

2012



INSECT MONITORING SYSTEMS FOR THE PROFESSIONAL GROWER



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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.

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. Local CES offices or University entomologists may be helpful in obtaining this information.

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.

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 2-4 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 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. If using hollow fiber pheromones, 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.

FOR ADDITIONAL GUIDELINES, PLEASE VISIT OUR WEBSITE:

www.greatlakesipm.com

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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 Arborvitae, 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: AL, AR, DE, GA, IL, IN, KS, KY, LA, MS, MO, NJ, NC, OH, PA, SC, TN, VA, WV. Some infestations occur in FL, IA, NE, OK, TX. Lure lasts full trapping season. Kit includes 1 wing trap, 1 extra liner, and 1 lure.



Kit	Each	IPM-10	\$ 3.90	1 #
Lure Only	Each	IPM-BGW	\$ 1.65	.1 oz.

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 dieback 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. Lures lasts 4 weeks. Kit includes 1 green universal trap, 1 lure, and 1 vaportape.



Kit		PB-GRB-K	\$ 13.50	2 #
Lure Only		PB-GRB	\$ 2.25	.5 oz.

GYPSY MOTH

Effectively capture male adult Gypsy Moth flyers. Place 2-4 traps per acre starting in early to mid-July. 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 includes 1 trap, 1 lure, and 1 vaportape.



Kit Complete	Each	IPM-1070-01	\$ 6.10	5 oz.
	25/cs	IPM-1070-25	\$ 129.70	9 #
Season Long Replacement Lure	Each	HC-GM 01	\$ 1.85	.5 oz.
	25/cs	HC-GM 25	\$ 41.50	3 oz.
Replacement Vaportape (1" x 1/2")	25/cs	HC-8500-25	\$ 6.00	1 oz.
Gypsy Moth Tree Wrap (3" x 1000' roll)	Each	IPM-1072	\$ 7.00	2 #
Pest Barrier (10 oz. caulking tube)	Each	TF-2010	\$ 8.40	1 #

READY TO USE KITS**JAPANESE BEETLE** (*Popilla japonica*)

The Trécé 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	\$ 10.50	1 #



JB Catch Can	Each	TR-9002-01	\$ 7.80	1 #
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JB Baitpack - 1 floral, 1 sex lure	Each	TR-9003-01	\$ 4.25	4 oz.
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TBC Units

Yellow top, catch can, 1 lure	Each	TR-9004-01	\$ 21.60	2 #
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Green top, catch can, 1 lure	Each	TR-9004-G	\$ 21.60	2 #
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JB Stands				
5' galvanized rod, 5/16" dia.	Each	TR-9005-01	\$ 7.55	2 #

JB Expando Trap				
Trap and 1 lure	Each	TR-9006-01	\$ 19.00	2 #

TR-9006-01

TRY OUR 1/2 GALLON JUMBO JUG CONTAINER. ORDER TOP ASSEMBLY SHOWN ABOVE AND JB BAITPACK TO COMPLETE YOUR TRAP.

Jumbo Jug - 64 oz. capacity	Each	IPM-9000-01	\$ 6.85	1 #
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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 Trécé catch can or any other JB style trap.

Oriental Beetle Catch Can Trap and Lure	Each	TR-9009-01	\$ 21.05	2 #
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Replacement Lure Only	Each	TR-9015-01	\$ 2.90	.5 oz.
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ROSE CHAFER (*Macrodactylus 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 includes JB White Top, Jumbo Jug, 1 Lure

IPM-RC-9006-01	\$ 19.00	2 #
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Replacement Lure Only	IPM-RC-9007-01	\$ 4.15	2 oz.
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READY TO USE KITS**SQUASH VINE BORER**

Adult Squash Vine Borer usually appears mid-June to mid-July in Northern U.S. One generation in North possible; 2 generations in Southern states. Lure lasts 4 weeks. Kit includes 1 yellow/white universal trap, 1 lure, and 1 vaportape.

Kit	PB-SVB-K	\$ 13.50	2 #
Replacement Lure	PB-SVB	\$ 2.25	.5 oz.
Vaportape 1" x 4"	HC-8001	\$ 1.60	.5 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 includes 1 yellow/white universal trap and 6 lures.

Each	IPM-SPW-K01	\$ 22.95	2 #
12/cs	IPM-SPW-K12	\$ 270.00	12 #
Replacement Lure Only (8 week field life)			
Each	IPM-SPW	\$ 2.25	.5 oz
25/cs	IPM-SPW-25	\$ 53.80	13 oz.

**MONITORING SCHEDULE**

Jan.	*Order universal traps and lures needed for monitoring.
Feb./	*Seed beds are prepared, plantings begin near the last week of February.
March	*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/	*Slips may be transplanted thru mid-July.
June	*Throughout summer, weevils generally produce one generation a month including a period of peak flight.
July	*Harvest begins for earliest plantings. *Continue trap monitoring.
Aug./	*Potato harvest continues into November. Slips for next season obtained from select plantings.
Nov.	*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.



Kit	PB-WMK	\$ 4.25	1 #
Lure Only	PB-WM	\$ 2.25	.5 oz.

MONITORING TRAPS**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.

Top Assemblies may be used for Plum Curculio or Pecan Weevil Circle Trunk Traps (see below):



quantity of 1 - 99
quantity of 100+

5 oz.
Trap Complete
IPM-1006
\$ 3.40 each
\$ 2.80 each

3 oz.
Top Assembly
IPM-1006T
\$ 1.85 each
\$ 1.65 each



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

50/cs	N410-50	\$ 14.75	7 #
250/cs	N410-250	\$ 49.60	35 #

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

50/cs	N510-50	\$ 15.80	7 #
250/cs	N510-250	\$ 54.85	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	\$ 10.60	1 #
Plum Essence Lure	IPM-PE	\$ 3.15	.5 oz.
Large Trap	IPM-401	\$ 16.60	3 #
Top Assemblies	IPM-1006T	\$ 1.85	3 oz.

**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	\$ 126.50	10 #
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MONITORING TRAPS

LO-LINE COCKROACH

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 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.



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

DETECTOR COCKROACH

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 present and is helpful in determining whether a pest control program is needed or if one is working.



150/cs	AGS-144-150	\$ 43.00	3 #
600/cs	AGS-144-600	\$ 155.00	12 #

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	\$ 41.40	7 #
Lure Only	12/cs	SC-EBB L232-12	\$ 61.85	2 oz.
Single Station Kit (1 Trap and 1 Lure)	Each	SC-EBB K232-01	\$ 9.25	1 #

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	\$ 34.25	3 #
100/cs	IPM-3311-00	\$ 126.35	10 #

MONITORING TRAPS**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/cs	RB-1008Y	\$ 25.00	2 #
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Bait Enhancers (Ammonia attractant) - Use with trap to monitor *Rhagoletis spp.*. Replace every 1 - 2 weeks.

Each	IPM-3000	\$.85	2 oz.
50/cs	IPM-3000-50	\$ 36.05	4 #

RED TRAP

(Use 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	\$ 1.70	3 oz.
Each (No Wire)	IPM-1200T	\$ 1.35	3 oz.

SPOTTED WING DROSOPHILA

This sturdy, reusable, easy to hang trap minimizes labor and expense. Captured flies are attracted away from the entry holes by the liquid lure (customer makes by using apple cider vinegar, or a mixture of yeast and apple juice) and by light shining through the trap wall. Use baited traps to determine the onset of flight in the spring, as well as peak flights in late summer.

2/pk	TF-FF 3550	\$ 9.45	4 oz.
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STINKBUG

Trap for early detection of *Euschistus 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. (Not for brown marmorated stinkbug).

