



# INSECT REPELLENT PRODUCT LABELING FOCUS GROUP REPORT

Environmental Protection Agency

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# Table of Contents

<u>Section</u>	<u>Page</u>
<b>MANAGEMENT SUMMARY</b>	1
Background	2
Key Findings	2
Next Steps	5
<b>STUDY OVERVIEW</b>	6
Objectives	7
Methodology	8
Limitations	10
<b>KEY FINDINGS BY OBJECTIVE</b>	11
Understand Insect Repellent Purchase Behaviors	12
Determine Insect Repellent Information Needs	21
Obtain Reactions to Current Insect Repellent Product Labels	26
Determine Appeal of Current Insect Repellent Product Claims	31
Obtain Reactions to Instituting an Efficacy Mark	36
Obtain Reactions to EPA Sample Efficacy Marks	38
Explore Expectations for Protection Time and Variability Issues	47
<b>APPENDIX A: Respondent Profile</b>	A-1

# Management Summary





# Management Summary

## BACKGROUND

- ◆ The Environmental Protection Agency (EPA), Office of Pesticide Programs is in the process of developing and testing pesticide efficacy marks to assist consumers in the purchasing of insect repellent products. Market research was conducted to better understand the consumer needs and preferences regarding insect repellent product labeling.
- ◆ Specifically, a two-phased research effort is underway. This report presents the key findings from the Phase 1, a series of 10 consumer focus groups conducted in four geographic markets: Bethesda, MD, Tampa, FL, Norwalk, CT and Minneapolis, MN. Four consumer segments were included in the research: light/infrequent product users, heavy users, parents and general users.

## KEY FINDINGS

### ◆ Value of a Standard Efficacy Labeling Program

Consumers indicate that there is currently no consistent standard of measurement for evaluating the efficacy and safety of insect repellents. Information and claims on current insect repellent labels are widely variable, confusing and are not always easy to read or understand. Product claims are often perceived as too vague to be of use to consumers who need to rely on them to make informed buying or product usage decisions. A consistent standard of measurement for evaluating the efficacy and safety of insect repellents would be of value to consumers because it would help them make more informed buying and product usage decisions. Therefore, EPA should continue its efforts to introduce such a system into the marketplace.

*“Easier understanding. When you go into a store and look at the shelf and you can figure out exactly what you want with more ease than looking through a myriad of confusing labels.” (Tampa, Heavy User)*

*“For me, it’s [efficacy mark] like a guideline on how to use the product. You might have a different one for going out in the deep woods as opposed to hanging out in the afternoon at my mom’s house... you might buy a different one for being in your backyard at your campfire than if you’re camping outside all weekend.” (Minneapolis, Parent)*



# Management Summary

## ◆ Desired Product Labeling Information

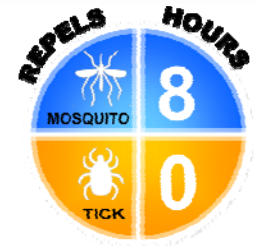
First and foremost, consumers want insect repellent labels to communicate the specific number of hours of efficacy for the product, the specific insects the product repels, and the precise percentage of active ingredient in the product. These data must be presented in a sizeable, clear font and placed on the front of the package. They also would like manufacturers to use visuals that are eye appealing and relevant to the situational use of insect repellents. Therefore, it is critical for any revised labeling system to include these specific data points and criteria in an easy to read format on the front of the package where all is visible. Secondly, but still important, consumers would like to know if the products are scented or fragrance free, if they are waterproof, and if they are family friendly. Also, presenting important information imbedded in a poor contrasting graphic design or using a small font, or placing it on the back of the package are examples of less effective communication formats.

## ◆ Reactions to Current Insect Repellent Product Claims

Claims that begin with verbs such as repels or protects are preferred. It is also important for claims to list the specific insects that will be repelled or from what insects consumers will be protected. In addition, claims should include the number of hours of effectiveness, if they are to be useful to consumers. EPA should consider claims such as “Repels \_\_\_\_\_ for up to \_\_\_\_\_ hours” or alternatively, “Protects against \_\_\_\_\_ for up to \_\_\_\_\_ hours.” Consumer receptivity to these claims should be validated in the national consumer survey to be conducted in Phase 2. Vague, general or unsubstantiated claims such as “long lasting protection” or “effective dependable protection” and wordy claims do not provide consumers with specific enough information, in a user-friendly format to guide consumer purchase or usage behavior for insect repellents. Therefore, these types of claims are less preferred.



# Management Summary



## ◆ Preferred Efficacy Marks

Currently, consumers can not quickly assess the effectiveness, appropriate use, or safety of insect repellent products. Therefore, an efficacy mark would be welcomed by consumers, since it would facilitate their ability to obtain the information they want and need about insect repellents. Of the efficacy marks tested in this research, the “Bug” and “Alternative Circle” designs most effectively communicate insect repellent efficacy information and do so in a visually appealing way. These two efficacy marks effectively communicate because they use a combination of words, numbers, graphic symbols, color and design to attract the reader’s attention and convey needed information in a simple, direct, organized, and time efficient manner. Therefore, Shugoll Research recommends that consumer receptivity to the “Bug” and “Alternative Circle” efficacy marks be further tested in Phase 2 (national consumer survey) in order to validate these qualitative findings.

## ◆ Reaction to RF (Repellent Factor) Efficacy Rating System

Consumers admit they have to be educated about RFs and how to interpret them to compare the efficacy and safety of different insect repellents. Based on the sunscreen product industry and its use of SPFs, consumers intuit that the higher RF numbers are, the stronger and longer lasting the products will be. Consumers, however, express preference for a labeling system that provides hours of effectiveness against specific insects. Therefore, Shugoll Research recommends measuring consumer receptivity to a RF system in Phase 2 (national consumer survey). If EPA chooses to proceed with a RF-type system, it needs to understand that introduction of this type of efficacy platform will require an investment of public education dollars to familiarize the public with how to interpret the information.

## ◆ Barriers to Regular Insect Repellent Usage

Some consumers need to be reminded or even educated to use insect repellents regularly. Increasing awareness of the importance and efficacy of using insect repellents would be helpful. Those who purposefully do not use insect repellent more regularly don’t like that the products are greasy and smelly, while others hesitate because the products contain chemicals that they believe are not healthy for humans and the environment. Any labeling effort that will help consumers compare



# Management Summary

active ingredient percentages across products will be reassuring to consumers. The goal is to mitigate concerns about the presence of the chemical(s) and educate consumers about the potential harmful effects from bug bites so that they will be encouraged to use insect repellent when needed.

## ◆ **Consumer Expectations Regarding Protection Time and Variability Issues**

Consumers appear to have reasonable expectations regarding protection time and variability. They do not expect insect repellents to protect them from all bites; rather they expect a reduced number of bites. Consumers are also relatively conservative about believing cited efficacy hours because they know efficacy is based on a number of variables. They tend to re-apply some time before the hour is up or precisely when the cited time is up, immediately after participating in an activity that might have diluted the repellent or when they feel the bugs start biting again. Therefore, as long as product labels include hours of effectiveness, whether or not the product is waterproof, etc., consumers are accepting of product variances and can manage their re-application timing to achieve optimal effectiveness.

