

## **Project Summary/Abstract**

**(i) This is an Extension project.**

**(ii) Summary Statement**

The overall goal of the proposed project is to increase IPM awareness, knowledge and skills within underserved Hispanic audiences, empowering them to adopt IPM practices. This goal is supported by four main objectives:

- 1) Develop a Latino community IPM partnership
- 2) Adapt/develop outreach materials using all media effective at reaching and communicating with Spanish-speaking audiences
- 3) Collaboratively develop innovative new IPM outreach, education and training programs in Spanish and
- 4) Explore venues and partners for development of job skills training and opportunities in urban IPM for Spanish-speaking job-seekers.

Plans to accomplish these goals begin with identifying and establishing cooperative relationships with Hispanic organizations, convening collaborators across state boundaries (PA, NJ) and establishing an official Latino IPM partnership. During this phase, we will more closely identify partner / stakeholder needs and priorities for bilingual IPM materials and programming, best media forms to use, and methods by which these should be extended and archived. We will collect existing material, identify gaps and then develop new materials and programming to deliver locally, regionally and nationally as appropriate. Finally, we will identify various partners in job skills, employment, regulatory and pest management fields to discuss details of potentially incorporating bilingual IPM/pesticide applicator trainings to their offerings.

The project supports the stated priorities of the NE Community IPM Working Group's focus on **IPM in residential settings, namely** use of diverse media to educate the public on implementing IPM in their homes, and development of creative tools for measuring the impact of public education related to IPM practices in residential settings on changes in awareness and behaviors of target audience.

## **Project Narrative**

### **(i) Problem, Background and Justification**

• **Problem:** Pests and pesticides pose serious risks to human health and the environment. Minority populations bear a disproportionate burden of negative health effects due to environmental hazards, including exposures to pests and pesticides. Hispanics are the largest minority in the county with 16% (50.5 million) of the total U.S. population and growing.<sup>1</sup> Between 2000-2010, states in our immediate region show high Hispanic population growth rates: PA (82.6%), New Jersey (39.2%), Delaware (96.4%) and Maryland (106.5%). Twenty-one percent of Hispanics live below the poverty level and disproportionately inhabit sub-standard housing where pest problems and asthma are chronic (see References, Appendix 1).

Hispanics have a great unmet need for accessible IPM information, education and resources at the individual, organizational and community level. The social, linguistic and economic disadvantages faced by many Hispanics leave them less able than other groups to understand and manage environmental hazards. Low levels of education and English-language proficiency, especially among recent immigrants, limit their ability to access information while increasing vulnerability to health risks of pests and the misuse of pesticides. For example, the primary link between asthma and cockroaches in the Northeast is not understood in the Latino community – wherein Puerto Ricans have the highest asthma rate in the nation. In the case of pesticides, Hispanics often cannot read or understand the information on pesticide labels. Although there are some written materials and videos in Spanish on pesticide safety for agricultural workers, these workers comprise only a very small proportion of all Latino workers or households, with only 3.7% of all employed Hispanics 16-24 years old working in agriculture and related industries. In the 10.5 million US Hispanic households, pesticide use is likely similar to the country as a whole with an average of 6 products on hand, used as the first, and sometimes only, line of defense against pests. Urban residents, facing cockroach or bed bug infestations may “self-medicate” with chemicals of all kinds. Low-income neighborhoods utilize local “exterminators” of highly variable quality. Additionally, use of illegal pesticides is common in urban Latino communities. People do not even know about Poison Control emergency contacts, much less IPM.

If current health disparities and the lack of access to information persist, the overall prevalence of negative health outcomes will also increase and, as a consequence, the cost of the disparities will increase. It is projected that the cost of racial/ethnic disparities due to poor general health among Hispanics will be ~\$22 million by 2050. The cost of ineffective pest control efforts is unknown but presumed to be large. Meantime, the high unemployment rate in the Hispanic community overall (10.6%), in cities (up to 21%) and among young people 16-24 years (20.1%) intensifies these problems. Currently, there is virtually no presence of Land Grant University IPM programming available in these non-agricultural Latino communities, and no strategic plan to get there. Our project will use the power of partnerships with Latino organizations to access the community and assure that bilingual educational products developed reach the target audience and are effective. Besides community education on the link between IPM and health, the project will also explore IPM job-training opportunities as an avenue to address both the economic needs of Hispanics and to embed technical IPM skills in the community.

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<sup>1</sup> \**Hispanics* in US Census data includes anyone of Cuban, Mexican, Puerto Rican, South or Central American or other Spanish culture of origin, regardless of race. The term *Latino* is often used synonymously but is less formal and often associated with “Latin Americans” vs. people from Spain or Portugal.

