

NEW GREEN  
TECHNOLOGY

# CIDETRAK<sup>®</sup> IMM

MATING DISRUPTANT FOR INDIAN MEAL MOTH

*Less Mating - Fewer Larvae - Less Insecticide - Reduced Infestation*



Food Processing



Distribution Center



Grocery and Pet Supply Stores



Raw Materials Storage



The **Best** Product.  
The **Best** Protection  
... on the market today.

**TRÉCÉ**  
INCORPORATED

INSECT PHEROMONE & KAIROMONE SYSTEMS

Your Edge - And Ours - Is Knowledge.

**CIDETRAK® IMM**

MATING DISRUPTANT FOR INDIANMEAL MOTH

# The **Best** Solution



**BEST** Product.

**CIDETRAK® IMM** is the **BEST Product, BEST Solution,** and the absolute **BEST Protection** for Indianmeal Moth management on the market today.

**CIDETRAK® IMM** is simply the most cost effective tool you can use for prevention and control of IMM and related moths. **CIDETRAK® IMM** has consistently reduced or eliminated IMM, and related insecticide applications, on the first application in very large scale trials. Extended control was achieved with continued monitoring and reapplication (when required). User reports confirmed trial results in extensive commercial use, food processing commodities and retail during 2008 and 2009.



# for IMM Control.

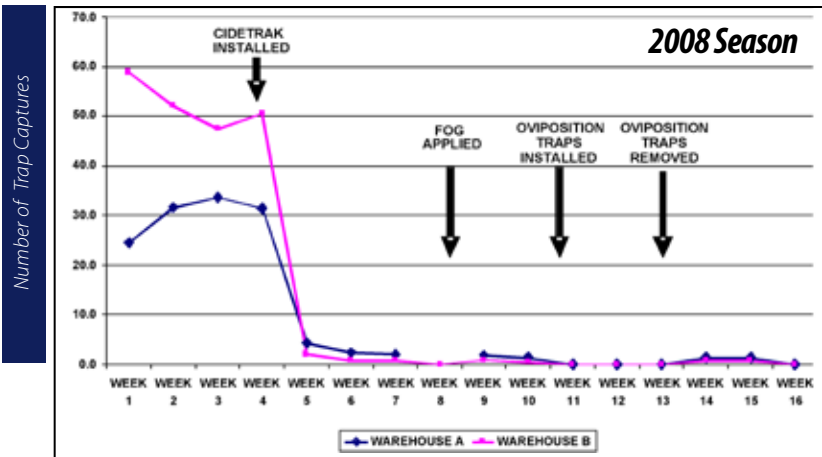
**Less Mating**  
**Fewer Larvae**  
**Less Insecticide** =  
**Reduced Infestation**



