

**Pathway Survey – Early Detection of Exotic Plant Pests Work Plan  
January 1, 2016 – December 31, 2016**

<b>Cooperator:</b>	Kansas Department of Agriculture		
<b>State:</b>	Kansas		
<b>Project:</b>	Pathway Survey: Early Detection of Exotic Plant Pests		
<b>Project funding source:</b>	CAPS- Pest Detection Survey		
<b>Project Coordinator:</b>	Laurinda Ramonda		
<b>Agreement Number</b>	16-8420-1788-CA		
<b>Contact Information:</b>	<b>Address:</b>	Plant Protection and Weed Control 6531 SE Forbes Avenue, Suite B, Topeka, Kansas 66619	
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This Work Plan reflects a cooperative relationship between the Kansas Department of Agriculture (the Cooperator) and the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ). It outlines the mission-related goals, objectives, and anticipated accomplishments as well as the approach for conducting an early detection for exotic plant pests at shipping hubs and the related roles and responsibilities of the Kansas Department of Agriculture and USDA-APHIS-PPQ as negotiated.

**I) OBJECTIVES AND NEED FOR ASSISTANCE**

Shipping hubs, such as container storage and transfer yards, inland ports, rail depots and rail yards, are pathways through which Exotic Plant Pests (EPP's) could be introduced and could also act as places at which EPP's could become established. The exteriors and interiors of shipping containers, as well as the cargo within, can be a pathway for introduction of EPP's. Areas where shipping containers are stored are often sites where solid-wood packing materials (SWPM) (including dunnage) are retained. Infested SWPM retained on site could be a source of EPPs. When containers, rail cars or trucks are unloaded, EPP's present in or on SWPM or cargo may escape into the surrounding environment. Shipping vehicles, such as containers and trucks, have also been shown to harbor EPP's. Shipping hubs are a logical pathway for potential introductions of EPP's and the focus of this survey.

- EPP's are major pests in many parts of the world, causing direct damage to a wide array of agricultural plants, including field crops, seed crops, vegetable crops, fruit and greenhouse/nursery plants.
- Wood boring EPP's can threaten ornamental and urban trees, Kansas' logging and wood products, nursery, orchard, and tourism industries.

- Establishment and spread of EPP's can require increased use of pesticides to protect the above commodities, which could threaten Kansas' water quality.
- Some EPP's, such as mollusks and lygaeoid or pentatomid bugs, engage in "massing behavior". Such behavior can contaminate food crops and, in the case of mollusks, may damage harvesting machinery.
- Establishment and spread of EPP's can result in restrictive quarantines on affected export commodities. Prophylactic pesticide applications would be required, as would additional inspections and subsequent paperwork.
- Introduction, establishment and spread of EPP's in Kansas would provide a "bridge" whereby these pests could spread to and infest the rest of the United States, threatening agricultural commodities throughout the nation.

Early detection of EPP's will facilitate possible eradication of these and any other major agricultural pests found during this survey, helping to prevent permanent establishment and subsequent spread of EPP's in the United States. A similar survey has been conducted in Oregon by the Oregon Department of Agriculture since 2008 and has resulted in the identification of many exotic species new to the U.S. including: *Aegopinella nitidula* (a snail), *Nebria brevicollis* (a ground beetle), and *Philopodon plagiatus* (a weevil). While only *P. plagiatus* is thought to be a potential agricultural pest, such results indicate the efficacy and value of this survey approach. This approach looks at the pathways by which potential pests can enter our state and country. This will be the second year for this survey.

A central mission of APHIS and of the Cooperator is to prevent the introduction, establishment, and spread of exotic agricultural pests. This project will provide the Kansas Department of Agriculture and USDA-APHIS-PPQ, with information regarding the status of exotic plant pests. This information can be used to determine appropriate response actions if positive finds are confirmed.

This survey cannot be implemented without the funds provided by USDA-APHIS-PPQ.

