United States Department of Agriculture

NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Enhancement Activities

Enhancements activities refer to actions that provide resource benefits beyond the level prescribed by NRCS Conservation Practice Standards. Once implemented Enhancement Activities should result in an observable or measurable improvement to the condition of one or more of the soil, water, air, plant, or animal resources, or provide for more efficient resource utilization and/or energy conservation.

Enhancement Activity Benefits

Enhancement activities associated with Pest Management such as implementing an IPM plan or substituting non-chemical methods of controlling pests can result in the following benefits to the producer and the environment:

- Reduced risks to beneficial insects (e.g., honeybees, parasitic wasps, lady beetles, etc.)
- Reduced risks to ground and surface water quality
- Lower costs by limiting chemical applications to only when necessary

To learn more about Integrated Pest Management go to the following website:

http://extension.usu.edu/files/gardpubs/ipm01.pdf

CSP Payments

You can earn payments by participating in any of the following activities:

- ❑ Reduce pesticide use, break pest cycles and decrease pest pressure by utilizing conservation crop rotation.
- ❑ Reduce environmental hazards by using non-chemical control methods such as biological controls and/or cultural controls.
- ❑ Reduce pesticide use by Scouting for insects, weeds, and pests and using economic thresholds prior to chemical application.
- ❑ Reduce environmental hazards by using pesticides with “low” or “very Low” WIN-PST hazard ratings.
- ❑ Reduce pesticide use by using pest avoidance techniques-plant pest resistant varieties, trap crops, etc.

CSP Enhancements earnings are subject to payment caps. Your actual payment will depend on your CSP Tier level and the number of acres enrolled.

United States Department of Agriculture

NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Client's Acknowledgement Statement:

I have elected to use the following Pest Management activities and understand the requirements of the selected activities (Check all that apply):

- ❑ Reduce pesticide use, break insect, pest cycles and decrease pest pressure by utilizing conservation crop rotation.
- ❑ Reduce environmental hazards by using non-chemical control methods such as biological controls and/or cultural controls.
- ❑ Reduce pesticide use by scouting for insects, weeds, and pests and using economic thresholds prior to chemical application.
- ❑ Reduce environmental hazards by using pesticides with "low" or "very low" WIN-PST hazard ratings.
- ❑ Reduce pesticide use by using pest avoidance techniques-plant pest resistant varieties, trap crops, etc.

I agree that the following information will be provided to NRCS upon request:

- ➢ Written documentation of the activity performed (use attached worksheets or equivalent).
- ➢ Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level and the number of acres enrolled.

I understand that it is my responsibility to obtain all necessary permits and to comply with all ordinances and laws pertaining to the application of these activities.

Accepted by: _____ Date: _____

United States Department of Agriculture

NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Certification by NRCS:

I have completed a review of the information provided by the client and certify this activity has been applied.

Activity	Name and Title	Date:

United States Department of Agriculture
NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Name:

Worksheet 1 – To reduce pesticide use, break pest cycles and decrease pest pressure by utilizing conservation crop rotation

Payment = $10/Acre for fields where crop rotation has been established specifically to break pest cycles.

Use this table to document planned crop rotation and target pest controlled by rotation.

Tract & Field #s or Names	Acres	Target Pest	Planned Rotation Sequence						
			1	2	3	4	5	6	7
T486 – 1, 2, 3			Alfalfa					Winter Wheat	
4, 5			Alfalfa				Corn		

Example

Crop Rotation Certification

I certify that I am following the crop rotation as indicated on the fields shown in the table above to reduce pesticide use, break pest cycles, or decrease pest pressure.

Name:_____ Date: _____

United States Department of Agriculture

NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Name:

WIN-PST hazard ratings

Payment = $15/Acre for fields where only those pesticides with a human and fish hazard rating of "Low" and "Very Low" for leaching and solution runoff are used.

To determine which pesticides are acceptable you will need to visit the NRCS office and ask for a WIN/PST run tailored to your location, soils, and management system.