Trap	TR-STNKBG-01	\$ 5.73	1 #
Lure	TR-CSB 3237	\$ 3.25	.5 oz.

SUGAR BEET ROOT MAGGOT

1 1/4" X 14" trap used to monitor sugar beet root maggot. Recommend 2 traps per 10 acres.

100/cs	IPM-1.25x12-OR	\$ 26.35	3 #
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MONITORING TRAPS**UNIVERSAL**

A durable plastic funnel trap used to monitor indoors, outdoors, or in stored products. Proven effective on Fall Armyworm. Insects lured inside trap, then knocked down by use of Vaportape toxicant strips (see below). 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 or clear trap helps cut down capture of foraging bumblebees.



Clear Universal	Each	IPS-CLEAR	\$ 9.95	10 oz.
	12/cs	IPS-CLEAR-12	\$ 114.00	8 #
Clear Univ with Vanes	Each	IPS-CLEARV	\$ 10.95	10 oz.
	12/cs	IPS-CLEARV-12	\$ 126.75	8 #
Green Universal	Each	IPS-G004	\$ 9.95	10 oz.
	12/cs	IPS-G004-12	\$ 114.00	8 #
Yellow/White Univ	Each	IPS-Y/W002	\$ 9.95	10 oz.
	12/cs	IPS-Y/W002-12	\$ 114.00	8 #
Trap Components	Each (Please specify color when ordering Bases or Funnels)			
	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.

**HERCON VAPORTAPE**

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

1" x 4" Toxicant Strip				1" x 1/2" Toxicant Strip			
Each	HC-8001	\$ 1.60	1 oz.	25/cs	HC-8500-25	\$ 6.00	1 oz.
50/cs	HC-8001-50	\$ 65.50	2 #	100/cs	HC-8500-100	\$ 21.00	4 oz.
250/cs	HC-8001-250	\$ 295.00	7 #	500/cs	HC-8500-500	\$ 96.00	1 #

WHALON MODIFIED TEDDERS

This design helps increase effectiveness of catching first emergence of Plum Curculio and Pecan Weevil. Whalon modified tedders traps are 4 feet high and work without bait to give you early warning of first emergence. When monitoring for Pecan Weevil, place 1 - 2 traps under at least 10 whitewashed trees known to have weevil infestations.

Plum Curculio Trap	Each	IPM-500	\$ 16.55	2 #
	6/cs	IPM-500-06	\$ 94.25	10 #
Plum Essence Dual Bait Lure	Each	IPM-PE	\$ 3.15	.5 oz.
Pecan Weevil Trap	Each	IPM-503	\$ 16.55	2 #
	6/cs	IPM-503-06	\$ 94.25	10 #

**WHITE PINE WEEVIL**

***NEW** - Ultra High Release White Pine Weevil Lure (field life is 50 days)

Each	IPM-WPW UHR	\$ 5.65	.4 oz.
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White Pine Weevil Traps (Whalon Modified Tedders)

Each	IPM-502	\$ 16.55	2 #
6/cs	IPM-502-06	\$ 94.25	10 #

MONITORING TRAPS**WHITE TRAP**

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.

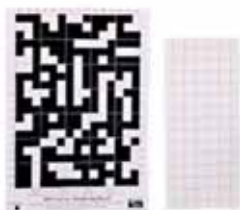
Each IPM-1100 \$ 1.45 2 oz.

WING

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



Wing Trap Complete (with Cardboard Top)				
25/cs	IPM-101-25	\$ 52.65	5 #	
100/cs	IPM-101-00	\$ 200.00	20 #	
Wing Trap Complete (with Plastic Top)				
25/cs	IPM-102-25	\$ 65.10	5 #	
100/cs	IPM-102-00	\$ 247.40	20 #	
Liners Only				
25/cs	IPM-103-25	\$ 22.95	3 #	
100/cs	IPM-103-00	\$ 87.40	10 #	
Plastic Top Only				
25/cs	IPM-202-25	\$ 32.10	3 #	
100/cs	IPM-202-00	\$ 122.65	10 #	
Wing Wires Only				
25/cs	IPM-301-25	\$ 19.25	2 #	
100/cs	IPM-301-00	\$ 72.40	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 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 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.



Varroa Board				
10/pk	IPM-VB-2002-10	\$ 15.80	2 #	
Varroa Detection Board				
10/pk	IPM-VB 7x15-10	\$ 8.45	2 #	

DISPOSABLE FORCEPS

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

Each	IPM-2001	\$.75	.3 oz.
12/cs	IPM-2001-12	\$ 7.90	3 oz.





TRÉCÉ

*SSK weighs 8 oz. * 3SK weighs 1 # *Lure weighs .5 oz. * 25/cs weighs 3 oz.

Any unused lures may be stored in the freezer and used the following season. Field life of standard lures is 4-6 weeks, "long life" (L2) lures have a field life of 8 - 12 weeks, and the CM Megalure has a field life of 10 - 12 weeks.

* 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. The CM L2, OFM L2, and the PTB L2 kits consist of 3 traps, 6 extra liners, and 3 lures.

* For single station kits, replace K with SSK after Lure #. EX: 3215K - 3215SSK.

APPLE 	TRAP KITS COMPLETE			REPLACEMENT LURES		
	Order No.	3SK	SSK	Order No.	Each	25/cs
Apple Clearwing Moth	TR-ACM 3215K	\$ 40.50	\$ 7.50	TR-ACM 3215	\$ 2.90	\$ 63.00
Apple Ermine Moth	TR-AEM 3430K	\$ 40.50	\$ 7.50	TR-AEM 3430	\$ 2.90	\$ 63.00
Codling Moth (Standard)	TR-CM 3111K	\$ 34.00	\$ 7.00	TR-CM 3111	\$ 2.00	\$ 44.00
Codling Moth DA (Female)	N/A	N/A	N/A	TR-CM/DA 3460	\$ 4.80	\$ 115.00
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)	N/A	N/A	N/A	TR-CM 3160	\$ 1.60	\$ 38.00
Codling Moth Megalure	N/A	N/A	N/A	TR-CM 5111	\$ 5.50	\$ 125.00
False Codling Moth	TR-FCM 3131K	\$ 40.50	\$ 7.50	TR-FCM 3131	\$ 2.90	\$ 63.00
Filbert Leafroller	TR-FLR 3148K	\$ 40.50	\$ 7.50	TR-FLR 3148	\$ 2.90	\$ 63.00
Fruittree Leafroller	TR-FTLR 3117K	\$ 34.00	\$ 7.00	TR-FTLR 3117	\$ 2.00	\$ 44.00
Lesser Appleworm	TR-LAW 3118K	\$ 34.00	\$ 7.00	TR-LAW 3118	\$ 2.00	\$ 44.00
Light Brown Apple Moth	TR-LBAM 3426K	\$ 40.50	\$ 7.50	TR-LBAM 3426	\$ 2.90	\$ 63.00
Obliquebanded Leafroller	TR-OBLR 3208K	\$ 34.00	\$ 7.00	TR-OBLR 3208	\$ 2.00	\$ 44.00
Oriental Fruit Moth	TR-OFM 3102K	\$ 34.00	\$ 7.00	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	\$ 34.00	\$ 7.00	TR-RBLR 3103	\$ 2.00	\$ 44.00
San Jose Scale	N/A	N/A	N/A	TR-SJS 3145	\$ 2.20	\$ 52.40
Spotted Tentiform Leafminer	TR-STLM 3144K	\$ 40.50	\$ 7.50	TR-STLM 3144	\$ 2.90	\$ 63.00
Threelined Leafroller	TR-TLLR 3147K	\$ 34.00	\$ 7.00	TR-TLLR 3147	\$ 2.00	\$ 44.00
Tufted Apple Budworm	TR-TABM 3115K	\$ 34.00	\$ 7.00	TR-TABM 3115	\$ 2.00	\$ 44.00
Variiegated Leafroller	TR-VLR 3209K	\$ 40.50	\$ 7.50	TR-VLR 3209	\$ 2.90	\$ 63.00
CRANBERRY 	Order No.	3SK	SSK	Order No.	Each	25/cs
Blackheaded Fireworm	TR-BHFM 3408K	\$ 34.00	\$ 7.00	TR-BHFM 3408	\$ 2.00	\$ 44.00
Cranberry Girdler	TR-CBG 3202K	\$ 34.00	\$ 7.00	TR-CBG 3202	\$ 2.00	\$ 44.00
Cranberry Pest/Sparganothis	TR-SPAR 3403K	\$ 34.00	\$ 7.00	TR-SPAR 3403	\$ 2.00	\$ 44.00
NUT 	Order No.	3SK	SSK	Order No.	Each	25/cs
Filbertworm	TR-FBW 3203K	\$ 34.00	\$ 7.00	TR-FBW 3203	\$ 2.00	\$ 44.00
Hickory Shuckworm	TR-HSW 3414K	\$ 34.00	\$ 7.00	TR-HSW 3414	\$ 2.00	\$ 44.00
Pecan Nut Casebearer	TR-PNCB 3236K	\$ 34.00	\$ 7.00	TR-PNCB 3236	\$ 2.00	\$ 44.00
PEACH 	Order No.	3SK	SSK	Order No.	Each	25/cs
American Plum Borer	N/A	N/A	N/A	TR-APB 3411	\$ 3.15	\$ 67.00
Fruittree Tortrix	TR-FTT 3123K	\$ 34.00	\$ 7.00	TR-FTT 3123	\$ 2.00	\$ 44.00
Greater Peachtree Borer	TR-GPTB 3146K	\$ 40.50	\$ 7.50	TR-GPTB 3146	\$ 2.90	\$ 63.00
Lesser Peachtree Borer	TR-LPTB 3140K	\$ 40.50	\$ 7.50	TR-LPTB 3140	\$ 2.90	\$ 63.00
Oriental Fruit Moth	TR-OFM 3102K	\$ 34.00	\$ 7.00	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
Peach Twig Borer	TR-PTB 3113K	\$ 34.00	\$ 7.00	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

