

Wholesale discounts are available for certain business affiliations (consultants, PCO, chemical company sales rep, grower co-op, and associates). Please contact us regarding your business affiliation to see if you qualify.

Please Help Us. We try to search out the best supplies available to aid you with your IPM programs. If you need some items which are not in our catalog LET US KNOW! Your comments are appreciated.

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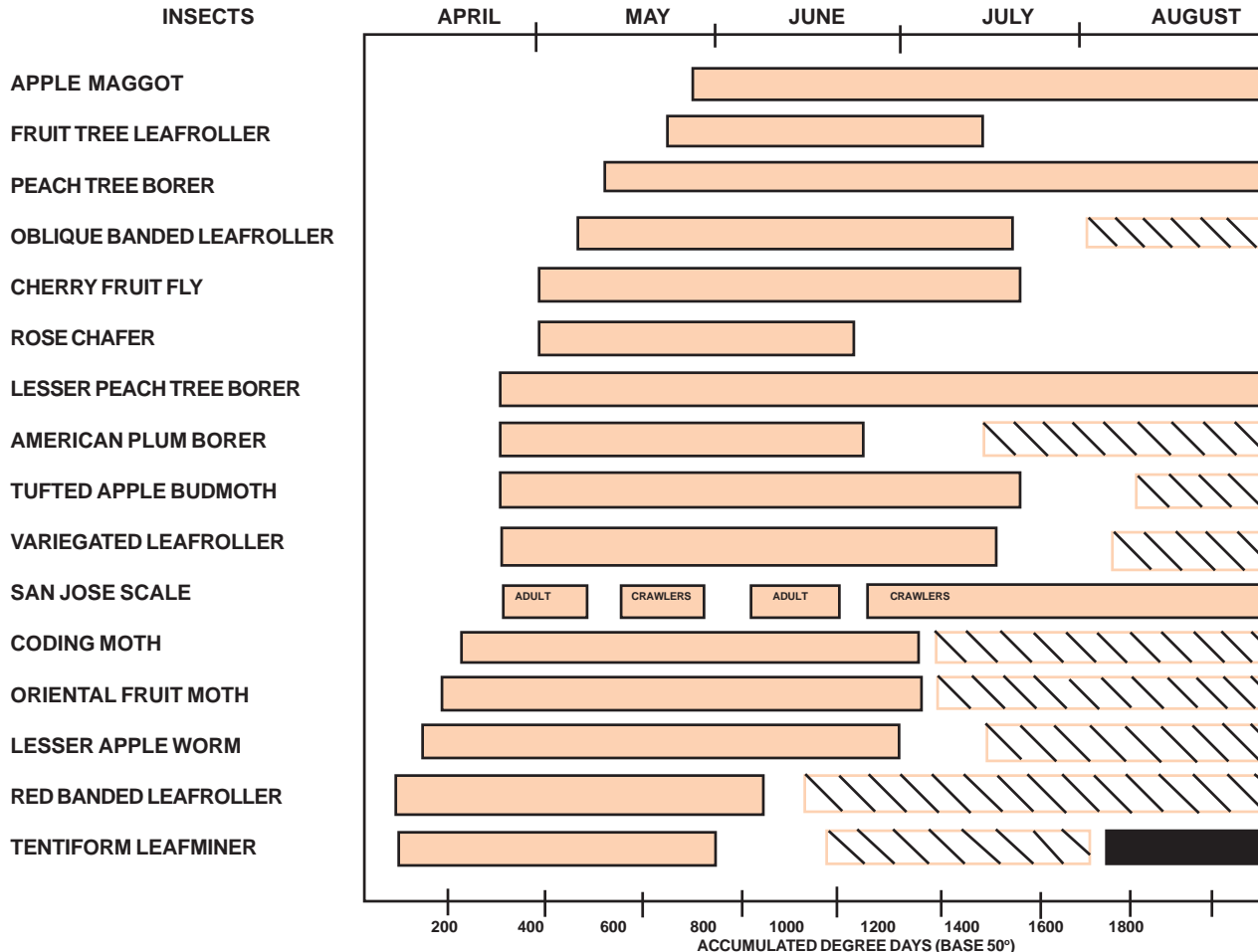


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The following information is to be used as an approximate guide to the timing for a specific insect pest event to occur. Areas to the south should look for these events to occur sooner regarding specific dates for the events to occur.

Degree day information remains fairly constant, the time of year that the event actually occurs that can vary widely according to the region in the US you are located. It is best to consult your local extension offices 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
Pear Psylla-Egg Laying	43±28	11Apr±15 Days
Rosy Apple Aphid-1st Egg Hatch	60±13	24Apr± 7 Days
RBLR-1st Adult Catch	64±30	17 Apr± 7 Days
STLM-1st Adult Catch	67±30	18 Apr±7 Days
STLM-1st Egg Observed	103±56	27 Apr± 5 Days
OBLR-1st O.W. Larvae Observed	109±55	28 Apr± 5 Days
Tight Cluster For Mcintosh	110±23	28 Apr± 8 Days
Tarnished P.B.-1st Adults	119±66	29 Apr± 9 Days
European Red Mite-Egg Hatch	131±38	2 May± 7 Days
STLM-Adult Peak Flight	136±57	3 May± 5 Days
Pink For Mcintosh	147±33	6 May± 9 Days
Full Bloom For Mcintosh	188±43	9 May± 9 Days
SJS-1st Adult Catch	235±71	16 May± 8 Days
STLM-1st Sapfeeding Mines	245±76	18 May±11 Days
CM-1st Adult Catch	256±83	20 May± 9 Days
Plum Curculio-1st Egg Laying	269±56	23May±11 Days

