

If you need some items which are not in our catalog, please let us know. We have access to several different pheromones which may not be listed due to space limitations. Your comments are appreciated.

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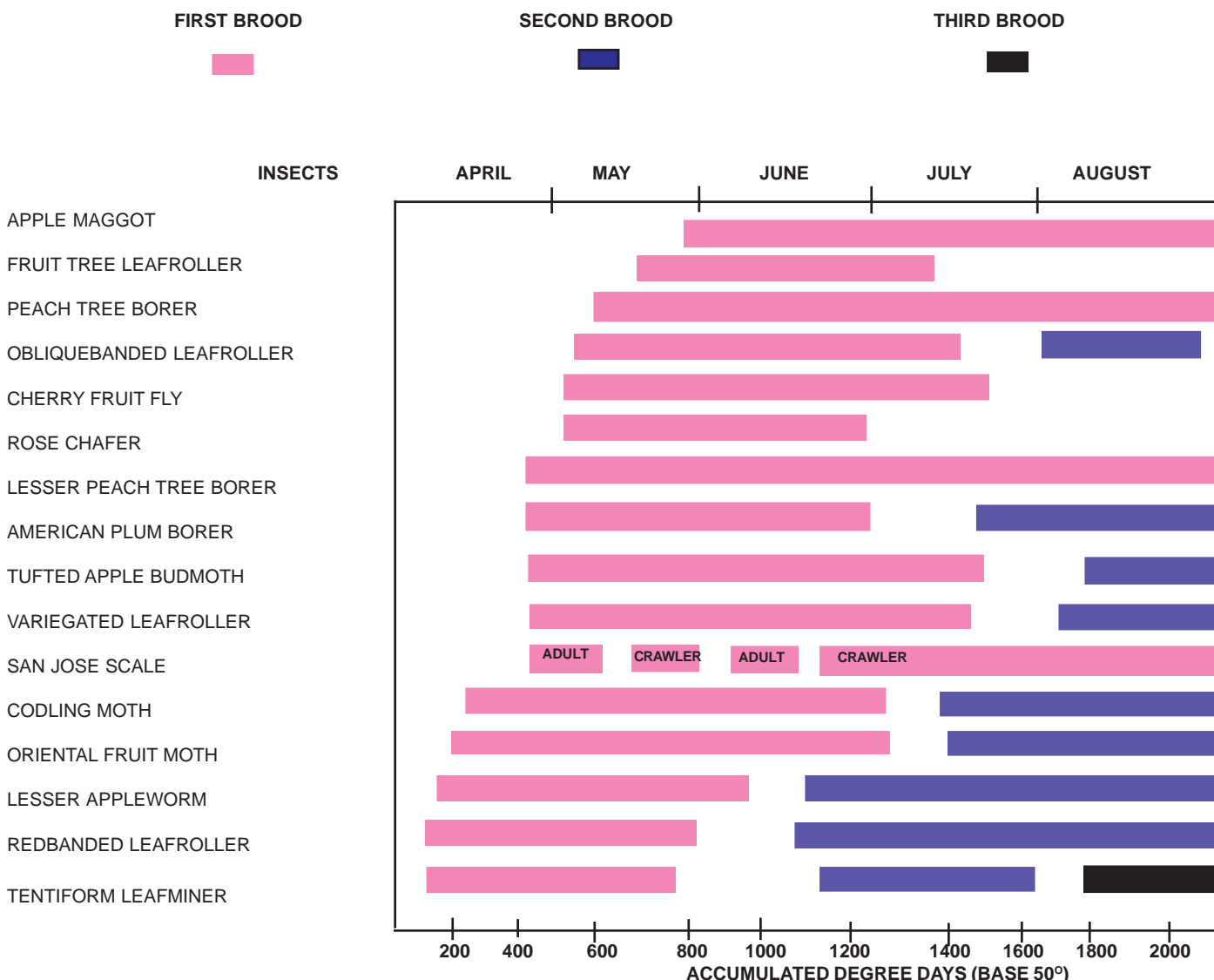
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The following information is to be used as an approximate guide to the timing for a specific insect pest event to occur. Areas to the south should look for these events to happen sooner regarding specific dates. Degree day information remains fairly constant. The time of year for these events can vary widely according to the region in the US where you are located. It is best to consult your local extension office to get information regarding your own local time periods.

### ADULT EMERGENCE OF KEY FRUIT PESTS IN MICHIGAN



### PEST EVENTS UNDER NEW YORK CONDITIONS

PEST EVENT	DD Base 50	Approx date	PEST EVENT	DD Base 50	Approx date
Pear Psylla-Egg Laying	43±28	11 Apr±15 Days	Pear Psylla-Hard Shell Observ.	274±48	20 May±9 Days
Rosy Apple Aphid-1st Egg Hatch	60±13	24 Apr±7 Days	LPTB-1st Adult Catch	285±98	26 May±10 Days
RBLR-1st Adult Catch	64±30	17 Apr±7 Days	OBLR-Peak Catch	590±52	7 June±17 Days
STLM-1st Adult Catch	67±30	18 Apr±7 Days	STLM-2nd Gen. 1st Adult Catch	608±85	14 Jun±6 Days
STLM-1st Egg Observed	103±56	27 Apr±5 Days	SJS-1st Crawlers Observed	671±60	19 Jun±19 Days
OBLR-1st O.W. Larvae Observed	109±55	28 Apr±5 Days	GPTB-1st Adult Catch	760±167	26 Jun±7 Days
Tight Cluster for McIntosh	110±23	28 Apr±8 Days	OFM-1st Adult Catch	827±44	29 Jun±5 Days
Tarnished Plant Bug-1st Adults	119±66	29 Apr±9 Days	Apple Maggot-1st Adult Catch	835±127	27 Jun±8 Days
European Red Mite-Egg Hatch	131±38	2 May±7 Days	RBLR-2nd Gen. 1st Adult Catch	850±48	30 Jun±5 Days
STLM-Adult Peak Flight	136±57	3 May±5 Days	STLM-2nd Gen. Peak Catch	925±94	5 Jul±7 Days
Pink for McIntosh	147±33	6 May±9 Days	RBLR-2nd Gen. Peak Catch	1021±110	12 Jul±5 Days
Full Bloom for McIntosh	188±43	9 May±9 Days	STLM-1st Feeding Mine	1076±176	13 Jul±1 Day
SJS-1st Adult Catch	235±71	16 May±8 Days	LPTB-Peak Catch	1255±343	22 Jul±17 Days
STLM-1st Sapfeeding Mines	245±76	18 May±11 Days	Apple Maggot Peak	1654	6 Aug
CM-1st Adult Catch	256±83	20 May±9 Days	STLM-3rd Gen. Peak Catch	1848±116	23 Aug±9 Days
Plum Curculio-1st Egg Laying	269±56	23 May±11 Days			

## GUIDE TO INSECT MONITORING

**GENERAL INFORMATION** Initially, for any large scale monitoring program we recommend consulting a local extension agent, university, or other trained professional qualified in the field of pheromone monitoring.

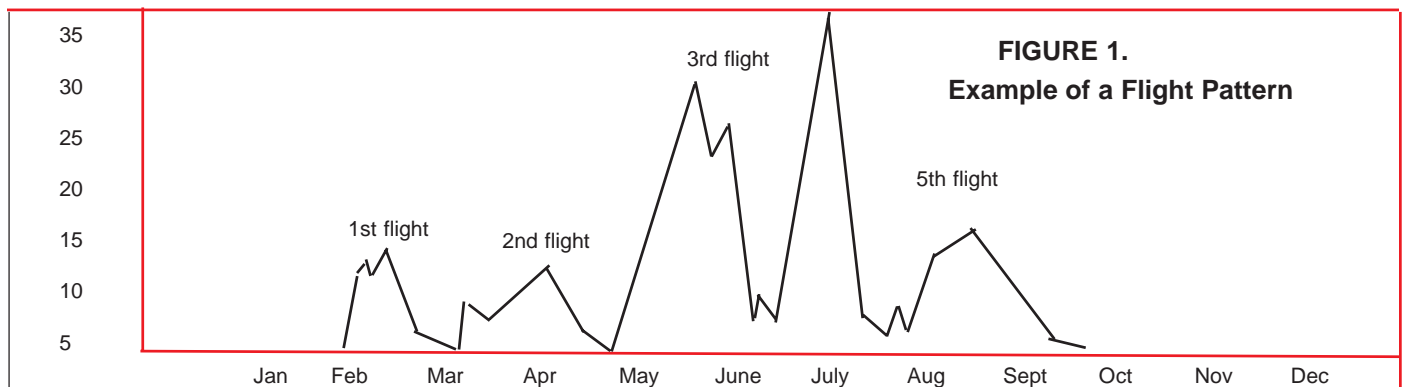
Before starting your program, it is important that you become familiar with the target pest's life cycle. You will need to determine: A) The earliest known emergence date for the insect you plan to monitor determined by Degree day accumulation and B) The average number of adult flights that are of economic importance in your area and their average length (Fig. 1). Local CES offices or University entomologists may be helpful in obtaining this information.

Your trap program should be supplemented with a regular field scouting program. Analysis of your orchard or fields is important to keep ahead of potential problems. Also consider that certain factors may influence trap catch. Inspecting traps twice weekly is usually sufficient to determine trends. Read daily or every other day when emergence is expected to peak. This regular servicing is essential for maintaining the traps efficiency. Remove all insects and debris after each inspection and record the number of insects so you have a written record of each insect for future reference. Replace trap bottoms as needed. Make sure sticky surface is in good condition. You may apply additional sticky material if bottom is in good condition after cleaning off all of the old material. Pest species other than the target may blunder into the trap. These insects should be identified and recorded as they may signal an additional problem. After recording number of insects caught at each inspection, you should graph the numbers to enable you to spot flight peaks visually. Fig. 2 is an example for a first generation peak emergence scenario. The spray timing however, is not the same for all insects thus the importance for consulting your local extension agent, or other professional pest control advisor. Tabulate total trap catches at the end of the season and keep all data for future reference. This information, if properly recorded, will provide you with the best possible data base from which to draw conclusions on the insect population dynamics in your specific fields.

The trap design used for most insects is the Wing trap. A disposable plastic coated cardboard trap known as the Pherocon IC or the modified version which is called the Pherocon ICP. Also available is a deluxe version which comes with a reusable plastic top known as the Pherocon PIC, PICP, or the Scentry Wing. The bottom of the wing trap is replaced periodically as required. All parts of wing traps are interchangeable regardless of manufacturer. The disposable paperboard Pherocon II or Diamond style trap is a one piece general purpose trap used for many insects by professional fieldmen because of its convenience; entire trap is replaced as required. A third design is the Delta traps which are used more for field crop and forest insects. Some insects require a specific trap design like the Heliothis trap to catch corn earworm and corn borers as the sticky traps do not work as well to capture them. Our reusable bucket style traps (Universal Moth traps) can be used in place of the sticky traps for many insects and are recommended when any program of mass trapping is considered. Data is still being accumulated on the total number of insects we can effectively use this style of trap to capture, since it does not work effectively as the sticky traps on some insects. Please consult with us if you wish to try the traps on insects other than what is listed in the catalog. Remember that the trap design, shape, or color can alter catch. Action thresholds are based on trap catches, so by changing trap types or styles you may alter these thresholds and affect how you interpret the data. Consult with your local extension or a qualified pest consultant before altering your program.

**TRAP PLACEMENT** The key benefit of an insect monitoring program is protection of crop quality by timing pesticide sprays more accurately. As a general rule, traps should be placed in the field 1-2 weeks before the earliest known emergence date. This date varies each year according to temperature and rate of Degree Day accumulation. Check with local extension offices for approximate dates in your location. This allows you to monitor the overwintering, or first generation, of the insect, and enables you to more effectively deal with successive generations. In considering where to place traps, it is advisable to draw a map

You should begin your program with this type of information. The date of the earliest emergence and average number of flights should be available from Fieldmen, consulting entomologists, university extension agents, or publications.



of the area to be monitored. Factors such as soil type, different elevations, adjoining woodlots, and age of trees in orchard block all have a bearing on insect emergence patterns. Soils with more humus and slopes facing the sun develop earlier emergences. Many insects will enter an orchard from the direction of an adjoining woodlot, fence row, or nearby abandoned orchard. Young trees have a more open canopy which encourages earlier insect emergence due to higher soil temperatures; therefore, it is recommended that blocks of older trees and blocks of younger trees be monitored as separate units.

Ideally, all fields or orchards should be monitored both in the interior as well as around the perimeter. Perimeter traps help detect infestations that originate in other areas and migrate in. Hang traps in corners of small orchards or evenly spaced around perimeter in larger orchards. Special attention should be applied to trap placement in the orchard nearest the border that adjoins an abandoned orchard, woodlot, fence row with wild apple trees, as many insects overwinter in these areas, then migrate to the orchard. If monitoring more than 1 species of insects, pheromone traps for each species should be placed at least 30 feet apart, if possible. Hang pheromone traps in a shaded area on the outside of the tree canopy at a height of 4-6 feet above ground. For field crops, mount the trap on a pole just above the plant terminals. For visual traps such as the yellow AM or Ball traps for Apple Maggot, it is important that traps are placed in unobstructed areas where they are highly visible to the insect as this visibility is one of the keys to trapping the target insects. This holds true for all yellow traps, white traps, orange traps, and all the ball traps. When used with no attractant, they rely on their colors or shapes to attract the insect. In trees, this means hanging them on the southern exposure about head high on the outside canopy being sure to clear away all branches and leaves.

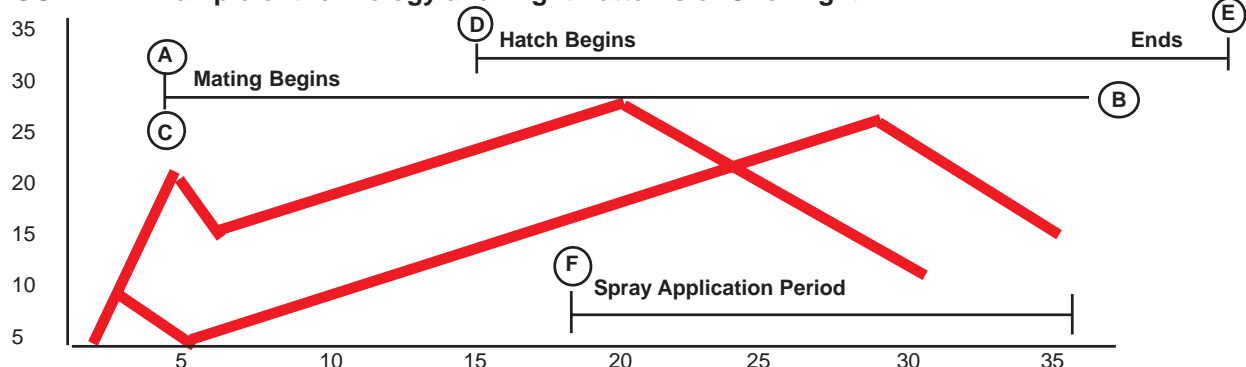
**TRAP DENSITY** As a rule of thumb for pheromone monitoring or baited visual traps: 1 acre or less use 1 trap, 1-10 acres use 2 traps, 10-40 acres use 2-4 traps, 40-100 acres use 4-6 traps, over 100 acres use 1 trap every 20 acres. This applies to each insect you are

trapping. For visual traps without any bait, we recommend trap densities of 3-6 times greater as insects have to see the trap for it to be effective.