Attach WIN/PST printout.

		Example		

Low Hazard Pesticide Use Certification

I certify that I used only pesticides that have a "Low" or "Very Low" risk rating on the field(s) listed in the table above.

Name:_____ Date: _____

United States Department of Agriculture
NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Name:

Worksheet 3 – Reduce environmental hazards by using non-chemical control methods to control methods such as biological controls and/or cultural controls

Payment = $15/Acre for fields where non-chemical controls are used

Mechanical controls: Hand removal, Mowing, Traps, Physical barriers.
Biological Controls: "Any activity of one species that reduces the adverse effects of another."
Mating disruptors, Pheromone traps or baits, Predators, Parasites, Pathogens, Herbivorous insects of weeds.

Crop Grown	Tract & Field #s	Acres	Target Pest	Control Method Used	Date
		40	Alfalfa Weevil Example	Cutting early	5/25
		40	Musk Thistle	Release of predator	4/05

Non-chemical Control of Insect Pests Certification

I certify that I used only non-chemical control methods to control insect pests on the field(s) listed in the table above.

Name:_____ Date: _____

Worksheet 3A - Develop refuge habitat for beneficial organisms

Beneficial organisms can reduce the need for pesticides and promote pollination.

There are four types of beneficial organisms: Pollinators, Predators, Parasites, Pathogens

To improve habitat for beneficial organisms at field edges and in odd areas:

- plant a variety of native shrubs, perennial grasses, and forbs
- allow non-noxious native weed species to bloom
- leave portions of your refuge areas untilled and un-mowed

Follow these steps to develop a successful refuge habitat for beneficial organisms:

1. **Keep records** of where, when, and what pests occur on the farm.
2. **Learn** about both the pests and the beneficial organism's life cycle and habitat requirements. Where are eggs laid and when do they hatch? Where does the pest/beneficial feed and how long does it need to develop into an adult? Where does the pest/beneficial overwinter and in what form? This information will not only aid in designing your refuge habitat, but will also aid pest management.
3. **Make a list of plants** that are available to create a friendlier habitat for the beneficials (or a more unfriendly habitat for pests). Beware of aggressive or invasive plants.
4. **Select those plants** that are adapted to your soil and climate. Remember, permanent plantings will require annual upkeep after planting to maintain the health and vigor of the planting and to sustain the desired species mix.
5. **Observe** the results, fine tune the system, and if needed experiment again.

To learn more about increasing and managing biodiversity on your farm to favor beneficial organisms visit the National Sustainable Agriculture Information Service web site at: http://attra.ncat.org/attra-pub/farmscape.html

United States Department of Agriculture

NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Name:

Worksheet 3A - Develop refuge habitat for beneficial organisms

Payment = $15/Acre for areas developed and maintained as refuge for beneficial organisms.

Refuge Habitat size: _____acres.

Provide map that locates and defines your beneficial organism refuge area(s).

List the beneficial organisms you are trying to attract and the desired benefit

Desired Beneficial Organisms	Target Pest(s) or Desired Benefit

Describe what you have done to enhance and maintain your refuge area:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

United States Department of Agriculture
NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Name:

Worksheet 4 - Reduce pesticide use by scouting for insects, weeds, and pests and using economic thresholds

Payment = $5/Acre for implementing a scouting program for pest problems

Scouting or monitoring - the regular inspection of your plants or crops to determine whether pests are approaching a damaging level or economic threshold. For more information on the concept of economic thresholds go to: http://extension.usu.edu/files/gardpubs/ipm03.pdf

You must provide a copy of a written scouting program and sufficient documentation to verify that plan has been implemented (maps, field notes).

Economic-injury Level: "The lowest population density of a pest that will cause economic damage: or the amount of pest injury which will justify the cost of control."
Action Threshold: "The pest density at which control measures should be implemented to prevent it from reaching the Economic-injury Level (Point where economic loss occurs)."