PEST EVENT	DD Base 50	Approx. date
Pear Psylla-Hard Shell Observ.	274± 48	20 May± 9Days
LPTB-1st Adult Catch	285± 98	26 May±10Days
OBLR-Peak Catch	590± 52	7 Jun±17 Days
STLM-2nd Gen. 1st Adult Catch	608± 85	14 Jun± 6 Days
SJS-1st Crawlers Observed	671± 60	19 Jun±19 Days
GPTB-1st Adult Catch	760±167	26 Jun± 7 Days
OFM-1st Adult Catch	827± 44	29 Jun± 5 Days
Apple Maggot-1st Adult Catch	835±127	27 Jun± 8 Days
RBLR-2nd Gen. 1st Adult Catch	850± 48	30 Jun± 5 Days
STLM-2nd Gen. Peak Catch	925± 94	5 Jul± 7 Days
RBLR-2nd Gen. Peak Catch	1021±110	12 Jul± 5 Days
STLM-1st Feeding Mine	1076±176	13 Jul± 1 Day
LPTB-Peak Catch	1255±343	22 Jul±17Days
Apple Maggot Peak	1654	6 Aug
STLM-3rd Gen. Peak Catch	1848±116	23 Aug± 9 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 by consulting books or publications such as the COMMON TREE FRUIT PESTS or CORNELL INSECT FACT SHEETS which are available for a number of insect pests in our catalog. 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 numbers 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. Figure 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 the sticky tray which captures the insect, known as the IC or ICP liner or the Scentry Wing bottom. The bottom of the wing trap is replaced periodically as required. All parts of 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 such as the Multiplier and IPS unitrap 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 as 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 over wintering, 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 of the area to be monitored. Factors such as soil type, different elevations, adjoining woodlots, 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 insect, 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. Be 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 every 20 acres. This applies to each insect you are trapping for. 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 handle 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.

Example Of The Biology And Flight Patterns Of One Flight

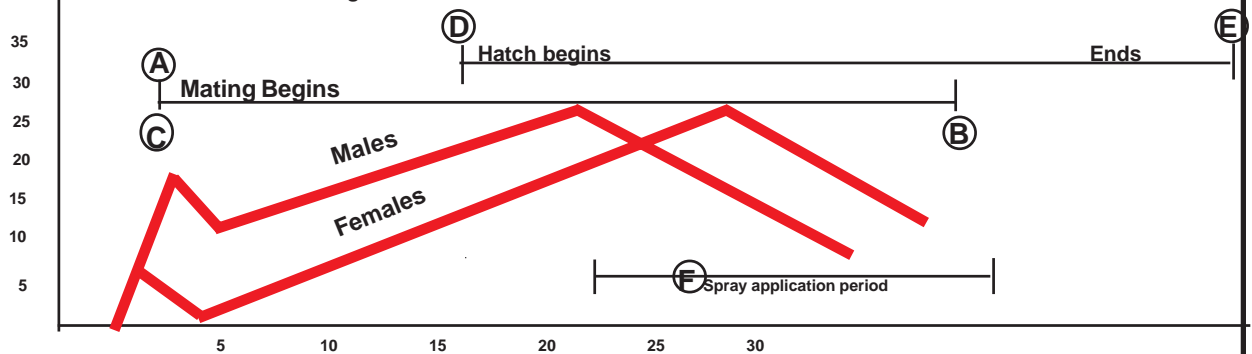


FIGURE 2

INSECT SWEEP NETS



315HS

215MS

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-inch 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			REPLACEMENTS		
ITEM #	SIZE/NET	HANDLES	PRICE	ITEM #	PRICE
612MS	12" muslin	3/4" dia. wood	\$ 13.75	212MS	\$ 8.10
615MS	15" muslin	3/4" dia. wood	\$ 16.75	215MS	\$ 9.50
636MS	15" muslin	1" dia. wood	\$ 24.50	215MS	\$ 9.50
612HS	12" polyester	3/4" dia. wood	\$ 17.00	212HS	\$13.00
615HS	15" polyester	3/4" dia. wood	\$ 22.25	215HS	\$14.75
636HS	15" polyester	1" dia. 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 & GROUND CLOTH

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

Beating sheets 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. Also available in 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#

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

800-235-0285 * FAX: 989-268-5311 * www.greatlakesipm.com

CIRCLE TRUNK TRAP (Plum Curculio Trap)

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: small size for scaffold limb or small tree trunk 4-8 inches in diameter or larger size for pecan tree trunk.



Small Trap	IPM-400	\$ 10.00	1#
Large Trap	IPM-401	\$ 15.75	3#
PLUM ESSENCE DUAL BAIT LURES			
	IPM-PE	\$ 3.00	1#

ELM BARK BEETLE TRAP



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 the elm bark beetle 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 elm bark beetle flight begins. Place traps 150-650 feet apart, positioned 8-10 feet off the ground and at least a minimum of 150 feet 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	2400
Number of traps	2	4	7	11	18	24	40	85	180

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	4#

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

WHALON MODIFIED TEDDERS TRAP

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 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	1 oz.

