Science of Life Explorations

IPM and the Decision Making Process

IPM Steps
How do farmers use the six IPM steps to make decisions?

You learned that the six IPM steps worked the same for weed pests as it did for ant pests. Let’s see how farmers use IPM to reduce pest numbers in their fields, barns and storage areas.

**Step #1 Proper Identification:**

Once a farmer believes a pest is affecting his crop or livestock, he or she must properly identify the pest.

**Step #2 Learn the pest/host biology:**

What part of its life cycle is the pest currently in? Is the pest likely to cause more damage? Is it being attacked by natural enemies? Is it likely to move on to another location?

The farmers in the photo above are checking for nematodes in the soil of their crops. The farmer below is using a ‘sticky card’ to find out what insect pests are active on her property.

**Step #3 Sample the environment for pests:**

Are there enough pests to cause a problem?
Step #4 Determine the action threshold:
   Farmers depend on healthy crops and livestock for their LIVELIHOOD. They try to find out as much information as they can on pests by reading, talking to other farmers and asking educators like cooperative extension agents.

New York state farmers use integrated pest management for crops as different as strawberries and corn.

Step #5 Choose tactics:
   If sampling has shown the pest needs to be treated, a farmer will consider the tactics of IPM carefully. A farmer will choose methods that are most effective, least expensive and safest to use. Farmers do not like to use pesticides if they can help it.

Step #6 Evaluate results:
   Farmers usually keep good records of pest management, so it is easy for them to evaluate results. Many farms must show their pesticide records to companies that buy their products.
   These canned vegetables have the IPM seal to show consumers they were produced using IPM methods.

You and your family can take a lesson from farmers on how to use the IPM steps to make good decisions about pest management.
1. Why should we properly identify a pest before we treat it?

2. Does it make a difference when you treat a pest during its life cycle?
   ___yes                ___no

3. To SCOUT for pests, you need:
   ___to know what to look for
   ___to take notes on what you find
   ___to count how many you find
   ___all of the above

4. Pesticides should be used every time you find a pest:
   ___yes                ___no

5. How many IPM steps are there?
   ___2                  ___4                  ___6
attractant - a scent, sound or activity which causes an animal, insect or person to come toward the source

colony - the term for the nest or extended 'family' of a group of ants

cultural - relating to the way things commonly are, or in IPM, the way a site or area is taken care of

hazard - something that may cause damage by chance

instar - the periods between molts of larvae

livelihood - the way someone provides an income to pay for living expenses

preventive - taking steps to stop something before it gets to be a problem

sampling - taking deliberate counts or samples of a site or area to find out the population, if any, of a pest

sanitation - the efforts to keep something clean to reduce sickness or pests

scarab beetle - a family of beetles which includes the Japanese beetle and the chafer

scouting - the IPM term for sampling or looking for a pest to determine what it is and how it is affecting the site or area

susceptible - being easily affected or influenced by something; often it is due to being in a weakened state

threshold - the amount of something that can be tolerated; changes are desired when the threshold is passed

turf - a certain kind of grass grown for walking on or playing on; also can mean a top layer of soil containing grass and its roots
1. Why should we properly identify a pest before we treat it?

We need to be positive a pest is present and causing a problem before we treat it.

2. Does it make a difference when you treat a pest during its life cycle?

___X__yes  ___no

3. To SCOUT for pests, you need:

___to know what to look for
___to take notes on what you find
___to count how many you find

_x___all of the above

4. Pesticides should be used every time you find a pest:

___yes  __x_no

5. How many IPM steps are there?

___2  ___ 4  ___X__6