* For single station kits replace K with SSK after Lure #. EX: 3215K - 3215SSK.


* 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.


* SSK weighs 8 oz.


* 3SK weighs 1 #

* Lure each weighs .5 oz.

* Lures 25/cs weighs 3 oz.

FIELD CROPS 	TRAP KITS COMPLETE			REPLACEMENT LURES		
	Order No.	3SK	SSK	Order No.	Each	25/cs
Beet Armyworm	Universal Trap			TR-BAW 3210	\$ 2.00	\$ 44.00
Bertha Armyworm	TR-BRA 3415K	\$ 40.50	\$ 7.50	TR-BRA 3415	\$ 2.90	\$ 63.00
Black Cutworm	TR-BCW 3141K	\$ 34.00	\$ 7.00	TR-BCW 3141	\$ 2.00	\$ 44.00
Cabbage Looper	TR-CL 3119K	\$ 40.50	\$ 7.50	TR-CL 3119	\$ 2.90	\$ 63.00
Corn Earworm (3 week)	Heliothis Trap			TR-CEW 3138	\$ 2.00	\$ 44.00
Diamondback Moth	TR-DBM 3139K	\$ 40.50	\$ 7.50	TR-DBM 3139	\$ 2.90	\$ 63.00
European Corn Borer IA	Heliothis Trap			TR-ECB I 3110	\$ 2.00	\$ 44.00
European Corn Borer NY	Heliothis Trap			TR-ECB II 3136	\$ 2.00	\$ 44.00
Fall Armyworm	Universal Trap			TR-FAW 3143	\$ 2.00	\$ 44.00
Leek Moth	TR-LEM 3222K	\$ 40.50	\$ 7.50	TR-LEM 3222	\$ 2.90	\$ 63.00
Lesser Cornstalk Borer	TR-LCSB 3407K	\$ 40.50	\$ 7.50	TR-LCSB 3407	\$ 2.90	\$ 63.00
Mint Root Borer	TR-MRB 3437K	\$ 40.50	\$ 7.50	TR-MRB 3437	\$ 2.90	\$ 63.00
Omnivorous Looper	TR-OLP 3421K	\$ 40.50	\$ 7.50	TR-OLP 3421	\$ 2.90	\$ 63.00
Pale Western Cutworm	TR-PWC 3436K	\$ 40.50	\$ 7.50	TR-PWC 3436	\$ 2.90	\$ 63.00
Potato Tuberworm Moth	TR-PTM 3137K	\$ 40.50	\$ 7.50	TR-PTM 3137	\$ 2.90	\$ 63.00
Southwestern Corn Borer	TR-SWCB 3409K	\$ 34.00	\$ 7.00	TR-SWCB 3409	\$ 2.00	\$ 44.00
Spotted Stalk Borer	TR-SSB 3232K	\$ 40.50	\$ 7.50	TR-SSB 3232	\$ 2.90	\$ 63.00
Sunflower Head Moth	TR-SFHM 3204K	\$ 34.00	\$ 7.00	TR-SFHM 3204	\$ 2.00	\$ 44.00
Tobacco Budworm (3 week)	Heliothis Trap			TR-TBW 3122	\$ 2.90	\$ 63.00
Tomato Pinworm	TR-TPW 3142K	\$ 34.00	\$ 7.00	TR-TPW 3142	\$ 2.00	\$ 44.00
True Armyworm	TR-AMW 3205K	\$ 40.50	\$ 7.50	TR-AMW 3205	\$ 2.90	\$ 63.00
Variiegated Cutworm	TR-VGC 3201K	\$ 34.00	\$ 7.00	TR-VGC 3201	\$ 2.00	\$ 44.00
Western Bean Cutworm	TR-WBCW 3406K	\$ 34.00	\$ 7.00	TR-WBCW 3406	\$ 2.00	\$ 44.00
Whitemarked Tussock Moth	TR-WMTM 3433K	\$ 40.50	\$ 7.50	TR-WMTM 3433	\$ 2.90	\$ 63.00

TREE 	Order No.	3SK	SSK	Order No.	Each	25/cs
Cherry Bark Tortrix	TR-CBT 3218K	\$ 40.50	\$ 7.50	TR-CBT 3218	\$ 2.90	\$ 63.00
Dogwood Borer	TR-DWB 3425K	\$ 40.50	\$ 7.50	TR-DWB 3425	\$ 2.90	\$ 63.00
Eastern Spruce Budworm	TR-ESBW 3435K	\$ 40.50	\$ 7.50	TR-ESBW 3435	\$ 2.90	\$ 63.00
Leopard Moth	TR-ZP 3439K	\$ 40.50	\$ 7.50	TR-ZP 3439	\$ 2.90	\$ 63.00
Lilac Borer	TR-LILA 3224K	\$ 40.50	\$ 7.50	TR-LILA 3224	\$ 2.90	\$ 63.00
Nantucket Pinetip Moth	TR-NPTM 3405K	\$ 34.00	\$ 7.00	TR-NPTM 3405	\$ 2.00	\$ 44.00
Sequoia Pitch Moth	TR-SPM 3410K	\$ 40.50	\$ 7.50	TR-SPM 3410	\$ 2.90	\$ 63.00

GRAPE 	Order No.	3SK	SSK	Order No.	Each	25/cs
Currant Clearwing Moth	TR-CURM 3230K	\$ 40.50	\$ 7.50	TR-CURM 3230	\$ 2.90	\$ 63.00
Grape Berry Moth	TR-GBM 3126K	\$ 34.00	\$ 7.00	TR-GBM 3126	\$ 2.00	\$ 44.00
Omnivorous Leafroller	TR-OLR 3133K	\$ 34.00	\$ 7.00	TR-OLR 3133	\$ 2.00	\$ 44.00
Orange Tortrix	TR-OT 3134K	\$ 34.00	\$ 7.00	TR-OT 3134	\$ 2.00	\$ 44.00
Vine Mealy Bug	TR-VMB 4122K	\$ 40.50	\$ 7.50	TR-VMB 4122	\$ 2.90	\$ 63.00

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 and lot number in order to check the pheromone chemistry.