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 tedders 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#

IPM WING TRAPS



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 in their IPM budget.

Wing trap (cardboard top)

25/cs	IPM101-25	\$ 50.00	5#
100/cs	IPM101-00	\$ 190.00	20#

Wing trap (plastic top)

25/cs	IPM102-25	\$ 61.85	5#
100/cs	IPM102-00	\$ 235.00	21#

Liners only

25/cs	IPM103-25	\$ 21.85	3#
100/cs	IPM103-00	\$ 83.00	10#

Cardboard top only

25/cs	IPM201-25	\$ 19.75	3#
100/cs	IPM201-00	\$ 75.00	7#

Plastic top only

25/cs	IPM202-25	\$ 30.50	3#
100/cs	IPM202-00	\$ 116.50	8#

Wing wires only

25/cs	IPM301-25	\$ 18.25	2#
100/cs	IPM301-00	\$ 68.75	5#

IPM P2 TRAPS



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#

CRANBERRY & CHERRY FRUITWORM LURES

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	3 oz



CARPOPHILUS SAP BEETLE LURES

Sap beetles cause major economic losses every year in many crops. Research trials have shown that a new dual bait lure system has proven to be helpful in battling this pest in sweet corn, dates, 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 Victor fly in saucer trap or universal trap. 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.

Dusky Sap Beetle Lure			
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 Victor fly in saucer trap or universal trap. Lure lasts 2-3 weeks. Must remove from orchard before crop matures.

Date & Fig Blend Lure			
Each	IPM-HMF-3-01	\$ 1.90	1 oz
25/cs	IPM-HMF-3-25	\$ 45.75	3 oz

800-235-0285 * FAX: 989-268-5311 * www.greatlakesipm.com**BAGWORM TRAP****(*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: 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. Kit includes 1 complete trap, 1 extra liner, and 1 season long lure.

Each Kit	IPM-10	\$ 3.70	1#
50-90 kits		\$ 3.40 each	
Bagworm lure only			
IPM-BGW	each	\$ 1.55	1 oz

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

**GYPSY MOTH TRAP KITS**

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 infesting trees, or if already infested, this prevents 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 100' 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 1/4")

25/cs	HC-8500-25	\$ 6.00	3 oz
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STOP GYPSY MOTH LARVAE FROM CLIMBING!**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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**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	2#
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REBELL YELLOW TRAP



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 for 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.

YELLOW TRAP

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

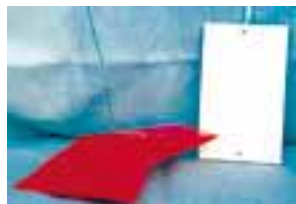
BAIT ENHANCERS (Ammonia attractant)-Use with trap to monitor *Rhagoletis spp.*, replace every 1-2 weeks.

Each IPM-3000 \$.80 2 oz
50/cs IPM-3000-050 \$ 34.25 4#

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



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 pre-coated 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)

ORANGE TRAP



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 spermotrophus*) in the Pacific Northwest.

25 per pack IPM-106025 \$ 21.00 2#

SUGAR BEET ROOT MAGGOT TRAP



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

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

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. Pre-coated with sticky tangletrap, package of 10 traps complete with 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#

IPM Varroa Board

10/pk IPM-VB 7X15-10 \$ 8.00 2#

European Honey Bee Lure

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



Each SC-EHL311 \$ 2.00 2 oz

800-235-0285 * FAX: 989-268-5311 * www.greatlakesipm.com**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. Trap top available in green or yellow, please specify. **EXPANDO MODEL ALSO AVAILABLE.**

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	6 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 & Bait				
Each	TR-9006-01	\$ 12.79	2#	
Jumbo Jug - 64 oz. capacity				
Each	IPM-9000-01	\$ 6.50	1#	

**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 Trap Kit (JB Trap + Rose Chafer Lure)

Each	IPM-RC-9006-01	\$ 18.05	2#
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Disposable Kit (3 bags, 1 top, 1 lure)

Each	IPM-RC-9008-01	\$ 6.95	4 oz
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Replacement Rose Chafer Lure

Each	IPM-RC-9007-01	\$ 3.95	3 oz
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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 Trece catch can or any other JB style traps.

Oriental Beetle Catch Can Trap and Lure

Each	TR-9009-01	\$ 21.05	2#
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Replacement Oriental Beetle Lure

Each	TR-9015-01	\$ 2.90	3 oz
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GREEN JUNE BEETLE

The **Green June Beetle** is a turfgrass pest found in Connecticut, New York, and extends westward into Texas, Kansas, and Oklahoma. 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.