For mass trapping with pheromones, 1-4 traps per acre are recommended. Mass trapping only works for some insects and under certain conditions. Consult with us before considering a program.

**HANDLING INSTRUCTIONS** Pheromones require special handling. Extreme caution must be exercised when handling to avoid contamination. Pheromones have an affinity to penetrate many materials that they come in direct contact with or have prolonged exposure to. If placing lures for several species, it is important that you do not touch lure septum of one species and then a lure for a second species as the pheromone from the first will transfer to the second via your hands causing lure failure for the second species, or third, etc. We recommend using disposable forceps if handling more than one species. If you are only working with one species, contamination is not a problem. Pheromones will penetrate the material of the trap it is placed in. Use only one trap per species; do not use different insect lures in the same trap as contamination will occur causing lure failure. Field life of pheromones varies from 2 weeks to as high as 30 weeks plus; specific times are listed in catalog for various vendors. If in doubt, contact us for information. Pheromone lure placement in the traps varies with trap style. Sticky traps generally have the lures just dropped into the sticky trap bottom. So release rate is not affected, place rubber septa on their sides so large opening is not in adhesive and for hollow fibers make sure the fibers are not placed down in the adhesive. Remove foil pouches and all old lures from the field and discard. For the bucket style traps, lures have to be placed near the center of the lid, either by pinning the lure to the lid or placing in an appropriate receptacle. For the heliothis traps, lure placement is in the middle of the large opening at the bottom of the trap. Pheromone lures should be stored in refrigerator or freezer; this will give them several years shelf life. Never leave lures in vehicle or in any area where they may be exposed to unusually high temperatures as this will cause lure failure.

**FIGURE 2. Example of the Biology and Flight Patterns of One Flight**



## READY TO USE KITS

### BAGWORM (*Thyridopteryx ephemeraeformis*)

Monitoring of adult **Bagworm Moths** following a good program of spraying with Bt Biological insecticides, targeting the larval stage, will help in the management of this pest. Sticky traps baited with a synthetic lure help to reduce breeding male populations. Bagworm larvae feed on Arbovitae, Juniper, Willow, Maple, Locust, Sycamore, Elm, Box Elder, White Pine, and Spruce.



Place traps at a density of 2-4 traps per acre in areas of infestation approximately 4-5 feet off of ground. Traps are placed 10-15 feet away from trees or bushes that need protection. Traps are placed in the field around the first of August in the following states where infestations may be present: Alabama, Arkansas, Delaware, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Mississippi, Missouri, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia. Some infestations occur in Florida, Iowa, Nebraska, Oklahoma and Texas. Lure lasts full trapping season.

Kit includes 1 wing trap, 1 extra liner, and 1 lure.

Each	IPM-10	\$ 3.70	1#
50-90 kits		\$ 3.40	

Bagworm Lure Only

Each	IPM-BGW	\$ 1.55	1 oz
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### CITRUS MEALY BUG

(*Planococcus citri*)

Begin monitoring in early spring by examining the trees' trunk and lower branches for overwintering populations which appear as areas of white waxy material. Use of pheromone and yellow sticky cards can aid in early detection of male citrus mealy bug. Kit includes 6 yellow sticky cards and 6 lures.

Kit	PB-CMB-K	\$ 23.50	1#
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### GRAPE ROOT BORER

The **Grape Root Borer** is a problem to many grape growers east of the Mississippi River to as far south as Florida, often infesting vines and eventually killing them. Many growers who have vine die-back in the winter may actually have infestations of grape root borer, the culprit responsible for the damage. Place a minimum of 1 trap every 2 acres in vineyards up to 10 acres. Lure lasts 4 weeks.

Kit includes 1 green universal trap, 1 lure, 1 vaportape.

Each	PB-GRB-K	\$ 13.50	2#
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Replacement Lure Only

Each	PB-GRB	\$ 2.25	1 oz
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## GYPSY MOTH



Effectively capture male adult **Gypsy Moth** flyers. Place 2-4 traps per acre starting in early to mid-July. Trap kits come complete with assembly instructions and monitoring guidelines. Traps can be stored indoors and reused the next season with new lure and vaportape strip. Consult with your local Ag Dept. or extension agent to determine emergence dates for your own locality.

Near mid-May, first emergence of larvae will occur. It is good practice at this time to place a sticky barrier around tree trunk. This will prevent larvae from further crawler damage. This works only after larvae have finished "ballooning", the process of dispersing themselves during first instar by dropping from the tree on threads of silk to be carried by the wind to other areas. Use our 3" x 1000' gypsy moth tree wrap and coat with a thin band of Tanglefoot Pest Barrier. Stretch wrap comes with builtin handle. Minimal maintenance is required to ensure sticky barrier is working properly.

Kit Complete

Each	IPM-1070-01	\$ 5.80	5 oz
25/cs	IPM-1070-25	\$123.20	9#

Season Long Replacement Lure

Each	HC-GM 01	\$ 1.85	1 oz
25/cs	HC-GM 25	\$ 41.50	3 oz

Replacement Vaportape Strip (1" x 1/2")

25/cs	HC-8500-25	\$ 6.00	3 oz
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Gypsy Moth Tree Wrap (3" x 1000' roll)

Each	IPM-1072	\$ 6.50	2#
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Pest Barrier (10 oz. caulking tube)

Each	TF-2010	\$ 7.00	1#
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## READY TO USE KITS

**JAPANESE BEETLE***(Popillia japonica)*

The Trece Catch Can has earned the distinct title of being the most effective trap on the market today for trapping the **Japanese Beetle**. Constructed of high quality materials, this trap will provide years of performance. Its double lure system has been proven unsurpassed in attracting both male and female beetles by university tests. For large area, place 1 trap every 200 feet around entire perimeter.

JB Yellow Top Assembly				
Each	TR-9001-01	\$ 10.50	1#	
JB Green Top Assembly				
Each	TR-9001-G	\$ 7.60	1#	
JB Catch Can Cage				
Each	TR-9002-01	\$ 7.75	1#	
JB Baitpack - 1 floral, 1 sex lure				
Each	TR-9003-01	\$ 3.95	4 oz	
TBC Unit - yellow top, catch can, 1 baitpack				
Each	TR-9004-01	\$ 21.60	2#	
TBC Unit - green top, catch can, 1 baitpack				
Each	TR-9004-G	\$ 18.40	2#	
JB Trap Stands - 5' galvanized rod, 5/16" diameter				
Each	TR-9005-01	\$ 6.00	2#	
JB 3 Piece Trap Stand				
Each	TR-9007	\$ 7.50	2#	
JB Expando Trap - Trap and Bait				
Each	TR-9006-01	\$ 12.79	2#	
Jumbo Jug - 64 oz. capacity				
Each	IPM-9000-01	\$ 6.50	1#	



TR-9004-01



TR-9006-01



TR-9004-G



IPM-RC-9006-01



IPM-RC-9008-01

**ORIENTAL BEETLE***(Anomala orientalis)*

The **Oriental Beetle** is similar in size to the Japanese Beetle; however, the adult is not considered to be a major pest, occasionally chewing on a few flowers. The larval stage is a major pest in turfgrass causing complete destruction of the turf. It is also found in nursery stock, strawberry beds, and some outside potted plants. Adults emerge mid-June often occurring during Japanese Beetle emergence. Lure comes in sex lure and works well in the Trece catch can or any other JB style trap.

Oriental Beetle Catch Can Trap and Lure				
Each	TR-9009-01	\$ 21.05	2#	
Replacement Oriental Beetle Lure				
Each	TR-9015-01	\$ 2.90	3 oz	

**ROSE CHAFER***(Macroductylus subspinosus)*

This unique formula lure has proven to be excellent at luring and capturing large numbers of **Rose Chafers** when used with a white Japanese Beetle trap design. Comes with a durable, reusable, 1/2 gallon catch container.

Place traps at least 30 feet away from foliage or plants. For larger acreage, place trap every 200 feet around perimeter.

Deluxe Kit (JB Trap + Rose Chafer Lure)				
Each	IPM-RC-9006-01	\$ 18.05	2#	
Disposable Kit (3 bags, 1 top, 1 lure)				
Each	IPM-RC-9008-01	\$ 6.95	4 oz	
Replacement Rose Chafer Lure				
Each	IPM-RC-9007-01	\$ 3.95	3 oz	

## READY TO USE KITS

### SQUASH VINE BORER

Adult Squash Vine Borer usually appear mid-June to mid-July in Northern U.S. One generation in North possible; 2 generations in Southern states. Lure lasts 4 weeks.



Squash Vine Borer Kit (1 yellow/white universal trap, 1 lure, and 1 vaportape)

Each	PB-SVB-K	\$ 13.50	2#
Replacement Lure Only			
Each	PB-SVB	\$ 2.25	1 oz
Vaportape Only			
Each	HC-8001	\$ 1.60	1 oz

### SWEET POTATO WEEVIL

A complete trap system developed for monitoring the Sweet Potato Weevil. Traps can be used to: A) Determine population levels in field and seed beds which help to time insecticide applications; B) Provide some level of control as traps continuously remove male weevils from field; C) Detect emergence in weevil-free zones.

Recommended trap density is 1 trap per acre with plots up to 6 acres. From 8-40 acres, place 1 trap every 2 acres. Plots over 80 acres, use a density of 1 trap every 4 acres. Place traps uniformly throughout the field raised slightly above canopy. Trap height must be adjusted throughout growing season to ensure accurate trap responses.

Kit (1 yellow/white universal trap and 6 lures)

Each	AGS-SPW-K01	\$ 19.95	1#
12/cs	AGS-SPW-K12	\$ 233.50	12#
Replacement Lure Only (8 week field life)			
Each	AGS-SPW	\$ 1.75	1 oz
25/cs	AGS-SPW-25	\$ 41.50	4 oz

#### MONITORING SCHEDULE

##### January

\* Order universal traps and lures needed for monitoring.

##### February - March

\* Seed beds are prepared, plantings begin near the last week of February  
\* Begin early season monitoring of beds to prevent infestation of transplants

##### April

\* Slips from seed potatoes are transplanted to field.  
\* Continue monitoring and insecticide treatments as needed

##### May - June

\* Slips may be transplanted thru mid-July  
\* Throughout summer, weevils generally produce one generation a month including a period of peak flight

##### July

\* Harvest begins for earliest plantings  
\* Continue trap monitoring

##### August - November

\* Potato harvest continues into November. Slips for next season obtained from select plantings.  
\* Continue trap monitoring through harvest. Keep monitoring records for use the following season.



### WINTER MOTH

(*Operophtera brumata*)

This pest has been known in eastern Canada for years but is now showing up in some New England states. It feeds on a number of deciduous plants including apple, cherry, and blueberry. Adults emerge usually late fall around end of October into November, mate, lay eggs, then die. Eggs hatch in spring, possibly as early as March; larvae feed aggressively on foliage til mid-June. Found usually in association with fall and spring cankerworm which look very similar also having similar feeding patterns. Use pheromone to monitor and help determine damage potential for following spring. Kit includes 1 complete trap, 1 extra liner, and 1 lure.

Winter Moth Kit

Each	PB-WMK	\$ 3.75	1#
Lure Only			
Each	PB-WM	\$ 2.25	1 oz



FOR UPCOMING PRODUCTS NOT LISTED IN THE CATALOG, BE SURE TO CHECK OUT OUR WEBSITE AT:

[www.greatlakesipm.com](http://www.greatlakesipm.com)

or E-mail us at  
[glimp@greatlakesipm.com](mailto:glimp@greatlakesipm.com)

WATCH FOR SALE ITEMS ON THE WEB



### BOLL WEEVIL

The USDA Cotton Boll Weevil Eradication program utilizes this trap for mass trapping of the [Boll Weevil](#). For those using the "Trap Index Method" to determine need for insecticide application for overwintering weevils, a density of 1 trap per 20 acres is required.

New Top Assembly Design consists of funnel and cylinder only. May be used for Plum Curculio or Pecan Weevil [Circle Trunk Traps](#) (see below).

	5 oz.	3 oz.	
	Trap Complete	Top Assembly	
	IPM-1006	IPM-1006T	
Each	\$ 3.25	\$ 1.75	
quantity of 51-499	\$ 2.50 each	\$ 1.55 each	
quantity of 500+	\$ 2.25 each	\$ 1.35 each	



Insect Trap Stakes - 4 ft. tall, 7/16" diameter bamboo

50/cs	N410-50	\$ 14.00	7#
250/cs	N410-250	\$ 47.10	35#

Insect Trap Stakes - 5 ft tall, 7/16" diameter bamboo

50/cs	N510-50	\$ 15.00	7#
250/cs	N510-250	\$ 52.10	35#

### CIRCLE TRUNK

([Plum Curculio](#) or [Pecan Weevil](#))



A physical trap designed to attach directly to trunk of tree or scaffold limb. Naturally funnels weevils into trap chamber at top. Two sizes available: plum curculio small circle trap is best used on scaffold limb or small tree trunk 4-8 inches in diameter or pecan weevil large circle trap used on pecan tree trunk.

Small Trap	IPM-400	\$ 10.00	1#
Large Trap	IPM-401	\$ 15.75	3#
<a href="#">Plum essence dual bait lure</a>	IPM-PE	\$ 3.00	3 oz

### MONITORING TRAPS

#### CORN ROOTWORM



This yellow sticky trap is used to monitor [Aphids](#), [Corn Rootworm](#), [Fungus Gnats](#), [Mushroom Flies](#), [Pear Thrips](#), [Thrips](#), and [Whiteflies](#). The color of the trap is visually attractive to a number of pests. Therefore, no additional bait is needed.

