

Greenbelt City Council Work Session

Beltsville Agricultural Research Center

**Monday,
July 18, 2016
8:00 p.m.**

**Council Room
Greenbelt Municipal Building**

- **Welcome and Introductions**
- **Update on BARC Activities**
- **Does BARC have a Tick Control Program?**
- **Thank You for Presenting to NLC Small Cities Council**
- **Other Items**

Recommended Action for Tick Control in Greenbelt Maryland

Tick control in Greenbelt has become a necessity for humans and the wildlife: Ticks were not a problem in the past because early on the native people that lived here burnt the forest sometimes twice a year or at a minimum once every seven to eight years. Ticks do not do well in fire. Lack of Turkeys might also be a contributing factor to ticks increasing. Ticks mostly spend their time on the ground or very low to the ground. They almost never jump out of trees. More recently BARC and NASA had a tick control program that the city of Greenbelt greatly benefitted from. This program stopped about 15 years ago. This is why the tick problem is so bad now. It is the BARC style program that I wish to see in Greenbelt now.

I recommend that the City of Greenbelt buys and puts up five or six 4 Poster Tick Machines in Key spots around Greenbelt. These machines are shown to be 100% to the high 90% in getting rid of ticks in the areas studied using them.

The four spots I recommend are (1) Behind the GHI building Joint project with GHI. (2) In Buddy Attick Park in the woods where the telephone poles and power lines have just been removed. (3) Somewhere in Shrom Hills (4) On Research Rd by BARC's gate in the woods. (5)

Tick Born Diseases in Maryland

Anaplasma, Ehrlichiosis, STARI, Borrelia miyamotoi, Babesia microti, Babesia duncani, Tularemia (rabbit fever), Histoplasmosis, Brucellosis, Lyme disease (Borrelia burgdorferi), STARI or Master's Disease (Borrelia lonestari), Anaplasmosis, Q-Fever, Salmonella, the newly discovered Spotted Fever (Borrelia amblyommii), and Mycoplasmas. Epstein Barr virus and Herpes viruses are often found (original or reactivated?) in patients with tick and vector borne infections.

<https://sites.google.com/site/marylandlyme/tick-borne-diseases>

Other Types of Known Tick Control

Chickens of various types have been let go in parks to eat the ticks. They are then gathered up at the end of each day into a safe place. Wells Mills Park in New Jersey does this as do many farms.

Toilet roll tubes filled with cotton balls with Permethrin. These must be spaced every thirty feet and done twice a year. Good for home owners but not large scale.

I do not recommend these types of tick control for the City of Greenbelt needs.

I recommend this project to be fast tracked and to be handled by the Public Works and the Sustainability Committee to do more research.

Other information

There is no evidence that Four Posters effect bees.

This type of pesticide delivery system is what is recommended by the NOFU Organic Standards that the Sustainability Advisory Board recommends. It recommends if pesticides need to be used. To use a trap like this not a spray.

The organic pesticide version is not allowed. I was told because it was water soluble and washed into the environment.

Lastly this program is what I call a win, win solution. This greatly reduces human disease in the city of Greenbelt and helps give all the mammal wildlife a big break. Animals and people should not have to put up with this.

Contact Information Help

Friends Community School in Greenbelt is also using one of these machines.

Christine Dunathan christine@friendscommunityschool.org 301-441-2100

I would like to be contacted when and if the Sustainability Advisory Board reviews this so I can go. Also I would like to be contacted before the Council Hearing of this idea. Thank you for your time.

Joe Murray

JoeMurray1@yahoo.com

240 605 1985

More information:

	Description	Um	Quantity	Unit Price
441100	4-Poster Deer Treatment Device (1-3)	EA	2	\$519.00
441100	4-Poster Deer Treatment Device (4+)	EA		\$469.00
441140	12 pack Applicator Rollers	EA	2	\$45.00
441145	12 pack Warning Signs	EA	1	\$40.00
441135	Applicator Gun	EA	1	\$130.00
441150	Replacement Standard Post	EA		\$12.00
441175	Assembly	EA		\$60.00
441151	Set of 2 Support Legs	EA		\$55.00
441130	Tickicide - Gallon	EA	2	\$195.00
441153	Replacement Spring Post	EA		\$20.00
441155	Upgrade Spring Post set of 4	EA	2	\$32.00

Andy Szulinski Vice-President C.R. Daniels, Inc. 3451 Ellicott Center Drive Ellicott City, MD 21043 ars@crdaniels.com 410-461-2100 ext 481.