• **Background:** The proposed project supports and expands upon three, differently-derived but converging stakeholder priorities, outlined below.

a) The project supports the NE Community IPM Working Group’s priority focus on **IPM in residential settings** (see [http://northeastipm.org/regu\\_regional.cfm](http://northeastipm.org/regu_regional.cfm)). It supports the specific objectives: Use diverse media to educate the public on implementing IPM in their homes, and Develop creative tools for measuring the impact of public education related to IPM practices in residential settings on changes in awareness and behaviors of target audience.

b) The PA IPM Program has successfully maintained an active community IPM partnership in Philadelphia for the past eight years. The partnership, The Philadelphia School and Community IPM Partnership, holds annual meetings to discuss issues and identify priorities. It has 200 active member organizations and individuals, and 273 subscribers to its list-serve. Our staff routinely communicates with specific stakeholders about unmet needs and collaborative possibilities. As a result of such interactions, it was clear we were not adequately meeting the needs of the Latino community. Thus, we recently hired a Hispanic bilingual employee to help us reach out to the Latino community. The response has been immediate, positive and overwhelming. The **specific needs identified** in this short time converge around the lack of culturally-appropriate IPM information, and providing information within the media typically “consumed” by this constituency. In the proposed project, we aim to capitalize on this opportunity to build a novel approach and innovative programming that can be shared throughout the region.

c) The PA IPM staff has recently delivered workshops on bed bug IPM to over 650 community health workers, childcare providers and low-income residents, including Latinos. Feedback from participants via a pre-post evaluation shows definitive changes in knowledge, awareness and skill level are achieved with even a “one-shot” administration of audience-specific, well-prepared and administered workshop. It also revealed the alarming prevalence of useless or even dangerous behaviors common in dealing with bed bugs. We suspect this trend holds for other household pests such as cockroaches and mice. Recent information on pesticide misuse due to bed bugs and the trade in illegal pesticides especially among immigrant Latino and Chinese populations is a sobering indication of levels of ignorance, the dangers of pesticides and the challenges we face in educating these audiences about less risky, effective IPM approaches.

• **Justification:**

In the Northeastern Region, Hispanic populations and extension professionals stand to benefit from our project. First, the project partnership will allow us better understand and meet the needs of an underserved and growing population. Without this project, this population will continue to lack informational resources, and suffer high level of risk for negative health impacts due to pests and pesticide misuse. The project and its proposed approach is potentially applicable to all other regions of the country and addresses aspects of all 14 identified priorities of the Regional IPM Competitive Grants Program, Northeastern Region, outlined below.

1. Will reduce risks to the environment Our project will educate the target audience about indoor and outdoor environmental risks of pesticides, alternatives to pesticides, how to choose reduced-risk products, how to read the pesticide label for environmental hazards, and how to use pesticides in environmentally safer ways including proper disposal. Our definition of reduced-

risk pesticides will include consideration of likelihood of environmental contamination due to factors of non-target toxicity, water quality, human use patterns and/or formulation.

2. Will reduce risks to human health Empowering people to reduce personal health risks from pests and pesticides is central to our project. Once audiences understand risks of pests and pesticides to themselves and, above all, to their children, they more readily embrace the basic tenets of IPM and express intent to change. This is particularly important for immigrant, Latino and Chinese urban populations, where use of “home remedies”, illegal and black-market pesticides is rampant and health concerns extreme (see Appendix 1, References and Appendix 2, Two Recent Case Studies). To date, in our experiences presenting workshops to Latino population in the Philadelphia area, not a single person was aware of the Poison Control Center emergency number. Additionally, of all demographically defined US populations, Puerto Ricans suffer the highest rates of asthma (up to 30%). Linking the improved health benefits of IPM to asthma prevention is a message that impacts people. Our state-wide asthma education partners, Pennsylvania Asthma Partnership, are on board to assist with this message.

3. Stakeholder-identified priorities (described in Background section)

4. Focuses on a setting found in at least five states The Latino community occupies residential settings in all environments; urban, suburban and rural; across all states.

5. Will fill a niche We know of no other IPM projects that target this large, underserved audience with a collaborative approach. Also, the lack of bilingual pesticide labels creates a specific unmet need for education we will begin to address (See Appendix 3: Bilingual Pesticide Label Comments to EPA, June 2011).

6. Involves multiple states in an active partnership The project involves active collaboration between Pennsylvania and New Jersey but will share information with all other interested parties. Also, some of the Hispanic/Latino organizations that will be involved have regional and national reach.

7. Will advance IPM implementation in a few years The project will begin to impact stakeholders within the first 6 months of the project. We find that as soon as information is available in a “user-friendly” format, people jump on board. Each educational product will have evaluation tools to demonstrate the type and level of impact achieved.

