Happy Trails, Candy!

We’d like to say goodbye and send well wishes to Candace “Candy” Brassard, who retired from EPA’s Office of Pesticide Programs on August 23rd. Candy, a biologist with 35 years of federal service, spent much of her career with EPA. She devoted her final two years to the Environmental Stewardship Branch in support of PESP and our IPM efforts.

In her early career, she focused on ecological risk assessments and ecological monitoring. Candy later shifted to efforts to evaluate prevention and control methods for vectors that pose risks to public health, including tick borne-diseases.

An especially notable accomplishment of Candy’s impressive career was the 2014 Federal Initiative: Tick-Borne Disease Integrated Pest Management White Paper. The document was the product of a two-year collaboration by the Federal Tick-Borne Disease IPM Workgroup, a group comprised of 14 agencies including EPA, Centers for Disease Control and Prevention, Department of Agriculture, Geological Survey, National Science Foundation, Department of Defense, National Institutes of Health, and National Park Service. Candy was instrumental in marshalling the production of this important document.

Candy was a leader and incredibly dynamic force in promoting IPM tactics to reduce the risk from ticks and tick-borne diseases. She was unique in that her work intersected with her personal passion. We’ll dearly miss her ever-present optimism and support for IPM!

Featured Member: The Lyme Disease Association

We sat down with Pat Smith, President of the Lyme Disease Association, Inc. (LDA), to discuss her organization’s work preventing Lyme disease and how Integrated Pest Management (IPM) can be applied to reduce the incidence of this potentially debilitating disease. LDA is a longstanding Silver-level member of the Pesticide Environmental Stewardship Program.

Can you give us some background on your organization’s history and goals?

LDA’s mission is to promote awareness of and control the spread of Lyme and other tick-borne diseases (TBD) through education of health care professionals, the public, and government officials; raising and distributing funds for cutting edge research, external education initiatives, and other innovative projects; and assisting underprivileged patients.

LDA is a 501(c)(3) non-profit focused on research, education, prevention and patient support. LDA began as the Lyme Disease Association of Central Jersey in 1991, then became the Lyme Disease Association of New Jersey in 1993. Formed by patients and doctors who saw the need to organize to fund research and educate people on the many complex issues, by 1997, it had influence far beyond NJ borders. In 2000, it became the Lyme Disease Association, Inc. with a broader mission. LDA is volunteer-run and utilizes consultants for specific expertise as needed.
The Lyme Disease Association
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LDA presents fully accredited annual scientific/medical conferences, funds research nationally, provides monies for children without insurance coverage for Lyme, provides free literature, has a free information line, hosts a free online doctor referral and heads LDA.net, an association of 41 organizations that work together on national issues.

LDA collaborates with EPA on a federal/public tick IPM workgroup to reduce the risk from ticks and the pesticides associated with their prevention and control. To that end, LDA contributed to EPA’s 2011 Promoting Community IPM for Preventing Tick-Borne Diseases conference by providing speakers and co-hosting a session with the Centers for Disease Control (CDC). Pat Smith co-authored the article, You Can Make a Difference to a Child by Reducing the Risk of Lyme Disease, in the May 2010 journal of the National Association of School Nurses (NASN) in conjunction with the Network to Reduce Lyme Disease in School Aged Children developed with EPA, CDC, NASN, and LDA.

In its search for preventative measures and a cure for chronic Lyme disease, LDA has funded dozens of research projects, through some 95 grants, coast-to-coast. Much LDA-funded research has been featured in 35 peer-reviewed publications. A joint effort by LDA, Columbia University, and the Lyme Research Alliance, led to the 2007 opening of the endowed Lyme and Tick-Borne Diseases Research Center at Columbia University, the first in the world devoted to the study of chronic Lyme disease.

The LDA has presented 15 accredited scientific conferences for researchers, doctors, and health care providers, featuring international speakers on TBD, most jointly sponsored by Columbia University. LDA has also educated through public, school, corporate and government seminars. Annually, LDA awards education grants to Lyme groups, universities, and other organizations to further their TBD mission. To date, 94 such grants have been awarded.

Since children are at the highest risk of acquiring Lyme disease, in 2004 LDA created LymeAid4Kids, a fund to help uninsured children. Initiated in conjunction with author Amy Tan LymeAid4Kids has awarded almost $250,000 in grants.

LDA’s website features a Lyme: Kids & Schools section with free information for teachers, parents, and the public. In addition to material directed at children, LDA also offers for free (after postage) the LymeR Primer brochure, Tickmark, and Tick Card; downloadable and printable copies of National Case Map, Case Number graphs, Personal & Property Prevention Posters, Symptoms Lists; and at cost materials including conference DVDs, and books. The site also houses an extensive collection of tick and rash pictures and tick-borne microbes. Finding doctors who are experienced in treating tick-borne diseases is difficult, thus LDA created an automatic doctor referral system to help people world-wide.

LDA representatives have testified in many state legislatures and participated in press conferences with congresspersons, governors and other elected officials. LDA had led the charge on the introduction and passage of federal and state Lyme-related legislation. The LDA President testified before the US House of Representatives Foreign Affairs Global Health & Human Rights Subcommittee (2012) and Energy & Commerce Health Subcommittee (2013).

What is your organization’s role in promoting IPM to help prevent Lyme disease?

One of the goals of the LDA is to reduce the number of people exposed to ticks, thereby reducing the risk of the diseases they carry. LDA has always incorporated information about personal, domestic animal, and property protection related to ticks and TBDs into its educational seminars, presentations, published literature, and research agenda.