Prices are cheaper when 4 or more machines are bought.

4-Poster Deer Feeding Station: A Recommended Tool for Tick Management and Disease Prevention



Before Treatment



After Treatment



Photo Credit: American Lyme Disease Foundation.

What is it?

The 4-Poster Deer feeding station has paint-roller style tubes that contain a tickicide (usually an oily 10% permethrin formulation) to reduce the number of ticks on deer. Deer must rub against the rollers to eat food in the station.

Why?

Deer are the main species that carry black-legged and lone star ticks that cause disease in humans and companion animals. The Northeast, including Maryland, has 90% of the 24,000 reported Lyme cases each year in the US. Other diseases transmitted by ticks include: Anaplasmosis, Ehrlichiosis, Babesiosis, Rocky Mountain Spotted Fever, Rickettsia, Tularemia, STARI, as well as meat allergy, viruses, and protozoal infections. Ticks can even transmit multiple diseases at once.

Does it work?

Yes! The stations are associated with a significant reduction in tick populations and in disease. The 4-Poster station was developed by the USDA Agricultural Research Service. It has been tested at numerous sites, including NASA's Goddard facility near Greenbelt, Gibson Island, and in several other states in the Northeast. The permethrin treatment has been shown to eliminate greater than 90% of ticks that transmit disease to humans and their companion animals. A structural intervention like the 4-Poster system reduces risk for a community as a whole in an equitable fashion.

What is involved?

The 4-Poster system is the most effective environmental strategy that requires the least community maintenance to reduce disease. Stations should be placed far from houses (at least 100 yards) and can be outfitted with timed releases to prevent squirrels from feeding. The American Lyme Disease Foundation sells the stations. Stations require regular monitoring and are labor intensive. It may be necessary to contact MD DNR to discuss implementation.

How safe is the chemical for people and pets?

Remember that pure water is a "chemical"! Permethrin, closely related to a natural insecticide derived from chrysanthemums, is not very toxic to mammals, is poorly absorbed, and is quickly metabolized and excreted. It is not considered to be a carcinogen or an endocrine disruptor by the EPA. It can be toxic to humans and animals if eaten or inhaled. Products with 45-65% permethrin resulted in serious adverse events and even death in a study of cats. Commercial tick repellants generally contain 0.5% permethrin. Topical prescription treatments contain 5% permethrin.

One alternative insecticide is available to use in the 4-Poster system but it is not as effective. Other deer repellents endorsed by the Northeast Organic Farmer's Association require frequent application.

How safe is the chemical for the environment?

How a chemical enters an organism and the concentration of the substance are important factors in determining safety. Permethrin sprays used in agricultural settings (0.05%-38.4%) are considered a Restricted Use by the EPA because of the chemical's potential to enter the water and disturb aquatic habitats. It is also classified as Restricted Use when inserted into the ground to control pests. Permethrin is very toxic to aquatic species in laboratory tests but less so in real-world experiments; regardless, care should be taken to prevent its release in water (e.g., cleaning equipment with permethrin residue in water, spraying or leaking, etc.). Permethrin is unlikely to penetrate to groundwater if released in soil. It naturally degrades in sunlight and has a half-life of less than 30 days to 6 weeks in soil. Nutrients can be added to soil to increase the ability of microorganisms to degrade permethrin. It is very toxic to bees and other insects when sprayed in agricultural settings or when used to control a wide range of pests to protected forestland. Targeted applications like the 4-Poster station would not be expected to have the same toxicity effect in bees and insects as spraying.

What are alternatives?