8. Is interdisciplinary Our partners for this project include health professionals, social service providers, urban entomologists and advocacy groups for Latino populations.

9. Reduces dependence on conventional, chemical pesticides See #1 and 2 above.

10. Has significant economic implications In the US, estimates of the annual costs of asthma alone range between \$12.7 and \$19.7 billion, including both direct medical costs including emergency room visits and indirect costs associated with lost productivity. The project focuses on reducing costs associated with regional health disparities, ineffective pest management efforts and increases the potential for employment and job creation.

11. Explains, justifies, and will serve an underserved audience Explained previously.

12. Addresses an emerging problem Urban pesticide misuse in general, illegal pesticide use and overuse due to bed bug infestations are all long-standing unresolved and/or emerging problems addressed by the project.

13. Is likely to be adopted by the target audience See #2 and 7 above.

14. Advances an IPM practice that is more cost-effective than the status quo The pest management status quo within the Latino populations we have interacted with in the Philadelphia region is “nuke it” repeatedly with pesticides, and the “stronger” the better. This observation is supported by anecdotal information from our partners in NYC, NJ and other urban areas. This approach is not cost-effective, effective or safe. (See Two Case Studies in Appendix 2).

**(ii) Objectives and Anticipated Impacts.**

The overall goal of the proposed project is to increase IPM awareness, knowledge and skills of Spanish-speaking individuals, organizations, and community partners, empowering them to adopt IPM practices. This goal is supported by the following objectives:

- 1) Develop a Latino community IPM partnership
- 2) Adapt/develop outreach materials using all media effective at reaching and communicating with Spanish-speaking audiences
- 3) Collaboratively develop innovative IPM outreach, education and training programs in Spanish
- 4) Explore venues and partners for development of job skills training and opportunities in urban IPM for Spanish-speaking job-seekers.

For each objective, there are specific **anticipated impacts** outlined in the Logic Model and explained below. Taken together, these impacts will help **safeguard human health** of an at-risk population that has been largely by-passed by traditional extension programming. The mechanisms for safeguarding health will be through raising awareness of the health risks of pests and pesticides, how to choose safer products, preventative approaches to pests and how to implement IPM through policies and/or practices at home, in the workplace, in churches, childcares and eldercare. The **immediate impacts** of the project derive from the increased awareness and implementation of at least one “IPM step” by newly educated individuals (including partners). The **mid-term impacts** include a new working relationship with partners and specific programs developed. The **long-term impacts** include the accrual of new tools available for extension to reach a growing Hispanic population across the country and potential model for developing bilingual job training and employment opportunities in IPM.

Anticipated Impacts - Objective 1: Develop a Latino community IPM partnership

a) New collaborations between states in the region, beginning with PA and New Jersey.

Many states in the Northeast have growing Latino populations that would benefit greatly from IPM information, education and training. However, few extension staff in our region are bilingual, of Hispanic identity and/or work in community IPM with Latino populations. This project will positively impact all states in the region interested in project deliverables by creating a venue to interact with and collectively address the needs of the Latino community. **Nine states**

with at least 6% of their population composed of Hispanics can be impacted (PA, NJ, NY, MD, DE, CT, RI, MA, DC).

*b) New strategic partnerships established within Latino communities.*

We expect the new “Latino IPM Partnership” (name To Be Determined) to include at least 12 local, regional and national organizations serving and/or representing the Hispanic population. A sampling of the type and reach of such organizations can be seen in our Letters of Support. These partners have access and methodologies for effectively reaching Hispanic populations; PA IPM and Rutgers have the IPM messages of effective pest problem-solving, health and safety. Melding the two creates new synergy and mutual benefits.

*c) Increased awareness of LGU extension IPM programming by Latino communities and, in turn, of Latino community needs by LGU extension.*

The project approach will work with stakeholders as collaborators to both document their needs and priorities with respect to pest management and develop new materials. As such, these needs and priorities will be of service to LGU extension programs that do not currently have access to this type of information. Latino groups will in turn become aware of the existence of community IPM programming within extension. The impact is qualitative: Better understanding of needs, resources and approaches leads to more effective outreach education for under-served audiences.

Anticipated Impacts - Objective 2: Adapt/develop outreach materials and media effective at reaching and communicating with Spanish-speaking audiences.

*a) Increased diversity of IPM educational offerings*

As a result of this project, we expect to produce at least 15 new bi-lingual publications/fact sheets/ brochures on IPM for common residential/institutional pests. We plan to develop and utilize 10 short video “show-and-tell clips” on key pests, pesticide risk mitigation, pest-proofing, home/facility inspections, interviews with Spanish-speaking PMPs and “regular people” who are “sold on” IPM. The clips can be embedded into presentations, used in speaking engagements to low-literacy audiences in order to illustrate points, be archived on partners’ websites and be shared via social media and YouTube.