TRÉCÉ

PHEROCON II, IIB, AND IIC

The 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	\$ 36.50	3 #
	100/cs	TR-331100	\$ 144.85	12#
Pherocon IIB	25/cs	TR-331225	\$ 61.25	3 #
	100/cs	TR-331200	\$ 205.00	12#
Pherocon IIC	25/cs	TR-331325	\$ 98.30	4 #
	100/cs	TR-331300	\$ 325.00	16 #

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.

Orange Trap	25/cs	TR-334125	\$ 30.00	4 #
	100/cs	TR-334100	\$ 114.50	15 #
Green Trap	25/cs	TR-334125-G	\$ 30.00	4 #
	100/cs	TR-334100-G	\$ 114.50	15 #



PHEROCON VI

Larger corrugated plastic Delta-style trap with 2 replaceable liners per trap; use for general orchard monitoring. (Ask about pricing for a 3 station kit including pheromones).

White Trap	25/cs	TR-3314-25	\$ 149.00	8 #
Orange Trap	25/cs	TR-3315-25	\$ 149.00	8 #



Pherocon Unassembled Trap

White Trap	25/cs	TR-3314-25-U	\$ 120.00	8 #
Orange Trap	25/cs	TR-3315-25-U	\$ 120.00	8 #



Replacement Liners

25/cs	TR-3354-25	\$ 26.25	2 #
100/cs	TR-3354-00	\$ 92.00	7 #

TRÉCÉ**WING TRAP**

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.

Wing Trap 1C (3302) or 1CP (3303) with paperboard top

25/cs	TR-330225 or TR-330325	\$ 66.80	6 #
100/cs	TR-330200 or TR-330300	\$ 251.66	21 #

Wing Trap P1C (3300) or P1CP (3304) with plastic top

25/cs	TR-330025 or TR-330425	\$ 108.30	6 #
100/cs	TR-330000 or TR-330400	\$ 422.20	21 #

Wing Trap Liners 1C (3322) or 1CP (3323)

25/cs	TR-332225 or TR-332325	\$ 32.15	3 #
100/cs	TR-332200 or TR-332300	\$ 110.00	10 #



1C



1CP

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 includes 8 yellow sticky traps and 4 - 2 component lures.



TR-PEW-4424-04	\$ 38.00	1 #
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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).



TR-GJB 8607	\$ 7.35	.5 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)	TR-SJS-314501K	\$ 26.75	1 #
Single Station Kit (4 traps, 1 hanger, 1 lure)	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*, *Rhizopertha* (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 #
Confused Flour Beetle/Red Flour Beetle Each	TR-CFB 3156	\$ 3.85	.5 oz.
Khapra/Warehouse Beetle Each	TR-KB/WB 3155	\$ 3.60	.5 oz.
Lesser Grain Borer Each	TR-LGB 3158	\$ 3.15	.5 oz.

TRÉCÉ

INDIAN MEAL MOTH

The Storgard monitoring system for the Indian Meal Moth utilizes a powerful sex pheromone luring adult Indian Meal Moth, Raisin Moth, Tobacco Moth, and Mediterranean Flour Moth 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)	TR-3554-P2	\$ 24.25	1 #
Storgard IMM PCO Kit (25 Pherocon II traps, 25 lures)	TR-3653-25	\$ 89.50	4 #
IMM Kit (2 traps, 2 lures)	IPM-3353-01K	\$ 6.70	6 oz.
IMM Kit (6 traps, 6 lures)	IPM-3554-P2	\$ 20.30	1 #
Indian Meal Moth Lures 25/cs	TR-IMM 3153-25	\$ 63.75	3 oz.

WEBBING CLOTHES MOTH

The Thinline trap is one of the least noticeable, most effective, and easy to use insect monitoring system for PCO's and homeowners. Kit includes 5 traps and 5 lures.

Webbing Clothes Moth Kit	TR-3746-15	\$ 24.25	2 #
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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 Khapra Beetle (*Trogoderma granarium*). Place traps in grid pattern at intervals of 25 - 50 feet.

KB/WB Dome Trap Kit	TR-3565-05	\$ 32.65	1 #
KB/WB Dome Master PCO Kit	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 attract Red Flour Beetle (*Tribolium castaneum*) and the Confused Flour Beetle (*Tribolium confusum*).

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

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

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

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

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

Replacement Lures

KB/WB	Each	TR-KB/WB 3155	\$ 3.60	.5 oz.
CFB/RFB	Each	TR-CFB/RFB 3156	\$ 3.85	.5 oz.
CB	Each	TR-CB 3162	\$ 3.85	.5 oz.

Sawtooth Grain and Merchant Grain Beetle Dome Trap Kit includes 5 traps and 1 bottle of oil kairomone attractant. Dome Master PCO Kit consists of 25 traps and 5 bottles of oil kairomone attractant.

Dome Trap Kit	TR-3557-01	\$ 28.00	1 #
Dome Master PCO Kit	TR-3667-25	\$ 132.00	4 #

Dome Rebait Kit for STGB/MGB includes 10 oil pads, and 1 bottle of kairomone attractant.

Rebait Kit	TR-3467-05	\$ 7.15	4 oz.
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MAGNIFIERS**DOUBLET LENS MAGNIFIERS**

Order No.	Diameter	Power	Price	Weight
MS-53901	8 - 12mm	20X - 30X	\$ 21.00	2 oz.
MS-53902	12mm	10X	\$ 6.25	2 oz.
MS-53903	23mm	10X	\$ 12.80	2 oz.
MS-53904	20mm	16X	\$ 14.75	2 oz.
MS-53907	15mm	20X	\$ 19.00	2 oz.
MS-53909	21mm	30X	\$ 15.00	2 oz.



MS-53901



MS-53902



MS-53909

TRIPLET LENS MAGNIFIERS (Bausch & Lomb)

MS-53906

Order No.	Diameter	Power	Price	Weight
MS-53906	15.8mm	10X	\$ 42.50	2 oz.
MS-53908	20.3mm	5X - 20X	\$ 26.00	2 oz.



MS-53908

***NEW - 30X ILLUMINATED MAGNIFIER**

This 30X illuminated magnifier measures 25mm and includes an extra battery.



MS-53910	25mm	30X	\$ 5.25	2 oz.
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MAGNIFIER LANYARD - NECKLACE

36" white cord with J clip. Red or blue lanyards with J clip and split ring also available. Please specify color when ordering.



MS-53920		\$ 2.20	1 oz.
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60X - 100X PORTABLE FIELD MICROSCOPE

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

MS-1011		\$ 19.75	6 oz.
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**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. OptiLoop attachment doubles magnification. The Visor Light contains a hands free Xenon laserbeam which uses 2 AA batteries (not included). It has a 6000 candle power output and attaches to the Optivisor with a 10" cord.



Optivisor	DA-10	\$ 39.00	6 oz.
OptiLoop	DA-11	\$ 8.00	2 oz.
Visor Light	DA-12	\$ 17.95	5 oz.