No action: The low confirmed burden of disease at this time may mean that the Forest Preserve cannot justify the use of permethrin in the Preserve. Residents that live near the Preserve and those who use it are concerned about Lyme disease so the Committee could also engage in a public education campaign about how to reduce individual risk and treat tick-borne diseases.

Spraying with insecticides: Spraying at the correct time of the year is designed to reduce tick populations but must be done over a large area and affects non-target species, like bees.

Keep rodents tick-free: Deer ticks live off mice when young, so rodent boxes or tubes with tickicides can help reduce the presence of infected ticks. Studies indicate that focusing on mice may not reduce tick populations as well as treating deer. Mice populations are also reduced through natural predation, such as the red fox, and a loss of their predators has been associated with increased Lyme disease.

Landscaping: Reducing invasive species that house rodent-infected ticks in densely populated deer areas is another structural, holistic approach. This is currently being done in Greenbelt National Park. Homeowners can be provided information about how to landscape their yards appropriately.

Control Deer: Deer populations have to be reduced to 8-20 per square mile to interrupt the process by which humans are at risk for illness. Some communities have chosen to reduce deer populations through hunting.

How to decide on use of the 4-Poster station?

Weighing the risks, benefits, costs, and effectiveness of a targeted intervention like the 4-Poster deer feeding station is complex and should be governed by a set of principles informed by community values. Ideally, the decision would include assessment of the burden of tick-borne diseases by those who live near and use the Preserve, a tick survey and determination of infection rates, and an understanding of the complex interaction of tick hosts and humans as a result of the Preserve. There are a variety of planning and community action guides.

Lyme Disease

Lyme disease is under-reported but costly (from \$1,310 to over \$16,000). It often begins with a rash and progresses to systemic illness (fever, headache, fatigue, pain, stiffness) and must be treated with one or several courses of antibiotics. Left untreated, or even after treatment, some people develop serious complications like meningitis, infection in the brain or heart, arthritis, etc. Some researchers have implicated Lyme disease in chronic fatigue, fibromyalgia, autoimmune problems, miscarriage, and plaques associated with Alzheimer's. Most cases are found in children under age 14 and adults over age 40.

Lyme Disease (cont.)

Prince George's County does not have as many cases of confirmed Lyme disease as other counties in Maryland. It is possible that interventions at BARC and Goddard kept Greenbelt residents at lowered risk for tick-borne diseases for many years. However, reporting is done passively so individuals and doctors must be proactive. High uninsurance rates and the shortage of primary care providers in the county may contribute to under-reporting. There are anecdotal reports from people who live near and use the Preserve that they experience a high burden of tick-borne illnesses.

There was a sharp increase in reported cases through the 1990s and 2000s in Maryland and the US, partly due to increased awareness. Approximately one-third of ticks in Maryland carry the spirochete that causes Lyme disease. This is one of the highest rates among states reporting the disease.

The 2012 large acorn crop will likely result in an increase in the population of mice that carry ticks, and in turn Greenbelt could see an increase in Lyme disease 2-3 years from now.

Tick surveys have been conducted in Greenbelt National Park; 2009 and 2011 were peak years for the presence of ticks. BARC researcher John Carroll's results can be found at

<https://science.nature.nps.gov/research/ac/search/iars/larSearch>. These research summaries, unfortunately, do not indicate the infection rate of ticks but this information may be obtained by contacting Dr. Carroll.

Confirmed Lyme Disease in Maryland: 2000-2011

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Prince George's (N)	50	39	40	36	63	66	87	101	132	33	69
(%)	7%	6%	5%	5%	7%	5%	7%	4%	6%	2%	4%
Statewide total	688	608	738	691	891	1235	1248	2576	2216	2024	1617
Incidence per 100,000 population	13	11.3	13.6	12.6	16.1	22.2	22.3	45.8	39.3	35.5	28

If we accept that the above numbers of confirmed cases is an under-reporting by 10-20% then the actual number of cases in the county in 2010 could have been as high as 690 cases.

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WORK SESSION OF THE GREENBELT CITY COUNCIL held Wednesday, March 12, 2014, for the purpose of holding a stakeholder meeting with representatives of the Beltsville Agricultural Research Center.