## II) RESULTS OR BENEFITS EXPECTED

**The Cooperator seeks to conduct a program which is expected to result in:**

- Identification of pathways of introduction to limit future infestations.
- Early detection of EPP's, facilitating eradication or control of these pests.
- Evidence of absence of EPP's in surveyed areas of Kansas would facilitate trade with domestic and foreign trade partners.
- Information on EPP's (and other undocumented exotic invertebrates) introduced via port, rail, and container yards and other shipping hubs in Kansas will be acquired. This information will also be useful for other exotic pest surveys and risk assessments.
- Knowledge of areas and commodities at high risk for the introduction and establishment of EPP's and the pathways through which high-risk commodities enter Kansas will be acquired. This information will be useful for other exotic pest surveys and risk assessments.
- Early prevention of plant health restrictions.
- Reduce the risk of economic hardship to the agriculture, wood and nursery industry and ecological diversity.

### III) APPROACH

**What is the plan of action or approach to the work (for bundled survey work plans please include a separate paragraph for each survey detailing survey type, targets, and number of locations)?**

This is the second year for this survey. Thirty-five sites will be surveyed at high-risk container yards for new exotic plant pest species that are potentially harmful to agriculture/horticulture. Survey sites will mainly be in the Kansas City area because this is Kansas' main shipping hub. The counties that are planning to be surveyed are Douglas, Franklin, Johnson, Shawnee and Wyandotte. The survey will be conducted with one temporary/seasonal staff that will be trained and monitored by the State Entomologist and State Survey Coordinator and a KDA full time employee when needed. Survey activities will occur twice a month at each site during April – September. Traps to be utilized are the pitfall, delta, protein bait and visual.

- There are no species-specific lures, baits, or traps for most of the EPP target species. Consequently, a variety of general insect and invertebrate collection methods will be utilized at each surveyed hub. Survey methods may vary somewhat depending on the characteristics of a given hub. However, basic survey components will include:
  - Safety, access, and presence of suitable habitat permitting, the entire grounds of a given hub will be surveyed.
  - Permission, safety, and access permitting, suitable habitat and properties adjacent to a given hub will be surveyed, particularly if those areas appear more suitable for EPP establishment than the hub premises.
  - Three pitfall traps (particularly effective for crepuscular or nocturnal ground active targets) will be placed in or near likely habitat for EPP's. The pitfalls will be partially filled with propylene glycol. The pitfalls will be checked at least every two weeks. Traps will remain at the hubs throughout the survey. These sites will be marked with a marking flags.
  - Up to five transects of baits (particularly effective for small, diurnally foraging targets, e.g., red imported fire ants (RIFA) will be placed at each hub or in its vicinity. The baits will consist of cut protein bait such as Spam<sup>®</sup>. This is intended to attract a great variety of ants, as well as RIFA at different stages of colony development. Surveys should be conducted prior to temperatures reaching 100° F. Searching should occur between 30 minutes to 1 hour. These sites will be marked with a marking flag or flagging tape.
  - A very effective method for detecting cryptic invertebrates is by searching of various types of habitats, e.g., prying up loose bark on dead trees, turning over cover on the ground such as rocks and trash, examining walls of buildings, et cetera. Searching will be performed for a minimum of 1 hour. Larger or more complex sites may require longer search periods.
  - Asian defoliator moths (Lymantria) will be surveyed by using 2 delta traps with gypsy moth string lure per location. These sites will be marked with flagging tape.