SCENTRY

A 4 Station Kit includes 4 reusable (plastic top) wing traps, 8 extra replacement bottoms, and 12 lures. 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 (CM 4 Station Kit) SC-CM 2K104 (CM 2 Station Kit)


4 Station Kit weighs 3 #

2 Station Kit weighs 1 #

Each Lure - .5 oz.


12/cs Lures - 3 oz.

APPLE 	TRAP KITS COMPLETE			REPLACEMENT LURES		
	Order No.	4SK	2SK	Order No.	Each	12/cs
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


CRANBERRY 	Order No.	4SK	2SK	Order No.	Each	12/cs
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

PEACH 	Order No.	4SK	2SK	Order No.	Each	12/cs
Greater Peachtree Borer	SC-CWB K103	\$ 41.50	\$ 21.85	SC-CWB L103	\$ 1.80	\$ 20.95
Lesser Peachtree 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

NUT 	Order No.	4SK	2SK	Order No.	Each	12/cs
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

FIELD CROP 	Order No.	4SK	2SK	Order No.	Each	12/cs
Armyworm	SC-AMW K216	\$ 41.50	\$ 21.85	SC-AMW L216	\$ 1.80	\$ 20.95
Arthur's Sunflower Moth	SC-ASM K944	\$ 41.50	\$ 21.85	SC-ASM L944	\$ 1.80	\$ 20.95
Banded Sunflower Moth	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
Cabbage Looper	SC-CL K102	\$ 41.50	\$ 21.85	SC-CL L102	\$ 1.80	\$ 20.95
Corn Earworm/Cotton BW	Heliothis Trap			SC-HZ L215	\$ 1.80	\$ 20.95
Diamondback Moth	SC-DBM K118	\$ 41.50	\$ 21.85	SC-DBM L118	\$ 1.80	\$ 20.95
Dingy Cutworm	SC-DCW K936	\$ 51.00	\$ 26.80	SC-DCW L936	\$ 2.30	\$ 26.65

SCENTRY

FIELD CROP 	TRAP KITS COMPLETE			REPLACEMENT LURES		
	Order No.	4SK	2SK	Order No.	Each	12/cs
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
Leek Moth	N/A	N/A	N/A	SC-LM L995	\$ 2.75	\$ 30.00
Pale Western Cutworm		Universal Trap		SC-PWCW L937	\$ 2.30	\$ 26.65
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
Tomato Pinworm	SC-TPW K114	\$ 41.50	\$ 21.85	SC-TPW L114	\$ 1.80	\$ 20.95
Western Bean Cutworm	SC-WBC K206	\$ 41.50	\$ 21.85	SC-WBC L206	\$ 1.80	\$ 20.95

TREE 	Order No.	4SK	2SK	Order No.	Each	12/cs
Cherry Bark Tortrix	SC-CBT K831	\$ 41.50	\$ 21.85	SC-CBT L831	\$ 1.80	\$ 20.95
Clearwing Borer Complex: 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
Douglas 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 contain 12 Delta 1X traps and 12 lures.

GRAPES 	Order No.	4SK	2SK	Order No.	Each	12/cs
Currant Clearwing Moth	SC-CURM K942	\$ 41.50	\$ 21.85	SC-CURM L942	\$ 1.80	\$ 20.95
European Grape Vine Moth	SC-EGVM K219	\$ 51.00	\$ 26.80	SC-EGVM L219	\$ 2.30	\$ 26.65
Vine Mealy Bug	SC-VMB K985	\$ 51.00	\$ 26.80	SC-VMB L985	\$ 2.30	\$ 26.65

EUROPEAN HONEY BEE LURE

All season lure. Open and discard lid leaving spongy material in vial.



SC-EHB L311 Each \$ 2.00 1 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% after 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 3 - 5 days under favorable weather conditions.



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

SCENTRY**MULTIGARD**

Multigard Trap measures 5 1/2" x 9". 2 sided sticky surface.

Green	50/cs	SC-10315-50	\$ 65.00	5 #
	100/cs	SC-10315-00	\$ 124.00	9 #
Yellow	50/cs	SC-10600-50	\$ 65.00	5 #
	100/cs	SC-10600-00	\$ 124.00	9 #

**LPD (Large Plastic Delta)**

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

White LPD	25/cs	SC-10302-25	\$ 130.00	8 #
Red LPD	25/cs	SC-10303-25	\$ 130.00	8 #
LPD Liners	25/cs	SC-10306-25	\$ 23.50	2 #
	100/cs	SC-10306-00	\$ 89.00	8 #

**DELTA 1X**

Glue coat on 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

Use with *Heliothis* 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**

Complete trap includes body, hanger, clip, and insert.

	Each	SC-10330	\$.94	4 oz.
	Insert Each	SC-10336	\$.26	1 oz.
	Basket Each	SC-10334	\$.13	1 oz.

**WING**

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

PHEROMONES**CARPOPHILUS SAP BEETLE**

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 fig.

Dusky Sap Beetle (*C. lugubris*) - Trap in sweet corn to reduce damage from this pest. Lure lasts 2 - 3 weeks. 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	\$ 1.70	.5 oz.
25/cs	IPM-DSB-25	\$ 40.30	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. Lure lasts 2 - 3 weeks. Must remove from orchard before crop matures.

Each	IPM-HMF-3-01	\$ 2.00	.5 oz.
25/cs	IPM-HMF-3-25	\$ 48.15	3 oz.

CRANBERRY FRUITWORM

Lures can be used in cranberry or blueberry patches. Field life is 6+ weeks. (P2 diamond trap works best for this lure; see page 8). IPM-CFW-L1500 \$ 2.10 .5 oz.

CHERRY FRUITWORM

Lures can be used for monitoring apples, cherries, and blueberries. (Wing traps have been found to work best with this lure).

Each	SC-CHFW-L160	\$ 1.80	.5 oz.
12/cs	SC-CHFW-L160-12	\$ 20.95	3 oz.

CLEARWING

Currant Clearwing Moth	<i>Synanthedon tipuliformis</i>	PB-SYTI	\$ 2.25	.5 oz.
Poplar Twig Borer	<i>Paranthrene tabaniformis</i>	PB-PATA	\$ 2.25	.5 oz.
Raspberry Clearwing Moth	<i>Pennisetia hylaeiformis</i>	PB-PEHY	\$ 2.25	.5 oz.
Viburnum Borer	<i>Synanthedon viburni</i>	SC-VB L997	\$ 2.30	.5 oz.
Viburnum Crown Borer	<i>Synanthedon fatifera</i>	SC-VCB L980	\$ 2.30	.5 oz.
Western Poplar Clearwing	<i>Paranthrene robiniae</i>	PB-WPCM	\$ 2.25	.5 oz.
Yellow Legged Clearwing	<i>Synanthedon vespiformis</i>	PB-SYVE	\$ 2.25	.5 oz.

HERCON LURETAPES

Beet Armyworm	10/pk	HC-BAW 100317	\$ 15.25	4 week	1 oz.
Corn Earworm/Cotton BW	10/pk	HC-CEW 100337	\$ 16.80	2 week	1 oz.
European Corn Borer IA	10/pk	HC-ECB IA 100528	\$ 16.80	2 week	1 oz.
European Corn Borer NY	10/pk	HC-ECB NY 100529	\$ 16.80	2 week	1 oz.
European Pineshoot Moth	10/pk	HC-EPSM 100499	\$ 15.25	4 week	1 oz.
Fall Armyworm	10/pk	HC-FAW 100324	\$ 15.25	2 week	1 oz.
Mexican Rice Borer	10/pk	HC-MRB 100635	\$ 16.80	4 week	1 oz.
Southwestern Corn Borer	10/pk	HC-SWCB 1000356	\$ 15.25	2 week	1 oz.
Tobacco Budworm	10/pk	HC-TBW 100335	\$ 15.25	2 week	1 oz.