## **NEXT STEPS**

- ◆ **Shugoll Research, in conjunction with EPA staff, will develop a questionnaire for a national consumer survey to address the following topic areas:**
  - Identify motivators and barriers to insect repellent product use
  - Obtain consumer reactions and preferences to alternative efficacy marks
  - Determine consumer receptivity to RF rating system

# Study Overview







## Objectives

- ◆ The Environmental Protection Agency (EPA), Office of Pesticide Programs is in the process of developing and testing pesticide product labels to assist consumers in comparing the efficacy and safety of available products. Market research among consumer pesticide users was recommended and initiated to better understand consumer needs and preferences.
- ◆ The EPA contracted with SRA International, Inc. and Shugoll Research to conduct a two-phased research project:
  - Phase 1: A series of 10 consumer focus groups to test various versions of pesticide efficacy marks
  - Phase 2: A national online consumer survey to determine consumer preferences
- ◆ This report presents the findings from the initial phase of 10 consumer focus groups. Specifically, Phase 1 was designed to address the following objectives:
  - Understand insect repellent purchase behaviors
  - Determine insect repellent information needs
  - Obtain reactions to current insect repellent product labels
  - Determine appeal of current insect repellent product claims
  - Obtain reactions to instituting an efficacy mark
  - Obtain reactions to EPA sample efficacy marks
  - Explore expectation for protection time and variability issues



# Methodology

- ◆ Qualitative research in the form of focus groups was the recommended methodology. Focus groups allow for an in-depth exploration of consumer behaviors and perceptions as well as reactions to stimuli.
- ◆ A total of 10 focus groups were conducted in four geographic markets: Bethesda, MD, Tampa, FL, Norwalk, CT, and Minneapolis, MN. Each focus group discussion lasted 90 to 120 minutes.

FOCUS GROUP COMPOSITION					
AUDIENCE SEGMENT:	May 13 & 19 Bethesda, MD	August 10 Tampa, FL	August 11 Norwalk, CT	August 12 Minneapolis, MN	TOTAL
Light/Infrequent Users	1 group	1 group	1 group	-	3 groups
Heavy Users	1 group	1 group	-	1 group	3 groups
Parents	1 group	-	1 group	1 group	3 groups
General Users	1 group	-	-	-	1 group
TOTAL	4 groups	2 groups	2 groups	2 groups	10 groups



## Methodology (Cont'd)

- ◆ Shugoll Research, in conjunction with EPA staff, developed a screening questionnaire to ensure consumers met the target audience specifications. A total of 12 consumers were recruited per group to ensure 8 to 10 participated. A group of 8 to 10 participants is considered optimal for focus group research.
- ◆ In order to qualify for study participation, respondents:
  - Could not be involved professionally with advertising, public relations, market research or the manufacturing or marketing of insect repellent
  - Had to be the primary decision maker for the purchasing and use of insect repellent or share that responsibility equally with someone else
  - Had to spend time outdoors at least occasionally
  - Could not say they refuse to use insect repellent because they think the chemicals or DEET are harmful
  - Had to have children 10 years or younger to participate in the parent groups
  - Qualified for the heavy user groups if they used insect repellent at least most of the time, and qualified for the general/infrequent user groups if they didn't use insect repellent or their use was light i.e., sometimes or rarely.
  - Had to be comfortable expressing themselves in a group environment
  - Had to have at least a high school diploma
  - Represented a mix of demographic characteristics including gender, education, employment and household income
- ◆ A total of 92 consumers participated in the research. A summary of the respondent profile may be found in Appendix A.
- ◆ Shugoll Research developed a topic guide to ensure each discussion remained focused on the agreed upon objectives of the study. Client approval of the topic guide was received prior to the conduct of the focus groups. Minor revisions were made to the topic guide upon completion of the first four focus groups.



## Limitations

- ◆ A qualitative research methodology seeks to develop directions rather than quantitatively precise or absolute measures. The limited number of respondents involved in this type of research means the study should be regarded as exploratory in nature, and the results used to generate hypotheses for marketing decision making and further testing. The non-statistical nature of qualitative research means the results cannot be generalized to the population under study with a known level of statistical precision.

# Key Findings



# Understand Insect Repellent Purchase Behaviors





## Insect Repellent Purchase Behaviors – Heavy Users

- ◆ Heavy/frequent users of insect repellent use the product regularly because they spend a lot of time outdoors or are prone to bug bites.
  - Use of insect repellent is all year round in some locales such as Florida, often depends on the outdoor surroundings or activities, and typically increases at night because bug activity is more prevalent.
  - Heavy users tend to purchase products that are “strong,” or that provide “long acting protection against everything.”
  - Heavy users use insect repellent both because the bugs are annoying and because they carry disease.

*“I am a magnet for mosquitoes and my whole family can be outside and not get bitten, but I have them all over me. So I use it almost every time I go outside to garden or take the dogs for a walk...”*  
(Bethesda, Heavy User)

*“I use it year round for the nuisance issue...I’m even more conscious of it when you hear things on the news about encephalitis...”* (Tampa, Heavy User)

*“When I’m running or hanging out in the backyard because I go out a lot in the evenings when it cools off, and that’s when everything comes out.”* (Tampa, Heavy User)

*“I use it all the time because we’re always going to movies in the park.”* (Minneapolis, Heavy User)



## Insect Repellent Purchase Behaviors – Light/Infrequent Users

- ◆ Light/infrequent users of insect repellents use the product primarily when specific situations dictate the need such as when they engage in outdoor activities near wooded areas or water.
  - Insect repellent is typically not top-of-mind for these consumers and they often forget to put it on or bring it with them.

*“When you go somewhere you forget to take it with you.” (Tampa, Infrequent/Light User)*

*“I just completely forget until I get bit. It just doesn’t cross my mind to have it...doesn’t cross my mind to be premeditated about it.” (Norwalk, Infrequent/Light User)*
  - When they do remember to bring their insect repellent, they are more apt to remember to apply it at night, or when they are near wooded areas or areas surrounded by water, since these environments attract more bugs.

*“It’s one of those things that sits in the bathroom cabinet for years.” (Bethesda, Infrequent/Light User)*

*“ If I know I’m going outdoors like for a picnic, or camping, or if we’re going to the park and we’re going to be there later.” (Tampa, Infrequent/Light User)*

*“I do think of it in more wooded areas and water areas. If we’re just outside in a normal area, I don’t think about it.” (Norwalk, Infrequent/Light User)*





## Insect Repellent Purchase Behaviors – Parents

- ◆ **Parents are conflicted about their use of insect repellent products on their children.**

- They are conscientious about using insect repellent on their children and yet, many express reservations about using insect repellents on their children because of concerns about the chemicals these products contain.
- As a result, parents find the so called “natural” products appealing for their kids. This is because they worry about purchasing products with high concentrations of DEET.

*“I’m concerned with some of the ingredients, and so I’m going for the all-natural stuff right now. So, why not just go with the natural stuff that again? It’s not 100%, but it cuts down and I’m not spreading chemicals on the kids.” (Bethesda, Parent)*

*“Especially if they’re playing a lot of sports, if they’re out, I try to spray them before they go.” (Norwalk, Parent)*

*“I’m even more careful now because about four years ago my oldest son got Lyme Disease.” (Norwalk, Parent)*

*“I usually use the harsher stuff, but for my kids I will use Skintastic, something that is not as aggressive.” (Minneapolis, Heavy User)*

- ◆ **Parents also use insect repellents on themselves for specific situations such as going camping , playing outdoor sports or recreating near wooded and wet areas warrant the use of these products.**

- However, parents are typically less deliberate about using insect repellents for themselves than for their children.

