

Record Keeping

Record keeping is an incredibly important part of pest management that is often over looked and underutilized. With current GPS technologies and user friendly software, spray records can be entered easily and the data can be used by the producer in a powerful way. That being said, record keeping does not need to be high tech. A notebook and a pencil can be an invaluable tool for the producer. The keys to record keeping are: knowing what information to collect, how to record the information and where to keep the information.

Why is it important to keep pesticide records?

- Records are a requirement of On-farm food safety programs that are being developed for many different commodities (ie. potato, treefruit, etc.).
 - Spray records are a food safety verification tool that can show all label recommendations were followed and consumers were not put at risk due to unsafe pest management practices.
- Food processors may require pesticide records to evaluate the potential for residues and for requirements of their Food Safety Programs.
 - Beyond farm gate food safety programs, most food processors want and need to have accurate spray records from their growers. Many of their customers are demanding field to fork input transparency. Many food processors demand spray records from their growers.
- Records help you evaluate how well a chemical worked, based on the rate used, environmental conditions at time of application and crop or pest growth stage.
 - From this information producers can make adjustments in the future to improve control.
- Records help you figure out how much pesticide you will need in a future year so that you will not have to store or dispose of extra chemicals.
 - Pesticides are expensive; purchasing just what is required can limit the amount pesticides that may sit in chemical storage for a year.
- Records help the farm manager to prevent carry-over injury, particularly with herbicides, and improve rotation decisions.
 - Some pesticides have rotation restrictions that can limit what crops are grown in following years. Knowing what products were applied the previous year can help make crop rotation planning easier and less risky.
- Records are a verification tool that will help in legal proceedings if there are accusations of improper pesticide use.
 - Pesticide applications can be a contentious issue with neighbors and adjacent land owners. Spray records show due diligence by the applicator and can be an invaluable tool if legal issues are brought forward.
- Lenders and land developers often require records to evaluate potential environmental liability before lending money or buying land.
 - Spray records not only show lenders that growers are good farm managers but can also demonstrate environmental stewardship through proper application.
- Records can save money by helping a farmer determine the best pesticide management program. Records are the key to a successful integrated pest management program.
 - Robust IPM plans are based on information gathered from previous years. Spray records are an integral part of IPM planning.

What pesticide application information is needed to be kept?

It is important to record the major variables of pesticide application. There are many factors that can affect pesticide effectiveness, drift, residual activity and food safety. By recording the status of these variables, it can become easier to assess the situation if problems occur.

- Field identification (number or name)
- Crop and growth stage

- Date and time of application
- Target pest and development stage
 - o (ie. insect, larval stage or weed, 2 leaf stage)
- Pesticide name and PCP number (PCP number is on the product label)
- Rate of application (ie. amount of product per acre or hectare)
 - o Also application volume (ie. spray volume per acre or hectare)
 - o Application pressure
- Applicator name
- Equipment used (type of applicator and nozzle type)
- Weather conditions (temperature, wind speed and direction)
- Notes: any note worthy events during application or areas of concern
 - o Ie. plugged nozzle, leaky hose noticed and fixed in middle of field
- Application results: done well after application, but critical to determine the effectiveness of the application

From a record keeping stand point, it is not critical that you keep information in imperial or metric units. It is critical that the applicator is consistent in the units they are using. Mistakes and confusion can arise if an applicator shifts back and forth from imperial to metric units.

How and where do we keep spray record information?

The challenge many producers face is finding the time to efficiently record this data. Often pesticide applications are compressed into short periods of time, either due to weather conditions or small windows of pest or crop development. Simplifying the recording process can help minimize the time it takes to enter the data.

Developing a simple spreadsheet that can be printed out and placed in a binder in the tractor is a low tech but efficient solution. Attached below is a sample form that can be used as a template to develop a hard copy record keeping system. Each field should have its own form with a separate entry made for each pesticide application that is made to that field. It is important to keep a record of each tank load separately, and do so as soon after application as possible. The longer an applicator waits to record data, the less accurate that data can become. It is in the applicators best interest to record the data as accurately as possible.

If applicators and farm managers are so inclined, there are more technical aids that will help with record keeping. Many handheld devices, that are often linked with GPS systems, can be used to enter data in real time and are then easily transferred to computer databases in the home office. These systems can reduce data input time and can be an extremely valuable tool in analyzing spray records. Field maps, prescription plans, yield maps and cost of production analysis are all tools that can be extracted from these record keeping software programs quite easily. These systems can also be used with hard copy records that are manually entered in the farm office.

The more complicated a farm operation (ie. multiple crops over multiple fields), the more complicated pesticide record keeping can become. However, the importance of keeping accurate records on these diversified farms becomes even more critical if farms want to remain financially viable. Pest management in agriculture is changing at a phenomenal rate. Old pesticide chemistries are being deregistered and more reduced risk products are being registered all the time. These newer products often require a more precise timing of application and are often much more expensive than older products. Due to this it is critical for producers to know exactly how and when to apply these products. Producers need to adjust applications to make sure pest control is maintained at acceptable levels. For this reason, amongst the others mentioned, pesticide record keeping is a critical tool for all pesticide applicators and farm managers.

For more information, please contact:

Peter Burgess
 Integrated Pest Management Co-ordinator
 (902) 896-0277