WHEAT MIDGE

Wheat Midge	Each	PB-WHM	\$ 2.25	.5 oz.
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FRUIT FLY SUPPLIES

LIQUIBAITOR FRUIT FLY

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, or with the Trappit Liquid Wasp Attractant.

Trap	Each	IPS-235	\$ 9.95	1 #
	12/cs	IPS-235-12	\$ 114.00	9 #
Caribbean Fruit Fly (6 week field life)	Each	IPM-CFF	\$ 3.25	1 oz.
Medfly	Each	IPM-MF	\$ 3.25	1 oz.
Trappit Liquid Wasp Attractant 8 oz.	Each	AGS-138	\$ 2.95	1 #



MULTILURE

This easy to use, multifunctional trap may be either hung or set on a flat surface. It may be used with a variety of lures and has the ability for various lure placement.

Each	IPM-MLT	\$ 10.95	1 #
12/cs	IPM-MLT-12	\$ 126.00	9 #



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		\$ 35.00	2 #
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OLIVE FRUIT FLY LURE & 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 (6 week field life)	Each	SC-OFF L975	\$ 2.70	2 oz.
Torula Yeast Pellets (1 week field life)	Each	SC-TYP	\$.25	.2 oz.



TRAPPIT DOME

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. Use the trap at home, in gardens, greenhouses, on the terrace or patio, orchards, campsites, and caravans. Beneficial insects, such as honeybees, are not affected by this trap.

Kit (1 trap, 1 bottle of Liquid Wasp Attractant)				
	Each	AGS-130	\$ 12.50	2 #
	12/cs	AGS-130-12	\$ 135.50	23 #
Trap Only				
	Each	AGS-135	\$ 9.95	1 #
	12/cs	AGS-135-12	\$ 114.00	7 #
8 oz. Liquid Wasp Attractant				
	Each	AGS-138	\$ 2.95	1 #



SWEEP NETS**INSECT SWEEP NETS****HS**
Polyester**MS**
Muslin

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 denier 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 36" wood dowels (3/4" or 1" diameter) 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 Replacement net: 1 # per replacement net

COMPLETE MUSLIN NET

612 MS	12"	3/4" wood handle	\$ 14.75
615 MS	15"	3/4" wood handle	\$ 17.65
636 MS	15"	1" wood handle	\$ 25.80
315 MS	15"	aluminum handle	\$ 31.05

REPLACEMENT MUSLIN NET

212 MS	\$ 8.55
215 MS	\$ 10.00
215 MS	\$ 10.00
3215 MS	\$ 12.90

COMPLETE POLYESTER NET

612 HS	12"	3/4" wood handle	\$ 17.90
615 HS	15"	3/4" wood handle	\$ 23.45
636 HS	15"	1" wood handle	\$ 32.65
315 HS	15"	aluminum handle	\$ 37.65

REPLACEMENT POLYESTER NET

212 HS	\$ 13.70
215 HS	\$ 15.55
215 HS	\$ 15.55
3215 HS	\$ 18.70

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 \$ 22.40 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	\$ 23.70	3 #
IPM-656BGC	Black Vinyl	\$ 23.70	3 #
IPM-656BCGC	Black Cotton	\$ 23.70	3 #

VISUAL TRAPS

PHEROCON AM BAITED TRAPS use no pheromone but do have a food attractant within the sticky surface which attracts both male and female flies when they first emerge from the ground. 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. Field life is 7 days, but may be extended by placing an AM bait enhancer (see below) with the trap which will increase field life 1 - 2 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)	TR-3505K	\$ 16.00	1 #
50/cs	TR-330550	\$ 88.00	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 traps)	TR-3506K	\$ 13.65	1 #
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	\$.85	1 oz.
	50/cs	IPM-3000-50	\$ 36.05	2 #
	100/cs	IPM-3000-100	\$ 66.50	4 #
Bulk Ammonium	1/4 #	IPM-2004	\$ 7.55	5 oz.
	1/2 #	IPM-2005	\$ 11.85	9 oz.



BLUEBERRY MAGGOT BAIT ENHANCERS


This preloaded polycon bait enhancer is hung with yellow traps to monitor for Blueberry Maggot. Bulk containers are available to replenish polycons when necessary. Field life is 1 - 2 weeks.

Bait Enhancers	Each	IPM-3000-BM	\$ 1.20	1 oz.
	50/cs	IPM-3000-BM-50	\$ 46.70	2 #
	100/cs	IPM-3000-BM-100	\$ 84.55	4 #
Bulk Bait	1/4 #	IPM-2004-AA	\$ 9.05	5 oz.
	1/2 #	IPM-2005-AA	\$ 15.10	9 oz.
Baited Tangletrap	Quart	TF-2007-BM	\$ 21.50	1 #
	Gallon	TF-2008-BM	\$ 66.30	9 #



STICKY STRIPS & BALL TRAPS

YELLOW 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 with 12" galvanized wires. 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 superchargers (previous page) to trap *Rhagoletis spp.*

	3" x 5" Sticky Strips	25/cs	OL-025SS35	\$ 8.75	6 oz.
		100/cs	OL-100SS35	\$ 32.50	2 #
		1000/cs	OL-010MS35	\$ 253.45	13 #
	6" x 12" Sticky Strips	50/cs	OL-050SS612	\$ 65.00	4 #
		125/cs	OL-125SS612	\$ 140.00	8 #
		500/cs	OL-004MS612	\$ 455.00	32 #
	8" x 9 5/8" Large	10/pk	AGS-121-10	\$ 14.00	1 #
		100/pk	AGS-121-100	\$ 117.50	6 #
	10" x 16" Jumbo	10/pk	AGS-120-10	\$ 25.00	2 #
		100/pk	AGS-120-100	\$ 230.00	32 #
Trap Wires	25/cs	OL-025SS12	\$ 8.20	1 #	
	100/cs	OL-100SS12	\$ 29.50	4 #	

BLUE STICKY STRIPS are used for monitoring 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 1/2".

10/pk	AGS-10	\$ 5.50	4 oz.	100/pk	AGS-100	\$ 52.00	3 #
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RED BALL TRAPS capture 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. 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 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. User needs to purchase Tangletrap adhesive to coat traps. NOTE: Ball traps do not work on Cherry Fruit Fly.

Reusable 2-Piece Red Ball Traps

Each	IPM-1040	\$ 2.50	3 oz.
25/cs	IPM-1040-25	\$ 59.25	5 #
50/cs	IPM-1040-50	\$ 105.30	10 #
100/cs	IPM-1040-100	\$ 184.25	20 #

Reusable 2-Piece Red Ball Trap Kit (3 ball traps, 8 oz. "brushon" Tangletrap adhesive)

Kit	IPM-1040K	\$ 12.60	1 #
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Disposable Red Ball Traps

25/cs	OL-220025	\$ 16.00	1 #
100/cs	OL-220000	\$ 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	\$ 1.85	.5 oz.
25/cs	IPM-4200-25	\$ 43.70	8 oz.
100/cs	IPM-4200-00	\$ 157.90	2 #



MATING DISRUPTION

NOMATE TOMATO PINWORM SPIRALS are intended to prevent damage to tomatoes and other infested crops. 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 19. Each bag contains 500 spirals. Registered in CA, HI, and SC.



SC-TPWS-500 \$ 135.00 2 #

NOMATE CODLING MOTH 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. Each bag contains 400 spirals. Registered in the following states: AZ, CA, MI, NC, OK, PA, WA.