*“We don’t use it in town, but when we are camping, we have to.” (Minneapolis, Parent)*

*“I use it on the kids more often. I mean I don’t like getting bites and I don’t like the itching, but I don’t like having that stuff on me as much. So I put it on the kids because I’m more concerned about them.” (Minneapolis, Parent)*



## Insect Repellent Purchase Behaviors – Reasons to Use Product

- ◆ Insect repellents are used to prevent illness and discomfort caused by bites or stings.

- Consumers are aware that certain insects carry potentially deadly diseases.

*“[I use it] to not get a disease like malaria or stuff from mosquito bites.” (Bethesda, Heavy User)*

*“I worry about the West Nile...Where we are, we are right next to the woods where we camp and stuff. It just makes me nervous.” (Minneapolis, Parent)*

*“The Lyme disease with the ticks, and the younger the kids are, the more I’m concerned with the discomfort from the itching because they can’t handle it as well.” (Bethesda, Parent)*

*“There was Equestrian disease that was transferred by a mosquito, and the baby died. So I’m now majorly aware.” (Tampa, Infrequent/Light User)*

- In addition, they want to avoid the itching and pain experienced from bug bites and stings.

*“It maybe stings, nobody enjoys that. Pain is not a good thing.” (Bethesda, Heavy User)*

*“To avoid the bites and the reactions that set in. I want to have a good night’s sleep without scratching myself, getting an irritation. It’s just not [worth] being miserable.” (Tampa, Infrequent/Light User)*



## Insect Repellent Purchase Behaviors – Purchase Drivers

- ◆ Consumers base their purchasing decisions on a variety of factors including brand reputation, strength of the active ingredient, lasting effectiveness, types of insects repelled, price, method of application (i.e., spray, wipes, aerosol/pump, etc.), and recommendations from friends and family.
  - Most consumers do not make their purchase decisions based solely on the information found on the labels of insect repellent products.
    - “Because I’m looking for quality and brand name, a lot of people use it.” (Bethesda, Heavy User)*
    - “They are all relatively safe within reason, so I go by the brand.” (Tampa, Heavy User)*
    - “I look at the package first that I’ve been drawn to, and then I read [the label].” (Minneapolis, Heavy User)*
    - “I usually go with the highest percentage of DEET.” (Bethesda, Heavy User)*
    - “[if it says 8 hours it means] from the time I put it on, it should last me eight hours before I have to reapply it.” (Bethesda, Heavy User)*
    - “How long it last, like 2 hours or 8 hours or something.” (Bethesda, Infrequent/Light User)*
    - “Normally it tells you...it covers ticks, it covers, this, it covers chiggers. So that’s the other thing I’m looking for, what insects does it deal with.” (Bethesda, Heavy User)*
    - “What insects is it going to repel.” (Bethesda, Infrequent/Light User)*
    - “I like the spray stuff. It’s a lot easier and you don’t have to rub it all in.” (Bethesda, General User)*
    - “We’ve gone to having wipes so we can have them in the car.” (Norwalk, Parent)*
    - “Sometimes by word of mouth, friends and family tell you what product they use.” (Bethesda, Heavy User)*



## Insect Repellent Purchase Behaviors – Label Reading – 1

- ◆ Most consumers do not thoroughly read the ingredient labels on insect repellent products because they do not understand what the chemical ingredients are, they have fears about the toxicity of the ingredients, and they are not even sure about which ingredients repellents should contain in order to be effective and safe.
  - Consumers acknowledge insect repellents probably contain chemicals that they perceive are not healthy for them. However, the threats of discomfort and illness that come from bug bites often outweigh the risks associated with the chemicals.

*“I have no idea what any of those things do.” (Bethesda, Heavy User)*

*“I am not well informed as to what the ingredients are in insect repellent and I don’t know what should be in there.” (Bethesda, Heavy User)*

*“I don’t know what the ingredients mean, you know, so I don’t look for it for that purpose.” (Bethesda, Heavy User)*

*“The bite far outweighs the chemical.” (Tampa, Heavy User)*

*“I’d rather have a chemical on me than get bitten and I’m scratching and itching for three days.” (Tampa, Heavy User)*

*“I look at it [label], get it, hoping it works because...it’s hard to tell right by a label exactly how it’s actually going to work.” (Minneapolis, Parent)*



## Insect Repellent Purchase Behaviors – Label Reading – 2

- ◆ **Some consumers are curious about the inert ingredients in insect repellent.**

- While consumers generally recognize DEET is the most common active ingredient, several express some curiosity regarding the inactive ingredients.

*“They all have the main ingredient and then 75% of other ingredients. What the heck are the other ingredients?” (Tampa, Heavy User)*

*“You don’t really know what all the ingredients are.” (Bethesda, General User)*

*“This one says, ‘Now with Gerinol.’ What is Gerinol? There should be an asterisk with an explanation.” (Bethesda, General User)*

- ◆ **Several consumers erroneously infer that a lack of product registration means the product is inherently safe to use.**

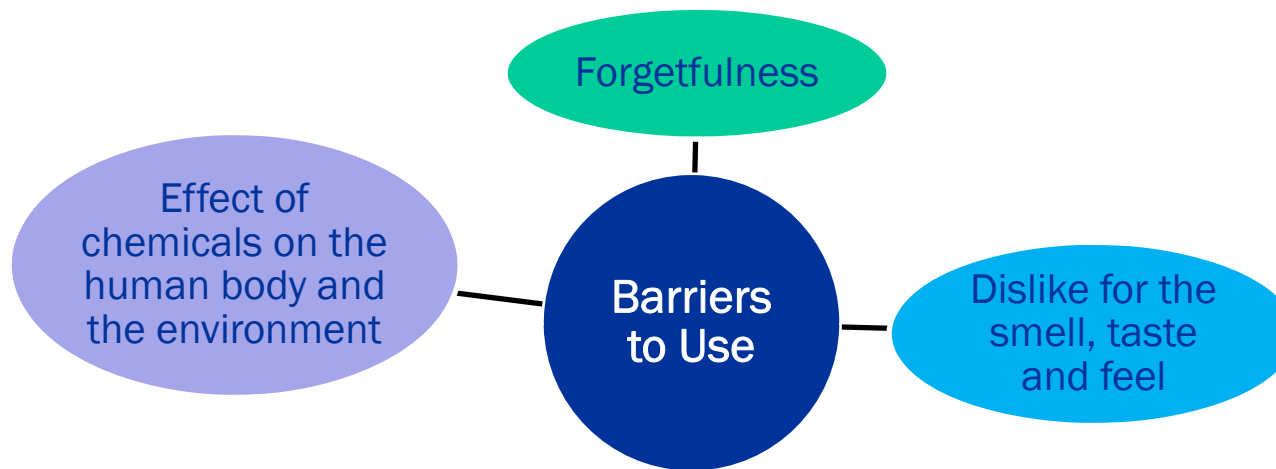
- One sample product included a statement regarding exemption from EPA registration which led several consumers to assume that the product is safe.