**BEST** Protection.

**BEST** Quality.

## CIDETRAK<sup>®</sup> IMM effect on reproduction in coffee warehouses.



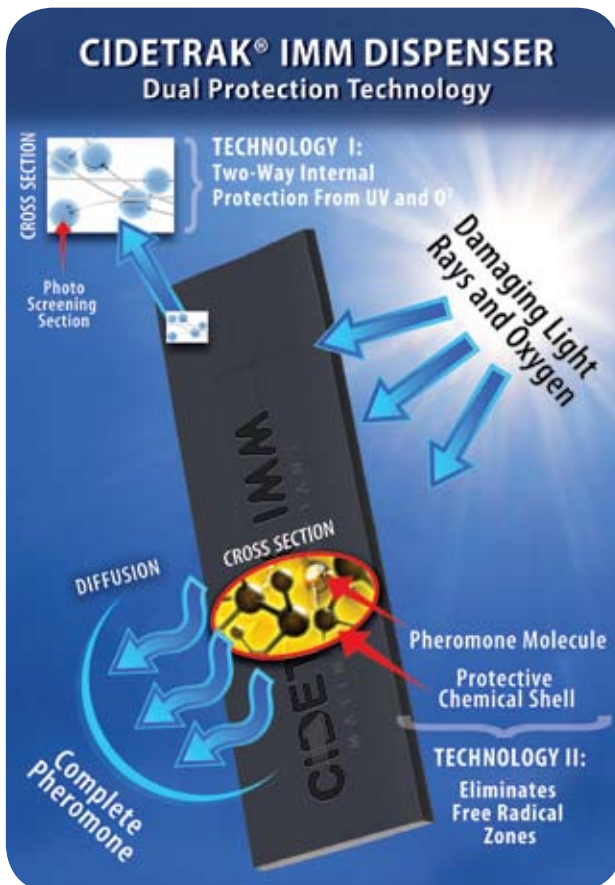
Source: Mike Pierce, Consultant

Adult Indianmeal Moth capture was reduced to less than 2 traps per week within 2 weeks after the initiation of mating disruption. Result was no oviposition.

# The **Best** Protection.

## **The Science Behind the Success.**

The result of 20 years of intensive research, **CIDETRAK® IMM** High Performance Dispensers place powerful Indianmeal Moth mating disruptant protection in the palm of your hand. Its small, simple design is easy to apply, non-toxic, and reduces or eliminates IMM infestation. **CIDETRAK® IMM** is the only pheromone-based mating disruption formulation designed from the molecular level up for food environment applications.



## **Most Effective** *Product You Can Buy for IMM Prevention and Control.*

### **Features:**

- Prevents mating
- 3-way effect on mating
- More effective than insecticides over time
- Broad spectrum for many moths
- Continuous preventative strategy
- Works in multiple environments
- Non-toxic
- Reduces insecticide use
- EPA registered in all states

### **Benefits:**

- Reduces or eliminates reproduction
- False trail following, trail masking and antennal overload
- Cost effective insect management
- One easy application, economical
- 24-7 results
- Flexible and effective for sensitive users
- Less interruption from plant shutdowns for insect control
- Reduced worker and consumer concerns
- Less interruption, labor cost savings, less residue



# Insect Mating Disruption

*already extensively used in global agriculture.*

**Less Mating**



**Fewer Larvae  
with each cycle**



## Reduced Infestation

At Trece, we are proud to bring this proven technology and our latest technological concept in integrated pest management, **CIDETRAK® IMM**, an intelligently simple, high performance dispenser for Indianmeal Moth mating disruption. Designed to prevent mating, by sending Indianmeal Moths into a state of confusion - the male cannot find the female.

### **Commodities/Facilities:**

- Distribution centers
- Birdseed manufacturers
- Cocoa bean storage
- Chocolate/confectionery manufacturers
- Coffee bean storage
- Edible bean storage
- Feed mills
- Flour mills
- Grain elevators and bins
- Pasta manufacturing
- Peanut processing and storage
- Pet food plants
- Popcorn processing and storage
- Anywhere IMM is a problem