- Active sampling, i.e., baiting and searching, will be conducted at least twice during the season: If feasible, baiting and searching will be conducted along the same transects.
- Depending upon site characteristics and activity, all surveyed sites will receive at least some mollusk survey. Mollusk surveys will be conducted in the following manner:
  - Visual Encounter Surveys (VES), a method long used to survey for amphibians, which are similar to mollusks in preferring moist microhabitats, having clumped distributions, and with individuals dispersing over limited distances. VES's will focus on preferred habitats.
  - Conducted during the periods while soil is moist and temperatures are above about 50<sup>0</sup> F, after spring or summer rains. Mollusks are much less active when soil is dry and when conditions are very cool or very hot. Moist microhabitats favored by mollusks:
    - Near heavily vegetated areas
    - Under or near cover, such as rocks, boulders, boards, fallen logs and branches, broken concrete, flower pots, planters, etc.
    - Amid leaf litter, compost and rubbish
    - On rock walls, cement pilings, etc.
    - Along stream or seepage margins
    - At the base of plants, under leaves, in the "heart" of compact plants.
  - In areas with signs of mollusk presence:
    - Feeding damage to plants
    - Eggs
    - Mucus and slime trails
    - Feces
- Specimen collection:
  - Specimens will be collected into plastic bags then returned to the lab to be stored in 70% ethanol.
  - All prospective EPP's will be collected.
  - Labels will be placed on the outside of the container (live EPP's could eat labels placed inside).
- Specimens requiring special preparation will be collected alive and appropriately prepared upon arrival at the lab (e.g., larvae and mollusks). For instance, upon arrival at the lab, mollusk specimens will be drowned in water for 24 hours or boiled for 30 seconds so specimens will be at their greatest extension, making key features more visible and rendering dissection easier.
- Specimens (except those best preserved dry) will then be transferred to 75% ethyl alcohol for storage before sending for identification.
- Delta traps with suspect target specimens will be brought back to the state entomologist/lab for screening and identification or sent to for identification.
- Latitudes and longitudes of survey paths/transects and sites will be recorded, as will more resolute GPS readings for any suspected positive samples.
- All samples will be brought back to the Kansas Department of Agriculture (KDA) for processing. Specimens will be sorted and identified, if possible.
- Suspected target specimens will be sent to the appropriate APHIS identifier.

Surveys will be conducted for the following species of EPP's:

## Insects:

### Coleoptera: Chrysomelidae

- *Diabrotica speciosa*, Cucurbit beetle – (CAPS 2016 Commodity Surveys) – Visual survey

### Coleoptera: Curculionidae

- *Naupactus leucoloma*, Whitefringed weevil – in southeastern USA and southern California – Pitfall trap
- *Pseudocneorhinus bifasciatus*, Twobanded Japanese weevil – in Eastern USA – Pitfall trap

### Coleoptera: Elateridae

- *Agriotes sputator*, European wireworm – northeastern North America – Pitfall trap
- *Agriotes ustulatus*, European wireworm – not known to be in North America – Pitfall trap

### Coleoptera: Scarabaeidae

- *Anomala orientalis*, Oriental beetle – Eastern North America – Pitfall trap
- *Rhizotrogus majalis*, European chafer – Eastern North America and southern British Columbia – Pitfall trap

### Hymenoptera: Formicidae

- *Linepithema humile*, Argentine ant – Eastern and Southwestern USA – Protein bait Spam® trap

### *Solenopsis:*

- *Solenopsis invicta*, Imported fire ant – Protein bait Spam® trap

### Lymantria: (2 traps per location with gypsy moth lure)

- *albescens*, Okinawa Gypsy Moth – (CAPS Asian Defoliators) – Delta trap, 2 sticky sides, gypsy moth lure
- *dispar asiatica*, Asian Gypsy Moth – (CAPS Asian Defoliators) – Delta trap, 2 sticky sides, gypsy moth lure
- *dispar japonica*, Japanese Gypsy Moth – (CAPS Asian Defoliators) – Delta trap, 2 sticky sides, gypsy moth lure
- *postalba*, White-winged Gypsy Moth – (CAPS Asian Defoliators) – Delta trap, 2 sticky sides, gypsy moth lure
- *umbrosa*, Hokkaido Gypsy Moth – (CAPS Asian Defoliators) – Delta trap, 2 sticky sides, gypsy moth lure

## Plants:

### Onopordum:

- *Onopordum acaulon*, Horse Thistle – (CAPS AHP 2016) – Visual survey

## Snails:

### Mollusca:

- *Cerņuella cisalpina*, Striped helicella snail – (*Cerņuella* spp.) – (CAPS Mollusk Survey) – Visual survey
- *Cerņuella virgata*, Striped snail – (*Cerņuella* spp.) – (CAPS Mollusk Survey) – Visual survey