Each	TR-GJB	\$ 7.35	3 oz
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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.	Each	25/case
	TR-ACM 3215K	\$38.50	\$6.50	TR-ACM 3215	\$2.90	\$ 63.00
	TR-AEM 3430K	\$38.50	\$6.50	TR-AEM 3430	\$2.90	\$ 63.00
	TR-CM 3111K	\$32.00	\$6.00	TR-CM 3111	\$2.00	\$ 44.00
	TR-CM/DA 3460K	\$41.00	\$6.75	TR-CM/DA 3460	\$4.90	\$ 116.50
	TR-CM 4111K	\$34.00	N/A	TR-CM 4111	\$4.80	\$ 115.00
	TR-CM 3160K	N/A	N/A	TR-CM 3160	\$1.25	\$ 30.00
	TR-CM 5111K	N/A	N/A	TR-CM 5111	\$4.65	\$ 116.25
	TR-FCM 3131K	\$38.50	\$6.50	TR-FCM 3131	\$2.90	\$ 63.00
	TR-FTLR 3117K	\$32.00	\$6.00	TR-FTLR 3117	\$2.00	\$ 44.00
	TR-LAW 3118K	\$32.00	\$6.00	TR-LAW 3118	\$2.00	\$ 44.00
	TR-LBAM 3426K	\$38.50	\$6.50	TR-LBAM 3426	\$2.90	\$ 63.00
	TR-OBLR 3208K	\$32.00	\$6.00	TR-OBLR 3208	\$2.00	\$ 44.00
	TR-OFM 3102K	\$32.00	\$6.00	TR-OFM 3102	\$2.00	\$ 44.00
	TR-OFM 4102K	\$34.00	N/A	TR-OFM 4102	\$4.80	\$ 115.00
	TR-RBLR 3103K	\$32.00	\$6.00	TR-RBLR 3103	\$2.00	\$ 44.00
	TR-SJS 3145	N/A	N/A	TR-SJS 3145	\$2.20	\$ 52.40
	TR-STLM 3144K	\$32.00	\$6.00	TR-STLM 3144	\$2.00	\$ 44.00
	TR-TLLR 3147K	\$32.00	\$6.00	TR-TLLR 3147	\$2.00	\$ 44.00
	TR-TABM 3115K	\$32.00	\$6.00	TR-TABM 3115	\$2.00	\$ 44.00
	TR-VLR 3209K	\$38.50	\$6.50	TR-VLR 3209	\$2.90	\$ 63.00
	TR-BHFW 3408K	\$32.00	\$6.00	TR-BHFW 3408	\$2.00	\$ 44.00
	TR-CBG 3202K	\$32.00	\$6.00	TR-CBG 3202	\$2.00	\$ 44.00
	TR-SPAR 3403K	\$32.00	\$6.00	TR-SPAR 3403	\$2.00	\$ 44.00
	TR-FBW 3203K	\$32.00	\$6.00	TR-FBW 3203	\$2.00	\$ 44.00
	TR-HSW 3414K	\$32.00	\$6.00	TR-HSW 3414	\$2.00	\$ 44.00
	TR-PNCB 3236K	\$32.00	\$6.00	TR-PNCB 3236	\$2.00	\$ 44.00
	TR-APB 3411K	\$32.00	\$6.00	TR-APB 3411	\$2.00	\$ 44.00
	TR-GPTB 3146K	\$32.00	\$6.00	TR-GPTB 3146	\$2.00	\$ 44.00
	TR-LPTB 3140K	\$32.00	\$6.00	TR-LPTB 3140	\$2.00	\$ 44.00
	TR-OFM 3102K	\$32.00	\$6.00	TR-OFM 3102	\$2.00	\$ 44.00
	TR-PTB 3113K	\$32.00	\$6.00	TR-PTB 3113	\$2.00	\$ 44.00
	TR-PTB 4113K	\$34.00	N/A	TR-PTB 4113	\$4.80	\$ 115.00
	Universal Trap			TR-BAW 3210	\$2.00	\$ 44.00
	TR-BCW 3141K	\$32.00	\$6.00	TR-BCW 3141	\$2.00	\$ 44.00
	Heliothis Trap (3 week lure)			TR-CEW 3138	\$2.00	\$ 44.00
	TR-CLW 3402K	\$38.50	\$6.50	TR-CLW 3402	\$2.90	\$ 63.00
	TR-LCSB 3407K	\$38.50	\$6.50	TR-LCSB 3407	\$2.90	\$ 63.00
	TR-PBW 3124	N/A	N/A	TR-PBW 3124	\$2.00	\$ 44.00
	TR-SWW 3202K	\$32.00	\$6.00	TR-SWW 3202	\$2.00	\$ 44.00
	TR-SWCB 3409K	\$32.00	\$6.00	TR-SWCB 3409	\$2.00	\$ 44.00
	TR-SSB 3232K	\$38.50	\$6.50	TR-SSB 3232	\$2.90	\$ 63.00
	TR-SFHM 3204K	\$32.00	\$6.00	TR-SFHM 3204	\$2.00	\$ 44.00
	Heliothis Trap (3 week lure)			TR-TBW 3122	\$2.90	\$ 63.00
	TR-AMW 3205K	\$38.50	\$6.50	TR-AMW 3205	\$2.90	\$ 63.00
	TR-CBT 3218K	\$38.50	\$6.50	TR-CBT 3218	\$2.90	\$ 63.00
	TR-DWB 3425K	\$32.00	\$6.00	TR-DWB 3425	\$2.00	\$ 44.00
	TR-ESBW 3435K	\$38.50	\$6.50	TR-ESBW 3435	\$2.90	\$ 63.00
	TR-EPSM 3132K	\$32.00	\$6.00	TR-EPSM 3132	\$2.00	\$ 44.00
	TR-ZP 3439K	\$38.50	\$6.50	TR-ZP 3439	\$2.90	\$ 63.00
	TR-LILA 3224K	\$32.00	\$6.00	TR-LILA 3224	\$2.00	\$ 44.00
	TR-NPTM 3405K	\$32.00	\$6.00	TR-NPTM 3405	\$2.00	\$ 44.00
	TR-SPM 3410K	\$38.50	\$6.50	TR-SPM 3410	\$2.90	\$ 63.00
	TR-CL 3119K	\$38.50	\$6.50	TR-CL 3119	\$2.90	\$ 63.00
	Heliothis Trap (3 week lure)			TR-CEW 3138	\$2.00	\$ 44.00
	TR-DBM 3139K	\$38.50	\$6.50	TR-DBM 3139	\$2.90	\$ 63.00
	Heliothis Trap			TR-ECB I 3110	\$2.00	\$ 44.00
	Heliothis Trap			TR-ECB II 3136	\$2.00	\$ 44.00
	Universal Trap			TR-FAW 3143	\$2.00	\$ 44.00
	TR-OLR 3421K	\$38.50	\$6.50	TR-OLR 3421	\$2.90	\$ 63.00
	TR-PTM 3137K	\$38.50	\$6.50	TR-PTM 3137	\$2.90	\$ 63.00
	TR-TPW 3142K	\$32.00	\$6.00	TR-TPW 3142	\$2.00	\$ 44.00
	TR-VCW 3201K	\$32.00	\$6.00	TR-VCW 3201	\$2.00	\$ 44.00
	TR-WBCW 3406K	\$32.00	\$6.00	TR-WBCW 3406	\$2.00	\$ 44.00
	TR-WMTM 3433K	\$38.50	\$6.50	TR-WMTM 3433	\$2.90	\$ 63.00
	TR-CURM 3203K	\$38.50	\$6.50	TR-CURM 3203	\$2.90	\$ 63.00
	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.