*b) Increased efficacy at reaching target audience.*

Our project will involve partners in the design and delivery of educational materials to their constituencies – our target audience. This will both increase efficacy of the materials in terms of appropriate content and allow us to quickly be able to reach significant numbers of people. Estimates are hard to make at this stage but even one potential partner (Esperanza), in Philadelphia alone, has 200 employees, serves 5,100 women in community-based programs, 300 college students, and 700 high school students. There are 2,800 Hispanic families in the 2-mile radio area of Esperanza and they have a well-developed outreach machine of their own. In addition, all educational materials collected, translated or newly produced will be archived in a central location on the PA IPM Program website as well as provided to partners for inclusion on their websites and other outlets. Number of visits and hits on specific items can be tracked and documented. Utilizing even one regional Spanish-language paper (Al Dia) reaches 88% of the Latino community in the tri-state area (SE PA, Central and S NJ and N Delaware) with a circulation of 50,000 papers plus a virtual edition.

Anticipated Impacts - Objective 3: Collaboratively develop innovative new IPM outreach, education, training programs in Spanish.

Reaching out to the Latino community is more than simple translation of words on a page and putting resources up on websites. The distinction of this objective from Objective 2 above is the “bundling” of materials developed within coherent programming units to be delivered through new venues by PA IPM Staff or partners trained in the subject matter. Delivery may be in person or via distance mechanisms. The impacts of these activities by objective listed above are the same as those articulated for Objective 2, only pertaining to education and training *programs*. Impacts will include:

- a) *New cooperative relationships between states in the Northeast region.*
- b) *New tools and ways available for extension to interact with underserved clientele*
- c) *New audiences gain awareness and actionable IPM knowledge*

We estimate that over the span of the 2-yr project, we will develop 5 core educational programs addressing priority topics - health risks of pests and pesticides, how to choose safer products, preventative approaches to pests, safer bed bug control and how to implement IPM through policies and/or practices in the built environment. The programs will be delivered in person at least twice each and will reach an estimated 800 individuals directly. Five webinars utilizing the same materials are expected to reach up to 2,000 individuals.

Anticipated Impacts - Objective 4: Explore venues and partners for development of job skills training and opportunities in urban IPM for Spanish-speaking job-seekers.

Individuals in low-income communities are disproportionately unemployed while the need for affordable quality services is extreme. Many of our potential partners are involved in job skills and employment activities. We would like to work with them in the following areas:

- a) *Recognition of IPM skill sets and that these are valuable for inclusion in urban job training.*
- b) *Co-creation of strategy and plan to train new urban Latino IPM practitioners*
- c) *Inclusion of Spanish-speaking Pest Management Professionals (PMPs) as partners.*

The potential impact over the 2-year project is the development of a strategy and curriculum for such trainings, and possibly piloting such a training in year 2 if we secure additional funding. Based on our past experiences in training urban jobless individuals in IPM and pesticide applicator certification, it is reasonable to expect that 10 trainees would find work as a result. (See Appendix 4, IPM Job Training in Low-Income Neighborhoods).

**(iii) Approach and Procedures**

Approach to Objective 1: Develop a Latino community IPM partnership.

Forming active partnerships is the only mechanism whereby we can begin to adequately reach our target audiences. Thus, our approach will begin with several activities to foster communication, garner information and form an “official” partnership with a “brand” identity. Building on the contacts already made, we will expand our communications first to organizations in Camden NJ and involve our Rutgers partners in stakeholder meetings. Our goal is - together with our partners - to make the IPM outreach, education and training similar to a health “campaign” such as that mounted by Pfizer in 2003-04 (see Appendix 1 References). The general steps to this approach are listed below.

- Project partners (PA/NJ) meet to discuss specifics of target audiences, approach

- Identify key organizations within and across state boundaries
- Meet with stakeholders to expand network, discuss needs, collaboration, venues for interaction
- Create “official” partnership with key Latino organizations in PA & NJ for IPM education & training (name TBD)

Approach to Objective 2: Adapt/develop outreach materials and media that are effective at reaching and communicating with Spanish-speaking audiences.

Our project will translate and transform pre-existing relevant IPM information and utilize the multiple media that the entire Latino community consumes most readily – Spanish newspapers, television, and radio. In addition, we will create short videos in Spanish with key IPM messages and “how-to” footage for pest identification, pest prevention, and safe pesticide use that can be embedded in presentations or put on YouTube. Younger generations of all ethnic groups increasingly use such social media. These new approaches – novel for extension - are required to reach these audiences. We will work closely with our partners at Rutgers who have access to professional videographer services and are already proposing to produce a bed bug-related educational video for Spanish-speaking residents. Some of the Latino organizations we hope to partner with are national in scope. We will work with these groups to identify opportunities to present education and training at their national meetings and via webinars to their constituencies.