- *Cochlicella*, Helicid snail – (*Cochlicella* spp.) – (CAPS Mollusk Survey) – Visual survey
- *Monacha*, Helicid snail – (*Monacha* spp.) (CAPS Mollusk Survey) – Visual survey
- *Veronicella*, Veronicellid Slug – (*Veronicella* spp.) – (CAPS Mollusk Survey) – Visual survey

**A. The Cooperator will:**

- A list of shipping hubs have been identified in the Kansas City and surrounding area. These areas include container freight stations, warehouses, distribution locations and logistics sites.
- Location documented by GPS coordinate.
- Equipment used in this survey will be maintained by cooperator upon completion of project.
- Surveys at high risk areas that are susceptible to the introduction and establishment of EPP's from April 2016 to September 2016 will be conducted.
- One temporary/seasonal staff person will be hired through a hiring agency that has a contract with the state to perform survey.
- GPS equipment will be supplied.
- KDA staff will help train and handle samples taken from field.
- A rental vehicle and fuel for travel for conducting survey and collecting data.

**1. By function, what work is to be accomplished?**

- A list of shipping hubs in the Kansas City and surrounding area is prepared. These areas include container freight stations, warehouses and logistics sites.
- Survey will be performed by one temporary/seasonal person.
- Temp employees will be trained and monitored by the State Survey Entomologist and State Survey Coordinator.
- Data will be entered into the NAPIS database when pest identification is confirmed and/or becomes available.
- GPS coordinates will be included with surveys.
- Screening for target specimens will be performed by KDA.
- Suspect specimens in traps will be sent to a qualified identifier.

**2. What is the quantitative projection of accomplishments to be achieved?**

**a. By activity or function, what are the anticipated accomplishments by month, quarter, or other specified intervals?**

- Trapping will occur from April to September with traps removed in September - trap deployment and visual surveillance months are dependent upon type of pest species and weather conditions.
- Traps checked at least every 2 weeks.
- Fact sheets, webpage, resources, and pest reporting will be continually updated as new information becomes available.

- Data will be entered into the NAPIS database when pest identification is confirmed and/or becomes available.
- GPS coordinates will be included with surveys.
- Survey and identification of any exotic plant pests.
- Suspect specimens will be forwarded to a qualified identifier

**b. What criteria will be used to evaluate the project? What are the anticipated results and successes?**

- Pest detection survey activities completed.
- All data collected from the pest detection survey is entered into the NAPIS database.
- SPHD, SPRO, PSS, SSC meetings to keep updated on issues, if needed.
- Presence or absence of EPP's.
- Better knowledge of the pathways that are at high risk for the introduction and establishment of EPP's.
- Identification of major transportation hubs.

**3. What numbers and types of personnel will be needed and what will they be doing?**

- A temporary/seasonal person to conduct survey.
- KDA permanent staff to help train seasonal employee and screen target specimens.
- Data acquired will be entered into the NAPIS database by the State Survey Coordinator or KDA staff.
- KDA staff will screen target specimens.
- Qualified identifier for specimen identification (APHIS Identifier).

**4. What equipment will be needed to perform the work? Include major items of equipment with a value of \$5,000 or more.**

**a. What equipment will be provided by the cooperator?**

- Computers
- Microscopes and similar lab equipment

**b. What equipment will be requested from APHIS on loan? N/A**

**c. What equipment will be purchased in whole or in part with APHIS funds? N/A**

**d. How will the equipment be used?**

- Data entry, documentation, and analysis
- Screening and identification of pests

e. **What is the proposed method of disposition of the equipment upon termination of the agreement/project?** N/A

**5. Identify information technology equipment, e.g., computers, and their ancillary components.**

Provided by KDA, office space with associated services and utilities, computers and other office equipment for the use of Cooperator personnel. These include GPS unit and computer with internet service.