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We carry all Trece products, so please call to order products not listed.

TRECE TRAP KITS AND LURES



Trece 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 Ag., or other qualified consultants if you are not familiar with their use.

With the introduction of the Trece "long life" lures, the IPM field practitioner's job just got easier. In addition to the standard pheromones, there are now 8-12 week "long life" formulas 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 the "long life" kits located on page 8.

Trece **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.

PHEROCON CM/DA COMBO LURE



Pherocon CM/DA Combo attracts both male and for the first time female CM. 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 apples, walnuts, 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	6 oz

TRECE BULK WING TRAPS



Wing Trap 1CP



Wing Trap 1C

The 1C wing is a general purpose trap constructed of weather resistant paperboard that can be used for most insects. Use the 1CP style wing trap and liner for **CO-LDING MOTH, REDBANDED LEAFROLLER, PECAN NUT CASEBEARER, and BLACKHEADED FIREWORM**. Both the 1C and 1CP styles are available with either paperboard or plastic trap tops.

Plastic Wing Trap Tops (reusable)

25/cs	TR-330125	\$ 52.65	3#
100/cs	TR-330100	\$200.00	10#

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

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

Wing Trap P1C(3300) or P1CP(3304) w/plastic top

25/cs	TR-330025 or 330425	\$ 87.75	6#
100/cs	TR-330000 or 330400	\$335.00	22#

Wing Trap Bottoms (Liners) 1C(3322) or ICP(3323)

25/cs	TR-332225 or 332325	\$ 29.12	3#
100/cs	TR-332200 or 332300	\$102.54	10#

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	PEW-4424-04	\$ 37.00	1#
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PHEROCON II, IIB, AND II-C TRAPS

These Trece 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#

DELTA STYLE TRAPS

Pherocon III Traps (Glue coat 2 sides only)
Orange colored trap used for **Pink Bollworm** and green color as a survey trap for **Gypsy Moth**.

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 VI Traps

Larger corrugated plastic Delta-style trap with 2 replaceable liners per trap, used for **general orchard monitoring**. In areas sensitive to foraging honey bees try the **Red Pherocon VI trap**.



Standard White Traps			
25/cs	TR-3314-25	\$ 149.00	8#
Red 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#

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	5oz

PHEROCON CRW TRAP

This monitoring system is a highly effective, species-specific, easy to use, season long attractant. Pherocon CRW trapping system for the **Diabrotica spps, Western, Northern, Southern, and Mexican Corn Rootworm**. 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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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

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	
Lesser Grain Borer				
25/cs	TR-LGB 3158-25	\$ 68.95	4 oz	

GRAIN PROBES

Designed to monitor infestations within the grain 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.

3 Probe Kit	TR-3560-03	\$30.55	2#
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DISCREET TRAPS

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 mounts 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. The Dome Master PCO kit includes 25 traps, 25 lures, and kairomone attractant.

The Trogoderma pheromone 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 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-3656-25	\$ 163.20	4#	

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

CB Dome Trap Kit				
Each	TR-3562-05	\$ 34.75	1#	
CB 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

Khapra/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	4 oz	
Cigarette Beetle				
25/cs	TR-CB 3162-25	\$ 89.50	4 oz	





TRAP KITS COMPLETE

REPLACEMENT LURES

	Order No.	4 STN KIT	2 STN KIT	ORDER NO.	EACH	12/CS
Codling Moth	SC-CM K104	\$ 41.50	\$ 21.85	SC-CM L104	\$ 1.80	\$ 20.95
Eyespotted Bud Moth	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	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 BW	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
<u>Clearwing Borer Complex:</u>						
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

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 reusable (plastic top) wing traps, 8 extra liners, and 12 lures. The 2 Station Kit includes 2 traps, 4 extra liners, 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.