100/cs	IPM-CRW-100	\$ 120.00	10#
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#### ELM BARK BEETLE



Mass trapping of the [ELM BARK BEETLE](#) has for years proven to be an environmentally safe, efficient, and cost effective means for monitoring populations and aiding in the management of EBB which carries the Dutch Elm disease pathogen. Uses a powerful 2 part lure system to attract both male and female beetles. Large white trap measures 18" x 25". Place traps in early spring at the time of first bud break in elm trees before flight begins. Place traps 150-650 ft apart, positioned 8-10 ft off the ground and at least a minimum of 150 ft from the nearest elm tree. Hang on utility pole, side of building, or trees other than elm. Follow chart below to determine trap density. Season long pheromone. **For professional arborist use only. Not recommended for backyard use.**

Acres to be trapped	1-5	12	24	60	120	140	600	1200
Number of traps	2	4	7	11	18	24	40	85

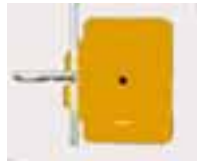
Trap (only) 12/cs	IPM-BBT-12	\$ 39.00	7#
Lure 12/cs	EBB L232-12	\$ 61.85	3 oz
Single Station Kit (1 trap, 1 lure)	EBB K232-01	\$ 8.75	1#

## MONITORING TRAPS

### ORANGE

Used for [Carrot Rust Fly](#), this reusable plastic sticky trap helps to determine when emergence and adult activity occurs in individual carrot fields. Also effective for monitoring [Douglas Fir Seed Chalcid \(\*Megastigmus spermatrophus\*\)](#) in the Pacific Northwest.

25 per pack IPM-106025 \$ 21.00 2#



### P2



The P2 diamond trap is a three sided sticky trap used for general trapping of insects in orchards, row crops, and stored grain. This trap has a resealable top enclosure for easier service. You must try this one out; we are sure you will like the innovative change.

25/cs IPM-3311-25 \$ 32.50 3#  
100/cs IPM-3311-00 \$ 120.00 10#

### REBELL YELLOW

Developed by the Swiss Federal Research Station, Rebell visual traps are manufactured of high quality plastic making them extremely durable. With proper cleaning and care, these traps should provide many seasons of use. Precoated with Tangletrap insect trapping adhesive and ready to use. An addition of ammonium bait attractant to yellow visual traps will enhance efficiency to monitor [Rhagoletis spp.](#): [Apple Maggot](#), [Cherry Fruit Fly](#), [Black Cherry Fruit Fly](#), [Walnut Husk Fly](#), [Blueberry Maggot](#). Also effective to monitor [White Fly](#), [Thrips](#), [Flying Aphids](#), [Mushroom Flies](#), and [Fungus Gnats](#).



8 per pack RB-1008Y \$ 25.00 2#

BAIT ENHANCERS (Ammonia attractant) - Use with trap to monitor [Rhagoletis spp.](#). Replace every 1-2 weeks.

Each IPM-3000 \$ .80 2 oz  
50/cs IPM-3000-50 \$ 34.25 4#

### RED TRAP FOR APPLE BLOTCH LEAFMINER



Developed to monitor for [Apple Blotch Leafminer](#), a serious orchard pest of the northeastern U.S. Durable 9" x 11" plastic trap comes precoated with adhesive and includes wire for hanging or can be used as a trunk trap.

Each IPM-1200 \$ 1.60 3 oz  
Each IPM-1200T \$ 1.25 3 oz  
(No Wire)

### STINKBUG TRAP & LURE



Trap plus lure for early detection of [EUSCHISTIS CONSPERSE SPECIES STINKBUGS](#). The aggregation pheromone lasts 4 weeks in field. Used in tomatoes and other field crops along borders to help pca's to determine when and where stinkbug may be entering fields. Trap must be in contact with foliage to be effective.

Trap TR-STNKBG-01 \$ 5.73 1#  
Lure ST-STNK-8900-01 \$ 4.00 1 oz

### SUGAR BEET ROOT MAGGOT



1.25" x 14" trap used to monitor sugar beet maggot. Recommend 2 traps per 10 acres.

100 pk IPM-1.25x12-OR \$ 25.00 3#

**MONITORING TRAPS**



**UNIVERSAL MOTH**

A durable plastic funnel trap used to monitor indoors and out, or in stored products. Proven effective on [Fall Armyworm](#). Insects lured inside then knocked down by use of toxicant strips (see Hercon Vaportapes page 16). For use in monitoring [Spruce Budworm](#), [Tussock Moth](#), [Pine Shoot Moth](#), [Cutworm](#), [Armyworm](#), [Beet Armyworm](#), [Cabbage Looper](#), [Nantucket Pinetip Moth](#), and [Southwestern Corn Borer](#). Green color helps cut down capture of foraging bumblebees.

**Green Universal Trap**

Each	IPS-G004	\$ 9.95	10 oz
12/cs	IPS-G004-12	\$ 114.00	8#

**Yellow/White Universal Trap**

Each	IPS-Y/W002	\$ 9.95	10 oz
12/cs	IPS-Y/W002-12	\$ 114.00	8#

**Trap Components Each**

Basket	IPS-B1	\$ 1.30	1 oz
Lid	IPS-B2	\$ 2.95	2 oz
Base	IPS-B3	\$ 3.50	3 oz
Funnel	IPS-B4	\$ 3.35	3 oz

**WHALON MODIFIED TEDDERS**



This design helps increase effectiveness of catching first emergence of [PLUM CURCULIO AND PECAN WEEVIL](#). Whalon modified tadders traps are 4 feet high and work without bait to give you early warning of pest emergence. Works best when placed near target trees that have trunks painted white. 1-2 traps should be placed under at least 10 whitewashed

trees known to have weevil infestations.

Traps Each	IPM-500	\$ 15.70	2#
Case of 6	IPM-500-6	\$ 89.50	10#

**PLUM ESSENCE DUAL BAIT LURE**

IPM-PE	\$ 3.00	3 oz
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When baited with ethyl alcohol and gum turpentine (not included), these traps capture [WHITE PINE WEEVIL](#). White vials are included.

Traps Each	IPM-502	\$ 16.50	2#
Case of 6	IPM-502-6	\$ 94.30	10#

Mini tadders trap stands 2 feet high. Used for monitoring [CITRUS WEEVIL](#).

Traps Each	IPM-501	\$ 9.00	1#
Case of 6	IPM-501-06	\$ 51.30	6#

**WHITE TRAP FOR TARNISHED PLANT BUG**

This disposable trap comes complete with hanger and is used to monitor both [Tarnished Plant Bug](#) and [Eastern Apple Sawfly](#) (NE U.S. and Canada). Double sided, 5 1/2" x 9" sticky surface. A minimum of 4 traps per block is recommended; put out at early pink stage in apples.

Each	IPM-1100	\$ 1.35	2 oz
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**IPM WING TRAP**



We are pleased to offer this less expensive traditional wing trap and wing liner design made from quality materials to our customers looking for that additional savings.

**Wing Trap (with Cardboard Top)**

25/cs	IPM-101-25	\$ 50.00	5#
100/cs	IPM-101-00	\$ 190.00	20#

**Wing Trap (with Plastic Top)**

25/cs	IPM-102-25	\$ 61.85	5#
100/cs	IPM-102-00	\$ 235.00	21#

**Liners Only**

25/cs	IPM-103-25	\$ 21.85	3#
100/cs	IPM-103-00	\$ 83.00	10#

**Cardboard Top Only**

25/cs	IPM-201-25	\$ 19.75	3#
100/cs	IPM-201-00	\$ 75.00	7#

**Plastic Top Only**

25/cs	IPM-202-25	\$ 30.50	3#
100/cs	IPM-202-00	\$ 116.50	8#

**Wing Wires Only**

25/cs	IPM-301-25	\$ 18.25	2#
100/cs	IPM-301-00	\$ 68.75	5#

**VARROA MITE BOARDS**



Knowing the population of mites in your colony is important in determining if a treatment is warranted or not. A much improved version of the standard varroa detection board developed by the Penn State Bee Lab will make your counts much easier. Easy to read grid pattern enables you to spend less time

counting at each hive. Precoated with sticky Tangletrap; package of 10 traps includes instructions. Does not include screen cover. Smaller varroa detection board (7" x 15") available for 5 frame "nuc" colony.

**IPM Varroa Board**

10 pk	IPM-VB-2002-10	\$ 15.00	2#
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**IPM Varroa Detection Board**

10 pk	IPM-VB 7x15-10	\$ 8.00	2#
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\* For single station kits replace K with SSK after Lure #. EX: 3215K - 3215SSK

SSK weighs 8 oz. / 3SK weighs 1#

Lure each -1 oz / Lures 25/cs - 4 oz

**TRAP KITS COMPLETE**

**REPLACEMENT LURES**

	Order No.	3 Station Kit	Single Station	Order No.	Price Ea.	Price 25/cs
	Apple Clearwing Moth	TR-ACM 3215K	\$ 38.50	\$ 6.50	TR-ACM 3215	\$ 2.90 \$ 63.00
	Apple Ermine Moth	TR-AEM 3430K	\$ 38.50	\$ 6.50	TR-AEM 3430	\$ 2.90 \$ 63.00
	Codling Moth (Standard)	TR-CM 3111K	\$ 32.00	\$ 6.00	TR-CM 3111	\$ 2.00 \$ 44.00
	Codling Moth DA (Female)	TR-CM/DA 3460K	\$ 41.00	\$ 6.75	TR-CM/DA 3460	\$ 4.90 \$ 116.50
	Codling Moth Long Life (L2)	TR-CM 4111K	\$ 34.00	N/A	TR-CM 4111	\$ 4.80 \$ 115.00
	Codling Moth 10X (2-3 wks)	TR-CM 3160K	N/A	N/A	TR-CM 3160	\$ 1.25 \$ 30.00
	Codling Moth Megalure	TR-CM 5111K	N/A	N/A	TR-CM 5111	\$ 4.65 \$ 116.25
	False Codling Moth	TR-FCM 3131K	\$ 38.50	\$ 6.50	TR-FCM 3131	\$ 2.90 \$ 63.00
	Fruittree Leafroller	TR-FTLR 3117K	\$ 32.00	\$ 6.00	TR-FTLR 3117	\$ 2.00 \$ 44.00
	Lesser Appleworm	TR-LAW 3118K	\$ 32.00	\$ 6.00	TR-LAW 3118	\$ 2.00 \$ 44.00
	Light Brown Apple Moth	TR-LBAM 3426K	\$ 38.50	\$ 6.50	TR-LBAM 3426	\$ 2.90 \$ 63.00
	Obliquebanded Leafroller	TR-OBLR 3208K	\$ 32.00	\$ 6.00	TR-OBLR 3208	\$ 2.00 \$ 44.00
	Oriental Fruit Moth	TR-OFM 3102K	\$ 32.00	\$ 6.00	TR-OFM 3102	\$ 2.00 \$ 44.00
	Oriental Fruit Moth L2	TR-OFM 4102K	\$ 34.00	N/A	TR-OFM 4102	\$ 4.80 \$ 115.00
	Redbanded Leafroller	TR-RBLR 3103K	\$ 32.00	\$ 6.00	TR-RBLR 3103	\$ 2.00 \$ 44.00
	San Jose Scale	TR-SJS 3145	N/A	N/A	TR-SJS 3145	\$ 2.20 \$ 52.40
	Spotted Tent. Leafminer	TR-STLM 3144K	\$ 32.00	\$ 6.00	TR-STLM 3144	\$ 2.00 \$ 44.00
	Threelined Leafroller	TR-TLLR 3147K	\$ 32.00	\$ 6.00	TR-TLLR 3147	\$ 2.00 \$ 44.00
	Tufted Apple Budmoth	TR-TABM 3115K	\$ 32.00	\$ 6.00	TR-TABM 3115	\$ 2.00 \$ 44.00
	Variiegated Leafroller	TR-VLR 3209K	\$ 38.50	\$ 6.50	TR-VLR 3209	\$ 2.90 \$ 63.00
	Blackheaded Fireworm	TR-BHFW 3408K	\$ 32.00	\$ 6.00	TR-BHFW 3408	\$ 2.00 \$ 44.00
	Cranberry Girdler	TR-CBG 3202K	\$ 32.00	\$ 6.00	TR-CBG 3202	\$ 2.00 \$ 44.00
	Cranberry Pest/Sparganothis	TR-SPAR 3403K	\$ 32.00	\$ 6.00	TR-SPAR 3403	\$ 2.00 \$ 44.00
	Filbertworm	TR-FBW 3203K	\$ 32.00	\$ 6.00	TR-FBW 3203	\$ 2.00 \$ 44.00
	Hickory Shuckworm	TR-HSW 3414K	\$ 32.00	\$ 6.00	TR-HSW 3414	\$ 2.00 \$ 44.00
	Pecan Nut Casebearer	TR-PNCB 3236K	\$ 32.00	\$ 6.00	TR-PNCB 3236	\$ 2.00 \$ 44.00
	American Plum Borer	TR-APB 3411K	\$ 32.00	\$ 6.00	TR-APB 3411	\$ 2.00 \$ 44.00
	Greater Peach Tree Borer	TR-GPTB 3146K	\$ 32.00	\$ 6.00	TR-GPTB 3146	\$ 2.00 \$ 44.00
	Lesser Peach Tree Borer	TR-LPTB 3140K	\$ 32.00	\$ 6.00	TR-LPTB 3140	\$ 2.00 \$ 44.00
	Oriental Fruit Moth	TR-OFM 3102K	\$ 32.00	\$ 6.00	TR-OFM 3102	\$ 2.00 \$ 44.00
	Peach Twig Borer	TR-PTB 3113K	\$ 32.00	\$ 6.00	TR-PTB 3113	\$ 2.00 \$ 44.00
	Peach Twig Borer L2	TR-PTB 4113K	\$ 34.00	N/A	TR-PTB 4113	\$ 4.80 \$ 115.00
	Beet Armyworm	Universal Trap			TR-BAW 3210	\$ 2.00 \$ 44.00
	Black Cutworm	TR-BCW 3141K	\$ 32.00	\$ 6.00	TR-BCW 3141	\$ 2.00 \$ 44.00
	Cotton Bollworm	Heliothis Trap (3 week lure)			TR-CEW 3138	\$ 2.00 \$ 44.00
	Cotton Leafworm	TR-CLW 3402K	\$ 38.50	\$ 6.50	TR-CLW 3402	\$ 2.90 \$ 63.00
	Lesser Cornstalk Borer	TR-LCSB 3407K	\$ 38.50	\$ 6.50	TR-LCSB 3407	\$ 2.90 \$ 63.00
	Pink Bollworm	TR-PBW 3124	N/A	N/A	TR-PBW 3124	\$ 2.00 \$ 44.00
	Sod Webworm	TR-SWW 3202K	\$ 32.00	\$ 6.00	TR-SWW 3202	\$ 2.00 \$ 44.00
	Southwestern Corn Borer	TR-SWCB 3409K	\$ 32.00	\$ 6.00	TR-SWCB 3409	\$ 2.00 \$ 44.00
	Spotted Stalk Borer	TR-SSB 3232K	\$ 38.50	\$ 6.50	TR-SSB 3232	\$ 2.90 \$ 63.00
	Sunflower Head Moth	TR-SFHM 3204K	\$ 32.00	\$ 6.00	TR-SFHM 3204	\$ 2.00 \$ 44.00
	Tobacco Budworm	Heliothis Trap (3 week lure)			TR-TBW 3122	\$ 2.90 \$ 63.00
	True Armyworm	TR-AMW 3205K	\$ 38.50	\$ 6.50	TR-AMW 3205	\$ 2.90 \$ 63.00
	Cherry Bark Tortrix	TR-CBT 3218K	\$ 38.50	\$ 6.50	TR-CBT 3218	\$ 2.90 \$ 63.00
	Dogwood Borer	TR-DWB 3425K	\$ 32.00	\$ 6.00	TR-DWB 3425	\$ 2.00 \$ 44.00
	Eastern Spruce Budworm	TR-ESBW 3435K	\$ 38.50	\$ 6.50	TR-ESBW 3435	\$ 2.90 \$ 63.00
	European Pineshoot Moth	TR-EPSM 3132K	\$ 32.00	\$ 6.00	TR-EPSM 3132	\$ 2.00 \$ 44.00
	Leopard Moth	TR-ZP 3439K	\$ 38.50	\$ 6.50	TR-ZP 3439	\$ 2.90 \$ 63.00
	Lilac Borer	TR-LILA 3224K	\$ 32.00	\$ 6.00	TR-LILA 3224	\$ 2.00 \$ 44.00
	Nantucket Pinetip Moth	TR-NPTM 3405K	\$ 32.00	\$ 6.00	TR-NPTM 3405	\$ 2.00 \$ 44.00
	Sequoia Pitch Moth	TR-SPM 3410K	\$ 38.50	\$ 6.50	TR-SPM 3410	\$ 2.90 \$ 63.00
	Cabbage Looper	TR-CL 3119K	\$ 38.50	\$ 6.50	TR-CL 3119	\$ 2.90 \$ 63.00
	Corn Earworm	Heliothis Trap (3 week lure)			TR-CEW 3138	\$ 2.00 \$ 44.00
	Diamondback Moth	TR-DBM 3139K	\$ 38.50	\$ 6.50	TR-DBM 3139	\$ 2.90 \$ 63.00
	European Corn Borer IA	Heliothis Trap			TR-ECBI 3110	\$ 2.00 \$ 44.00
	European Corn Borer NY	Heliothis Trap			TR-ECBII 3136	\$ 2.00 \$ 44.00
	Fall Armyworm	Universal Trap			TR-FAW 3143	\$ 2.00 \$ 44.00
	Omnivorous Looper	TR-OLR 3421K	\$ 38.50	\$ 6.50	TR-OLR 3421	\$ 2.90 \$ 63.00
	Potato Tuberworm Moth	TR-PTM 3137K	\$ 38.50	\$ 6.50	TR-PTM 3137	\$ 2.90 \$ 63.00
	Tomato Pinworm	TR-TPW 3142K	\$ 32.00	\$ 6.00	TR-TPW 3142	\$ 2.00 \$ 44.00
	Variiegated Cutworm	TR-VCW 3201K	\$ 32.00	\$ 6.00	TR-VCW 3201	\$ 2.00 \$ 44.00
	Western Bean Cutworm	TR-WBCW 3406K	\$ 32.00	\$ 6.00	TR-WBCW 3406	\$ 2.00 \$ 44.00
	Whitemarked Tussock Moth	TR-WMTM 3433K	\$ 38.50	\$ 6.50	TR-WMTM 3433	\$ 2.90 \$ 63.00
	Currant Clearwing Moth	TR-CURM 3230K	\$ 38.50	\$ 6.50	TR-CURM 3230	\$ 2.90 \$ 63.00
	Grape Berry Moth	TR-GBM 3126K	\$ 32.00	\$ 6.00	TR-GBM 3126	\$ 2.00 \$ 44.00