*“It doesn’t have to be tested or regulated...so it either means there is some loophole, or it means it’s a lot safer and it doesn’t need any testing.” (Bethesda, Parent)*

*“It means it’s plants and it’s safe. You know you’re safe.” (Tampa, Heavy User)*

*“To me, it means there’s nothing in there to test. It doesn’t have a dangerous chemical...but we only have the company’s word for that – that it is safe.” (Bethesda, General User)*

- ◆ Barriers to regular use of insect repellents include:



- Many of the barriers have to do with intrinsic product qualities/attributes, and are not profound emotional deterrents. Consumers mostly complain about the products being oily/greasy and smelling bad.

*“I just completely forget until I get bit. It just doesn’t cross my mind...” (Norwalk, Infrequent/Light User)*

*“The smell, the taste.” (Norwalk, Infrequent/Light User)*

*“It’s oily and greasy and it stinks.” (Tampa, Infrequent/Light User)*

*“The lotion feels horrible. You sweat and it gets in your eyes.” (Bethesda, Infrequent/Light User)*

*“Well some people are scared of the chemicals...” (Tampa, Heavy User)*

*“The idea of poison and long-term effects...” (Norwalk, Parent)*

*“Just the feel of having sticky fingers and sticky hands.” (Bethesda, General User)*

# Determine Insect Repellent Information Needs





## Insect Repellent Information Needs

- ◆ Consumers want the label on an insect repellent to clearly cite the strength or amount of DEET/other active ingredient in the product, which insects will be repelled, and how long the protection will last in hours so they will know when to re-apply. They're also interested in knowing if it's waterproof and if it is scented or unscented.
  - Using established industry criteria to provide information on the strength of the product would be helpful to the consumer because it communicates effectiveness.
    - Consumers want an effective, long acting product as long as it is safe.
      - "Usually the percentage of the DEET." (Tampa, Heavy User)*
      - "The strength of concentration of the ingredient." (Bethesda, Heavy User)*
      - "...I imagine it would have to be stronger to last long, so maybe it will repel a little bit better." (Tampa, Heavy User)*
  - Consumers prefer longer acting products so they do not have to re-apply as often.
    - Providing the number of hours of protection allows consumers to determine which product will last longest and also allows them to estimate when and how often the product will have to be re-applied during an outing.
      - "From the time I put it on, it should last me eight hours before I have to reapply it." (Bethesda, Heavy User)*
      - "How long it lasts, like two hours or eight hours or something." (Bethesda, Infrequent/Light User)*
      - "Lasts 'X' amount of time." (Bethesda, Heavy User)*
      - "It seems that the number would gauge the hours. Like if it said one, it would be one hour, two for two hours, four for four hours, eight for eight hours..." (Tampa, Heavy User)*
      - "In the summertime you go out swimming, so I need to know if it's going to stay on in the water. Do you have to re-spray?" (Minneapolis, Heavy User)*





## Insect Repellent Information Needs

- Many do not believe that the communicated number of hours is a sure thing. Therefore, they tend to be conservative and reapply prior to the indicated expiration hour.

*"I usually don't believe it will last the full 8 hours." (Tampa, Heavy User)*

- Consumers like when a product can protect them against multiple types of insects. Naming the different insects the user will be protected against helps shoppers determine if the product they buy will meet all their needs.

*"I look for all purpose, can kill more insects, mosquitoes, all in one or three in one instead of [having] to buy three different products." (Bethesda, Heavy User)*

*"I like to know what it's doing. Is it mosquitoes, ticks, everything?" (Minneapolis, Heavy User)*

*"What they say it's going to deter biting the crap out of you." (Tampa, heavy User)*

- Cosmetic information including: if the product is scented, if it is greasy, and if it is waterproof are important to consumers. In fact, consumer complaints about insect repellent products often focus on these issues.

*"I look for something that is going to stay on when I'm running because I really don't like for it to come off when I sweat." (Tampa, Heavy User)*

*"It's oily sometimes." (Bethesda, General User)*

*"Whether it's odorless or odor free." (Norwalk, Infrequent/Light User)*

*"In the summer time you go out swimming, so I need to know if it's going to stay on in the water, do you have to re-spray?" (Minneapolis, Heavy User)*



## Insect Repellent Information Needs

- ◆ In addition, standard safety information, instructions on when to reapply, and an expiration date should also appear on the package.
  - Even though consumers feel it is important to include this information on the package, these data are not what they look for first when purchasing insect repellent.
- ◆ Consumers want key information presented in a clear and concise manner in big print on the front of the package so important data points are readily visible.
  - Consumers do not want to have to read the “fine print” to get the information they need.
    - “It should pop out at you. You shouldn’t have to really look for it.” (Minneapolis, Parent)*
    - “Use a big font.” (Bethesda, Heavy User)*
    - “Make it easy to read.” (Tampa, Infrequent/Light User)*
    - “The ones that are clearly labeled are easier to read. If I have to look too long to figure it out, I put it back.” (Norwalk, Parent)*
- ◆ Consumers prefer that both the language and visuals be used to communicate information about insect repellents.
  - They have mixed opinions about the type of visuals that should be used on the labels. Some want pictures of the specific insects the product protects them against, others prefer pictures of the surroundings/situations where insect repellent is needed e.g., woods, campgrounds, etc., and parents express an interest in visuals that communicate the products are family friendly.
    - “Probably [should have] a picture of the insects.” (Minneapolis, Parent)*
    - “If it can have pictures or symbols...to make me want to pick the product up to read the label to see what additional information it may have.” (Bethesda, Infrequent/Light User)*



## Insect Repellent Information Needs

### Summary: Most Important Labeling Information

#### Primary

- Type of bugs protected against
- Hours of protection
- Active ingredient

#### Secondary, but still important

- Scented/unscented
- Waterproof
- Reapply after “x” hours
- Expiration date
- Safety warnings

# Obtain Reactions to Current Insect Product Labels





# Reactions to Current Insect Repellent Product Labels

The following twelve insect repellent products, which are currently on the market, were presented to respondents in order to obtain their reactions to the product labels.



- ◆ After reviewing the above labels, consumers admit there is no consistency in insect repellent labeling, and this lack of consistency makes it difficult for them to compare products when shopping.
  - Many labels are confusing because the claims vary, and there is too much text/detail that is written in small/fine print, which is too difficult to read.
  - Respondents prefer simple, uncluttered labels that present key information e.g., hours of protection, insects repelled, percentage of active ingredient, scented or unscented, in a sizeable font on the front of the label.
  - Respondents are interested in consistency or a degree of uniformity for all insect repellent labels that will help simplify the shopping experience and facilitate consumers' ability to compare products easily and quickly. The goal is to "eliminate the guesswork."
  - Respondents like product labels A, K and M because they clearly communicate that the insect repellent application is good for a precise number of hours. The higher the number, the better.



A B C D E F G K L M N R

- Others comment favorably about showing a visual of camping/or the woods, since these represent typical occasions when they are more likely to need and use insect repellent. They can envision themselves there. These labels are A, D, K, M, N.
- Parents are attracted to labels that communicate the insect repellent is appropriate for families, especially children. The communication is most effective using both words and visuals. Parents are attracted to words like “trusted,” “gentle,” “natural,” “organic/chemical i.e., DEET free.” These labels are B, F, G, L and R. However, consumers generally perceive “organic” products to be more expensive and less effective.
- Consumers especially like all labels that provide specific information on the front of the bottle about the types of insects the product repels. Only F does not detail this information on the front.
- Consumers prefer the labels that identify the active ingredient (e.g., DEET) or alternatively, the absence of it. Labels that make a point of calling out this information, e.g., M and N (percent of DEET) and F and R (absence of DEET) are preferred over the ones that just provide an ingredients list.
- Consumers also prefer the bottles that indicate whether or not a product is scented (Label R) or unscented /fragrance free (Label A).