800-235-0285 * FAX: 989-268-5311 * www.greatlakesipm.com
 We carry all Scentry products, so please call to order products not listed.

SCENTRY LARGE PLASTIC DELTA TRAPS

Heavier construction than competitive LPD traps on the market. Comes with 2 replaceable liners for easy maintenance.

LPD Trap				
25/cs	SC-10302-25	\$ 115.00	8#	
LPD Liners				
25/cs	SC-10303-25	\$ 23.50	2#	
100/cs	SC-10303-00	\$ 89.00	8#	



SCENTRY DELTA 1X TRAPS

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#	

SCENTRY BULK TRAPS

Wing Trap Complete (Cardboard Top)				
100/cs	SC-10308	\$ 200.00	20#	
Wing Trap Complete (Plastic Top)				
100/cs	SC-10309	\$ 257.00	24#	
Wing Trap Replacement Bottoms				
100/cs	SC-10311-00	\$ 96.00	10#	

SCENTRY HELIOTHIS TRAPS



*



Heliothis Traps
 (*Heliothis* and *Helicoverpa* spp.
 and European Corn Borer)

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

JACKSON TRAPS



CALL FOR PRICING

SCENTRY CORN ROOTWORM TRAP



Multigard Trap 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 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#

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#	

800-235-0285 * FAX: 989-268-5311 * www.greatlakesipm.com

PHEROCON AM TRAPS

Baited Pherocon AM yellow panels 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**, **WALNUT HUSK FLY**, and **CHERRY FRUIT FLY**.

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

UNBAITED AM no-bait yellow panels are used to monitor **WHITEFLIES**, **THRIPS**, **FLYING APHIDS**, **FUNGUS GNATS**, **MUSHROOM FLIES**, **CORN ROOTWORM** and **PEAR THRIPS**.

3 Station Kit (9 No Bait Traps)			
Kit	TR-3506-K	\$ 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 panel sticky 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	1oz
50/cs	IPM-3000-50	\$ 34.25	2#
100/cs	IPM-3000-100	\$ 66.15	4#

BULK AMMONIUM BAIT

1/4#	IPM-2004	\$ 7.15	5 oz.
1/2#	IPM-2005	\$ 11.25	9 oz.

IPM YELLOW CORN ROOTWORM TRAP

This yellow sticky surface trap is used to monitor **whiteflies**, **thrips**, **aphids**, **fungus gnats**, **mushroom flies**, **pear thrips**, and **corn rootworm**. 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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YELLOW STICKY STRIPS

Sticky strips are bright yellow plastic sheets coated on 2 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**, **FUNGUS GNATS**, **CORN ROOTWORM**, **WHITEFLIES**, **THRIPS**, **MUSHROOM FLIES** 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#

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 CARDS (Western Flower Thrips)**

Blue sticky traps coated with special no mess user-friendly "dry touch" UV stable adhesive. Size approximately 4 X 9.5 inches; packed 10 per pack.

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

GREEN BALL TRAPS

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 #

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, 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 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.

**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)

Each	IPM-1040K	\$ 11.95	1#
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Disposable Red Ball Trap

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#



HERCON LURETAPES (Pheromones)

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

Lure field life:

CEW, ECB-IA-NY, FAW, SWCB, TBW - 2 weeks / BAW, CM, EPSM, NPTM, OFM - 4 weeks

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#

BOLL WEEVIL ERADICATION FOUNDATION TRAP AND LURES



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. Replacement top assemblies are available for use with PECAN WEEVIL & CITRUS WEEVIL traps (page 5). Call us for information on PECAN WEEVIL & PLUM CURCULIO traps and pricing.

	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

Hercon Boll Weevil Lure (10 mg, 2 week lure)

10/pk	HC-BW 2 700010	\$ 10.00	2 oz
100/pk	HC-BW 2 700100	\$ 84.25	1#

Hercon Boll Weevil Lure (4-6 week field life)

10/pk	HC-BW 4 500110	\$ 16.00	2 oz
100/pk	HC-BW 4 500100	\$ 131.60	1#

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#



CLEARWING LURES

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 <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

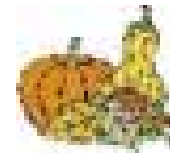
A guide is available that will help identify adult clearwing moths and assess the significance of moth catches by studying life history. This publication is called **A Guide to the Clearwing Borers of the North Central United States** and may be ordered through Michigan State University. The phone number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

GRAPE ROOT BORER TRAP KIT

The **Grape Root Borer** is a problem to many grape growers east of the Mississippi 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. Lure lasts 4 weeks.

Grape Root Borer Kit (1 green universal trap, 1 lure, 1 vaportape)	Each	PB-GRB-K	\$ 13.50	2#
Replacement Lure Only	Each	PB-GRB	\$ 2.25	1 oz
Vaportape Only	Each	HC-8001	\$ 1.60	1 oz

SQUASH VINE BORER KIT

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

UNIVERSAL MOTH TRAP (UNITRAP)

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). 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	



TOMATO PINWORM SPIRALS



Nomate **TPW spiral** is 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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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#
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Puffer (200 day)	ST-PUFFCM-2	\$ 135.00	1#
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Cabinet	ST-PUFFCAB	\$ 80.00	1#
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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 11). 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.