### **Insects:**

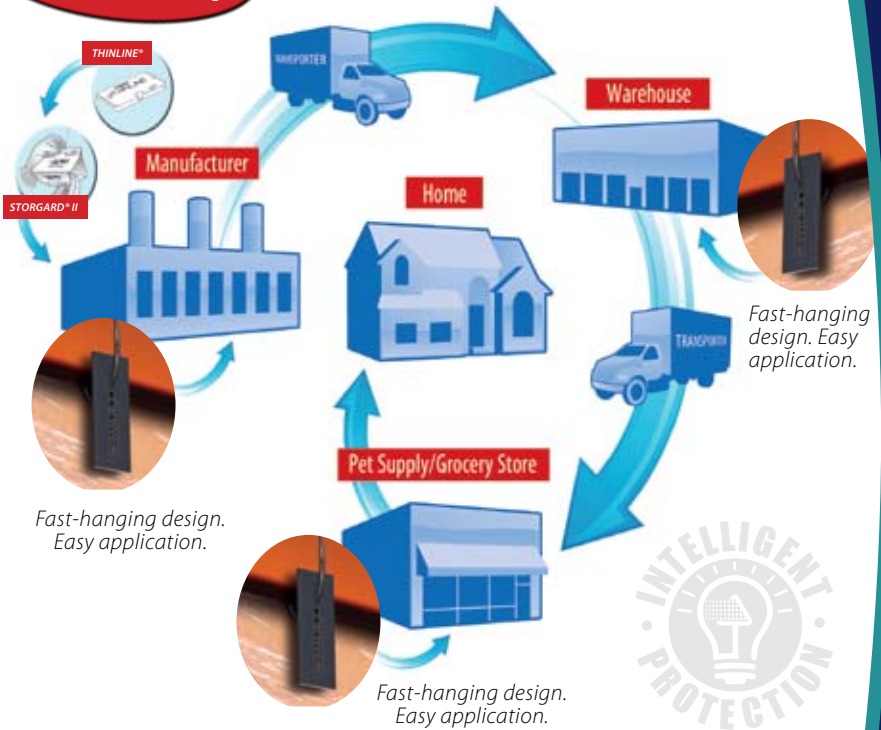
- **Indianmeal Moth,**  
*Plodia interpunctella*
- **Tobacco Moth or  
Cocoa Moth,**  
*Epehestia elutella*
- **Almond Moth,**  
*Cadra cautella*
- **Raisin Moth,**  
*Cadra figulilella*
- **Mediterranean  
Flour Moth,**  
*Epehestia kuehniella*



Made in the USA

# 24/7 Fully Integrated IMM Management with **CIDETRAK® IMM**

**MONITORING** is the  
First Line of Defense



CIDETRAK® IMM

*Indianmeal Moth management is a challenge that begins with the storage of new commodities and follows through processing, packaging, distribution and ultimately to the consumer. Sanitation, exclusion and monitoring for early detection throughout the entire supply chain is the gold standard IPM approach. CIDETRAK IMM is absolutely the best tool on the market to aid in prevention and control of Indianmeal Moth.*



# CIDETRAK<sup>®</sup> IMM IPM PARTNER<sup>®</sup>

## *Guidelines for Use.*

A proper pest management program begins with an assessment of the insect pest including species identification, levels and sources of infestation and potential for use of sanitation and exclusion measures as leading tactics. This should be followed by a continuous intensive monitoring program using STORGARD Insect Monitoring Systems and visual observation. CIDETRAK IMM immediately prevents or delays mating when applied and is a highly effective preventative and maintenance program for IMM infestations when supplemented occasionally with insecticide use.

### **IMM Identification, Biology and Phenology**

#### **Insect Description:**

**Adults:** Wingspan: 19mm. Forewings: silver-gray. Distal two-thirds of the forewings, red to copper-brown. Hindwings: dull white. Short-lived. Adults do not feed.

**Eggs:** 300-400. Laid on or near stored cereal, flours, or other larval food sources. 0.3-0.5mm Long. Oval. Reticulated chorion. White to yellow-white.

**Larvae:** Growth to 12.5mm. White when eggs hatch. During development, hues of yellow, green, tan, and pink. Mature larvae, dull white. Mature larvae live and feed in spun-silk cocoons.

**Pupae:** Slightly larger in size than larvae. Light brown.

**Host:** All types of stored grains, especially food products high in carbohydrates and proteins: corn meal (Indianmeal), cereals, packaged cereals, flours, beans, candies, chocolate, nuts, and dried fruits and meats.

#### **Cause of Damage:**

Consumption of stored grain by larvae; infests field crops such as drying and dried raisins, cherries, apricot and peach pits. Contaminates stored products with silken web and frass.