**6. What supplies will be needed to perform the work?**

- Specimen storage facilities
- Hand lenses
- Protein bait Spam<sup>®</sup>
- Hand tools (pruners)
- Ziploc bags
- Ethyl alcohol
- Alcohol proof pens, pens, tape, etc. (office supplies)
- GPS units
- Foam board or coroplast for pitfall trap covers
- Trowel
- Traps – delta, pitfall
- Lure – gypsy moths
- Insect pins
- Shipping boxes
- Fuel for rental vehicle
- Twine
- Marking flags
- Flagging tape
- Cups (for pitfall traps)
- Propylene glycol for pitfall traps (better than soapy water)
- Insect repellent
- Folding garden kneeling pad (for checking pitfall traps)
- Mesh sieves (filtering insects from pitfall traps)

**a. What supplies will be provided by the Cooperator?**

- Specimen storage facilities
- Hand lenses
- Hand tools (pruners)
- GPS units
- Shovel

**b. What supplies will be requested from APHIS (list supplies)?**

- Delta traps

- Lure

**c. What supplies will be purchased in whole or in part with APHIS funds?**

- Protein bait Spam<sup>®</sup>
- Ziploc bags
- Ethyl alcohol
- Alcohol proof pens
- Foam board or coroplast for pitfall trap covers
- Insect pins
- Twine
- Shipping boxes
- Trowel
- Flagging tape
- Marking flags
- Cups (for pitfall traps)
- Propylene glycol for pitfall traps (better than soapy water)
- Folding garden kneeling pad (for checking pitfall traps)
- Mesh sieves (filtering insects from pitfall traps)
- Insect repellent
- Fuel for rental vehicle

**d. How will the supplies be used?**

- Planning, implementation, data collection and data submission of survey.
- Pest detection survey work.
- Shipping of specimens to identifiers or labs.

**e. What is the proposed method of disposition of the supplies with a cumulative value over \$5,000 upon termination of the agreement/project?**

- None planned.

**7. What procurements will be made in support of the funded project and what is the method of procurement (e.g., lease, purchase)?**

- Supplies used for survey work.
- The Fiscal Department at the Kansas Department of Agriculture will provide most contracts.
- Seasonal employee will be employed by a temporary employment service that has a contract with the state.
- Most procurements will be made by purchase order.
- Some procurements will be made reimbursable personal expense.

**8. What are the travel needs for the project?**

**a. Is there any local travel to daily work sites? Indicate rates and total costs in the Financial Plan.**

- Travel will be required to survey sites by use of a rental vehicle (shortage of state vehicles).
- Most procurements will be made by purchase order.
- Some procurements will be made reimbursable personal expense.
- The KDA Plant Protection and Weed Control Plant Program Manager is the approving official.
- Costs are included in the financial plan.

**b. What extended or overnight travel will be performed (number of trips, their purpose, and approximate dates)? Indicate rates and total cost in the Financial Plan.**

- None planned.

**9. Reports:**

Submit all reports to the APHIS Authorized Department Officer's Designated Representative (ADODR). Reports include:

- a. Narrative accomplishment reports in the frequency and time frame specified in the Notice of Award, Article 4.
- b. Federal Financial Reports, SF-425 in the frequency and time frame specified in the Notice of Award, Article 4.

**10. Are there any other contributing parties who will be working on the project?**

**a. If so, list other participating institutions/agencies who will work on the project:**

- KDA
- USDA-APHIS-PPQ

**b. Describe the nature of their effort:**

- KDA – trapping, training, screening, specimen collection, lure and trap maintenance (state entomologist, CAPS coordinator and temporary/seasonal employees)
- USDA-APHIS- PPQ – funding, support and pest identification

**B. APHIS Will:**

**1. Outline the Agency's (USDA APHIS PPQ) substantial involvement.**

**a. Include any significant Agency collaboration and participation**

- Provide traps and lure.
- Provide funds to the Cooperator to cover costs outlined in the Financial Plan.

- Make arrangements for Taxonomic support in identification and sorting.