The sequence of steps in our approach to this objective is outlined below.

- Collect, assess and archive pre-existing IPM educational materials in Spanish.
- Translate and “re-work” English materials, as appropriate.
- Meet with community partners to discuss “what works” in terms of delivery of messages
- Identify gaps in type, format and delivery mechanisms of products.
- Explore, use, and develop diverse delivery formats (face-to-face, TV, newspapers, social media, YouTube video, webinar) to maximize coverage

Approach to Objective 3: Collaboratively develop innovative new IPM outreach, education and training programs in Spanish.

Working in a synergistic partnership with stakeholders often produces unexpected, innovative approaches that we cannot predict in advance. Since we will be developing multi-media materials collaboratively, we expect the discussion of how these materials will be used in various combinations in IPM programming to emerge as part of the partnership process. In addition, educational products and their evaluation tools will have to be carefully devised due to the mixture of overall low literacy in *any* language of some subsets of the target audience vs others with much higher levels of literacy and patterns of information consumption. Once educational products are vetted, we hope to be able to create a “Community of Practice” and content for an eXtension group for these materials.

The sequence of steps in our approach to this objective is outlined below.

- Engage newly established Latino partnership in identifying upcoming venues for education / training in PA/NY/Region.
- Plan specific education and training sessions in collaboration with partners serving target populations.
- Create evaluation tools appropriate for each type of content and venue.

- Create and deliver new outreach/education/training sessions in Spanish and/or bi-lingual venues
- Evaluate both training effectiveness and learning achieved.
- Set up a regional list-serve for posting and exchanging info on Spanish-language, culturally-appropriate IPM outreach/education/training. Although this project does not focus on agriculture, if a Latino partner requests that we develop something for agricultural workers, we would work with our State Lead Agencies and Universities' pesticide educators to do so.

Approach to Objective 4: Explore venues and partners for development of job skills training in urban IPM for Spanish-speaking job-seekers.

PA IPM Program staff has past experience developing IPM training curriculum/practicum for underserved audiences in partnership with both urban pest control companies, and social services organizations that offer job skills training. (For a description, see Appendix 4).

For this project, we intend to build on our previous successes, and see if we can help broker connections between industry, government and community organizations to partner in developing bilingual IPM training, identifying/creating job opportunities and providing affordable pest management services to low-income communities where trainees live. There may also be new partners and mechanisms for including returning Latino veterans (and possibly other veterans) in the training programs.

The steps we will take are the following:

- Identify PA/NJ organizations currently providing job / skills training to Spanish-speakers including returning veterans. Investigate interest in developing new courses. Link course material to community health, healthy homes and asthma mitigation. (Pest management as a profession is not something most people aspire to but the case can be made that properly executed pest management – i.e. IPM; is of great service to the health of the community.)
- Communicate with State Lead Agencies in PA/NJ on including bilingual training for non-agricultural pesticide applicator licensing. Query other states on such programs currently underway, if any. While not technically IPM training, the applicator licensing makes job candidates more desirable to pest control companies. In a well-rounded training, both IPM approaches and in-depth issues surrounding pesticide use can both be covered.
- Communicate with community groups on interest and need for trained practitioners in their community. Learn of issues from all points of view – landlords, residents, “exterminators” and others. Affordability of service is a big issue in low-income neighborhoods. Explore ways to subsidize IPM for needy households either from civil, governmental, church-based or private organizations.
- Reach out to Spanish-speaking Pest Management Professionals (PMPs) to engage them as potential partners. We need to learn about their challenges in pest management, what skills they may want for themselves and their employees, their need for qualified employees and to solicit their participation in trainings and possibly in mentoring and/or hiring trainees

A **Timeline of Activities** is in the chart below.