## Reactions to Current Insect Repellent Product Labels

*"This one has 8 hours, some just say long-lasting. I'd rather have a time frame."  
(Norwalk, Infrequent/Light User)*

*"This one is not really selling me... 'repels for hours.' How many hours?"  
(Norwalk, Infrequent/Light User)*

*"The fact that this says insects and ticks for eight hours on the front, that is helpful information."  
(Bethesda, Infrequent/Light User)*

*"This says strong repellent, and to me, that means absolutely nothing. I want to see a rating on a repellency scale that I understand."  
(Bethesda, Infrequent/Light User)*

*"I go for anything that has woods on the picture. That's visually what I am doing."  
(Norwalk, Infrequent/Light User)*

*"I like L. It's easy to read. It says it's 'All Family' right off the bat. Soft on skin, tough on bugs, not greasy or oily. Repels mosquitoes 'that may carry West Nile Virus.' You see the DEET real easy. It just gives it to me in plain sight, not in little tiny writing."  
(Tampa, Infrequent/Light User)*

*"It has all the listed active ingredients in it. You can really see them."  
(Minneapolis, Heavy User)*

*"I like K because it looks like it's going to work because it says 'Works against West Nile Virus' and it lists all the bugs. It gives you confidence knowing that it's saying what it will fight against."  
(Minneapolis, Parent)*

*"They put the small print on the back and it's so hard to read. The [lack of] contrast and the [small] size make the label difficult to read."  
(Bethesda, Heavy User)*

*"The ones with the dark background and dark print are very hard to read. Impossible to read K."  
(Norwalk, Parent)*



# Reactions to Current Insect Repellent Product Labels

## Summary: Reactions to Current Product Labels

### Likes

- Simple, uncluttered labels that present the key information on the front in large/readable text
- Clear communication of the number of hours of protection
- Information about the specific insects repelled
- Identify the type and strength of active ingredients
- Visuals
- Communication of “appropriate for families”

### Dislikes

- There is no consistency in labeling
- Cannot easily compare across products
- Confusing because claims vary or consumers do not know enough about the active ingredients
- Too much fine print



# Determine Appeal of Current Insect Repellent Product Claims





# Appeal of Current Insect Repellent Product Claims

- ◆ Consumers were exposed to 19 sample product claims and asked to identify which claims are most informative/helpful and which claims are least informative/helpful.

## Most Helpful/Informative Claims

- ◆ Repels \_\_\_\_
- ◆ Repels \_\_\_ for up to \_\_\_ hours
- ◆ Protects against \_\_\_(insert name)
- ◆ Protects against \_\_\_ for up to \_\_\_ hours
- ◆ \_\_\_ hour protection

## Least Helpful/Informative Claims

- ◆ Repels bloodsucking insect pests
- ◆ Effective dependable protection
- ◆ Pleasant protections, effective for \_\_\_ hours
- ◆ Hours of protection
- ◆ Repeat application as necessary
- ◆ Frequent re-application is unnecessary

## Neutral Claims

- ◆ All day protection
- ◆ Over \_\_\_ hours of maximum protection
- ◆ Reapply after \_\_\_ hours
- ◆ Repels biting insects for \_\_\_ hours
- ◆ Up to \_\_\_ hours of protection
- ◆ Provides up to \_\_\_ hours of protection
- ◆ Avoid over-application
- ◆ Re-apply after \_\_\_ hours



## Appeal of Current Insect Repellent Product Claims

- ◆ Consumers react most positively toward claims that use action words such as “protects or repels against” and then state the type of insects. These preferred claims also include the words “for up to” and then specifically state the specific “number of hours” any single application of the product will last.
  - In general, consumers feel that “repel” is a much stronger word than “protect” and describes that use of insect repellent will prevent them from getting bit, which is precisely what the product is intended to do.
  - “Protect” is often preferred by parents because it suggests that their children will be protected from the diseases being carried by the insects. Some express concern that the word “protect” gives users a “false sense of security.”

*“I think of them different. I think of like repelling mosquitoes so they don’t bite me. Protecting, I think of something more like disease.” (Minneapolis, Heavy User)*

*“I would want to protect my daughter, but I would want the mosquitoes repelled away from me. I want to protect her. Protection seems more like for my family.” (Minneapolis, Parent)*
  - Consumers respond positively to these claims because they tend to be short and to the point

*“Provides up to the number of hours of protection, just simple, sweet.” (Bethesda, Heavy User)*
- ◆ Consumers are either neutral or border on reacting negatively toward claims that are non-specific, too wordy, or focused more on a re-application message for the product.

*“I didn’t really like ‘all day protection,’ because what is all day?” (Bethesda, General User)*

*“Hours of protection. What does that mean? (Minneapolis, Parent)*

*“I crossed out hours of protection because it seems too generic.” (Tampa, Heavy User)*

*“[I crossed out] All day protection, repeat application as necessary and frequent reapplication is unnecessary. I don’t know what it means.” (Minneapolis, Heavy User)*



## Appeal of Current Insect Repellent Product Claims

- ◆ **Less preferred claims tend to be general, vague and lacking in specifics.**

- The less preferred claims simply say “hours of protection,” or focus on re-application e.g., “repeat applications as necessary,” and “frequent re-application is unnecessary.” They also include subjective words or unsubstantiated opinions e.g., “pleasant protections,” “effective, dependable protection,” or are perceived as unpleasant such as “repels bloodsucking insect pests.”

*“Exactly which insects, exactly how long, exactly how strong, not general statements.”  
(Bethesda, Infrequent/Lighter User)*

*“Bloodsucking insects. That’s just a little weird.” (Bethesda, General User)*

*“I crossed out ‘pleasant protection’ because that sounded sissy to me.” (Tampa, Heavy User)*

- ◆ **As mentioned, claims that focus on “re-applying” are of less interest because insect repellent users generally know to reapply.**

- Typically, they reapply just prior to or when the stated number of hours on the product have expired, or if they are engaging in an activity e.g., swimming where the repellent is likely to be diluted, or when they feel the bugs are no longer being repelled/or are biting again.
- Consumers are less likely to react positively toward re-application claims because these sorts of claims remind them that insect repellents may not be too reliable.

*“Re-apply is like it stops working, whereas the other one says, it works for this long.”  
(Bethesda, Parent)*



## Summary: Preferences Regarding Product Claims

### Likes

- Claims that use actions words such as “protect” and “repel” and then state the specific type of insects
- Includes “for up to ‘x’ hours”

### Dislikes

- Claims that are vague, general, non-specific
- Claims that are wordy
- Claims that focus on a re-application message
- Claims that use subjective words or unsubstantiated opinions

# Obtain Reactions to Instituting an Efficacy Mark





## Reactions to Instituting an Efficacy Mark – 1

### ◆ Consumers are uninformed and a bit confused about the regulatory agency for insect repellents.

- Consumers assume insect repellents are regulated, although most are unaware of which federal agency is responsible for these products.