#### **Phenology<sup>1</sup>:**

<b>Life cycle</b>	28-35 days <sup>2</sup>
<b>Eggs hatch</b>	2-22 days
<b>Larvae (while feeding)</b>	21-240 days
<b>Pupae</b>	4-9 days
<b>Mating/oviposition</b>	1-2 days after eclosion
<b>Adult life-span</b>	2-30 days
<b>Threshold temperature</b>	15°-32°C (59°-90°F)

#### **Notes concerning phenology:**

<sup>1</sup>In the absence of a definitive date, Trece, Incorporated, offers this concept of phenology from available sources and field experience.

<sup>2</sup>As many as 8 overlapping generations per year.



The following IPM PARTNER Guidelines provide a base approach to monitoring for IMM and following with application of CIDETRAK IMM to food plants, warehouses and retail facilities.

## Monitoring with: STORGARD II, IIB and THINLINE

- Initiate monitoring program with a full-area survey for at least one month while there is insect activity.
- Monitor incoming commodities and off-loading areas aggressively.
- Position traps in grid pattern.
- Space traps 16-20m apart.
- Mark traps and map location of traps. Use the map to pinpoint areas of infestation for future reference.
- Decrease space between traps with high capture rates as insects are first captured in order to pinpoint contaminated areas.
- Reduce the number of traps after the initial survey. Concentrate traps in high risk areas.
- Monitor on continuing basis.

**STORGARD MONITORING**  
The First Step!



STORGARD® II



STORGARD® PHEROCON® IIB



STORGARD® THINLINE

# CIDETRAK<sup>®</sup> IMM IPM PARTNER<sup>®</sup>

## General Guidelines for Use.

### CIDETRAK IMM MD Application and Use

#### Dispenser Application

- Place dispensers at a height of 5 to 16 feet (1.5 to 4.8 meters) in a grid pattern over each floor of treated buildings.
- Attach dispensers securely to walls, pallets, columns, or ceiling hangers.

#### Dispenser Rate

- Apply 1 dispenser per 3,531 to 10,594 ft<sup>3</sup> (100-300 m<sup>3</sup>) or 160 to 480 mg active ingredient respectively depending on the infestation level.
- We suggest that you **initiate** your program with 1 dispenser per 3,531 ft<sup>3</sup> (100 m<sup>3</sup>).
- Apply the maximum dispenser rate to all buildings that are heavily infested with one or more target species, or adjacent to an untreated building, where access is evident.

#### Dispenser Maintenance

- Replace dispensers every 130 – 150 days.
- In areas with long field season (i.e. more than 120 days), a second application may be necessary, based on monitoring results, prior to subsequent IMM flights.

#### Timing

- Apply prior to moth emergence in early spring or between any generation in year round programs following seasonal fumigation of all insects.
- To assess the need for treatment, begin monitoring in early spring and continue throughout the season.
- Monitor moth activity using Trece's STORGARD II, IIB or THINLINE traps and IMM lures.
- One may also supplement monitoring with STORGARD IMM oviposition traps.

#### Treatment Tips

- CIDETRAK IMM suppresses mating of target insects. Immigration of mated female moths from adjacent, infested buildings can reduce the level of control.
- Area-wide treatment of entire sets of related buildings is the most effective strategy.
- Supplement CIDETRAK IMM with selected insecticide applications to control high populations. Monitor all pest populations to determine timely use of insecticides.
- Increase dispenser rate on borders in facilities threatened by adjacent populations.
- Consider management of high population pressures in adjacent areas by:
  1. Treatment of external sources of infestation with CIDETRAK IMM
  2. Treatment of external sources of infestation with an insecticide
  3. Treatment of pheromone treated buildings with insecticide
- Consult your local extension specialist, certified consultant, or Trece representative for local management strategies.