<p><b>Objective 1</b> Develop a Latino community IPM Partnership</p>	<p><u>Activity</u></p> <ul style="list-style-type: none"> <li>• Project partners meet to discuss specifics of target audiences, approach</li> <li>• Identify key organizations to include in outreach, partnership</li> <li>• Meet with these stakeholders to expand network, discuss needs, ID priorities, collaboration, and venues for interaction</li> <li>• Create “official” partnership with key Latino organizations in PA &amp; NJ for IPM education &amp; training (name TBD)</li> </ul>	<p><u>Begin</u> 9/1/12  10/1/12  11/1/12  2/15/13</p>	<p><u>Complete</u> 12/30/12  ongoing  ongoing  on-going</p>
<p><b>Objective 2</b> Adapt/develop outreach materials and media that are effective at reaching and communicating with Spanish-speaking audiences</p>	<ul style="list-style-type: none"> <li>• Collect, assess and archive pre-existing Spanish IPM materials.</li> <li>• Translate English materials as appropriate.</li> <li>• Meet w/ specific community partners to discuss “what works” in outreach</li> <li>• Identify gaps in type, format and delivery of products.</li> <li>• Explore, use, develop diverse delivery formats (face-to-face, TV, newspapers, social media, YouTube video, webinar)</li> </ul>	<p><u>Begin</u> 1/1/13  1/31/13 3/15/13  5/31/13  5/31/13</p>	<p><u>Complete</u> 5/31/13  9/31/13 6/15/13  7/15/13  4/30/14</p>
<p><b>Objective 3</b> Collaboratively develop innovative new IPM outreach, education and training programs in Spanish</p>	<ul style="list-style-type: none"> <li>• Partnership identifies upcoming venues for education /training in PA/NJ</li> <li>• Plan education &amp; training sessions collaboratively</li> <li>• Create evaluation tools as each program is developed</li> <li>• Create &amp; deliver new outreach/ed/training sessions in Spanish</li> <li>• Evaluate both training effectiveness and learning</li> <li>• Set up regional list-serve for posting and exchanging info on Spanish-language, culturally appropriate IPM outreach/ed/training</li> </ul>	<p><u>Begin</u> 3/1/13  4/1/13  5/1/13  6/1/13  6/1/13  2/15/13</p>	<p><u>Complete</u> 12/15/13  12/15/13  5/31/14  6/31/14  6/31/14  on-going</p>
<p><b>Objective 4</b> Explore venues and partners for development of job skills training in urban IPM for Spanish-speaking job-seekers</p>	<ul style="list-style-type: none"> <li>• Identify PA/NJ organizations currently providing job /skills training to Spanish-speakers</li> <li>• Communicate with SLAs in PA/NJ on including Spanish training in applicator licensing</li> <li>• Communicate with community groups on interest /need for trained practitioners in their community</li> <li>• Reach out to Spanish-speaking PMPs to assist with training development</li> </ul>	<p><u>Begin</u> 9/1/13  11/1/13  1/15/14  2/15/14</p>	<p><u>Complete</u> 1/15/14  2/15/14  4/15/14  7/30/14</p>

#### **(iv) Evaluation Plans.**

Evaluation of performance measures for each identified outcome are summarized in the Logic Model and explained here. Budget allocations for the analysis of results will be wrapped within the overall time for design, delivery and completion of education/outreach and training venues.

#### **Performance Measures:**

##### Objective 1) Develop a Latino community IPM partnership

Efforts in meeting this objective will create new collaborations between Pennsylvania and New Jersey, establish strategic partnerships with Latino communities and bilaterally increase awareness of these organizations of Cooperative Extension's offerings and vice versa.

Our **measures of success** of these impacts will be through the following evaluation objectives:

a) Quantify the **number of new active collaborative sub-projects** on-going with Rutgers and Latino organizations spanning the two states. Once the partnership is underway, stakeholder input will dictate the sequence of specific project activities. These initiatives will be quantified by the number of educational projects undertaken and qualified by type of project. For example, if the partnership stakeholders' highest priority is identified as education and training on effective bed bug management, we will adapt or develop new culturally-appropriate materials to meet that need first, track progress, number of partners involved and enumerate outcomes.

b) **Number of new audiences identified** through the partnership and being served by the IPM educational products developed. As above, the stakeholders in the partnership will determine audiences for whom IPM education/training is a priority (eg. community health workers, social workers, agricultural workers, youth, veterans, PMPs, childcare workers, landlords).

c) **Number of individuals reached** by IPM educational products through the partnership.

We will track the chain of events from establishing contact with a partner, through collaborative interactions, to number of people accessed and presented with educational products (materials and/or programming) via collaboration with that particular partner. This measurement will be incorporated into more detailed tracking associated with Objective 3 b) outlined below.

d) Participation in and **activity on bi-lingual IPM list-serve.** We will establish a regional bi-lingual IPM list-serve. Numbers participating in and traffic on the list-serve are easily quantified and will serve as an indicator of "reach" of the partnership into a wider audience.

Objective 2) Adapt / develop outreach materials and media that are effective at reaching and communicating with Spanish-speaking audiences.

Efforts at meeting this objective will result in an increased diversity and efficacy of IPM bi-lingual educational offerings and increased ability to reach target audiences.