*“I’m a machinist so I see that symbol right there [sample efficacy mark] as like the OSHA standard of fire reactivity, hazard and incompatibility. And, it just captured my attention right away. I know what that symbol means.” (Minneapolis, Heavy User)*

*“If it’s FDA approved, it means it’s been vigorously tested and it’s not going to give you some crazy side effect, whereas something that has not been FDA approved, it could have an ingredient that will hurt you in the long run.” (Bethesda, General User)*

*“You may want to see something about whether it’s FDA approved...if it’s been approved.” (Tampa, Infrequent/Light User)*

*“It’s like a seal of approval...you would hope there’s some kind of regulation saying that it’s tested and it’s going to work like this.” (Minneapolis, Parent)*

### ◆ Consumers are receptive to, and value, a standard efficacy label on insect repellent products.

- After examining sample products, consumers are very receptive to some form of standardization or efficacy mark.

*“If the industry somehow established some sort of criteria, that would be great!” (Bethesda, Heavy User)*

*“Right now the labels are all over the map [making it difficult to compare]...in other words, it would be hard to do a comparison chart.” (Bethesda, Heavy User)*

*“I’m in favor of some kind of consistency across all these different brands. You can read the ingredients, but I’m not a scientist. I don’t know what they mean and what that translates to.” (Minneapolis, Parent)*



## Reactions to Instituting an Efficacy Mark – 2

*“You could use ABF – Anti-Bug Factor. A rating compared to other products. So, for example, you can take it right off the shelf, but there is a code.” (Bethesda, Parent)*

*“This says ‘strong repellent’, and to me, that means absolutely nothing! I want to see a rating on a repellency scale that I understand.” (Bethesda, Infrequent/Light User)*

*“I would like to see a standard established that I can make a judgment about functionality.” (Bethesda, Infrequent/Light User)*

- Specifically, they anticipate standardization to assist them in selecting the appropriate product for their needs.

*“I think it’s really helpful...I don’t want to spend 10 or 15 minutes trying to read labels.” (Minneapolis, Heavy User)*

*“If it became standardized, [then] I’m not worried about are they trying to manipulate me> (Bethesda, Parent)*

*“So the consumer can make an informed decision. Perfect decision assumes perfect knowledge of the product, and if you can’t compare the products, you can’t make a perfect decision.” (Bethesda, Infrequent/Light User)*

*“It’s easy for you to compare right there and see what you want and pick out what you need.” (Norwalk, Parent)*

*“It would be helpful if it was all standardized where it had to be on the box, the same spot on each bottle.” (Tampa, Heavy User)*



# Obtain Reactions to EPA Sample Efficacy Marks



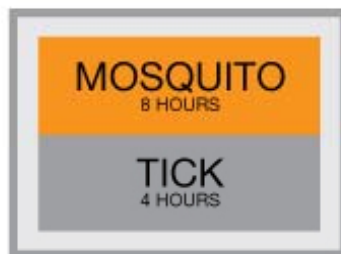


# Reactions to EPA Sample Efficacy Marks

A total of 5 efficacy marks were tested in Round 1 of the research (Bethesda, MD). These marks include: “Original Circle”, “Square”, “Bugs”, “Bars/Lines”, and “Circle-Pairs.”



Original Circle



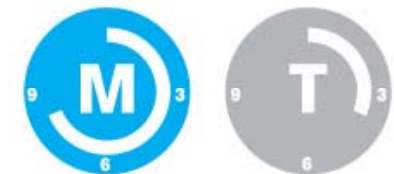
Square



Bugs



Lines/Bars

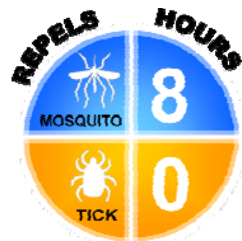


Circle Pairs

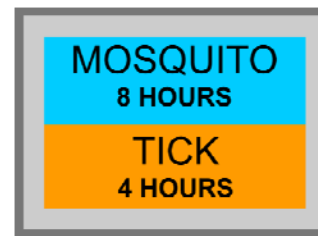
Based on the initial findings, four efficacy marks were tested in Round 2 (Norwalk, Ct, Minneapolis, MN and Tampa FL) including: “Circle” (which is a modified version of the “Original Circle” tested in Round 1), “Alternative Circle”, “Square” and “Bugs”. “Lines/Bars” and “Circle Pairs” were not as well received in Round 1 so they were eliminated from testing in the second round of focus groups.



Circle



Alternative Circle



Square

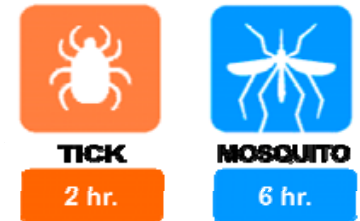


Bugs



## Reactions to EPA Sample Efficacy Marks – Bugs

- ◆ Consumers indicate that the “Bug” efficacy mark is the most communicative because it is easy to read and straightforward to interpret.



- They like that it conveys in a simple way using both words, visuals and numbers the important information needed on an insect repellent label, which is the number of hours that the repellent lasts and the types of insects it repels. Consumers also like that the “Bug” efficacy mark is colorful.

*“I liked Bugs too. I just thought with the contrast and the colors, how it really directs, pulls your eyes to where it needs to go and you look instantly and see it.” (Minneapolis, Parent)*

*“It’s visual and we’re visual people. So, you look at it and then you can see without having to read the fine print.” (Bethesda, Parent)*

*“Bugs. It tells you two hours for ticks, six hours for mosquitoes. Plain and simple.” (Norwalk, Parent)*

*“I like the Bugs because they use just two colors; it’s very simple, everything seems to be in order, not as busy as the others.” (Tampa, Heavy User)*

*“I like Bugs because it has a picture and someone mentioned what if they don’t read English, that would be useful.” (Bethesda, Heavy User)*

*“The Bugs because they had pictures of the insects for those who don’t know what all the insects look like and it was very clear to see quickly.” (Bethesda, Infrequent/Light User)*

*“I like the Bugs, and that takes even less work. You don’t have to read a word. You can just look at the picture.” (Bethesda, Infrequent/Light User)*

*“I thought the Bug was the most effective in communicating, taking into consideration people that may not speak the language or are of different intelligence levels, different ways of looking at things. I think it’s extremely clear for most people with what’s written under it. I think the words and the picture help it to be very clear.” (Tampa, Infrequent/Light User)*



## Reactions to EPA Sample Efficacy Marks – Original Circle (Round 1)

- ◆ Reactions to “Original Circle” tested in Round 1 were positive from a visual appeal perspective. However, because a key was required to interpret the initials “M” and “T”, which were provided to communicate insect types, the efficacy mark did not test as strongly on communication effectiveness.
  - Reactions were not overly positive with regard to the effectiveness of the communication for this mark because it requires too much effort to interpret the message. In other words, consumers could not understand the message with just a quick glance.