NOTICE: If you believe there is a problem with a pheromone that is not working, please notify us immediately. We will need lure code number in order to check the pheromone chemistry.

3 station kits include 3 complete traps, 3 extra liners, and 9 lures. Single station kits include 1 complete trap, 1 extra liner, and 1 lure.



**TRÉCÉ TRAP KITS AND LURES**



Trécé standard 3 station kits contain 3 traps, 3 extra liners, and 9 lures; all the components you need to monitor a block up to 30 acres for the entire season.

Single station kits are composed of 1 complete trap, 1 extra liner, and 1 lure. Any unused lures may be stored in the freezer and used the following season. Field life of standard lures is 4-6 weeks for most insects. Separate kits must be ordered for each target insect being monitored due to the fact that each has its own specific pheromone. It is recommended that you use traps in cooperation with a university extension service, Department of Agriculture, or other qualified consultants if you are not familiar with their use.

“Long life” (L2) lures have a field life of 8-12 weeks and are available for [Codling Moth](#), [Oriental Fruit Moth](#), and [Peach Twig Borer](#). The [CM L2](#) and [OFM L2](#) kits consist of 3 traps, 6 extra liners, and 3 lures. Due to the increase of lure field life for [PTB](#), this L2 kit contains only 3 lures but provides equal monitoring time for the grower. Pricing for these kits are located on page 10.

Trécé [CM Megalure](#) gives 10-12 continuous weeks of monitoring in a mating disruption block to warn of a potential early failure in the program. Recommend 1 trap site every 2.5 acres.



Orange Trap				
25/cs	TR-334125	\$ 30.00	4#	
100/cs	TR-334100	\$ 114.50	14#	
Green Trap				
25/cs	TR-334125-G	\$ 30.00	4#	
100/cs	TR-334100-G	\$ 114.50	14#	

**PHEROCON III**

Orange colored trap used for [Pink Bollworm](#) and green colored trap used as a survey trap for [Gypsy Moth](#). Glue coating on two sides.

**PHEROCON VI**



Larger corrugated plastic Delta-style trap with 2 replaceable liners per trap; use for general orchard monitoring. Available in white or orange.

Ask about pricing for a 3 station kit with pheromones.

White Traps				
25/cs	TR-3314-25	\$ 149.00	8#	
Orange Traps				
25/cs	TR-3315-25	\$ 149.00	8#	
Liners Only				
25/cs	TR-3354-25	\$ 26.25	2#	
100/cs	TR-3354-00	\$ 105.00	6#	

**PHEROCON II, IIB, AND IIC TRAPS**



These Trécé Pherocon traps have 3 sticky sides and are easy to use, great for rapid deployment, and quick servicing in the field. The Pherocon II is the smallest,

followed by the larger IIB, and the still larger IIC with glue areas ranging from 49-113 sq. in. The patented lock design side panels also help keep the bottom from drooping. For general trapping of insects in orchard, row crop, and stored grain.

Pherocon II				
25/cs	TR-331125	\$ 35.70	3#	
Pherocon IIB				
25/cs	TR-331225	\$ 51.15	4#	
Pherocon IIC				
25/cs	TR-331325	\$ 82.00	6#	

**TRÉCÉ BULK WING TRAPS**



1C



1CP

The 1C wing is a general purpose trap that can be used for most insects. Use the 1CP style wing trap and liner for [Codling Moth](#), [Redbanded Leafroller](#), [Pecan Nut Casebearer](#), and [Blackheaded Fireworm](#). Both the 1C and 1CP styles are available with either paperboard or plastic trap tops.

<b>Wing Trap 1C(3302) or 1CP(3303) w/paperboard top</b>				
25/cs	TR-330225 or 330325	\$ 66.80	6#	
100/cs	TR-330200 or 330400	\$ 251.66	21#	

<b>Wing Trap P1C(3300) or P1CP(3304) w/plastic top</b>				
25/cs	TR-330025 or 330425	\$ 103.00	6#	
100/cs	TR-330000 or 330300	\$ 395.00	21#	

<b>Wing Trap Liners 1C(3322) or 1CP(3323)</b>				
25/cs	TR-332225 or 332325	\$ 29.12	3#	
100/cs	TR-332200 or 332300	\$ 102.54	10#	



## PHEROCON CRW TRAP

This monitoring system is highly effective, species-specific, and easy to use. It includes a season long attractant. Pherocon CRW is a trapping system for the *Diabrotica* spp.: *Western/Mexican*, *Northwestern*, and *Southern*. Place one trap per ten acres at ear height by attaching to plants or by mounting on 1/2" PVC pipe. Kit contains 5 CRW traps, 5 Kairomones, and 5 Stun Pills.



### CALL FOR PRICING

CRW 5 Station Kit - Western/Mexican			
Each	TR-CRW-8275	3#	
CRW 5 Station Kit - Northwestern			
Each	TR-CRW-8391	3#	
CRW 5 Station Kit - Southern			
Each	TR-CRW-8276	3#	
CRW Trap Only			
Each	TR-CRW-T	5 oz	
Kairomone Only			
Each	TR-CRW-K	1 oz	
Kairomone and Stun Pill			
Each	TR-CRW-K-SP	2 oz	

## CIDETRAK D GUSTATORY STIMULANT

This stimulant focuses on the compulsive feeding behavior of adult corn rootworms on cucurbit bitters. When mixed with stomach poison insecticides, Cidetrak D stimulates beetles to ingest the insecticide providing greater efficacy of the insecticide while using only 10% of the recommended use rate. It is formulated to mix with a number of insecticides and to adhere to plant surfaces. Covers approximately 21 acres.

Each	TR-CRW-GS	\$ 173.70	4#
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## PEPPER WEEVIL

### (*Anthonomus eugenii*)

Use traps to detect where migration is coming from, and to isolate "hot spots". Monitor entire crop throughout growing season to check effectiveness of control measures being used. Trap catch of 1 weevil on any one trap indicates that treatment may be necessary. Replace lure system every 4 weeks. Minimum of 1 trap per 2.5 acres. In areas with history of heavy infestation, use one trap per acre.



Kit ( 8 yellow sticky traps, 4-2 component lures)			
Each	TR-PEW-4424-04	\$ 37.00	1#

## GREEN JUNE BEETLE

The *Green June Beetle* is a turfgrass pest found in Connecticut, New York, and extends westward into Kansas, Oklahoma, and Texas. These beetles are attracted to dead and decaying organic matter, especially heavily manured fields. This season long lure works well with the Japanese Beetle trap (see page 5).

Each	TR-GJB	\$ 7.35	3 oz
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## SAN JOSE SCALE

### (*Quadraspidiotus perniciosus*)

Conspicuous red spots on apples at year end may indicate *San Jose Scale* damage. Severe outbreaks can lead to overall decline in tree vigor, growth, and productivity. Traps are used to help pinpoint crawler emergence by noting date at which first male adults are captured. Crawlers will emerge approximately 300-400 degree days from that date. Locate active colonies and concentrate monitoring in these areas.



5 Station Kit (20 traps, 5 hangers, 5 lures)			
Each	TR-SJS-314501K	\$ 26.75	1#
Single Station Kit (4 traps, 1 hanger, 1 lure)			
Each	TR-SJS-31351K	\$ 5.95	5 oz

## GRAIN PROBE



Designed to monitor infestations within raw grains by inserting the probe to various depths. Constructed of durable plastic, the probe uses pheromone and/or food bait attractants to lure *Trogoderma*, *Tribolium*, *Rhyzopertha* (*Lesser Grain Borer*) and other insects such as weevils. It is recommended that traps be placed at 16 sq. meter intervals throughout the grain bin at different levels in order to detect any hot spots of infestation. Kit includes 3 grain probes. Must order lures separately.

3 Probe Kit	TR-3560-03	\$ 30.55	2#
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### Confused Flour Beetle/Red Flour Beetle Lures

Each	TR-CFB 3156	\$ 3.85	1 oz.
25/cs	TR-CFB 3156-25	\$ 89.50	4 oz.

### Khapra/Warehouse Beetle Lures

Each	TR-KB/WB	\$ 3.60	1 oz.
25/cs	TR-KB/WB	\$ 81.00	4 oz.

### Lesser Grain Borer Lures

Each	TR-LGB 3158	\$ 2.65	1 oz.
25/cs	TR-LGB 3158-25	\$ 63.75	4 oz.



**INDIAN MEAL MOTH**

The Storgard monitoring system for the Indian Meal Moth utilizes a powerful sex pheromone luring adult **Indian Meal Moths**, **Raisin Moths**, **Tobacco Moths**, and **Mediterranean Flour Moths** for a period of 24 weeks. **Indian Meal Moth** is the number one pest infesting stored food products causing enormous losses each year worldwide. For warehouses, place in grid pattern every 3,000 sq. ft. For homes, use 1 trap or more as needed.

Storgard IMM Kit (6 Pherocon II traps, 6 lures)			
Each	TR-3554-P2	\$ 24.25	1#
Storgard IMM PCO Kit (25 traps, 25 lures)			
Each	TR-3653-25	\$ 89.50	4#
IMM Kit (2 traps, 2 lures)			
Each	IPM-3353-01K	\$ 6.35	6 oz
IMM Kit (6 traps, 6 lures)			
Each	IPM-3554-P2	\$ 19.25	1#

**Replacement Lures Bulk**

Indian Meal Moth			
25/cs	TR-IMM 3153-25	\$ 63.75	4 oz
Angoumois Grain Moth			
25/cs	TR-AGM-3161-25	\$ 63.75	4 oz

**DISCREET TRAP**



Trap multiple species of moths and beetles. The least noticeable, most effective, and easy to use insect monitoring system for PCO's and home owners. Kit includes 10 discreet traps, 5 wall mount holders, and 5 lures.

Indian Meal Moth Kit			
Each	TR-3400	\$ 33.70	2#
Cigarette Beetle Kit			
Each	TR-3401	\$ 31.85	2#
Webbing Clothes Moth Kit			
Each	TR-3746-05	\$ 29.50	2#



**TROGODERMA & TRIBOLIUM**



Each Dome Trap kit is designed to provide 4-8 weeks of continuous monitoring containing 5 traps, 5 lures, and kairomone attractant. The Dome Master PCO kit includes 25 traps, 25 lures, and kairomone attractant.