SC-CM-400 \$ 105.00 2 #

PHEROCON CM/DA COMBO LURE attracts both male and 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.



Kit (6 Pherocon IIB traps, 3 lures)	TR-CM 3461K	\$ 34.00	1 #
Kit (3 Pherocon VI traps, 3 lures)	TR-CM 3462K	\$ 34.00	1 #
Lure Only	Each	\$ 5.00	.5 oz.
	25/cs	TR-CM 3461-25	\$ 120.00 3 oz.

VIROSOFT^{CP4}

Virosoft^{CP4} is a bioinsecticide based on baculoviruses that are specific to killing codling moth. As specified on the label, Virosoft^{CP4} contains the highest concentration of viral bodies of all similar viral insecticides, thus increasing significantly its efficacy. This 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^{CP4} 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.



BT-VIRO CALL FOR PRICING 3 #

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.



MATING DISRUPTION**PACIFIC BIOCONTROL ISOMATES**

Mating disruption involves saturating an area with the female pheromone so males can not 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 Codling Moth disruption blocks (see page 26). Remember to order monitoring traps for use during disruption programs.

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

ISOMATE PRODUCTS ARE REGISTERED IN THE FOLLOWING STATES:

C+	AZ, CA, CO, ID, IL, MI, MN, MT, NM, OR, WA, WI
CTT	AZ, CA, CO, MI, UT, WA, WI
CM FLEX	CO, ID, IL, MI, OH, OR, UT, WA
CM/LR TT	MN, WA
GRB	PENDING
CM/OFM TT	IL, MI, OH
OFM Rosso	CA, ID, IL, MI, MO, OH, WA
OFM TT	CA, MI, WI
PTB Dual	AZ, IL, MI, OH

Weight: 2 # per package

ACRES TREATED

Codling Moth	(120 - 140 days)	ISM-C+	400/pk	\$ 100.00	1
Codling Moth Flex	(Full Season)	ISM-CM FLEX	400/pk	\$ 105.00	1 - 2
CM Twin Tube	(120 - 140 days)	ISM-CTT	400/pk	\$ 200.00	2
CM/LR Twin Tube	(180 days)	ISM-CMLR TT	300/pk	\$ 131.00	1
CM/OFM Twin Tube	(180 days)	ISM-CM/OFM TT	400/pk	CALL FOR PRICING	2
Grape Root Borer	(Full Season)	ISM-GRB	600/pk	CALL FOR PRICING	6
Oriental Fruit Moth Rosso	(120 days)	ISM-OFM ROSSO	400/pk	\$ 156.00	2
Oriental Fruit Moth TT	(180 days)	ISM-OFM TT	200/pk	\$ 125.00	1 - 2
Peachtree Borer Dual	(180 days)	ISM-PTBD	500/PK	CALL FOR PRICING	3.3

ADHESIVES

TANGLETRAP INSECT TRAP COATING is 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 adhesive that remains sticky and won't run.



DESCRIPTION	ORDER NO.	PRICE	WEIGHT
5 1/2 oz. tube	TF-2001	\$ 5.70	1 #
15 oz. tub	TF-2002	\$ 7.50	2 #
7 lb. can	TF-2003	\$ 48.65	9 #
14 lb. pail	TF-2017	\$ 92.50	18 #
25 lb. pail	TF-2004	\$ 122.00	27 #
10 oz. aerosol spray	TF-2005	\$ 11.25	1 #
8 oz. brush-on	TF-2006	\$ 7.50	1 #
Quart brush-on	TF-2007	\$ 18.65	1 #
Gallon brush-on	TF-2008	\$ 57.20	9 #
25 lb. pail brush-on	TF-2009	\$ 145.85	27 #



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 (3" x 1000') 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.**



DESCRIPTION	ORDER NO.	PRICE	WEIGHT
10 oz. Caulking tube	TF-2010	\$ 8.40	1 #
15 oz. tub	TF-2012	\$ 8.75	2 #
5 lb. tub	TF-2013	\$ 40.00	6 #
25 lb. pail	TF-2014	\$ 138.40	27 #
Gypsy Moth Tree Wrap	IPM-1072	\$ 7.00	1 #

HISTO-CLEAR is a concentrated solvent made from citrus oil that is an environmentally safe way to remove Tangletrap or any sticky trapping material. You no longer have to rely on hazardous petrochemical 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 adhesive so you have a clean, undamaged specimen. This naturally occurring product is totally biodegradable. 1 gallon container.



IPM-10011 \$ 48.50 11 #

TRED NOT DEER FLY PATCHES

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 a 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	\$ 3.00	2 oz.
50- 4/pk	DX-160-50	\$ 89.00	3 #



FIELD EQUIPMENT**BIRD NETTING**

Bird 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. Squares measure 5/8" x 3/4". Please call for price quotes on custom sizes.

7' x 25'	IPM-0597	\$ 9.25	14' x 14'	IPM-0600	\$ 9.20
7' x 50'	IPM-0598	\$ 17.50	14' x 100'	IPM-0601	\$ 68.45
7' x 100'	IPM-0596	\$ 33.20	14' x 200'	IPM-0602	\$ 100.00

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	\$ 7.20	1 #
2" x 100'	Each	TF-2018-100	\$ 16.00	3 #

BIRD CHASER BALLOONS

Scares away flocks of birds with its waving streamers and its bobbing and weaving motions. Frightens birds immediately. A case includes 6 yellow and 6 black balloons.

Each	TF-2019-MC-01	\$ 8.15	1 #
12/cs	TF-2019-MC-12	\$ 81.80	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	\$ 7.80	2 #
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FLAGGING TAPE

High visibility polyplastic flagging tape for marking trap position.



Roll measures 1 3/16" x 300'

Blue	IPM-17023	\$ 1.50	6 oz.
Orange	IPM-17022	\$ 1.50	6 oz.
Pink	IPM-17028	\$ 1.50	6 oz.
Red	IPM-17021	\$ 1.50	6 oz.
White	IPM-17020	\$ 1.50	6 oz.
Yellow	IPM-17024	\$ 1.50	6 oz.

Roll measures 1 3/16" x 150'

Day Glo Pink	IPM-17003	\$ 1.50	6 oz.
Flourescent Lime	IPM-17001	\$ 1.50	6 oz.
Flourescent Orange	IPM-17000	\$ 1.50	6 oz.

DO NOT TAMPER TAPE

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

100/cs	IPM-TT	\$ 14.75	3 oz.
11/100 cs or more		\$ 14.25	

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.

BX-1	\$ 93.10	2 #
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Model BTX-1 with automatic temperature compensation enables you to take precise readings from 41° - 95°F.

BTX-1	\$ 106.25	2 #
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FIELD EQUIPMENT

MIN/MAX THERMOMETER is 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.



TY-1001 \$ 21.00 4 oz.

(Degree Days are accumulative throughout the year adding 1 day total to the next, etc.)

SOIL THERMOMETER is used 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.

TY-5976 \$ 10.00 4 oz.

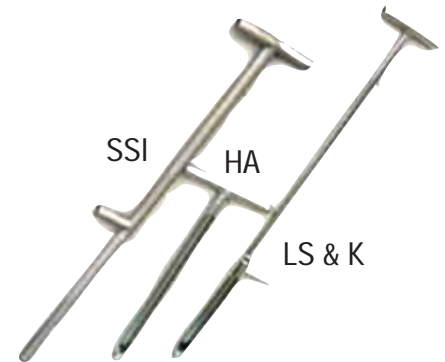


SOIL PROBES Step probe 36" long, 1" core sample. Made of stainless steel. Specially designed tip requires no turning; just push into soil.