*“For the Circle, I felt like once you became an educated population and knew what we were looking for the circle could work. But for me it was like, wait, what does M stand for?” (Bethesda, Parent)*

*“You’ve got letters and then you’ve got to go down to the key and then go back up to...you know, once you go where the M is then you’ve got to go back up to the eight, back and forth.” (Bethesda, Heavy User)*

*“I don’t like having to look at the key.” (Bethesda, Heavy User)*

*“Circles, when I’m seeing it, I’m thinking what is M8 and T4 for?” (Bethesda, General User)*



# Reactions to EPA Sample Efficacy Marks – Circle and Alternative Circle



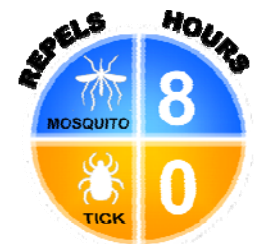
- ◆ The “Circle”, the efficacy mark that does not include the words “Mosquito” and “Tick” is visually appealing, but less effective from a communications standpoint.

- This is because people might not be able to figure out which insects the graphic symbols represent, and then will not know which insects the repellent repels.

*“I went with the Circle, but it would be important to have the name...I think most people don’t know what a tick would look like...how will they know, if it’s just a picture?” (Tampa, Heavy User)*

*“The Circle one shows the consumer what it repels and hours. I thought the mosquito-tick wording, it’s too busy. But if you’re a visitor, it’s kind of important [to have the word labels].” (Minneapolis, Heavy User)*

- ◆ The “Alternative Circle”, the one that includes the visuals, names and numbers of the insects, as well as the words “repels” and “hours” is considered the most visually appealing efficacy mark by far, out of all those tested, and many consumers also think it effectively communicates.



- Specifically, respondents like the shape of this efficacy mark, the colors and the fact that it is neat and organized.

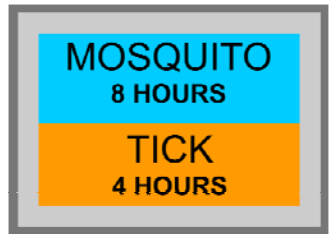
*“I thought that it was very, very clear information the first time you look at it. It repels insects for that long.” (Minneapolis, Parent)*

*“It looks like it would be very easy to standardize that on all of the bug labels. It just looks concise and together. It looks like you could walk by and see the one you’d want and go and not have to try and figure everything out.” (Tampa, Heavy User)*

*“I picked Bugs as the most effective, but Circle as the most appealing.” (Tampa, Heavy User)*



## Reactions to EPA Sample Efficacy Marks – Square



- ◆ The Square efficacy mark communicates effectively, and is very simple and easy to understand. However, its design is considered old fashioned, artistically boring, bland and dull.

- Concern was expressed about the message being conveyed in words only, rather than words and visuals, since visuals are seen as being extremely helpful in conveying the intended message.
- The visuals are considered especially valuable to non-English speaking individuals.

*“I like Square because it lists it clearly and boldly, very easy to see and just glance at and know what it means.” (Bethesda, Heavy User)*

*“There is nothing creative.” (Tampa, Heavy User)*

*“It’s short, sweet and simple.” (Bethesda, Infrequent/Light User)*

*“Square is just straight to the point with mosquito, eight hours, tick, four hours. Straight to it, not too much going on, no designs or anything like that.” (Bethesda, General User)*

*“I chose the Square as the most effective. It’s very clear. It’s crisp, it looks serious and professional, and you don’t have to guess which bug it is.” (Norwalk, Parent)*

*“It’s too dull, it was very boring...and it has no visual.” (Norwalk, Infrequent/Light User)*

*“[The Square] has no visuals...I like the visual symbols, and then for people who do not speak English [it’s] like shorthand, you instantly know.” (Minneapolis, Parent)*



## Reactions to EPA Sample Efficacy Marks – Lines/Bars



- ◆ Results from Round 1 testing indicated that “Bars/Lines”, although visually appealing primarily because of the colors, was too difficult for consumers to understand and interpret quickly.
  - “Bars/Lines” is confusing because it is missing specific language to communicate that what is being measured is length of time in hours that insect repellent users would be protected against mosquitoes and ticks.
  - “Bars/Lines” is also missing insect symbols which work well in concert with language to effectively communicate which insects will be repelled with use of a particular product.
  - Therefore, consumers feel a key would be necessary to aid in the understanding of the information this particular efficacy mark is trying to convey.

*“I liked the idea of the bars that it gives you a gradation perspective, but I was searching for where I am on it and it takes too long for a quick comparison.” (Bethesda, Parent)*

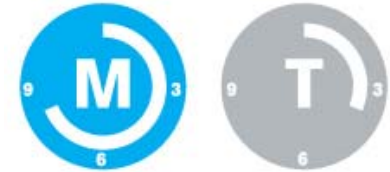
*“This [Bars] is too complicated for this type of product...it is making you work...it looks like an equation.” (Bethesda, Parent)*

*“It’s not saying anything about hours, and I’m going, what is four and what is eight?” (Bethesda, General User)*

*“I felt it was slightly cryptic.” (Bethesda, General User)*



## Reactions to EPA Sample Efficacy Marks – Circle Pairs



- ◆ The “Circle Pairs” efficacy mark is one of the least preferred marks because it is much too cryptic and difficult to read and interpret.

- The analog clock style of the graphic without the word “hours” being noted, and the use of the initials “M” and “T” rather than use of the words “mosquito” and “tick” require the reader to work too hard to get the message.

*“That’s just what I thought, you’d have to go from insecticide to looking at your watch and saying, okay, that’s eight, so it’s an eight hour protection.” (Bethesda, Heavy User)*

*“I keep looking at the clock and I get confused.” (Bethesda, Heavy User)*





# Reactions to EPA Sample Efficacy Marks – Summary

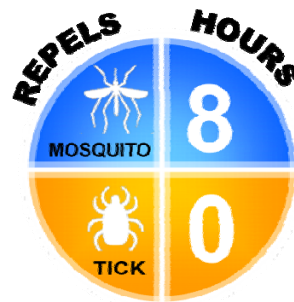
## Bugs

- ◆ Most communicative because it is easy to read and straightforward to interpret
- ◆ Conveys important information in both words and visuals



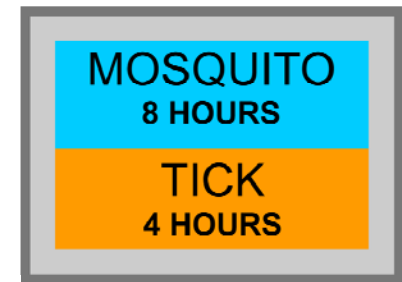
## Alternative Circle

- ◆ Most visually appealing
- ◆ Like the shape and colors
- ◆ It is neat looking and organized



## Square

- ◆ Easy to understand
- ◆ Design is old fashioned, boring and dull
- ◆ There are no visuals



## Lines/Bars

- ◆ Too difficult to interpret
- ◆ 0-8 scale is not labeled



## Circle Pairs

- ◆ Least preferred because it is too difficult to read and interpret



# Explore Expectations for Protection Time and Variability Issues





## Expectations for Protection Time and Variability Issues – Repellent Factor



- ◆ Consumers want a consistent, standard measure of efficacy for insect repellent products. However, because RF measurement is unfamiliar to consumers, they find it confusing.

Consumers were asked about another system for communicating efficacy for insect repellents called Repellent Factor (RF).

- They are not sure what RF means or how to interpret it, and wonder whether it is communicating that a product has a higher percentage of the active ingredient.
- They recognize that they would have to be educated to understand a new system of measurement on efficacy for insect repellents.