**b. Project oversight and performance management**

- Review of data results submitted to USDA approved database.
- Review data and submit accomplishment reports to ADODR.
- Provide training, when necessary

**c. Provide the equipment requested by the cooperator in 4.b. & c.**

N/A

**d. Provide the supplies requested by the cooperator in 6.b. & c.**

- Traps
- Lure
- Protein bait Spam®
- Ziploc bags
- Ethyl alcohol
- Alcohol proof pens
- Foam board or coroplast for pitfall trap covers
- Collection vials/jars
- Insect pins
- Shipping boxes
- Trowel
- Flagging tape
- Marking flags
- Propylene glycol for pitfall traps (better than soapy water)
- Fuel for rental vehicle

#### **IV) GEOGRAPHIC LOCATION OF PROJECT**

**A. Is the project statewide or in specific counties? [List the names of ALL counties and tribal areas that apply (denote counties for each separate survey if this is a bundled survey work plan)].**

Thirty-five sites will be surveyed at high-risk container yards mainly in the Kansas City area. The planned counties to be surveyed are Douglas, Franklin, Johnson, Shawnee and Wyandotte.

**B. What type of terrain (e.g., cropland, rangeland, woodland) will be involved in the project?**

This survey will take place in urban industrial and business parks.

**C. Are there any unusual geographic features which may have an impact on the project? (list all that apply)**

There could be many unusual features that can have impact on the project in an urban setting. This could include high traffic and truck volumes, human disturbance and weather related issues.

## V) DATA COLLECTION AND MAINTENANCE

Each State is responsible for entering complete, accurate, and timely pest survey data using approved protocol and methodology. All survey data from Pest Detection funded CAPS surveys will be entered into the National Agricultural Pest Information System (NAPIS). NAPIS is the final repository for all Pest Detection survey data.

- First record for the State and/or County will be entered within **48 hours** of confirmation of identification by a qualified identifier.
- All other required records, both positive and negative survey data, must be entered **within two weeks** of confirmation.
- All records are to be entered into the NAPIS database by **December 31<sup>st</sup>** of the year of survey so these data can be included in the yearly Plant Board Report.

## VI) TAXONOMIC SUPPORT

A. Person or Institution that will screen targets (Name & Contact Information) and level of screening/identification.

State Entomologist  
Kansas Department of Agriculture  
Plant Protection and Weed Control  
6531 SE Forbes Avenue, Suite B  
Topeka, Kansas 66619  
(785) 564-6698

**OR**

B.  Request for taxonomic support.

- Regional APHIS-PPQ identifier (s) for screened samples.

## VII) SURVEY SUMMARY FORM

A Survey Summary Form must be completed to summarize all CAPS surveys **funded by the Pest Detection line item.**

### **Visual:**

*Diabrotica speciosa*, Cucurbit beetle  
*Onopordum acaulon*, Horse Thistle  
*Cerutuella cisalpina*, Striped helicella snail  
*Cerutuella virgata*, Striped snail  
*Cochlicella*, Helicid snail  
*Monacha*, Helicid snail

*Veronicella*, Veronicellid Slug

**Pitfall:**

*Naupactus leucoloma*, Whitefringed weevil  
*Pseudocneorhinus bifasciatus*, Twobanded Japanese weevil  
*Agriotes sputator*, European wireworm  
*Agriotes ustulatus*, European wireworm  
*Anomala orientalis*, Oriental beetle  
*Rhizotrogus majalis*, European chafer

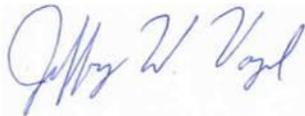
**Protein bait, Spam®**

*Linepithema humile*, Argentine ant  
*Solenopsis invicta*, Imported fire ant

**Delta:**

*Lymantria albescens*, Okinawa Gypsy Moth  
*Lymantria dispar asiatica*, Asian Gypsy Moth  
*Lymantria dispar japonica*, Japanese Gypsy Moth  
*Lymantria postalba*, White-winged Gypsy Moth  
*Lymantria umbrosa*, Hokkaido Gypsy Moth

**VIII) SIGNATURES**



8/12/2015

\_\_\_\_\_  
**ROAR**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**ADODR**