The Trogoderma lure attracts adult males for 4 weeks and the kairomone attractant (attracts larval stage) lasts 8 weeks. Both are used to attract the **Warehouse Beetle (Trogoderma variabile)** and the **Khaphra Beetle (Trogoderma granarium)**. Place traps in grid pattern at intervals of 25 to 50 feet.

KB/WB Dome Trap Kit			
Each	TR-3565-05	\$ 32.65	1#
KB/WB Dome Master PCO Kit			
Each	TR-3665-25	\$ 158.00	4#

The Tribolium lure will attract both male and female adults for 3 weeks. Both adults and larvae are attracted to the kairomone attractant which lasts 4 weeks. Lures are designed to attract **Red Flour Beetle (Tribolium castaneum)** and the **Confused Flour Beetle (Tribolium confusum)**.

CFB/RFB Dome Trap Kit			
Each	TR-3556-05	\$ 34.75	1#
CFB/RFB Dome Master PCO Kit			
Each	TR-3666-25	\$ 163.20	4#

**Cigarette Beetle (Lasioderma Serricornes)** lure attracts for 8 weeks.

CB Dome Trap Kit			
Each	TR-3562-05	\$ 34.75	1#
CB Dome Master PCO Kit			
Each	TR-3662-25	\$ 163.20	4#

**Rebait kits for Dome Trap** kits consist of 5 pheromones, 10 oil pads, and a bottle of kairomone attractant.

KB/WB Rebait Kit			
Each	TR-3365-05	\$ 22.10	4 oz
CFB/RFB Rebait Kit			
Each	TR-3366-05	\$ 24.25	4 oz
CB Rebait Kit			
Each	TR-3362-05	\$ 24.25	4 oz

**Replacement Lures Bulk**

Khaphra/Warehouse Beetle			
25/cs	TR-KB/WB 3155-25	\$ 81.00	4 oz
Confused Flour Beetle/Red Flour Beetle			
25/cs	TR-CFB/RFB 3156-25	\$ 89.50	4oz
Cigarette Beetle			
25/cs	TR-CB 3162-25	\$ 89.50	4oz



## TRAP KITS COMPLETE

## REPLACEMENT LURES

	ORDER NO.	4 STN KIT	2 STN KIT	ORDER NO.	EACH	12/CASE
Codling Moth	SC-CM K104	\$ 41.50	\$ 21.85	SC-CM L104	\$ 1.80	\$ 20.95
Eyespotted Budmoth	SC-ESBM K301	\$ 51.00	\$ 26.80	SC-ESBM L301	\$ 2.30	\$ 26.65
False Codling Moth	SC-FCM K205	\$ 41.50	\$ 21.85	SC-FCM L205	\$ 1.80	\$ 20.95
Fruittree Leafroller	SC-FTLR K106	\$ 51.00	\$ 26.80	SC-FTLR L106	\$ 2.30	\$ 26.65
Lesser Appleworm	SC-LAW K809	\$ 41.50	\$ 21.85	SC-LAW L809	\$ 1.80	\$ 20.95
Obliquebanded Leafroller	SC-OBLR K110	\$ 51.00	\$ 26.80	SC-OBLR L110	\$ 2.30	\$ 26.65
Oriental Fruit Moth	SC-OFM K111	\$ 41.50	\$ 21.85	SC-OFM L111	\$ 1.80	\$ 20.95
Redbanded Leafroller	SC-RBLR K112	\$ 41.50	\$ 21.85	SC-RBLR L112	\$ 1.80	\$ 20.95
San Jose Scale	N/A	N/A	N/A	SC-SJS L235	\$ 2.30	\$ 26.65
Speckled Green Fruitworm	SC-SGFW K223	\$ 41.50	\$ 21.85	SC-SGFW L223	\$ 1.80	\$ 20.95
Tentiform Leafminer	SC-TLM K305	\$ 41.50	\$ 21.85	SC-TLM L305	\$ 1.80	\$ 20.95
Threelined Leafroller	SC-TLLR K308	\$ 51.00	\$ 26.80	SC-TLLR L308	\$ 2.30	\$ 26.65
Tufted Apple Budmoth	SC-TABM K309	\$ 41.50	\$ 21.85	SC-TABM L309	\$ 1.80	\$ 20.95
Blackheaded Fireworm	SC-BHFW K108	\$ 41.50	\$ 21.85	SC-BHFW L108	\$ 1.80	\$ 20.95
Cranberry Girdler/ Sod Webworm	SC-CBG K225	\$ 41.50	\$ 21.85	SC-CBG L225	\$ 1.80	\$ 20.95
Sparganothis	SC-SPAR K993	\$ 41.50	\$ 21.85	SC-SPAR L993	\$ 1.80	\$ 20.95
Greater Peach Tree Borer	SC-CWB K103	\$ 41.50	\$ 21.85	SC-CWB L103	\$ 1.80	\$ 20.95
Lesser Peach Tree Borer	SC-LPTB K304	\$ 41.50	\$ 21.85	SC-LPTB L304	\$ 1.80	\$ 20.95
Oriental Fruit Moth	SC-OFM K111	\$ 41.50	\$ 21.85	SC-OFM L111	\$ 1.80	\$ 20.95
Peach Twig Borer	SC-PTB K815	\$ 41.50	\$ 21.85	SC-PTB L815	\$ 1.80	\$ 20.95
Hickory Shuckworm	SC-HSW K115	\$ 41.50	\$ 21.85	SC-HSW L115	\$ 1.80	\$ 20.95
Pecan Nut Casebearer	SC-PNCB K835	\$ 51.00	\$ 26.80	SC-PNCB L835	\$ 2.30	\$ 26.65
Armyworm	SC-AMW K216	\$ 41.50	\$ 21.85	SC-AMW L216	\$ 1.80	\$ 20.95
Banded Sunflower	SC-BSM K920	\$ 51.00	\$ 26.80	SC-BSM L920	\$ 2.30	\$ 26.65
Beet Armyworm			Universal Trap	SC-BAW L217	\$ 1.80	\$ 20.95
Black Cutworm	SC-BCW K800	\$ 41.50	\$ 21.85	SC-BCW L800	\$ 1.80	\$ 20.95
Corn Earworm/Cotton Blwm			Heliothis Trap	SC-HZ L215	\$ 1.80	\$ 20.95
European Corn Borer IA			Heliothis Trap	SC-ECBIA L803	\$ 1.80	\$ 20.95
European Corn Borer NY			Heliothis Trap	SC-ECBNY L804	\$ 1.80	\$ 20.95
Fall Armyworm - 4 comp.			Universal Trap	SC-FAW L105A	\$ 2.50	\$ 28.95
Fall Armyworm - PSU			Universal Trap	SC-FAW L105B	\$ 1.80	\$ 20.95
Southern Armyworm	SC-SAW K992	\$ 51.00	\$ 26.80	SC-SAW L992	\$ 2.30	\$ 26.65
Southwestern Corn Borer			Universal Trap	SC-SWCB L820	\$ 1.80	\$ 20.95
Soybean Looper - 5 comp.	N/A	N/A	N/A	SC-SL L113A	\$ 2.75	\$ 30.00
Sunflower Headmoth	SC-SFHM K214	\$ 41.50	\$ 21.85	SC-SFHM L214	\$ 1.80	\$ 20.95
Tobacco Budworm			Heliothis Trap	SC-TBW L210	\$ 1.80	\$ 20.95
<b>Clearwing Borer Complex:</b>						
Oak, Rhododendron, Ash,						
Banded Ash, Lilac Borer	SC-CWB K103	\$ 41.50	\$ 21.85	SC-CWB L103	\$ 1.80	\$ 20.95
Dogwood Borer	SC-DWB K119	\$ 41.50	\$ 21.85	SC-DWB L119	\$ 1.80	\$ 20.95
Cherry Bark Tortrix	SC-CBT K831	\$ 41.50	\$ 21.85	SC-CBT L831	\$ 1.80	\$ 20.95
Douglass Fir Tussock Moth	N/A	N/A	N/A	SC-DFTM L802	\$ 2.75	\$ 30.00
Nantucket Pinetip Moth	SC-NPTM K159D	\$ 36.35	N/A	SC-NPTM L159	\$ 1.80	\$ 20.95
Pitch Pine Moth	SC-PPM K816D	\$ 36.35	N/A	SC-PPM L816	\$ 1.80	\$ 20.95
Sequoia Pitch Moth	N/A	N/A	N/A	SC-SPM L302	\$ 2.95	\$ 33.85
*Kits designated with D are Delta style traps.						
Cabbage Looper	SC-CL K102	\$ 41.50	\$ 21.85	SC-CL L102	\$ 1.80	\$ 20.95
Diamondback Moth	SC-DBM K118	\$ 41.50	\$ 21.85	SC-DBM L118	\$ 1.80	\$ 20.95
Leek Moth	N/A	N/A	N/A	SC-LM L995	\$ 2.75	\$ 30.00
Tomato Pinworm	SC-TPW K114	\$ 41.50	\$ 21.85	SC-TPW L114	\$ 1.80	\$ 20.95
Western Bean Cutworm	SC-WBCW K206	\$ 41.50	\$ 21.85	SC-WBCW L206	\$ 1.80	\$ 20.95
Vine Mealy Bug	SC-VMB K985	\$ 51.00	\$ 26.80	SC-VMB L985	\$ 2.30	\$ 26.65

Scentry 4 Station Kits contain all the materials required to maintain 4 trap stations for a 12-18 week period under normal conditions and will monitor 40 acres or more. This kit includes 4 reusable (plastic top) wing traps, 8 extra replacement bottoms, and 12 lures. The 2 Station Kit includes 2 traps, 4 extra trap bottoms, and 6 lures. The Delta style kits contain 12 traps and 12 lures. We recommend using the Heliothis trap for all Heliothis or Helicoverpa species and European Corn Borers as no wing trap kits are available for these insects. This trap can be used on Black Cutworm as well. Field life averages 4-6 weeks for most lures. All Heliothis or Helicoverpa spp., and Peach Twig Borer have a 2 week field life. The Clearwing Borer Complex has an extended field life of 8-12 weeks. To order 2 Station Kits, drop the "K" and replace it with "2K". EXAMPLE:

SC-CM K104 (Codling Moth 4 Station Kit)

SC-CM 2K104(Codling Moth 2 Station Kit)

4 Station Kit weighs 3#

2 Station Kit weighs 1#

Each Lure weighs .5 oz

12/cs lures weigh 3 oz

\*If you need a particular lure which cannot be found in our catalog, please contact us. Because of space limitations, we cannot list all available pheromones.

**MULTIGARD**

Multigard Trap measures 5 1/2" x 9".  
(2 sided **green** sticky trap)

50/cs	SC-10315-50	\$ 65.00	5#
100/cs	SC-10315-100	\$ 124.00	9#

Multigard Trap measures 5 1/2" x 9".  
(2 sided **yellow** sticky trap)

50/cs	SC-10600-50	\$ 65.00	5#
100/cs	SC-10600-100	\$ 124.00	9#

**LARGE PLASTIC DELTA**

Heavier construction than competitive LPD traps on the market. Comes with 2 replaceable liners for easy maintenance. Available in white or red.

Ask about pricing for a 3 station kit with pheromones.

LPD Traps (White)			
25/cs	SC-10302-25	\$ 115.00	8#
LPD Traps (Red)			
25/cs	SC-10303-25	\$ 115.00	8#
LPD Liners			
25/cs	SC-10306-25	\$ 23.50	2#
100/cs	SC-10306-00	\$ 89.00	8#

**DELTA 1X**

Delta Trap 1X (Glue coat 3 sides)			
Pair	SC-10301-002	\$ 2.90	1#
50/cs	SC-10301-050	\$ 57.90	6#
250/cs	SC-10301-250	\$ 263.00	30#

**HELIOTHIS**

Heliiothis Traps  
(Use with *Heliiothis* and *Helicoverpa* spp. and European Corn Borer lures.)

Each	SC-10320	\$ 54.25	3#
5/cs	SC-103205	\$ 258.00	8#
Replacement Top			
Each	SC-10321	\$ 17.00	1#

**JACKSON**

**CALL FOR PRICING**

**WING**

Wing Trap Complete (Cardboard Top)			
100/cs	SC-10308	\$ 200.00	30#
Wing Trap Complete (Plastic Top)			
100/cs	SC-10309	\$ 257.00	21#
Win Trap Replacement Bottoms			
100/cs	SC-10311-00	\$ 96.00	10#

**EUROPEAN HONEY BEE LURE**

All season lure. Open and discard lid leaving spongy material in vial.			
Each	SC-EHB L311	\$ 2.00	2 oz

**BEE-SCENT**

Bee-Scent is a non-toxic liquid formula that attracts foraging honey bees to treated blossoms improving crop pollination and resulting in additional fruit set and better fruit quality. Monitoring tests show the number of foraging bees increased 28-75 percent after Bee-Scent application. Apply 2 qts/acre in early morning for best results. 2 1/2 gallon will treat 5 acres, while the 16 oz. bottle will treat 1/4 acre. Once applied, Bee-Scent will remain active for three to five days under favorable weather conditions.

16 oz bottle			
Each	SC-BEES-16	\$ 17.00	2#
2 1/2 gallon			
Each	SC-BEES-2.5	\$ 90.00	26#

## PHEROMONES & VAPORTAPE

### CARPOPHILUS SAP BEETLE LURES

Sap beetles cause major economic losses every year in many crops. Research trials have shown that a dual bait lure system has proven to be helpful in battling this pest in sweet corn, date, and figs.



**Dusky Sap Beetle** (*C. lugubris*) - Trap in sweet corn to reduce damage from this pest. Lures last 2-3 weeks. Can use a Flying Insect trap (p. 25) or Universal Moth trap (p. 9). User must mix a secondary bait of wheat dough with active yeast cultures replaced daily with the lure in order for system to work properly.

Each	IPM-DSB-01	\$ 1.60	1 oz
25/cs	IPM-DSB-25	\$ 38.25	3 oz

**Date & Fig Blend** (Dried Fruit Beetle-*C. hemipterus*, Confused Sap Beetle-*C. mutilatus*, Freeman Sap Beetle-*C. freemani*) - Help reduce sap beetles in date & fig trees during growing season. Need to add a fruit essence with active yeast cultures as a secondary bait in order for trap to work. Can use Flying Insect trap (p. 25) or Universal Moth trap (p. 9). Lure lasts 2-3 weeks. Must remove from orchard before crop matures.