SSI-100 \$ 47.00 3 #
SSI-100-N (No step) \$ 42.50 3 #

These soil probes are made from high-quality, chrome plated steel. One piece welded construction with screw on tips. 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	\$ 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.



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.

TM-3100 \$ 8.95 3 oz.



**FOR THE LATEST PRODUCTS NOT LISTED IN THIS CATALOG,
BE SURE TO CHECK OUT OUR WEBSITE:**

www.greatlakesipm.com

E-MAIL US AT: glipm@greatlakesipm.com

WATCH FOR SALE ITEMS!



CUSTOMER ORDER FORM

10220 E Church Rd. Vestaburg MI 48891 800-235-0285 989-268-5693 FAX: 989-268-5311

To figure UPS shipping charges, please see back cover. **NOTE: UPS needs CORRECT SHIPPING ADDRESS. Undeliverable addresses may result in a correction fee of \$ 11.00.**

Customer Name _____

Company Name _____

Mailing Address _____

Shipping Address _____

City _____ State _____ Zip _____ Zip Ext. _____

Telephone _____ Cell _____

Fax _____ E-Mail Address _____

Payment Enclosed Purchase Order No. _____ Visa Mastercard American Express Discover

Card Number: _____ Expiration Date: _____

Last 3 Digits on Back of Card VISA ONLY: _____ Customer Signature: _____

GREAT LAKES IPM, INC. WILL NOT COVER ANY SHORTAGES OR DAMAGED PRODUCTS NOT REPORTED WITHIN THREE DAYS AFTER RECEIPT OF ORDER.

ORDER #	ITEM DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL

* **Return to Shelf - Charge of \$ 10.00**

* **All Prices Subject to Change Without Notice**

* **No Returns Without Prior Authorization**

* **No Returns on Special Order Items.**

Step 1 Subtotal	
Step 2 MI Residents add 6% Sales Tax	
Step 3 Insurance Add \$.90 per \$ 100	
Step 4 Shipping Charge (See back cover)	
Step 5 Handling Charge	
Step 6 Grand Total	\$ 2.00

Certificate under agricultural producing tax exemption in State of Michigan The undersigned hereby certifies that all items, except as indicated hereon, are purchased for the use or consumption in connection with the production of horticultural or agricultural products as a business enterprise, and agrees to reimburse the seller the sales tax if used or consumed otherwise.

Signature

Wholesale discounts are available for certain business affiliations (consultants, PCO, Chemical company sales rep, Grower Co-op, and associates). **IMPORTANT NOTICE:** All manufacturers and suppliers of the materials listed in this catalog provide a means to monitor and obtain insects from use of their products. These materials should be used with the advice of a qualified pest management consultant, whenever possible. The manufacturers make no warranties, implied or otherwise, for the use of their products. Users shall themselves determine the suitability of the products for their intended use and shall assume all risk and liability arriving for such use. All prices quoted in U.S. dollars. Prepayment required on foreign accounts unless prior authorization for credit is granted. **TERMS:** Prepayment with order or with prior approval - net 30 days from date of invoice. Past due accounts will be assessed 2% per month interest until paid. **FREIGHT:** All freight quoted FOB Vestaburg, MI. Shipments made by UPS or parcel post, whichever is appropriate.

ZONE CHART - UPS GROUND For shipment originating in Zip Codes 48801 to 48999

PRESORT STD
U.S. POSTAGE
PAID
PERMIT NO. 7
VESTABURG MI
48891

004-005	4	200-259	4	350-355	5	541-545	3	768-775	6
006-007	-	260-261	3	356-359	4	546-548	4	776-777	5
008	-	262-278	4	360-369	5	549	3	778-791	6
009	-	279	5	370-386	4	550-566	4	792	5
010-013	4	280-283	4	387-399	5	567	5	793-799	6
014-051	5	284-285	5	400-406	3	570-571	4	800-806	6
052-054	4	286-289	4	407-409	4	572-588	5	807	5
055	5	290-292	5	410	3	590-597	6	808-832	6
056-057	4	293	4	411-427	4	598-599	7	833	7
058-065	5	294-295	5	430-432	3	600-608	2	834	6
066-089	4	296-297	4	433-436	2	609-611	3	835-838	7
090-099	-	298-299	5	437-457	3	612	4	840-846	6
100-118	4	300-304	5	458	2	613-619	3	847-864	7
119	5	305	4	459-462	3	620-623	4	865-885	6
120-139	4	306	5	463-468	2	624	3	889-893	7
140-143	3	307	4	469-475	3	625-647	4	894-897	8
144-146	4	308-328	5	476-477	4	648	5	898	7
147	3	329-337	6	478-479	3	649-663	4	900-921	8
148-149	4	338	5	480-496	2	664-679	5	922	7
150-153	3	339	6	497-499	3	680-682	4	923-961	8
154-155	4	340	-	500-516	4	683-693	5	962-966	-
156-157	3	341-342	6	520	3	700-722	5	967-968	-
158-159	4	344	5	521-527	4	723-725	4	969	-
160-165	3	346	6	528	3	726-732	5	970-977	8
166	4	347	5	530-534	2	733	6	978-979	8
167	3	349	6	535-539	3	734-764	5	980-986	8
168-199	4			540	4	765	6	988-994	7
						766-767	5	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. This total is your shipping cost. 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 - 30 LB PACKAGES

Zones	2	3	4	5	6	7	8
1 Lbs.	7.93	8.40	8.53	8.95	9.40	9.48	9.54
2	8.43	8.96	9.68	9.93	10.50	10.67	10.99
3	8.50	9.38	10.18	10.54	11.13	11.42	12.14
4	8.74	9.62	10.73	11.24	11.74	12.12	12.99
5	8.97	9.75	11.14	11.66	12.20	12.69	13.67
6	9.22	10.04	11.32	11.94	12.40	13.11	14.16
7	9.66	10.33	11.53	12.22	12.75	13.41	14.57
8	10.03	10.60	11.82	12.43	13.13	14.00	15.40
9	10.24	10.86	12.00	12.70	13.42	14.70	16.32
10	10.56	10.90	12.23	13.06	13.99	15.73	17.43
11	10.91	11.35	12.37	13.28	14.41	16.72	18.46
12	11.22	11.69	12.59	13.49	15.05	17.68	19.66
13	11.52	12.00	12.75	13.80	15.69	18.71	20.88
14	11.74	12.33	12.99	14.11	16.55	19.66	22.05
15	11.96	12.72	13.20	14.45	17.40	20.67	23.28
16	12.12	12.91	13.28	14.70	18.06	21.52	24.34
17	12.28	13.32	13.71	15.31	19.11	22.79	25.78
18	12.42	13.56	14.11	16.11	19.98	23.79	27.10
19	12.59	14.03	14.65	16.82	20.86	24.81	28.40
20	12.83	14.48	15.16	17.56	21.78	25.86	29.70
21	13.05	14.92	15.62	18.30	22.67	26.85	30.90
22	13.37	15.35	16.18	18.97	23.59	27.90	32.25
23	13.67	15.82	16.70	19.65	24.48	28.92	33.56
24	13.94	16.23	17.23	20.30	25.42	29.93	34.85
25	14.32	16.68	17.70	20.88	26.30	30.95	36.17
26	14.66	17.03	18.19	21.55	27.28	31.91	37.40
27	14.99	17.42	18.62	22.20	28.18	32.95	38.69
28	15.27	17.84	19.20	22.87	29.08	33.94	40.04
29	15.58	18.18	19.76	23.41	29.85	34.71	41.14
30	15.96	18.64	20.35	24.09	30.78	35.70	42.47

Weight in Pounds

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



10220 E CHURCH RD
VESTABURG MI 48891

[ADDRESS SERVICE REQUESTED]