# CIDETRAK® IMM IPM PARTNER®

## Application Scenarios.

Dispenser application patterns may vary almost to the facility. Each facility's design and use relative to commodities, storage area, and equipment function such as food plants, bakers storage warehouse or retail unit (or a combined use) will dictate the pattern for CIDETRAK dispensers. However, many approaches have been tested or confirmed during testing and commercial use. The following schematics cover some general application approaches which have been proven successful in commercial use.

### **Food Plant:**

It is critical to treat the general area and to concentrate some dispensers around susceptible equipment, packages or manufacturing sites. (See schematic on next page)

### **Commodity Warehouse:**

It is critical to treat the general area and to concentrate some dispensers around susceptible equipment, packages or manufacturing sites. (See schematic on next page)

### **Retail:**

**It is critical to treat both feeder warehouses and susceptible retail areas.**

- Identify commodities/shelves most susceptible to Indianmeal Moth (IMM) in retail areas.
- Identify commodities/shelves most susceptible to Indianmeal Moth (IMM) in warehouse/storage area.

### **STORGARD Trap Installation:**

- Install 4 STORGARD®/PHEROCON® IIB traps at equal distance in the warehouse, or for best effect place traps closer to susceptible commodities (Fig. 1).
- Install 4 STORGARD® THINLINE™ under-shelf traps in the retail area (Fig. 2).
- Count and record insects in trap each week.
- Replace traps and lures at 2 month intervals, or when contaminated with dust.

### **CIDETRAK Installation**

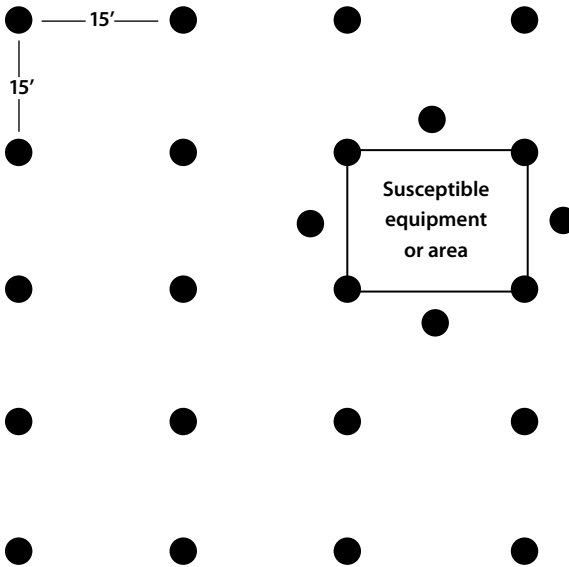
- Install CIDETRAK® IMM in retail area between shelves at apex, or top, of shelves out of the way of equipment and personnel at a rate not to exceed 1 dispenser per 3531 ft<sup>3</sup> (Fig. 3).
- Install CIDETRAK® IMM in warehouse/storage area at a rate of 1 dispenser per 3531 ft<sup>3</sup> (l x w x h). It is best to divide the total area by the number of total dispensers and install at equal distances (Fig 1).
- For best effect place 2-4 dispensers around the most susceptible commodities, open packages and door ways and use fewer dispensers in less susceptible areas such as hardware and non-food items (Fig. 1).
- Continue to monitor traps in summer and winter.
- Reduced or no trap captures indicates effective control of IMM.
- In height of summer trap capture may increase slightly. Always read and follow the label.

# CIDETRAK® IMM IPM PARTNER®

*General Guidelines for Use and Treatment Schematics.*

## Food Plant Scenario

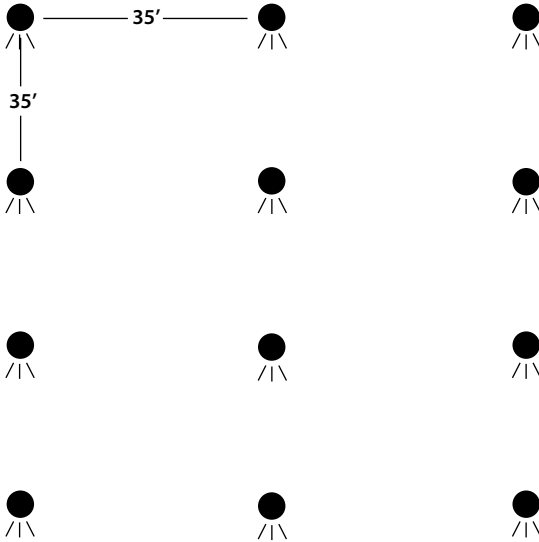
*Grid pattern distribution with concentration in high risk areas*