Each	IPM-HMF-3-01	\$ 1.90	1 oz
25/cs	IPM-HMF-3-25	\$ 45.75	3 oz

**CRANBERRY FRUITWORM** lures can be used in cranberry or blueberry patches. Field life is 6+ weeks. (P2 diamond trap works best with this lure).

Each	IPM-CFW-L1500	\$ 2.00	1 oz
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**CHERRY FRUITWORM** lures can be used for monitoring apples, cherries, and blueberries. (Wing traps have been found to work the best with this lure).



Each	SC-CHFW-L160	\$ 1.80	.5 oz
12/cs	SC-CHFW-L160-12	\$ 20.95	6 oz

### CLEARWING

Currant Clearwing Moth	<i>Synanthedon tipuliformis</i>		
Each	PB-SYTI	\$ 2.25	1 oz
Poplar Twig Borer	<i>Paranthrene tabaniformis</i>		
Each	PB-PATA	\$ 2.25	1 oz
Raspberry Clearwing Moth	<i>Pennisetia hylaeiformis</i>		
Each	PB-PEHY	\$ 2.25	1 oz
Viburnum Borer	<i>Synanthedon viburni</i>		
Each	SC-VB L997	\$ 2.30	1 oz
Viburnum Crown Borer	<i>Synanthedon fatifera</i>		
Each	SC-VCB L980	\$ 2.30	1 oz
Western Poplar Clearwing	<i>Paranthrene robiniae</i>		
Each	PB-WPCM	\$ 2.25	1 oz
Yellow Legged Clearwing	<i>Synanthedon vespiformis</i>		
Each	PB-SYVE	\$ 2.25	1 oz

A guide is available that will help identify adult clearwing moths and assess the significance of moth catches by studying life history. This publication is called **A Guide to the Clearwing Borers of the North Central United States** and may be ordered through Michigan State University. The phone number is 517-353-6740; ask for publication NCR394.



### HERCON LURETAPES

				FIELD LIFE	
Beet Armyworm	10/pk	HC-BAW 100317	\$ 15.25	4 week	2 oz
Codling Moth	10/pk	HC-CM 100322	\$ 15.25	4 week	2 oz
Corn Earworm/Cotton BW	10/pk	HC-CEW 100337	\$ 16.80	2 week	2 oz
European Corn Borer IA	10/pk	HC-ECB IA 100528	\$ 16.80	2 week	2 oz
European Corn Borer NY	10/pk	HC-ECB NY 100529	\$ 16.80	2 week	2 oz
European Pineshoot Moth	10/pk	HC-EPSM 100499	\$ 15.25	4 week	2 oz
Fall Armyworm	10/pk	HC-FAW 100324	\$ 15.25	2 week	2 oz
Nantucket Pinetip Moth	10/pk	HC-NPTM 100345	\$ 15.25	4 week	2 oz
Oriental Fruit Moth	10/pk	HC-OFM 100411	\$ 15.25	4 week	2 oz
Southwestern Corn Borer	10/pk	HC-SWCB 100356	\$ 15.25	2 week	2 oz
Tobacco Budworm	10/pk	HC-TBW 100335	\$ 15.25	2 week	2 oz

**HERCON VAPORTAPE** A 10% DDVP toxicant insecticide PVC tape. Available in two sizes for your convenience. Registered for use in blacklight and bucket style traps. Not available in some states. Field life is 2-3 months.

#### 1" x 4" Toxicant Strip

Each	HC-8001	\$ 1.60	1 oz
50/cs	HC-8001-50	\$ 65.50	2#
250/cs	HC-8001-250	\$ 295.00	7#

#### 1" x 1/2" Toxicant Strip

25/cs	HC-8500-25	\$ 6.00	1 oz
100/cs	HC-8500-100	\$ 21.00	4 oz
500/cs	HC-8500-500	\$ 96.00	1#

**MISCELLANEOUS FRUIT FLY SUPPLIES****OLIVE FRUIT FLY KIT**

Double lure system used with Pherocon AM Trap to monitor Olive Fruit Fly. Place trap with lures in trees with a lot of fruit versus trees with little or no fruit. Change trap and lure every 4 weeks. Kit includes 6 traps with 6 kairomone lures.

TR-OLF 4213-06	\$ 34.00	2#
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**LIQUIBAITOR FRUIT FLY TRAP**

This original design plastic McPhail-type trap can be used for a variety of fruit fly species. Use with [Caribbean Fruit Fly](#) bait, [Medfly](#) lure, [Mexican Fruit Fly](#) or with the Trappit Liquid Wasp Attractant (shown previous column).

Trap Only				
Each	IPS-235	\$	9.95	1#

Lures				
Caribbean Fruit Fly (6 week field life)				
Each	IPM-CFF	\$	4.50	3 oz

Medfly				
Each	IPM-MF	\$	2.30	3 oz
12/cs	IPM-MF-12	\$	26.40	6 oz

Mexican Fruit Fly (6 week field life)				
Each	IPM-MEX-FF	\$	2.30	3 oz
12/cs	IPM-MEX-FF-12	\$	26.40	6 oz

**TRAPPIT DOME TRAP**

This decorative, bell-shaped trap with clear top and bottom funnel entrance is a durable substitute for the glass McPhail traps currently used in trapping Mediterranean Fruit Fly. Kit comes complete with Liquid Wasp Attractant. Use the trap at home, in gardens, greenhouses, on the terrace or patio, orchards, campsites, and caravans. Beneficial insects, such as honey bees, are not affected by this trap.

Kit (1 trap, 1 Bottle of Attractant )				
Each	AGS-130	\$	14.95	2#
12/cs	AGS-130-12	\$	155.40	23#

Trap Only				
Each	AGS-135	\$	8.95	1#
12/cs	AGS-135-12	\$	83.75	7#

8 oz. Attractant Only				
Each	AGS-138	\$	7.95	1#
12/cs	AGS-138-12	\$	77.00	9#

**OLIVE FRUIT FLY LURE AND TORULA YEAST PELLETS**

The McPhail-type bulk trap is also used for Olive Fruit Fly monitoring. May be used with the Olive Fruit Fly lure, Torula Yeast Pellets, or a combination of both.

Olive Fruit Fly Lure (6 week field life)				
Each	SC-OFF L975	\$	2.70	3 oz

Torula Yeast Pellets (1 week field life)				
Each	SC-TYP	\$	.25	.2 oz

## YELLOW OR BLUE VISUAL TRAPS



**Pherocon AM Baited Traps** use no pheromone but do have a food attractant incorporated into the sticky surface which attracts both male and female flies when they first emerge from the ground. For orchards, we recommend placing several traps in alternate host sites (abandoned orchards, fence rows with wild apple trees, woodlots) as flies usually emerge in these areas first. They then migrate into orchards at a later date. Hang trap near middle section of tree canopy on the outside edge of tree with yellow surface facing outward. A few panels should be placed in outside row of orchard along with ball traps to complete AM monitoring program. Once the yellow panel is placed in the field, the attractant dissipates in approximately 7 days. Field life may be extended by placing an AM bait enhancer (see Ammonia Superchargers below) with the trap which will increase field life 1-2 more weeks. Panels are used to directly monitor *Rhagoletis* spp.: **Apple** and **Blueberry Maggot**, **Cherry Fruit Fly**, and **Walnut Husk Fly**.

3 Station Kit (9 baited traps)			
Kit	TR-3505K	\$ 16.00	1#
Bulk Traps			
50/cs	TR-330550	\$ 89.50	6#
100/cs	TR-330500	\$ 171.85	10#

**Pherocon AM No Bait Traps** are used to monitor **Corn Rootworm**, **Flying Aphids**, **Fungus Gnats**, **Mushroom Flies**, **Pear Thrips**, **Thrips**, and **Whiteflies**.

3 Station Kit (9 no bait traps)			
Kit	TR-3506K	\$ 13.65	1#
Bulk Traps			
50/cs	TR-330650	\$ 73.75	6#
100/cs	TR-330600	\$ 140.75	10#

## AMMONIUM SUPERCHARGERS



Ammonium bait is applied to yellow traps to increase efficiency in monitoring of *Rhagoletis* spp.: **Apple Maggot**, **Blueberry Maggot**, **Cherry Fruit Fly**, and **Walnut Husk Fly**. Bulk containers are available to replenish bait enhancers when necessary. The bait enhancer is a preloaded polycon container which is hung with the yellow traps. Field life is 1-2 weeks.

Bait Enhancers			
Each	IPM-3000	\$ .80	1 oz
50/cs	IPM-3000-50	\$ 34.25	2#
100/cs	IPM-3000-100	\$ 63.15	4#
Bulk Ammonium Bait			
1/4#	IPM-2004	\$ 7.15	5 oz
1/2#	IPM-2005	\$ 11.25	9 oz

## YELLOW STICKY STRIPS

Sticky strips are bright yellow plastic sheets coated on both sides with a specially formulated sticky glue. Place flat on the ground, hang them, or fasten them in place. Peel off the protective sheeting and they'll catch insects until covered with debris. Stakes are reusable 12" galvanized wire with a special holder on one end (not included with traps; must be purchased separately). Standard yellow strips attract insects such as: **Aphids**, **Corn Rootworms**, **Fungus Gnats**, **Mushroom Flies**, **Thrips**, **Whiteflies**, and **certain leafminers**. Can also be hung in fruit trees with ammonia bait enhancers to trap *Rhagoletis* spp.

3" x 5" Sticky Strips			
25/cs	OL-025-SS-35	\$ 8.75	6 oz
100/cs	OL-100-SS-35	\$ 32.50	2#
1000/cs	OL-010-MS-35	\$ 253.45	13#

6" x 12" Sticky Strips			
50/cs	OL-050-SS-612	\$ 65.00	4#
125/cs	OL-125-SS-612	\$ 140.00	6#
500/cs	OL-004-MS-612	\$ 455.00	26#

8" x 9 5/8" Large Sticky Strips (Great for Cherry Fruit Fly. Adhesive will not stick to cherries.)

10/pk	AGS-121-1	\$ 14.00 per pk
10 pks of 10+	AGS-121-10	\$ 11.75 per pk
100 pks of 10+	AGS-121-100	\$ 9.50 per pk

10" x 16" Jumbo Sticky Strips			
10/pk	AGS-120-1	\$ 25.00 per pk	
10 pks of 10+	AGS-120-10	\$ 23.00 per pk	
100 pks of 10+	AGS-120-100	\$ 17.50 per pk	

Trap Wires			
25/cs	OL-025-SS-12	\$ 8.20	1#
100/cs	OL-100-SS-12	\$ 29.50	4#



## BLUE STICKY STRIPS (Western Flower Thrips)

Blue sticky strips are coated with a special no mess user friendly "dry touch" UV stable adhesive. Size is approximately 4" x 9.5"; packaged 10 per pack.

10/pk	AGS-10	\$ 5.50	4 oz
100/pk	AGS-100	\$ 52.00	2#

**GREEN BALL TRAPS****RED BALL TRAPS**

This trap captures both sexes of the **Apple Maggot**. Offered in two styles: a durable reusable model and a light weight disposable model which requires the purchase of a hanger wire. Both are designed to trap the male and female maggot adults when they are mating and egg laying. The optional fruit essence attractant used with the ball trap (1 in tree with several ball traps) will greatly increase capture. For commercial blocks, we do not recommend placing the fruit essence directly in the block as it will attract flies. Unbaited ball traps placed on perimeter row and traps with fruit essence placed in apple trees away from the block (fence rows, woodlots, abandoned orchards) are recommended to monitor fly activity. Backyard trees do not need the fruit essence as the trap itself is effective in a few trees. Apple maggot control has been achieved by using just the traps as a mass trapping method by placing traps in every tree. Be aware that under heavy fly pressure, damage may still occur especially in late season close to harvest. For backyard trees, place 1-2 traps per dwarf tree, 2-4 traps per medium size, and 4-8 traps for very large trees. In commercial blocks, place 6-12 traps per acre on the perimeter row. Trap site should be cleared of foliage so they are highly visible. Ball traps come uncoated; user needs to purchase Tangletrap adhesive to coat traps. NOTE: Ball traps do not work on Cherry Fruit Fly.

A specially baited green ball trap is a valuable aid in monitoring Blueberry Maggot. To detect first emergence (approximate mid-June in Michigan) use AM baited traps (see previous page), then follow up with green spheres one week after emergence at a density of 2 traps per acre in high bush varieties. Special bait enhancer should be replenished every 2 weeks. Baited Tangletrap and bait enhancers need to be purchased with the green ball trap.

Green sphere is also valuable for trapping Walnut Husk Fly. Fly captures on the trap indicate exact time that egg laying is occurring and control measure can be implemented with no bait required.

**Reusable 2-Piece Green Ball Traps**

Each	IPM-1041	\$ 2.35	3 oz
25/cs	IPM-1041-25	\$ 56.25	5#
50/cs	IPM-1041-50	\$ 100.00	10#
100/cs	IPM-1041-00	\$ 175.00	20#

**Reusable 2-Piece Green Ball Trap Kit**

(3 ball traps, 8 oz. "brush-on" Tangletrap adhesive)

Kit	IPM-1041K-G	\$ 11.95	1#
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**Bait Enhancers**

Each	IPM-3000-BM	\$ 1.00	1 oz
50/cs	IPM-3000-BM-50	\$ 43.00	2#
100/cs	IPM-3000-BM-100	\$ 77.50	4#

**Bulk Bait**

1/4#	IPM-2004-AA	\$ 8.60	5 oz
1/2#	IPM-2005-AA	\$ 14.35	9 oz

**Baited Tangletrap**

Qt.	TF-2007-BM	\$ 18.00	1#
Gal.	TF-2008-BM	\$ 57.75	9#

**REUSABLE****DISPOSABLE****Reusable 2-Piece Red Ball Traps**

Each	IPM-1040	\$ 2.35	3 oz
25/cs	IPM-1040-25	\$ 56.25	5#
50/cs	IPM-1040-50	\$ 100.00	10#
100/cs	IPM-1040-00	\$ 175.00	20#

**Reusable 2-Piece Red Ball Trap Kit**

(3 ball traps, 8 oz. "brush-on" Tangletrap adhesive)

Kit	IPM-1040K	\$ 11.95	1#
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**Disposable Red Ball Traps**

25/cs	OL-2200-25	\$ 16.00	1#
100/cs	OL-2200-00	\$ 54.00	3#

**Wires for Disposable Red Ball Traps**

25/cs	OL-025-SS-12	\$ 8.20	1#
100/cs	OL-100-SS-12	\$ 29.50	3#

**Fruit Essence (5 Component Blend)**

Each	IPM-4200	\$ 1.75	1 oz
25/cs	IPM-4200-25	\$ 41.50	8 oz
100/cs	IPM-4200-00	\$ 150.00	1#

## MATING DISRUPTION

### TOMATO PINWORM SPIRALS



Nomate TPW Spirals are intended to prevent damage to tomatoes and other crops infested by tomato pinworm by mating disruption. Applied directly by wrapping the spiral around stems, branches, stakes, wires, and strings. Apply at a rate of 200-400 spirals per acre (200 under low population pressure; 400 at high pressure levels). Minimum recommended disruption area is 5 acres. Effective field life of spirals is 12-14 weeks. Always monitor with TPW traps during disruption period as a timing to begin program and to also warn if disruption is not working. See monitoring traps on page 14. Each bag contains 500 spirals.

