Integrated Pest Management

What is Integrated Pest Management?

Integrated Pest Management (IPM) is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. *(Definition from the National IPM Network).*

What are the benefits of Integrated Pest Management (IPM)?

IPM reduces economic risk to a producer's by careful and targeted pest management practices. It also fosters the adoption of best management practices

There is a reduction in risk to the public. IPM promotes responsible pest management in public spaces, through educational programs tailored to homeowners, to assure safe, reliable, low-cost pest control through improved pest management. It reduces environmental risk by encouraging the adoption of ecologically friendly control methods, to protect the ecosystems and non-target species and reduced impact of pest management activities.

What are the steps of IPM?

Scouting or Monitoring

The purpose of scouting is to detect the presence, concentration, and type of pests. Scouting involves a regular and mechanical procedure to quantify field information needed to make sound pest management decisions. Field observations are used to make immediate IPM decisions as well as record part of the field's history for making rational decisions in the future.

Identification

Properly identifying pests is an important aspect of scouting. It helps recognize natural enemies that help keep pest in check are also present in fields, so it is important to recognize these friends. For example, certain insects, such as Syrphid flies, may be abundant in a field but do not cause crop damage. Knowledge of specific insects, weeds, or disease in a field is important for IPM decision-making. Pest levels can vary greatly from one field to another. Each individual field should be scouted thoroughly without bias even though the fields may appear similar.

Pest Situation Assessment

In the third step, scouts analyzes information obtained from scouting and pest identification and determines the need for pest control. One question is whether the damage potential is more costly than the control cost. The economic threshold plays an important role in IPM decisions making It is defined as when there are enough pests present to warrant treatment. Keep in mind that economic thresholds are developed for average conditions. In unusual situations, such as drought stress, thresholds may have to be altered. Furthermore, economic thresholds may not be available for certain pests, so assessment may have to be based on general guidelines about the pest population.

Implementation

Once the management strategies have been selected, they should be employed in a timely manner. Cultivation or using herbicides on weeds, for example, must be done at the proper stages of development of the weed and crop for the greatest impact. IPM integrates several different pest management strategies when feasible.

Evaluation

Did IPM work? Compare the pest activity before and after implementation of IPM strategies. Review what went wrong and what went right. Was the pest properly identified? Was the field sampling unbiased? Was the choice of control based on sound judgment or outside pressure? What changes to the system would make it better?