\_\_\_\_\_  
**Date**

## Detailed Financial Plan

**PROJECT:** Pathway Survey – Early Detection of Exotic Plant Pests

**COOPERATOR NAME:** Kansas Department of Agriculture

**AGREEMENT NUMBER:** 16-8420-1788-CA

**TIME PERIOD:** January 1, 2016 - December 31, 2016

Financial Plan must match the SF-424A, Section B, Budget Categories

ITEM			APHIS FUNDS	COOPERATOR FUNDS (Show even if zero)	TOTAL
<b>PERSONNEL:</b>	<b>Hours</b>	<b>Salary</b>			
KDA staff - Paid by Cooperator funds (based on average hourly wage for permanent employees)	40	\$25	\$0	\$1,000	\$1,000
<b>Subtotal</b>			<b>\$0</b>	<b>\$1,000</b>	<b>\$1,000</b>
<b>FRINGE BENEFITS:</b>	<b>Percent</b> (enter as decimal not %)				
KDA staff - Paid by APHIS funds - 33%	0.33		\$0	\$330	\$330
<b>Subtotal</b>			<b>\$0</b>	<b>\$330</b>	<b>\$330</b>
<b>TRAVEL:</b>	<b>Cost</b>	<b>Length of time</b>			
SUV rental for temporary staff for 5.5 months @ \$979/month (shortage in state vehicles) **	\$979	5.5	\$5,385	\$0	\$5,385
<b>Subtotal</b>			<b>\$5,385</b>	<b>\$0</b>	<b>\$5,385</b>
<b>EQUIPMENT:</b>	<b>Cost</b>				
			\$0	\$0	\$0
<b>Subtotal</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>SUPPLIES:</b>	<b>Cost</b>	<b>Length of time</b>			
Ethyl alcohol, alcohol proof pens, Ziploc bags, jars, shipping supplies, insect repellent, twine, boxes, flagging tape, etc.	\$200		\$200	\$0	\$200
Supplies for pitfall traps (Marking flags, cups, covers)	\$250		\$250	\$0	\$250
Protein bait Spam®	\$213		\$213	\$0	\$213
Propylene Glycol (10 bottles)	\$365		\$365		
Fuel - 2045 miles/month/20 mpg x \$3.25 per gallon x 5.5	\$332	5.5	\$1,826	\$0	\$1,826

months- for rental vehicles**					
Traps and lure provided by USDA	\$0		\$0	\$0	\$0
<b>Subtotal</b>			<b>\$2,854</b>	<b>\$0</b>	<b>\$2,489</b>
<b>CONTRACTUAL:</b>	<b>Cost</b>	<b>Length of time</b>			
Key Staffing (1 temporary staff) \$20.00 x 920 hours (includes data entry time and trap prep)	\$20	920	\$18,400	\$0	\$18,400
<b>Subtotal</b>			<b>\$18,400</b>	<b>\$0</b>	<b>\$18,400</b>
<b>OTHER:</b>	<b>Cost</b>				
Shipping samples to identifier	\$100		\$100	\$0	\$100
<b>Subtotal</b>			<b>\$100</b>	<b>\$0</b>	<b>\$100</b>
<b>TOTAL DIRECT COSTS</b>			<b>\$26,739</b>	<b>\$1,330</b>	<b>\$27,704</b>
<b>INDIRECT COSTS</b>	<b>Percent</b> (enter as decimal not %)				
Indirect rate- 20.9%	0.209		<b>\$0</b>	<b>\$278</b>	<b>\$278</b>
<b>TOTAL</b>			<b>\$26,739</b>	<b>\$1,608</b>	<b>\$28,346</b>
<b>COST SHARE INFORMATION (Percent)</b>			<b>94%</b>	<b>6%</b>	

\* Kansas' Negotiated Cost Rate (Salary + Fringe Benefits x %=Indirect Cost)

\*\* There is a shortage of state vehicles. We give the option of renting a vehicle or using personally owned vehicles. If renting we pay for the fuel and if a personal vehicle is used we pay mileage.