Our **measures of success** of these efforts will be through the following evaluation objectives:

a) **Existence of revised / new materials in Spanish, co-created with partners.** This measurement is a simple numeric count of the materials that the project produces.

b) **Number of new and innovative outreach vehicles** successfully utilized. Different segments of the Latino population utilize different information media (e.g. radio, TV, newsprint, social

media). Our partners will help us identify these channels and ensure that materials developed get “aired” in innovative, targeted ways. We will keep track of where the materials go and how they are received (sent to whom, how presented, number and types of responses to each type of release, if knowable). All materials will be posted to partners’ websites and promoted through traditional and social networks. “Hits” on these media can be tracked and we will ask partners to provide that information as applicable.

**c) Number and percent increase in requests for information/training from Latino community members.** As culturally-appropriate IPM informational material becomes available and promoted by partners, we expect to see a rise in requests for information of various types (e.g. help with pest problems, information on pesticides, requests for education for groups). Calls and emails will be monitored and categorized by the types of inquiries as they emerge, number received and responses/outcomes of the interaction.

**Objective 3) Collaboratively develop innovative new IPM outreach, education and training programs in Spanish.**

Our **measures of success** of these efforts will be through the following evaluation objectives:

**a) Number and type of new IPM outreach, education and training programs available in Spanish.** New programs available will include audience-specific, bi-lingual presentation series to be delivered in person, via webinars or venues TBD by partners. All appropriate adapted / new supporting materials will accompany the programs. Once vetted these programs will be “packaged” and made available throughout the region. Simple counts of programs created and requests for their delivery or use will measure success.

**b) Number of individuals (“end users”) reached, educated and/or trained.**

As the project proceeds, we will keep a calendar in excel format that identifies key attributes of each venue where educational products are delivered. The data fields will include key collaborative partner, audience type, type of program delivered, by whom, number of individuals reached, evaluation results for the session and follow-up needed (if any) with clientele.

**c) Results of post-education evaluations of increase in awareness, knowledge, skills and types of changes individuals and/or organizations intend to make as a result.** For each program developed, an evaluation format and tool appropriate to the audience and topic will be developed for use each time the program is offered. Evaluation tools will be designed to measure change in awareness of health issues associated with pests and pesticides; basic pest(s) biology and conditions conducive to infestations; key elements of an IPM approach; action items for implementing an IPM approach and resources available. In addition, participants will be queried on “the most important thing you learned today” and “as a result of today’s information, I plan to make the following changes in how I manage pests”. Mechanisms for automatic entry of responses and tallying of results will be explored to cut down on time needed for data analysis.

**Objective 4) Explore venues and partners for development of job skills training in urban IPM for Spanish-speaking job-seekers.**

Efforts at meeting this objective will result in identification of skill sets needed for urban bilingual IPM technician job seekers and thus, determine the content of job-skills training; the

creation of a strategy for establishing a training for Latino IPM practitioners (potential and actual) and inclusion of Spanish-speaking PMPs as partners in program development and implementation.

Our **measures of success** of these efforts will be through the following evaluation objective:

a) The existence of a plan for technical training in urban IPM for Spanish speaking job seekers where, prior to the project, none existed. If the plan has widespread support from partners, new funding will be solicited to implement full training.

**Diversified Partnerships: Building IPM Programming within Latino Communities**

**Goal:** Increase IPM awareness, skills and empowerment among urban Spanish-speaking individuals, organizations, and communities.

Objectives	Outputs (Actions)	Outcomes (Impacts)	Performance Measures	General Timing
1) Develop a Latino community IPM partnership	<ul style="list-style-type: none"> <li>• Project partners (PA/NJ) meet to discuss specifics of target audiences, approach</li> <li>• Identify key organizations</li> <li>• Meet with stakeholders to expand network, discuss needs, ID priorities, collaboration, and venues for interaction</li> <li>• Create “official” partnership with key Latino organizations in PA &amp; NJ for IPM education &amp; training (name TBD)</li> </ul>	<ul style="list-style-type: none"> <li>• New collaboration between PA/NJ</li> <li>• New strategic partnerships established w/in Latino communities</li> <li>• Increased awareness of LGU extension IPM programming by Latino community and vv</li> </ul>	<ul style="list-style-type: none"> <li>• # of new active collaborative subprojects</li> <li>• # of new audiences identified and served</li> <li>• # of individuals reached through the partnership</li> <li>• # participating in and level of activity on bilingual IPM list-serve</li> </ul>	Emphasis in first 6 months Thereafter, On-going
2) Adapt/develop outreach materials using media that are effective at reaching and communicating with Spanish-speaking audiences.	<ul style="list-style-type: none"> <li>• Collect, assess and archive pre-existing IPM educational materials in Spanish.</li> <li>• Translate English materials as appropriate.</li> <li>• Meet w/ community partners to discuss “what works”</li> <li>• Identify gaps in type, format and delivery of products.</li> <li>• Explore, use, develop diverse delivery formats (face-to-face, TV, newspapers, social media, YouTube video, webinar)</li> </ul>	<ul style="list-style-type: none"> <li>• Increased diversity and efficacy of IPM bi-lingual educational offerings</li> <li>• Increased ability to reach target audiences</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of new/revised materials in Spanish co-created w. partners</li> <li>• # of new and innovative outreach vehicles successfully utilized</li> <li>• Number and % increase in requests for information / training from Latino community members</li> </ul>	6 – 12th months