Know your action thresholds. It is important to understand that the mere presence of a pest is not enough reason to apply a control measure. The number of pests must be sufficient to cause enough harm to pay for the control measure. The number of pests required to justify a control measure is called the "action threshold." This means treating only when pests reach or exceed the action threshold. This threshold may be a certain number of damaged plants, insects in a trap, or weeds in a field.

The plan must include strategies to address the following:

- Field scouting (times, dates, method)
- Field insect population sampling
- Soil or plant tissue sampling
- Pesticide selection
- The amount of pesticides applied
- Evaluation procedures

Briefly describe how and when you have implemented this plan and your evaluation of its effectiveness:

_____

_____

_____

_____

United States Department of Agriculture

NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet

UT-CSP-EPM

Name: Scouting for Weeds

Scouting can generate the largest dollar return of any investment you might make in weed management. Walking fields, orchard blocks or other management units to note the location and abundance of each weed species found is essential in deciding if treatment is necessary and, if so, which control option is best. Complete this process in late season when it's still possible to walk through the crop. Repeat the process early the next season, and use the information to make last minute adjustments to your plan. Save all of your information to compare weed problems from year to year and to improve long-term planning.

A good reference guide is essential for proper weed identification.

Do's and Don'ts of Weed Identification	
Do:	**Don't:**
1. Take the time to properly identify weeds. 2. Get a good reference guide to help identify the different species. 3. Keep records of weed problems to compare from year to year.	1. Don't forget about other control methods, in addition to chemical controls. 2. Don't think that plants cannot be identified as seedlings. 3. Don't only scout for weeds once in the season, thinking that you will find all of the problems.

SCOUTING USING SWEEP NETS

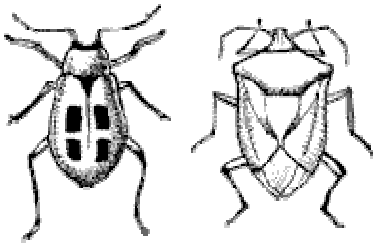
How to Use Insect Sweep Nets

KEY POINTS:

- What is a sweep net?
- What type of sweep net should you use?
- How to use a sweep net
- What may affect the efficiency of a sweep net?
- Benefits of using insect sweep nets
- Do's and don'ts of using insect sweep nets

Note: *This Tip Sheet is for general guidance only. Contact your county Extension agent or land grant university for more specific information regarding sweeping for insects in your geographic area.*

What is a sweep net?



A sweep net is a cost-effective way to monitor for the presence of a variety of insect pests. A sweep net is a funnel-shaped net attached to a long-handled frame that is swept back and forth through the foliage. Insects captured in the net are then counted.

Using a sweep net can help you determine whether or not you have enough insect pests to justify a spray. Sweep nets may be used with a variety of crops. Among them are alfalfa, canola, onions, beans, and wheat. Among the numerous insect pests that may be captured in a sweep net are weevils, plant bugs, leafhoppers, aphids and bean leaf beetles.

There are many books and software programs that will help identify insect pests quickly and accurately. Other resources are local universities or Extension agents who specialize in your plants. An increasing amount of insect and crop information is available on the Internet and is accessible by a quick search of your crop and insect name.

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet

UT-CSP-EPM

What type of sweep net should you use?

Sweep net bags are made of cotton muslin (similar to a bedsheet) or sailcloth, a tougher cotton-canvas material. Muslin, which is lighter in weight and dries faster than sailcloth, is a good choice for sweeping soft, non-brushy plants such as small grains and many vegetable crops. Sailcloth bags will stand up better in brushy or spiny crops, such as alfalfa and cotton.

Standard nets have a diameter of 15 inches. It's important to use a standard-sized net each time you sweep so you are able to compare your results to others in your field.

How to use a sweep net?