Each	SC-TPW-500	\$ 135.00	2#
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### NOMATE CM SPIRAL DISRUPTION



Nomate CM Spirals are intended to prevent damage to apples and walnuts infested by codling moths. Spirals are easily attached to stems, branches, stakes, wires, and strings. Application rate is 300-400 per acre and field life is 140-160 days. Bag contains 400 spirals.

Each	SC-CM-400	\$ 105.00	2#
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### PHEROCON CM/DA COMBO LURE



Pherocon CM/DA Combo attracts both male and for the first time female codling moth. Accordingly, research has shown that Pherocon CM/DA Combo provides higher capture rates for all generations and fewer false negatives in the second generation than pheromone only lures in mating disruption orchards and has also demonstrated excellent results in conventional orchards. Pherocon CM/DA Combo has a minimum field life of 8 weeks. It works well in apple, walnut, and pear orchards in regions where it has been proven effective.

This new technology can be used and interpreted just like pheromone only products.

Kit includes 6 Pherocon IIB traps and 3 lures.

Each	TR-3461K	\$ 34.00	1#
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Replacement Lure

Each	TR-CM 3461	\$ 5.00	1 oz
25/cs	TR-CM 3461-25	\$ 120.00	4 oz

### CODLING MOTH 10X MEMBRANE

Codling Moth 10X Membrane is a controlled release membrane designed for use in monitoring orchards treated with pheromone mating disruptants. Field life is 6 weeks.

Each	ST-CM 10X CR	\$ 3.50	1 oz
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### SUTERRA CHECKMATE OFM-F SPRAYABLE



Checkmate OFM-F is a sprayable pheromone based product designed to disrupt mating of Oriental Fruit Moth in crops where OFM is a problem. One application lasts up to 14-21 days. May be tank mixed with other insecticides, fungicides, or other additives. Retreatment may be required following rainfall or overhead irrigation. One bottle treats 5-10 acres at full rate single application.

Alternative application strategy is Low Rate Frequent Application where product is applied at a much lower rate more frequently (every 7-10 days) to help reduce costs. This has proven to be an excellent program for late 2nd or 3rd generation control of OFM. One bottle treats 36 acres.

Each	ST-CKMT-OFM	\$ 173.00	1#
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### PUFFER CM



Puffer CM contains a behavior modifying pheromone that disrupts the mating behavior of codling moth. Use in apple, pear, walnut, and other orchards where the codling moth is a pest. Puffer CM is used with the Puffer Aerosol Cabinet, an automatic metered dispenser, so that one puff of pheromone is delivered every 15 minutes throughout the night to disrupt the nocturnal mating behavior. Place 1-2 canisters per acre. Available in either 140 day or 200 day aerosol can.

Puffer (140 day)	ST-PUFFCM-4	\$ 113.00	1#
Puffer (200 day)	ST-PUFFCM-2	\$ 135.00	1#
Cabinet	ST-PUFFCAB	\$ 80.00	1#

## PACIFIC BIOCONTROL ISOMATE MATING DISRUPTANTS



Mating disruption involves saturating an area with the female pheromone so males cannot find females to mate with. It is necessary to disrupt an area larger than the target block in order to prevent mated females coming in from outside areas. Disruption will not control insect problems on 1-2 trees or smaller plots. For most disruption programs, a plot of at least 5 acres is recommended. Convenient plastic ties are placed in blocks at a specific density for each target insect. It is important to maintain a trapping program as a check to ensure that the disruption is working. When disruption is working, male moths will not appear in the pheromone traps. If moths are caught, one can conclude that disruption is failing, mating is occurring, and insect damage may result. We recommend using the Pherocon CM/DA Combo lure for trap monitoring in disruption blocks (see page 20). Remember to order monitoring traps for use during disruption programs.

PLEASE CONTACT US TO PROPERLY PLAN YOUR PROGRAM FOR EACH INSECT.

Bread clips furnished with each package UPON REQUEST at no extra charge.

Mating disruption is not available in some states.

					<u>ACRES TREATED</u>
Codling Moth	(120-140 days)	ISM-C+	400/PK	\$ 105.00	1
CM Twin Tube	(120-140 days)	ISM-CTT	400/PK	\$ 200.00	2
CM/LR (OBLR) Twin Tube	(180 days)	ISM-CMLRTT	300/PK	\$ 130.00	1
<b>*New</b> -CM/OFM Twin Tube	(180 days)	ISM-CM/OFMTT	400/PK	CALL FOR PRICING	2
Grape Berry Moth	(150 days)	ISM-GBM+	400/PK	\$ 90.00	1-2
Greater Peachtree Borer	(100-120 days)	ISM-GPTB	500/PK	\$ 225.00	5
Oriental Fruit Moth Rosso	(120 days)	ISM-OFM-ROSSO	400/PK	\$ 156.00	2
Oriental Fruit Moth Twin Tube	(180 days)	ISM-OFMTT	200/PK	\$ 156.00	1-2
<b>*New</b> -Peachtree Borer Dual	(180 days)	ISM-PTBD	500/PK	CALL FOR PRICING	3.3

Weight 2 lb per package

**VIROSOFT<sup>CP4</sup>**



**Virosoft<sup>CP4</sup>** is a bioinsecticide based on baculoviruses that are specific to killing codling moth. As specified on the label, Virosoft<sup>CP4</sup> contains the highest concentration of viral bodies of all similar viral insecticides, thus increasing significantly its efficacy. This new product is purely natural having different organic recognitions and is OMRI listed (bti-3087) which allows the producer to take advantage of "eco-labeling" of products. It is absolutely harmless to all other members of the ecosystem including humans. Virosoft<sup>CP4</sup> may be applied up until harvest time with the delay for field re-entry after treatment being only four hours. 2 oz per acre. 32 oz. bottle will cover 16 acres.

Each

BT-VIRO

CALL FOR PRICING

3#

## BEATING SHEET, GROUND CLOTH, AND SWEEP NET

### INSECT SWEEP NETS



These less expensive yet durable nets provide you with a variety of choices and styles to meet your needs. Nets are available in both 12" and 15" diameter with either muslin or polyester material. Muslin material is a light weight muslin with a heavier cloth rim, good for general sweeping in grasses. Polyester nets are made of a tough 75 denir polyester with a dacron rim and are designed for light, heavy, or coarse materials and also aerial applications. For those who do not wish to disassemble net ring when changing net bags, we offer convenient velcro nets for easier attachment to handles (add \$ 2.75 to net price). Handles are constructed of either solid wood dowels (3/4" or 1" dia.) or one-piece aluminum. Replacement bags are available for all nets.

Custom order nets and some customized logos may also be purchased. Please contact us for price quotes.

Shipping weight:           4# for each complete net  
                                       1# for each replacement net

COMPLETE NETS				REPLACEMENT NETS	
ITEM#	SIZE/NET	HANDLES	PRICE	ITEM#	PRICE
612MS	12" muslin	3/4" wood	\$ 13.75	212MS	\$ 8.10
615MS	15" muslin	3/4" wood	\$ 16.75	215MS	\$ 9.50
636MS	15" muslin	1" wood	\$ 24.50	215MS	\$ 9.50
612HS	12" polyester	3/4" wood	\$ 17.00	212HS	\$ 13.00
615HS	15" polyester	3/4" wood	\$ 22.25	215HS	\$ 14.75
636HS	15" polyester	1" wood	\$ 31.00	215HS	\$ 14.75
315MS	15" muslin	aluminum	\$ 29.50	3215MS	\$ 12.25
315HS	15" polyester	aluminum	\$ 35.75	3215HS	\$ 17.75

### BEATING SHEET

Made to last, our beating sheets and ground cloths are constructed from durable yet light-weight white vinyl with heavy duty wood cross members. Beating sheet is 28" square.

Beating sheets are used when sampling from branches, limbs, etc.



IPM-BS28           Beating sheet   \$ 21.25       3#

### GROUND CLOTH

Ground cloths are best used in soybeans and various row crops. Available in either white or black vinyl (36" x 42") or black cotton (28" x 38").



IPM-656GC           White Vinyl       \$ 22.50   3#  
 IPM-656BGC       Black Vinyl       \$ 22.50   3#  
 IPM-656BCGC      Black Cotton      \$ 22.50   3#

## TRAPPING ADHESIVES AND REMOVER

### TANGLETRAP INSECT TRAP COATING



Insect trapping adhesives are used to prepare sticky traps to catch and hold insects. Traps are made by coating board, plastic sheets, or containers. Temperature resistant. Available in original formula, aerosol spray, and brush on formula. Clear, all-weather formula that remains sticky and won't run.

<u>DESCRIPTION</u>	<u>ORDER NO.</u>	<u>UNIT PRICE</u>	<u>WT.</u>
5 1/2 oz. tube	TF-2001	\$ 4.25	1#
15 oz. tub	TF-2002	\$ 6.15	2#
7 lb. can	TF-2003	\$ 42.00	9#
14 lb. pail	TF-2017	\$ 75.00	18#
25 lb. pail (3.5 gallon)	TF-2004	\$ 95.00	27#
10 oz. aerosol spray	TF-2005	\$ 10.00	1#
Brush on formula - Quart	TF-2007	\$ 16.25	1#
Brush on formula - Gallon	TF-2008	\$ 52.00	9#
Brush on 8 oz.	TF-2006	\$ 6.00	1#
Brush on 25# (3.5 gallon)	TF-2009	\$ 110.00	27#

### TREE TANGLEFOOT PEST BARRIER



Tree Tanglefoot Pest Barrier provides the user with a means to prevent movement of **caterpillars** and etc. up trees by placing a band around the tree trunk. It is recommended that you place a band of duct tape or our **Gypsy Moth tree wrap** (page 4) around the tree first and then apply the Tanglefoot to it. Great for preventing movement of Gypsy Moth larvae up trees. All Tanglefoot products are nontoxic and safe to use. **DO NOT USE ON INSECT TRAPS.**

<u>DESCRIPTION</u>	<u>ORDER NO.</u>	<u>UNIT PRICE</u>	<u>WT.</u>
Caulking tube 10 oz.	TF-2010	\$ 7.00	1#
5 lb. tub	TF-2013	\$ 33.00	6#
25 lb. pail	TF-2014	\$ 98.00	27#
Gypsy Moth Tree Wrap (3" x 1000')	IPM-1072	\$ 6.50	1#

### HISTO-CLEAR



This concentrated solvent made from citrus oil is an environmentally safe way to remove Tangletrap or any sticky trapping material. You no longer have to rely on hazardous petro chemical solvents. Now you can remove insect specimens from sticky traps without damage to them just by soaking in Histo-clear. The concentrated oils will remove the adhesive so you have a clean, undamaged specimen. This naturally occurring product is totally biodegradable. Can also be used to remove Tangletrap from hands. 1 gallon container.

Each	IPM-10011	\$ 40.00	11#
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## BIRD REPELLERS AND FIELD EQUIPMENT

### BIRD NETTING

Internet netting is a nontoxic, noiseless, nearly invisible, and very durable means of ending your bird problems. The net is UV stabilized, strong, lightweight, and flexible. Also available in custom sizes. Please call for price quotes.



7' x 25'	IPM-0597	\$ 8.75
7' x 50'	IPM-0598	\$ 16.60
7' x 100'	IPM-0596	\$ 31.50
14' x 14'	IPM-0600	\$ 8.70
14' x 100'	IPM-0601	\$ 65.00
14' x 200'	IPM-0602	\$ 95.00

### BIRD REPELLER RIBBON

This roll of reflective ribbon helps drive away unwanted birds and animals. Useful in gardens, orchards, berry patches, and more.



2" x 25'			
Each	TF-2018-00	\$ 6.75	1#
12/cs	TF-2018-25-12	\$ 63.25	5#
2" x 100'			
Each	TF-2018-100	\$ 15.25	3#

### BIRD CHASER BALLOONS

Scares away flocks of birds with its waving streamers and its bobbing and weaving motions. Frightens birds immediately. A case of balloons comes in mixed colors.



Each	TF-2019-01	\$ 7.50	1#
12/cs	TF-2019-MC-12	\$ 73.75	5#

### BIRD REPELLENT

Apply to window seals, roof lines, gutter edges, signs, etc., to repel pigeons, starlings, and English sparrows from buildings and structures. 10 oz. caulking tube.



Each	TF-2021-01	\$ 7.00	2#
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### FLAGGING TAPE

High visibility polyplastic flagging tape for marking trap position. Each roll measures 1 3/16" x 300'. Day Glo Pink roll measures 1 3/16" x 150'.



Blue	IPM-17023	\$ 1.40	6 oz
Orange	IPM-17022	\$ 1.40	6 oz
Pink	IPM-17028	\$ 1.40	6 oz
Red	IPM-17021	\$ 1.40	6 oz
White	IPM-17020	\$ 1.40	6 oz
Yellow	IPM-17024	\$ 1.40	6 oz
Day Glo Pink	IPM-17003	\$ 1.40	6 oz

### DO NOT TAMPER TAPE



Know if your traps have been tampered with. Each tape measures 1 1/4" x 6 3/4".

100/cs	IPM-TT	\$ 14.00	3 oz
11/100 cs or more		\$ 13.50	

### DISPOSABLE FORCEPS



Affordable, lightweight plastic forceps for use in handling pheromones and insect specimens.

Each	IPM-2001	\$ .70	1 oz
12/pk	IPM-2001-12	\$ 7.50	3 oz

### TRED NOT DEER FLY PATCHES

How many times have you been driven from your favorite outdoor pursuit by the relentless attack of the biting deerfly? This unique patch placed onto the back of your cap will stop the deerfly cold. Deerflies like to fly around the head of their target. The Tred Not patch takes advantage of this behavior by trapping the deerfly when they land on the back of your head to bite. Patch is 2" x 6" long cloth tape that easily adheres to all types of hat or cap materials and is easily removed without leaving any residue. Tred Not patches offer a safe and simple solution to an age old problem.