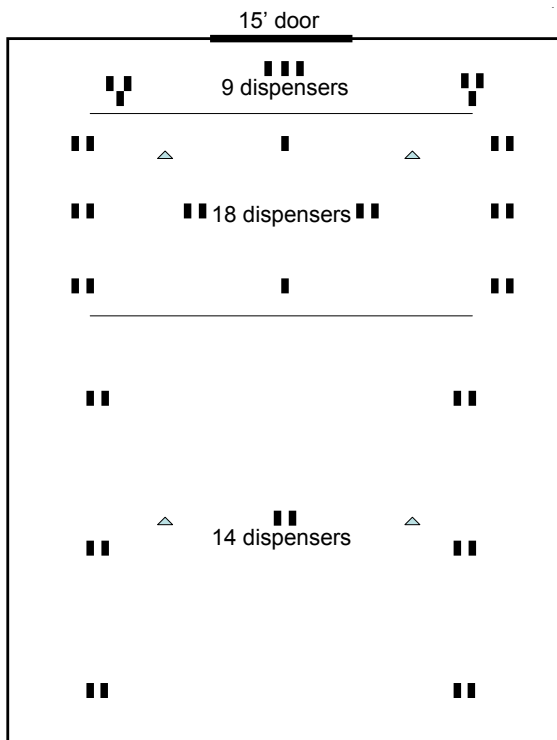
## Commodity Scenario

*Combined dispenser placement on support columns*



**CIDETRAK® IMM IPM PARTNER®** *Guidelines for Use.*  
**Treatment Schematics:** *Grocery/Pet Supply, Warehouse and Retail.*