					ACRES TREATED
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)	(100-120 days)	ISM-CMLR	400/pk	\$ 150.00	1
CM/LR (OBLR) Twin Tube	(180 days)	ISM-CMLRTT	300/pk	\$ 130.00	1
*NEW-CM/OFM Twin Tube	(180 days)	ISM-CM/OFMTT	400/pk	\$ 240.00	2
Grape Berry Moth	(150 days)	ISM-GBM+	400/pk	\$ 90.00	1-2
Greater Peachtree	(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
*NEW-Peachtree Borer Dual	(180 days)	ISM-PTBD	500/pk	\$ 165.00	2

***NEW-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 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^{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.

Each

BT-VIRO

CALL FOR PRICING

3#

800-235-0285 * FAX: 989-268-5311 * www.greatlakesipm.com

SWEET POTATO WEEVIL TRAP KIT

A complete trap system developed for monitoring the **sweet potato weevil**. Kit comes complete with yellow/white bucket style funnel trap, 6 lures, and instructions. Field life of lure is 8 weeks.

Traps can be used to:

A) determine population levels in field & seed beds which in turn helps 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/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.

Sweet Potato Weevil Kit

Each	AGS-SPW-K01	\$ 19.95	1#
12/cs	AGS-SPW-K12	\$ 233.50	12#

Replacement Lure Only

Each	AGS-SPW	\$ 1.75	1 oz
25/cs	AGS-SPW-25	\$ 41.50	4 oz

MONITORING SCHEDULE**JANUARY**

* Order funnel 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 beginning in April

* 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

* Continue monitoring and insecticide treatments as needed

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

OLIVE FRUIT FLY TRAP

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 four weeks. Kit includes 6 traps with 6 kairomone lures.



Each	TR-4213-06	\$ 34.00	2#
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AGRISENSE 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 **MED. FRUIT FLY**. Kit comes complete with liquid bait for attracting **yellow jackets and also Drosophila fruit fly**. Use the trap at home, in gardens, green-

houses, 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 #

LIQUIBAITOR FRUIT FLY TRAP

This original design plastic McPhail-type trap can be used for a variety of fruit fly species. Use with **CARRIBEAN FRUIT FLY BAIT, MEDFLY LURE, MEXICAN FRUIT FLY** or with the Trappit bait (shown above) for trapping **yellow jackets and Drosophila fruit fly**. Mexican Fruit Fly lure has a 6 week field life.

**Trap Only**

Each	IPS-235	\$ 8.95	1 #
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Lures**CARRIBEAN FRUIT FLY BAIT (6 week field life)**

Each	IPM-CFF	\$ 4.50	3 oz
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MEDFLY LURE

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

OLIVE FRUIT FLY

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	3 oz
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TORULA YEAST PELLETS (1 week field life)

Each	SC-TYP	\$.25	.2 oz
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TANGLETRAP INSECT TRAP COATING

Ready to use insect trapping adhesive 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 lb. (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 GM tree wrap around the tree first and then apply the tangle to it. Great for preventing movement of **Gypsy Moth** larvae up trees. All Tanglefoot products are non-toxic 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 NETTING

Internet netting is a non-toxic, noiseless, nearly invisible, and very durable means of ending your bird problems. The net is UV stabilized, strong, lightweight, and flexible. 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

TANGLEFOOT 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 #

TANGLEFOOT 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 #

TANGLEFOOT 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'.



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

*NEW - Day Glo Pink	1 3/16" x 150'		
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 1/2" x 6 3/4".

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

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#

800-235-0285 * FAX: 989-268-5311 * www.greatlakesipm.com

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#

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

FLY TRAP



Traps and kills thousands of flies using a non-poisonous bait which is included with each trap. 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

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#

DETECTOR COCKROACH TRAPS



Trappit Detector is the new 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.

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#

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, galvanized for maximum resistance of rust and corrosion. Professional series feature 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 \$ 40.00 4 oz

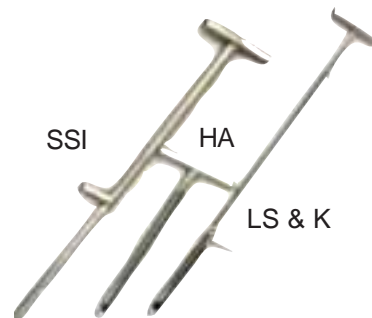
Degree Days are accumulative throughout the year adding one day total to the next, etc.

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#

OAKFIELD APPARATUS INC.



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

DOUBLET LENS MAGNIFIERS

53901



53902

<u>Catalog #</u>	<u>Diameter</u>	<u>Power</u>	<u>Each</u>	<u>Wt.</u>
53901	8-12mm	20X-30X	\$ 21.00	2 oz.
53902	12mm	10X	\$ 6.25	2 oz.
53903	23mm	10X	\$ 11.95	2 oz.
53904	20mm	16X	\$ 14.75	2 oz.
53907	16 mm	20X	\$ 19.00	2 oz.

TRIPLET LENS MAGNIFIERS

53906



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.