4/pk	DX-160	\$ 2.75	2 oz
50/pk	DX-160-50	\$ 82.50	3#

**FLY AND COCKROACH TRAPS****INDOOR FLY TRAP**

Sticky cylinder traps have a patented three dimensional pattern and color that is highly attractive to flies. Glue surface will not stick to fingers when touched.

Each	VR-500	\$ 2.95	1#
2/pk	VR-507	\$ 4.35	2#

**TRAPPIT LO-LINE COCKROACH TRAPS**

Lo-line design aids in placement of trap into tight areas. Perfect for use in food stores, laundries, hotels, hospitals, restaurants, and residences. A special formulated food attractant (placed in center of the trap) proves to be irresistible to many cockroach species, including Brown Banded, American, Oriental, even when other food sources are available. Size assembled is 210mm x 100mm x 22mm.

10/cs	AGS-140-10	\$ 8.50	1#
100/cs	AGS-140-100	\$ 76.50	8#
200/cs	AGS-140-200	\$ 130.00	15#

**FLYING INSECT TRAP**

This quart size trap catches yellow jackets, flies, and fruit flies. The bait contains natural carbohydrates and proteins and is included with each trap. Great to use while camping or having cookouts.

Each	VR-363	\$ 4.00	5 oz
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Bait for Flying Insect Trap			
2/pk	VR-385	\$ 2.75	3 oz

**DETECTOR COCKROACH TRAPS**

Trappit Detector is a smaller and more compact trap designed to capture just a few roaches. This trap is used to determine if roaches are either present or absent and is helpful in determining whether a pest control program is needed or if one is working. It comes with the same powerful bait attractant offered with the Trappit Lo-Line cockroach trap.

**FLY TRAP**

Traps and kills thousands of flies using a nonpoisonous bait which is included with each trap. Trap is specifically made for outdoor use. Available in quart or gallon size.

Quart Each	VR-380	\$ 4.00	5 oz
Gallon Each	VR-382	\$ 8.25	1#

Replacement Bait			
3/pk	VR-383	\$ 4.95	3 oz

**LO-LINE DETECTOR COCKROACH TRAP**

12/cs	AGS-144-12	\$ 4.00	6 oz
150/cs	AGS-144-150	\$ 43.00	3#
600/cs	AGS-144-600	\$ 155.00	14#

**STANDARD DETECTOR COCKROACH TRAP**

12/cs	AGS-145-12	\$ 4.00	6 oz
150/cs	AGS-145-150	\$ 43.00	3#
600/cs	AGS-145-600	\$ 155.00	14#

**FIELD EQUIPMENT**

**MOLE TRAPS**

This effective plunger-type mole trap is galvanized for rust resistance. Equipped with a safety pin and is fully assembled and individually boxed. Use for Eastern Moles.



Each VR-0645 \$ 10.95 1#

**LIVE TRAPS**



These collapsible 32" x 10" x 12" live traps are designed to catch raccoons, woodchucks, and similar sized animals no matter how quick or cautious. They are widely used by gardeners, homeowners, animal control officers, pest control operators, and professional wildlife managers to relocate nuisance animals without harming them.

Made of sturdy wire mesh and galvanized for maximum resistance of rust and corrosion. Professional series features super fast spring loaded doors. A special locking system makes these traps perform when placed at almost any angle. Also, they have an adjustable trigger-pressure release mechanism making them easier to bait and set.

Each VR-1089 \$ 39.75 12#

**SOIL THERMOMETER**

Test soil temperature to determine if soil is warm enough for seed germination. Dual scale range: 20°F - 180°F and 0° - 80°C. Graduated every 5°F, every 10°C. Stainless steel 4" stem, 2 1/2" diameter.



Each TY-5976 \$ 10.00 4 oz

**MIN/MAX THERMOMETER**

A useful tool to help keep track of degree days which are an important part of biological monitoring, especially for insect and mite populations. Insects are cold blooded; their growth responds to and is determined by climatic conditions such as temperature, photoperiod, and humidity. The lower threshold for most insects is averaged at: 50 degrees Average Daily Temp - Lower Development Threshold + degree days  $\frac{(80 + 40F)}{2} - 50F = 10$  degree days.



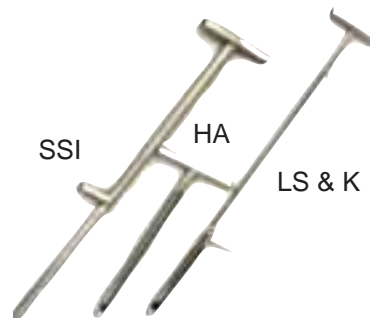
Each TY-1001 \$ 21.00 4 oz

Degree Days are accumulative throughout the year adding one day total to the next, etc.

**SOIL PROBES**

Step probe 36" long, 1" core sample. Made of stainless steel. Specially designed tip requires no turning, just push into soil.

Each SSI-100 \$ 43.50 3#



Made from high quality, chrome plated steel. One piece welded construction with screw on tips. Replaceable tips available. Model K comes standard with the S-3 tip. All other models have the S-2 tip.

HA	19" probe	\$ 46.00	2#
K	36" probe, soil tube 11" w/brush & screw on tip	\$ 119.00	3#
L	36" probe, no foot step	\$ 84.00	3#
LS	36" probe	\$ 94.50	3#

**Replaceable Tips**

S-1	Tip for dry soil	\$ 7.70	4 oz
S-2	Tip for moist soil	\$ 7.70	4 oz
S-3	Tip for wet soil	\$ 7.70	4 oz
S-4	Tip for wet/stoney soil	\$ 7.70	4 oz

**FIELD EQUIPMENT**

**DOUBLET LENS MAGNIFIERS**



MS-53901



MS-53902

Order #	Diameter	Power	Each	Wt.
MS-53901	8-12 mm	20X-30X	\$ 21.00	2 oz
MS-53902	12mm	10X	\$ 6.25	2 oz
MS-53903	23mm	10X	\$ 11.95	2 oz
MS-53904	20mm	16X	\$ 14.75	2 oz
MS-53907	15mm	20X	\$ 19.00	2 oz

**60-100X PORTABLE FIELD MICROSCOPE**



A lightweight easy to use scope with focusing ring and individual light source. Batteries not included.

Each	MS-101	\$ 19.75	6 oz
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**TRIPLET LENS MAGNIFIERS**



MS-53906



MS-53908

A highly corrected 10X magnifier, the Bausch & Lomb Hastings is certainly one of the highest quality in the world. Three lenses bond together to form a compound lens that provides a sharp image with no distortion.

Order #	Diameter	Power	Each	Wt.
MS-53906	15.8mm	10X	\$ 35.00	2 oz
MS-53908	20.3mm	5X-20X	\$ 21.00	2 oz

**DONEGAN OPTIVISOR**



This is a headband mounted binocular with 3.5X magnification at 4". Offers hands free examination of your specimens. Can be worn over prescription glasses and folds up out of the way when not in use. The ideal tool for making those leaf counts for mites.

Opti-Loop attachment doubles magnification.

Optivisor	DA-10	\$ 34.50	6 oz
Opti-Loop	DA-11	\$ 6.25	2 oz

**MAGNIFIER LANYARD - NECKLACE**



36" blue, red, or white cord with clip  
(If color preference, please specify when ordering).

Each	MS-53920	\$ 2.20	1 oz
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Visor Light with Battery Pack

This hands free Xenon laserbeam light uses 2 AA batteries (not included) and has a 6000 candle power output. Attaches to the Optivisor with a 10" cord.

Visor Light	DA-12	\$ 17.95	5 oz
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## BENEFICIAL FLY PARASITES AND FIELD EQUIPMENT



### BENEFICIAL FLY PARASITES



Fly parasites are used to target filth flies. The recommended release rate is 250 per large animal every 2 weeks. There is a minimum order of 5,000 per shipment. Please contact us to work out a program to suit your situation. Beneficial fly parasites are usually shipped Priority Mail to ensure a timely delivery.



### LCD TALLY COUNTERS

Counters available with a choice of "Add Only" or "Add/Subtract" buttons. An optional beeper sounds every count to verify count has been registered. Counters cannot accidentally reset or turn off; On/Off/Reset button must be held down for 3 seconds to reset. Includes carrying cord and long life replaceable battery (typically 250 days with no sound operation). Dimension: 2.4"L x 1.4"W x 0.6"D.

Electronic Hand Tally (Add Only)

Each	ETM-1804	\$ 11.75	6 oz
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Electronic Hand Tally (Add/Subtract)

Each	ETM-1805	\$ 13.00	6 oz
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### TALLY METER U.S. Government Type

Counts from 0-9999. Fits comfortably in your hand. Finger ring attached. White figures on black background are easy to read; all figures reset to zero by turning one knob. Shiny, plated metal finish. A very useful tool when making those mite counts.

Each	TM-3100	\$ 8.95	3 oz
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### REFRACTOMETER (1 Year Warranty)

Handheld refractometer is used to determine the sugar concentration of any aqueous solution from 0-32% Brix with  $\pm 0.5\%$  accuracy. Both models are built to withstand rough, outdoor use.

Each	BX-1	\$ 88.75	2#
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Model BTX-1 with automatic temperature compensation enables you to take precise readings from 41<sup>o</sup>-95<sup>o</sup>F.

Each	BTX-1	\$ 102.75	2#
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**ZONE CHART - UPS GROUND**

For shipment originating in Zip Codes 48801 to 48999



	Zone	Zone	Zone	Zone	Zone	Zone			
004-006	4	260-261	3	370-386	4	567	5	766-767	5
006-007	-	262-278	4	387-399	5	570-571	4	768-775	6
008	-	279	5	400-406	3	572-588	5	776-777	5
009	-	280-283	4	407-409	4	590-597	6	778-791	6
010-013	4	284-285	5	410	3	598-599	7	792	5
014-051	5	286-289	4	411-427	4	600-608	2	793-779	6
052-054	4	290-292	5	430-432	3	567	5	800-806	6
055	5	293	4	433-436	2	570-571	4	807	5
056-057	4	294-295	5	437-457	3	572-588	5	808-832	6
058-065	5	296-297	4	458	2	590-597	6	833	7
066-089	4	298-299	5	459-462	3	598-599	7	834	6
090-099	-	300-304	5	463-468	2	600-608	2	835-838	7
100-118	4	305	4	469-475	3	609-611	3	840-846	6
119	5	306	5	476-477	4	612	4	847-864	7
120-139	4	307	4	478-479	3	613-619	3	865-885	6
140-143	3	308-328	5	480-496	2	620-623	4	889-893	7
144-146	4	329-337	6	497-499	3	624	3	894-897	8
147	3	338	5	500-516	4	625-647	4	898	7
148-149	4	339	6	520	3	648	5	900-921	8
150-153	3	340	-	521-527	4	649-663	4	922	7
154-155	4	341-342	6	528	3	664-679	5	923-961	8
156-157	3	344	5	530-534	2	680-682	4	962-966	-
158-159	4	346	6	535-559	3	683-693	5	967-968	-
160-165	3	347	5	540	4	700-722	5	969	-
166	4	349	6	541-545	3	723-725	4	970-977	8
167	3	350-355	5	546-548	4	726-732	5	978-979	7
168-199	4	356-359	4	549	3	733	6	980-986	8
200-259	4	360-369	5	550-566	4	734-764	5	988-994	7
						765	6	995-999	-

To figure shipping, find the first 3 digits of your zip code above. The number to the right is your shipping zone. Next, find the intersecting zone and weight below and this total will be your shipping costs. Enter this total on the customer order form (step 4). **NOTE** -Rates may change due to increase in fuel surcharge and/or rural location surcharge.

**UPS GROUND SERVICE 1 - 35 LB PACKAGES**

Zones	2	3	4	5	6	7	8
1 Lbs.	7.05	7.30	7.46	7.78	8.20	8.30	8.42
2	7.25	7.71	8.37	8.56	9.15	9.34	9.70
3	7.31	8.06	8.80	9.10	9.73	10.02	10.74
4	7.52	8.33	9.25	9.71	10.28	10.62	11.47
5	7.83	8.45	9.66	10.10	10.72	11.15	12.12
6	8.06	8.72	9.82	10.36	10.92	11.50	12.50
7	8.48	8.97	10.01	10.64	11.24	11.81	12.91
8	8.81	9.25	10.28	10.83	11.60	12.32	13.69
9	9.04	9.51	10.45	11.09	11.86	12.96	14.56
10	9.33	9.57	10.64	11.40	12.37	13.89	15.53
11	9.65	9.99	10.82	11.62	12.81	14.81	16.56
12	9.92	10.30	11.04	11.85	13.38	15.73	17.70
13	10.23	10.60	11.20	12.13	13.98	16.69	18.84
14	10.43	10.92	11.42	12.40	14.77	17.59	19.98
15	10.64	11.26	11.61	12.70	15.55	18.55	21.13
16	10.79	11.43	11.79	12.94	16.14	19.34	22.12
17	10.91	11.80	12.16	13.48	17.04	20.39	23.34
18	11.05	12.13	12.55	14.17	17.87	21.31	24.52
19	11.25	12.54	13.02	14.82	18.65	22.24	25.70
20	11.47	12.95	13.48	15.50	19.47	23.18	26.89
21	11.72	13.37	13.92	16.16	20.28	24.10	28.03
22	11.99	13.76	14.41	16.76	21.10	25.06	29.24
23	12.27	14.18	14.88	17.38	21.90	25.98	30.43
24	12.53	14.54	15.36	17.95	22.73	26.89	31.61
25	12.85	14.94	15.79	18.48	23.53	27.81	32.79
26	13.19	15.29	16.27	19.10	24.41	28.72	33.97
27	13.49	15.64	16.65	19.68	25.22	29.65	36.16
28	13.75	16.02	17.17	20.28	26.04	30.57	36.38
29	14.06	16.33	17.68	20.81	26.81	31.40	37.50
30	14.40	16.74	18.22	21.42	27.67	32.31	38.71
31	14.68	17.07	18.68	22.01	28.47	33.22	39.87
32	14.81	17.44	19.18	22.64	29.28	34.15	41.07
33	15.00	17.84	19.66	23.25	30.05	35.06	42.24
34	15.28	18.23	20.12	23.85	30.86	35.98	43.41
35	15.65	18.66	20.80	24.45	31.66	36.89	44.55

Weight in Pounds

Any fraction of a pound over the weight shown takes the next higher rate.