## Feeder Warehouse

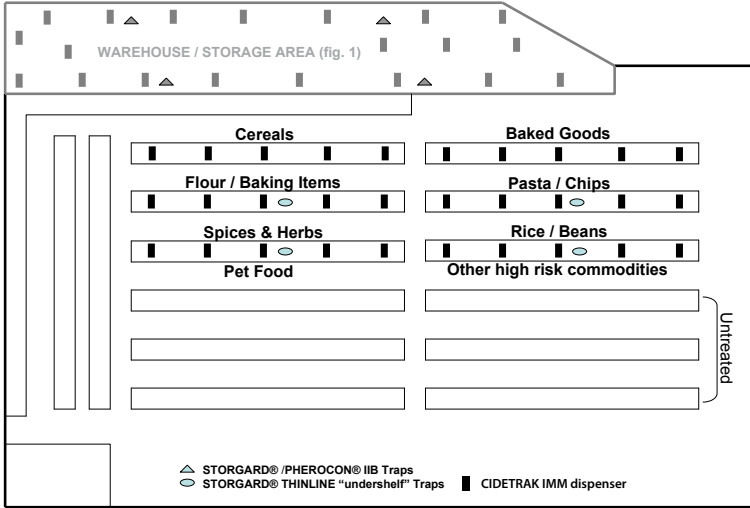


**Fig. 1**  
 Warehouse 80' x 120' x 15'  
 144,000 ft<sup>3</sup>  
 1 CT IMM / 3531 ft<sup>3</sup>  
 41 dispensers

△ STORGARD®/PHEROCON® IIB Traps  
 █ CIDETRAK IMM dispenser

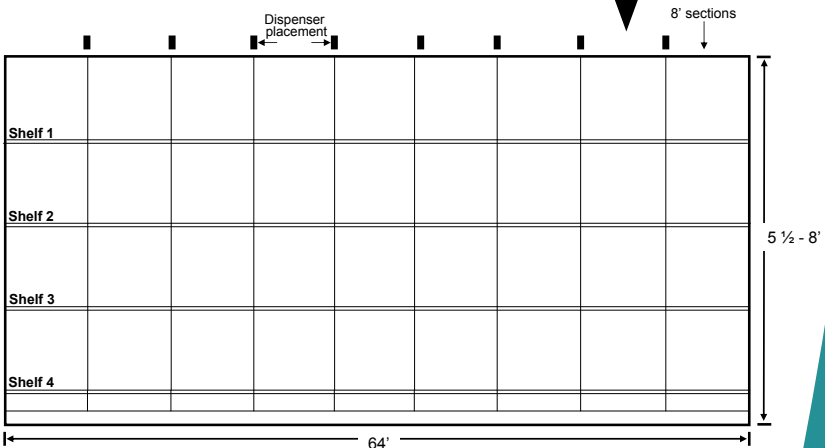


# Susceptible Shelf Areas



**Fig. 2**

**CIDETRAK IMM:** Treat susceptible retail shelf areas at 8 foot intervals. Example retail store - 6 rows of shelves with susceptible commodities, each 64 feet long, plus warehouse/storage area.



**Fig. 3**

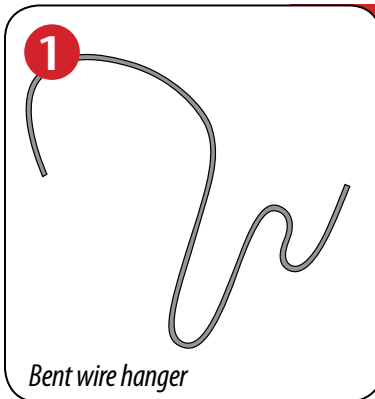
**Shelving System of Grocery Store**



# Convenient and *Fast Application!*

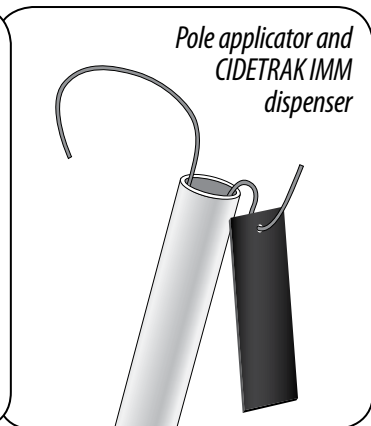
## Dispenser Application Instructions

Dispensers can be discreetly hung from shelving in store setting and from pallet racks in storage/warehouse situations. A wide variety of hanging options are available for applying the product. Below is an example of just one.



### OPTIONS FOR INSTALLING DISPENSERS

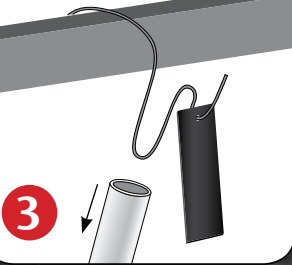
1. Thin gauge wire is recommended for hangers as they are easily bent into any shape needed.



2. The example above allows for the use of a PVC-like pole that would aid in the application of the dispensers in higher locations. (Also see photo to the right.)



*CIDETRAK IMM dispenser  
and pole applicator*



**Pole mount.**



**Girder mount.**



**Conduit mount.**



**Wire warehouse  
mount.**

**3.** Once the dispenser is secured, simply pull the PVC pole applicator down and go to the next location.

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MATING DISRUPTANT FOR INDIAN MEAL MOTH



Made in the USA

***Protected Stored Products Start with***

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Visit our website at **[www.trece.com](http://www.trece.com)** or call **1-866-785-1313**.



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