

## Why Manage Weeds & Other Pests?



### 1] Increases Profits

Inputs such as row-crop cultivation, pesticides, fertilizers and tillage costs money. By using best management practices to apply these inputs when they are actually needed, growers can reduce costs. Weed and pest management (IPM) can help prevent or control pests—including weeds—at the right time to maximize benefits and improve growers' bottom line.

### 2] Reduces Risks

Weed and pest management results in fewer pesticide applications, at reduced rates, using the safest and most effective formulations. This minimizes the dangers associated with pesticide applications, including accidents, drift and toxic effects on non-target species and wildlife. Scouting helps avoid unexpected pest outbreaks, which can cause heavy losses if not caught and treated.

### 3] Delays Resistance

Using the same chemical control over and over again lowers the effectiveness of that control on insect, disease and weed pests. By choosing from all possible control methods, including biologicals, beneficial organisms, and rotating among pest control methods, resistance can be prevented or delayed. Preserving the effectiveness of existing pesticides reduces costs for everyone that uses them.

### 4] Protects the Environment

By using row-crop cultivators, pesticides, fertilizers and tillage only when necessary, growers help protect the environment by reducing sediment and polluted runoff from entering our lakes, streams and rivers. Utilizing scouting and selecting the appropriate control for the weed or pest identified, supports biological integrity.

## Components of Weed and Pest Management (IPM)

### 1] Know Your Pests

Today, we are armed with improved controls of weeds, insects and diseases. The arsenal of management strategies available allows for better control with less environmental risk.

### 2] Know Your Thresholds

Just the presence of weeds or pests doesn't automatically justify the use of a control measure. The weed and pest pressure must be a threat to significantly reduce yields or quality. The level of pressure needed to justify the use of a control measure is called the action threshold.

### 3] Scout

Scouting is more than merely driving down the road looking across the field. It's following a routine designed to detect a weed or pest problem that is serious enough (reached the action threshold) to trigger the use of a control measure.

### 4] Consider All Your Options

Options for effectively controlling weeds and other pests are numerous. Resistant plants (through breeding or genetic enhancements), cultural controls, soil amendments, beneficial insects, natural enemies, barriers, physical treatments, behavioral disrupters, biological and conventional pesticides are just a few of the options available to growers today.



## **Top 10 Management Strategies**

### **1] Record Keeping**

Records of soil management, planting dates, crop rotation, weather data, preventative measures, treatments and other appropriate information should be kept. This information can be quite helpful when making weed and pest management decisions in the future.

### **2] Cultural Practices**

The pests' environment is disrupted by rotating crops and timely harvest. Planting cover crops can suppress weed pressure, moderate nitrogen and improve soil tilth.

### **3] Planting Practices**

Selecting seed genetics that have good vigor and can tolerate or resist common problems is a good start. Planting should coincide with optimum conditions, including soil temperature and moisture. Row spacing, intercropping, trap crops and other strategies can be considered to discourage or detract pests.

### **4] Forecasting**

Site specific or local weather data is used to predict if and when pest outbreaks are likely to occur. Scouting and any necessary treatments can then be properly timed, preventing crop damage and reducing spray applications.

### **5] Monitoring**

Regular scouting of representative areas of the field by growers or consultants help determine if weeds, insects, diseases or other pests are approaching an economically damaging level.

### **6] Pest Trapping**

Traps that attract insects are placed near target crops. This can be done in conjunction with a larger network within a state or multistate areas to track infestations. This information can be utilized later, when populations reach a critical point.

### **7] Thresholds**

Before treating, the pest population should reach a level that could cause economic damage beyond the cost of control. Until that threshold is reached, the cost of yield and quality will remain less than the cost of control and, therefore, treatment will not be necessary.

### **8] Biological Controls**

Growers should promote and attract many natural enemies than can inhibit pest populations. Use additional biological controls where cost effective.

### **9] Chemical Controls**

Growers select the most effective and appropriate pesticide and properly calibrate application equipment. If spray application is used, a surfactant and nozzle selection may optimize application while minimizing risk. Weather conditions should also be checked to assure appropriate timing and minimize drift.

### **10] Managing Soil Quality**

Providing sufficient amounts of crop residue on the soil surface increases organic matter in the soil. Soil testing and applying proper amounts of plant nutrients including micronutrients, optimizes crop health.