<p>3) Collaboratively develop innovative new IPM outreach, education and training programs in Spanish.</p>	<ul style="list-style-type: none"> <li>• Partnership identifies upcoming venues for education /training in PA/NJ</li> <li>• Plan education &amp; training sessions collaboratively</li> <li>• Create evaluation tools</li> <li>• Create &amp; deliver new outreach/ed/training sessions in Spanish</li> <li>• Evaluate both training effectiveness and learning</li> <li>• Set up regional list-serve for posting and exchanging info on Spanish-language, culturally appropriate IPM outreach/ed/training</li> </ul>	<ul style="list-style-type: none"> <li>•New cooperative relationships between states in region</li> <li>•New tools &amp; ways available for extension to interact with under-served clientele</li> <li>• New audiences gain awareness &amp; actionable IPM knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• # and type of new outreach/ed/training programs available in Spanish</li> <li>• # of individuals reached</li> <li>• Results of post-education evaluations of <ul style="list-style-type: none"> <li>-increase of awareness</li> <li>-knowledge</li> <li>-skills</li> <li>-types of changes participants intend to make</li> </ul> </li> </ul>	<p>6<sup>th</sup> – 18<sup>th</sup> month</p>
<p>4) Explore venues and partners for development of job skills training and opportunities in urban IPM for Spanish-speaking job-seekers</p>	<ul style="list-style-type: none"> <li>• Identify PA/NJ organizations currently providing job /skills training to Spanish-speakers</li> <li>• Communicate with SLAs in PA/NJ on including Spanish training in applicator licensing</li> <li>• Communicate with community groups on interest /need for trained practitioners in their community</li> <li>• Reach out to Spanish-speaking PMPs to assist</li> </ul>	<ul style="list-style-type: none"> <li>• Recognition of what IPM skill sets are and that they are valuable for inclusion in urban job training</li> <li>• Co-creation of strategy and plan to train new urban Latino IPM practitioners</li> <li>• Inclusion of Spanish-speaking PMPs as partners</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of plan for technical training in urban IPM for Spanish-speaking job seekers (New funding will be solicited to implement full training.)</li> </ul>	<p>12-20<sup>th</sup> month</p>

## **v) Key personnel**

### **Pennsylvania**

Dr. Edwin Rajotte is Professor of Entomology and the PA IPM Coordinator. He provides extensive relevant skills to the project including years of experience building strategic relationships with diverse organizations and people in the state, nation and internationally. He provides IPM planning and programming expertise to facilities managers, works with growers, researchers, and pest management professionals and delivers technical training in IPM to multiple audiences.

Lyn Garling serves as a Program Manager for the PA IPM Program and has 15 years of experience developing programming for multiple audiences, fostering teamwork and partnerships and managing budgets and staff. She will oversee the day-to-day progress of the project, problem-solve and assist with strategic planning, observe timelines, assessments and reporting to meet project deliverables.

Maria Gorgo-Gourovitch will be the technician responsible for the day-to-day outreach, communications and development of the Latino partnerships. Ms. Gourovitch has already garnered the interest and respect of numerous Hispanic organizations. She had been interviewed on the radio, been quoted in the newspaper and begun to give presentations on IPM in Spanish. She responded to EPA's request for comment on questions surrounding proposals for bi-lingual pesticide labels (Appendix 3) and she has worked on outreach to Hispanic communities within a large pharmaceutical company (Pfizer). Maria is supremely capable and ready to work on the proposed project. Ms. Gourovitch's CV is attached in Appendix 5.

Michelle Niedermeier, coordinator of the Philadelphia School and Community IPM Partnership, will contribute experience, expertise and part-time hours paid for elsewhere to help formulate the specific bilingual IPM content for new audiences. Ms. Niedermeier has extensive experience delivering IPM programs to diverse audiences and oversaw the production of a bilingual 4 module training program "IPM for Childcares" in Philadelphia.

### **New Jersey**

Dr. Changlu Wang at Rutgers University is an urban entomologist with extensive experience in IPM research and outreach to communities. Dr. Wang has extensive contacts in the region and wants specifically to reach Latino populations. He will assist on the project by providing advice on contents of the educational materials, technical support for creating new videos, and facilitate connections to partners and educational venues in New Jersey. Dr. Wang's letter of collaboration is in "Collaborative Arrangements".