*"I think it's just confusing, honestly. I don't know what Repellent Factor means."  
(Tampa, Infrequent/Light User)*

*"Right now I have no clue because I haven't been trained in what RFs are." (Minneapolis, Parent)*

*"Does that mean there's more DEET in it? (Norwalk, Parent)*



## Expectations for Protection Time and Variability Issues – Repellent Factor

*“There is going to have to be like a training period for the public to understand what this means.”  
(Tampa, Heavy User)*

- Intuitively, and mostly based on their experience with sunscreen products, consumers assume products with higher RF numbers are stronger than products with lower RF numbers. Therefore, they believe that consumers who tend to attract bugs, who are engaging in outdoor activities, or who are going out at night should use products with higher RF numbers.

*“The RF stands for Repellent Factor. So how much it repels, I would think the higher the number the more repellent it is. I would think.” (Tampa, Infrequent/Light User)*

*“Obviously, the higher the number to me means it’s stronger.” (Tampa, Heavy User)*

- ◆ **Because they do not yet understand RF, consumers indicate they’d prefer to see the number of hours of efficacy and the type of insects repelled rather than RF.**

*“This is going to be confusing. People are going to worry about how much does it control. How much are the chemicals in RF15 versus RF40 versus RF30? If you just put on there mosquito and tick protection for ‘x’ number of hours, that should be sufficient.” (Tampa, Infrequent/Light User)*

*“Is it the higher the number, the stronger? But you don’t know how long and you don’t know what it’s good for.” (Minneapolis, Parent)*

*“If I saw hours, I’d probably grab that over this. I’d be like, ‘Oh’ because I’d know what I was getting.” (Minneapolis, Parent)*



## Expectations for Protection Time and Variability Issues

- ◆ Consumers are pretty realistic about the efficacy of insect repellents. Although they hope that insect repellents will be 100 percent effective, based on personal experience, they know the products will only reduce the number of bites they get and not eliminate them completely.
  - Some say they have yet to find a product that will protect them against all types of bugs. Others say it's hard to ensure that all exposed skin areas are treated.

*"[I expect fewer] They're going to find a place to land, you can't cover up everything." (Bethesda, Heavy User)*

*"Well, they mostly say repellent. Repellent means it's going to repel, but it's not going to protect you all the way." (Bethesda, Parent)*

*"I think of bug sprays as like an umbrella. If you walk in the rain with an umbrella for four hours you're going to get a little bit wet. It's there to protect you, it's there to help...it's not a hundred percent." (Bethesda, Heavy User)*

*"I would automatically bump it down from eight [hours] to six because everyone applies it different." (Minneapolis, Parent)*

- ◆ Consumers acknowledge that there are many variables that affect optimal effectiveness of insect repellents and understand and accept that variability in protection time exists.
  - Therefore, they try to assess their own personal needs in choosing a product and in determining when to reapply.
    - "My test is I put it on and then when they start biting me again; it's starting to wear off." (Minneapolis, Parent)*



## Expectations for Protection Time and Variability Issues

- ◆ Consumers assume that efficacy ratings have a margin of error based on a variety of factors some human and some situational.
  - Consumers acknowledge variability can be based on: the sensitivity of the person to bites, the circumstances, occasions or surroundings prompting the use of insect repellent, weather conditions, time of day, the fact that product ingredients vary, and the fact that the hours of efficacy are likely estimations.
  - Therefore, consumers typically reapply just prior to or when the allotted hours of efficacy time are up, or if they are participating in activities that might cause the insect repellent to dilute, or ultimately when the bugs start to bite again.

*“I think the comparison is the thing that is most important, and the hours I take as average. Like if I’m extra sweaty, I apply it more often. The same thing with swimming where you put your sunscreen back on. You know, it’s an average day doing average things for an average person if you do it right, you probably won’t get mosquito bites in 8 hours.” (Bethesda, Infrequent/Light User)*

*“Like you said, it depends on what conditions, people, the type of person and everything. There are so many different variables.” (Bethesda, Heavy User)*

*“I think of bug sprays like an umbrella. If you walk in the rain with an umbrella for four hours, you’re going to get a little bit wet. It’s there to protect you, it’s there to help you...it’s not a 100%.” (Bethesda, Heavy User)*

*“I was thinking about will it last longer on my skin than it lasts on her skin? Where are you? Are you in a forest, on a river, or will it wash off while you’re sweating? (Tampa, Infrequent/Light User)*

# Appendix A: Respondent Profile





# Respondent Profile

	Total
<b>Geographical Locations</b>	<b>N=92</b>
Bethesda, MD	35
Norwalk, CT	20
Minneapolis, MN	19
Tampa, FL	18
<b>Age</b>	<b>N=92</b>
Under 25	7
25-34	20
35-44	19
45-54	23
55-64	23
Refused	0
<b>Highest level of education you have completed?</b>	<b>N=92</b>
High school graduate	11
Some college	34
College graduate	36
Post graduate	11





# Respondent Profile

	Total
<b>Working Status</b>	<b>N=92</b>
Employed full time	61
Employed part time	22
Not currently working	9
<b>Household Income</b>	<b>N=92</b>
\$35,000 to \$49,999	18
\$50,000 to \$74,999	25
\$75,000 to \$99,999	23
\$100,000 or more	26
<b>Race/Ethnicity</b>	<b>N=92</b>
Caucasian/White	76
African American/Black	10
Hispanic/Latino	2
Asian American	0
Native Hawaiian or Pacific Islander	0
Some other racial or ethnic group	4
<b>Gender</b>	<b>N=92</b>
Male	50
Female	42



# Respondent Profile

	Total
<b>Age of Children at Home* <sup>A</sup></b>	<b>N=48</b>
1-2	8
3-5	10
6-10	19
11-17	11
<b>Frequency of Using Insect Repellent on Children 10 and Under When Going Outdoors* <sup>A</sup></b>	<b>N=29</b>
Every time	8
Most of the time	10
Some of the time	9
Rarely	1
Never	1
No answer	0

<sup>A</sup> Only asked to Parents Group

\* Respondents could answer yes to more than one group



## Respondent Profile

	Total
<b>Reasons for Not Using Insect Repellent on Children All the Time <sup>A</sup></b>	<b>N=29</b>
Don't like the smell	5
Outside for too short a time period	2
Not sure which insect repellent to purchase	1
Don't like the greasy feel	1
Don't think they work	1
Labels are confusing	0
Forget to use	6
Don't usually get bitten by insects	8
Others	5
<b>Frequency of Using Insect Repellent <sup>B</sup></b>	<b>N=65</b>
Every time	7
Most of the time	21
Some of the time	20
Rarely	11
Never	6

<sup>A</sup> Only asked to Parents Group

<sup>B</sup> Not asked to Parents Group



# Respondent Profile

	Total
<b>Reasons for Not Using Insect Repellent <sup>C</sup></b>	<b>N=46</b>
Don't like the smell	10
Outside for too short a time period	8
Not sure which insect repellent to purchase	1
Too expensive	2
Don't like the greasy feel	4
Don't think they work	1
Labels are confusing	1
Forget to use	12
Don't usually get bitten by insects	7
<b>Frequency of Being Outdoors <sup>B</sup></b>	<b>N=65</b>
Always	6
Regularly	44
Occasionally	15

<sup>B</sup> Not asked to Parents Group

<sup>C</sup> Only asked to Infrequent/Light and general user group