- **Hold the net with the hoop end nearest to the ground in front of you.** The plane of the hoop should be perpendicular to you.
- **Swing the net from side to side in a full 180 degree arc.** Sweep one stroke per step as you casually walk through the field or down the row.
- **Tilt the net opening so the lower edge of the rim is slightly ahead of the upper rim.**
- **In Short vegetation, swing the net as deeply as possible.** In taller vegetation, sweep only deeply enough to keep the upper edge of the sweep net opening even with the top of the plants. In general, don't let the net go more than 10 inches below the top of the plants.

Don't sweep at the edge of fields. This may give inaccurate results.

Note: Each passage of the net is considered one sweep. The number of sampling sites and sweeps needed will vary, depending on your crop and other factors such as crop height and the distribution of the pest.

What may affect the efficiency of a sweep net?

- Weather, particularly wind speed, air temperature, and intensity of solar radiation. Different weather conditions may affect the number of insects in the area you are sweeping.
- Different habitats, especially the height of the plants
- Time of day, reflecting different cycles of behavior of the species.
- Different styles of sweeping

Benefits of using insect sweep nets

- Insect sweeping can often indicate if a spray is economically justified.
- Sweep net programs are a useful timing tool for spraying.
- Insect sweeping often targets adult stages of pests

- Insect sweeping can help detect certain problems before they cost you money
- Insect sweeping can indicate problem areas or hot spots requiring corrective action or spot treatments without having to treat all of your plants.
- Insect sweeping may help you reduce your use of pesticides.

Do's and Don'ts of Using Insect Sweep Nets	
Do:	**Don't:**
1. Know how to identify your insects and find your economic thresholds. 2. Sample when the foliage is dry. Otherwise, small insects may stick to the inside of the net bag and give you an inaccurate count. 3. Have consistency when you sweep.	1. Don't sample the edge of a field and expect those numbers to reflect the counts in the interior of the field. There could be an "edge effect" based on the habitats of the insects. 2. Don't ignore sudden increases in population. 3. Don't sample foliage that has recently been disturbed by mowing, cultivating, etc. The insect pests that were there may have fled.

Use of Scouting for Insects, Weeds, and Pests Certification

I certify that I used scouting techniques for insects, weeds, and pests to control pests at economic thresholds on the field(s) listed in the table above.

Name:_____ Date: _____

United States Department of Agriculture
NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Name:

Worksheet 4A - Reduced pesticide application by using low rates, spot treatment, and banding

Payment = $5/Acre for fields where pesticide rates are reduced for an entire year through the use of field scouting and spot treatments, weed seeker technology, banding, or low rate spray systems.

Reducing the rates of all applied pesticides benefits wildlife and beneficial insects. Treatment must be limited to problem areas identified by field scouting.

Attach a map delineating the areas identified through scouting that need treatment.

Crop Grown	Tract & Field #s	Acres	Target Pest	Pesticide & Application Rate	Application Method Used to reduce rate.	Date
Winter Wheat			wild oats	XXXX .1 lbs ai/A Example	spot spraying	5/22

Use of Scouting for Insects, Weeds, and Pests Certification

I certify that I used scouting techniques for insects, weeds, and pests to control pests at economic thresholds on the field(s) listed in the table above.

Name:_____ Date: _____

United States Department of Agriculture
NRCS Natural Resources Conservation Service

PEST MANAGEMENT (CSP Enhancements)

March 2005

Enhancement Activity Task Sheet **UT-CSP-EPM**

Name:

Worksheet 5 – Reduce pesticide use by using pest avoidance techniques such as pest resistant varieties, trap crops, etc.

Payment = $5/Acre for fields where pest avoidance techniques such as pest resistant varieties, or trap crops are used.

Crop Grown	Tract & Field #s	Acres	Target Pest	Control Method Used	Date
		80	Aphids, weevil Example	Trap Strip	05

Use of Pest Avoidance Techniques Certification

I certify that I used pest avoidance techniques to control pests on the field(s) listed in the table above.

Name:_____ Date: _____