<u>Order #</u>	<u>Diameter</u>	<u>Power</u>	<u>Each</u>	<u>Wt.</u>
53906	15.8mm	10X	\$ 35.00	2 oz
53908	20.3mm	5X-20X	\$ 21.00	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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60-100X PORTABLE FIELD MICROSCOPE

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

Each	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. Opti-Loop attachment doubles magnification.



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

**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



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 COUNTER



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	
Electronic Hand Tally (Add/Subtract)				
Each	ETM-1805	\$ 13.00	6 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.

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^o-95^oF.

Each	BTX-1	\$ 102.75	2#
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*****TO PLACE YOUR ORDER, PRINT THIS FORM, FILL IT OUT, AND FAX TO US AT 989-268-5311
-OR- MAIL YOUR ORDER TO US AT THE ADDRESS LISTED BELOW**

CUSTOMER ORDER FORM

GREAT LAKES



INC.

10220 E CHURCH RD
VESTABURG MI 48891
989-268-5311
800-235-0285
FAX: 989-268-5311

Customer Name _____
 Company Name _____
 Mailing Address _____
 Shipping Address _____
 City _____ State _____ Zip _____ Zip Ext _____

****UPS NEEDS CORRECT SHIPPING ADDRESS. UNDELIVERABLE ADDRESSES MAY RESULT IN A CORRECTION FEE OF \$ 8.00.**

<p><u>Payment Method</u></p> <p>_____ Payment Enclosed _____ Purchase Order # _____ _____ Visa _____ MasterCard _____ American Express _____ Discover</p>	<p>Card Number _____ - _____ - _____ - _____ Exp. Date (month/year) _____ Last 3 Digits on Back of Card _____ - _____ - _____ Customer Signature _____</p>
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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

Certificate under agricultural producing tax exemption
 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.
 SIGNED _____

Step 1 Subtotal	
Step 2 MI Residents Add 6% Sales Tax	
Step 3 Insurance Add \$. 40 per \$100 Value	
Step 4 **UPS Zone ____ LBS. ____ Rate	
Step 5 Handling Charge	\$ 2.00
Step 6 Grand 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

Wholesale discounts are available for certain business affiliations (consultants, PCO, Chem. 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 using 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 if 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 F.O.B. Vestaburg, MI. Shipments made UPS or parcel post, whichever is appropriate.

Destination Zip Codes

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

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

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 total shipment weight below and this total will be your shipping costs. Enter this total on the customer order form (step 4).

Weight in Pounds

ZONES	2	3	4	5	6	7	8
1	\$ 6.67	\$ 6.86	\$ 7.03	\$ 7.31	\$ 7.69	\$ 7.82	\$ 7.99
2	6.78	7.21	7.85	8.01	8.57	8.78	9.20
3	6.85	7.55	8.25	8.52	9.14	9.44	10.20
4	7.04	7.82	8.66	9.08	9.65	9.98	10.86
5	7.38	7.94	9.07	9.49	10.10	10.50	11.51
6	7.60	8.18	9.22	9.72	10.29	10.80	11.84
7	7.99	8.44	9.41	10.01	10.60	11.11	12.25
8	8.31	8.71	9.66	10.20	10.94	11.62	13.02
9	8.55	8.97	9.84	10.46	11.20	12.25	13.87
10	8.84	9.03	10.02	10.75	11.68	13.13	14.81
11	9.14	9.45	10.21	10.99	12.15	14.05	15.85
12	9.41	9.76	10.44	11.24	12.71	14.99	17.00
13	9.73	10.08	10.62	11.50	13.32	15.94	18.15
14	9.93	10.40	10.83	11.76	14.06	16.87	19.31
15	10.14	10.73	11.02	12.04	14.80	17.80	20.46
16	10.29	10.89	11.19	12.27	15.37	18.57	21.43
17	10.41	11.25	11.53	12.78	16.14	19.48	22.49
18	10.55	11.62	11.91	13.43	16.93	20.36	23.63
19	10.73	11.99	12.36	14.05	17.69	21.25	24.77
20	10.96	12.39	12.79	14.70	18.46	22.16	25.92
21	11.21	12.78	13.20	15.32	19.32	23.04	27.02
22	11.46	13.16	13.67	15.89	20.00	23.95	28.19
23	11.74	13.55	14.12	16.47	20.75	24.83	29.34
24	12.01	13.90	14.58	17.02	21.54	25.71	30.48
25	12.29	14.28	14.99	17.53	22.31	26.58	31.61
26	12.62	14.62	15.44	18.10	23.13	27.46	32.75
27	12.92	14.95	15.82	18.65	23.92	28.34	33.89
28	13.19	15.32	16.31	19.23	24.69	29.22	35.07
29	13.49	15.61	16.79	19.78	25.49	30.10	36.25
30	13.82	16.00	17.30	20.37	26.31	30.97	37.42
31	14.09	16.33	17.75	20.93	27.06	31.85	38.54
32	14.21	16.67	18.23	21.51	27.83	32.73	39.71
33	14.50	17.05	18.69	22.10	28.56	33.61	40.83
34	14.71	17.43	19.14	22.67	29.34	34.49	41.97
35	14.96	17.83	19.62	23.24	30.10	35.36	43.06

*Any fraction of a pound over the weight shown takes the next higher rate.
 RATES MAY CHANGE DUE TO INCREASE OR DECREASE IN FUEL SURCHARGE.