) rates and restrictions of applications; 6) methods of applications; 7) registered crops and pests;

and 8) reentry and harvest intervals.

The Cost Analysis maintains and produces reports for each field and farmer displaying the costs of the pesticides applied as recommended.

The Utility manages and maintains vocabulary tables, backups of disks, and other "housekeeping" requirements.