LDA does not advocate for the use of products, but rather, presents strategies for reducing TBDs, such as the avoidance of tick habitats, proper clothing, property maintenance, and, perhaps most importantly, tick checks. The realities of increasing tick populations, however, create a need for individuals to be aware of products that can be used on clothing, skin, and property to kill or repel ticks. Therefore, LDA has incorporated into its programs information on the availability of such products, their differing purposes, the need to know and comply with manufacturers’ directions/recommendations, the risks/benefits of such uses, and where they can find more information on these types of products, such as EPA’s website.

Additionally, LDA has presented information on IPM tactics such as deer feeder stations to control ticks on large properties, bait boxes to control ticks on small mammals, and biological controls for ticks such as fungi and nematodes. It is LDA’s philosophy that they have a responsibility to inform people of all prevention options, but that people are ultimately responsible for their choices.

What techniques and messages have you found to be the most effective in preventing exposure to ticks?

The most effective message in preventing exposure to ticks is immersion - saturating people with the facts about the diseases ticks cause.

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Five Common Myths about Ticks

People often make decisions that could lead to exposure to tick borne diseases because they are misinformed about the habits and biology of ticks. Here are some of the commonly held misconceptions about ticks.

**Myth 1: Ticks die after the first frost.**

Facts: Unfortunately not! While some species, such as the Lone Star tick (*Amblyomma americanum*) and American dog tick (a.k.a. wood tick) (*Dermacentor variabilis*) tend to be less active during the winter when temperatures are under 10°C (50°F), other species, such as the blacklegged tick (a.k.a. deer tick) (*Ixodes scapularis* and *Ixodes pacificus*), remain active during the cold months. In fact, the adult blacklegged tick begins feeding activity around the time of the first frost! As long as the weather is above freezing, there could be ticks looking for hosts.

**Myth 2: Large ticks don’t carry disease and are no cause for concern.**

Facts: All ticks come in small, medium, and large sizes depending on their developmental stage. Even adult blacklegged ticks can be considered large. In the fall and winter months, they reach their adult stage, and are a serious concern. In the northeastern U.S., the most common large ticks found on humans and companion animals are blacklegged ticks (deer ticks), and it is estimated half of adult deer ticks carry Lyme disease.

**Myth 3: There are multiple options for removing ticks that are equally effective.**

Facts: Avoid folklore remedies such as “painting” the tick with nail polish or petroleum jelly, or using heat to make the tick detach from the skin. No method is more effective for removing a tick than using fine-tipped tweezers to grasp the tick as close to the skin as possible, and pulling upward with steady, even pressure. Heat against a tick will not convince it to let go, but it could increase the risk of infection by potentially causing the tick to rupture. Ticks, when attached and feeding, only need to breathe approximately four times an hour – so attempting to smother it could take too long, increasing exposure to disease. Rubbing alcohol, while useful to preventing infection once the tick is removed, will not encourage a tick to detach. “Unscrewing” a tick only increases the likelihood that the head will detach from the body, thereby risking infection. Sticking with the tried and true method pictured (source, CDC) is the most effective way to detach a tick.

**Myth 4: All tick bites result in disease transmission.**

Facts: Luckily, this is not the case! If a tick is removed within 24 hours of attachment, the risk of disease transmission drops dramatically. A tick must generally be attached for 36-48 hours to transmit Lyme disease. This is why it is extremely important to conduct a thorough tick-check following shortly after exiting from tick habitat, at any time of the year.

**Myth 5: You will know if you have been bitten by a tick.**

Facts: Tick bites tend to be painless, so you are not likely to feel a bite. In addition, not all tick bites that transmit disease result in the rashes. A Lyme disease rash occurs in approximately 70-80% of infected individuals. However, there are more than a dozen diseases transmitted by ticks in the U.S., only some of which can cause skin rashes or lesions. Therefore, it is best to take preventative measures when entering into tick habitat (using tick repellents or tick repellent embedded clothing, tuck your pants into your socks, and walk down the center of trails), do a tick-check before showering, and let your doctor know you could have been exposed to ticks if you develop flu-like or other symptoms.

Further information:
- [CDC Tick Information](https://www.cdc.gov/ticks/)
- [EPA Insect Repellents](http://www.epa.gov/insect-repellents)
- [Tick Encounter](http://www.tickencounter.org/prevention/top_ten_things_list)

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**Tell us about a major success in using IPM to prevent Lyme disease.**

LDA’s development and dissemination of free print materials on Lyme disease and its prevention has been a major success. These materials include the Lyme Primer (with information on 15 TBDs), tick identification and removal cards and bookmarks, and the ABCs of Lyme Disease pamphlet for parents and educators. To date, more than 2.2 million pieces of literature have been distributed to doctors, hospitals, health departments, government officials, military installations, veterinarians, parks, businesses, schools, Lyme groups, and the public. LDA has been fortunate to secure corporate sponsors, several of whom are involved with TBD efforts. We also intend to work with other groups and federal agencies for a focused federal research agenda that will include developing a gold standard Lyme diagnostic test, developing safe and effective treatments for Lyme, and identifying effective approaches to reduce the size and spread of tick populations thereby reducing disease transmission.

**What are your goals in the next five years?**

In the next several years, LDA hopes to be able to expand its research efforts. We also intend to work with other groups and federal agencies for a focused federal research agenda that will include developing a gold standard Lyme diagnostic test, developing safe and effective treatments for Lyme, and identifying effective approaches to reduce the size and spread of tick populations thereby reducing disease transmission.

[LymeDiseaseAssociation.org](http://LymeDiseaseAssociation.org)