Mayor Jordan started the meeting at 8:00 p.m. It was held in the Multipurpose Room of the Community Center.

PRESENT WERE: Councilmembers Judith F. Davis, Konrad E. Herling, Leta M. Mach, Silke I. Pope, Edward V.J. Putens, Rodney M. Roberts and Mayor Emmett V. Jordan.

STAFF PRESENT WERE: Michael P. McLaughlin, City Manager; Terri Hruby, Assistant Director of Planning & Community Development; and Cindy Murray, City Clerk.

ALSO PRESENT WERE: Dr. Joseph Spence, Beltsville Area Director, and Dr. Erin Connor, Acting Beltsville Area Director, United States Department of Agriculture - Beltsville Agricultural Research Center; Cary Coppock and Bill Orleans.

Dr. Spence introduced Dr. Erin Connor who was appointed Acting Area Director about one year ago. He reported on the Agricultural Research Service (ARS) plans to consolidate their existing nine regions throughout the country and the Beltsville Area will be merged with the North Atlantic Area. The headquarters for the region will remain at the Beltsville Agricultural Research Center (BARC). Dr. Spence said the new region will be the second largest region of the ARS.

Ms. Mach asked if the merger would help protect BARC. Dr. Spence said the merger will provide more protection. He noted that BARC will go from having just the support from local legislators to the support from legislators throughout the new region.

In response to a question from Mayor Jordan, Dr. Spence said BARC had experienced tough financial problems with funding cuts a few years ago but FY 2014 had been very good with all funding cuts restored plus an additional \$1.2 million. He said BARC is now seen as one of the premier sites of the ARS.

Mr. Putens asked how many people work at BARC. Dr. Spence said approximately 960 federal employees and approximately the same number of non-federal employees.

Dr. Spence and Dr. Connor reported on several research projects being conducted at BARC including research on stink bugs, bedbugs, insect repellants, ticks/Lyme disease, dairy animals, invasive plants and invasive insects and citrus crops.

Dr. Spence advised there are approximately 500 unoccupied buildings at BARC with approximately 200 of these buildings on the demolition list. He noted that some of these buildings are just storage areas, holding pens for animals, etc. Dr. Spence said they are actively trying to secure funding (estimated to be \$30 million) for renovation of Building 307, the old

Human Nutrition Center. Mr. Roberts suggested BARC attempt to obtain State funding to repair buildings instead of tearing them down. He further stated that he would like to see all forested and wetland areas of BARC become part of the National Wildlife Service.

Dr. Spence reported the Farm Bill authorized BARC to lease extra space to private research companies. Dr. Connor said that a conservation type group had expressed an interest in leasing the old visitor's center.

Mayor Jordan asked about superfund sites at BARC. Dr. Spence reported that 50-60 superfund sites on their property are continually monitored and two to three sites are actively being worked on at any given time. He noted that the State of Maryland has been a very good partner in this effort.

Mr. Roberts asked about tree removal by Beaver Dam Road and Research Road (old dump area) and asked if the area will be reforested. Dr. Spence and Dr. Connor said this tree removal may have been part of a superfund site cleanup but will check and report back to Council.

Mayor Jordan asked if BARC had any concerns regarding the impact of traffic when the InterCounty Connector (ICC) is complete. Dr. Spence expressed concern with the existing traffic problems on Powder Mill Road at the Baltimore Washington Parkway (Park Service/Federal land) and Beaver Dam Road (County road). He suggested the establishment of a joint jurisdiction task force (City, County, State, BARC, NASA/Goddard Space Flight Center, Federal Highway Administration, etc.) may be beneficial to cooperatively determine the best solutions to existing traffic problems as well as plan for the future.

In response to a question from Ms. Davis, Dr. Spence reported that the deer hunting program would continue and advised they are establishing a goose hunting program to deal with a large non-migratory goose population. He added that BARC did not have any beaver problems at this time.

Ms. Davis asked about stream monitoring on BARC property. Dr. Spence said the streams are monitored by an ecology committee as well as research groups.

Cary Coppock, 9-D Ridge Road, asked and was provided answers about the future of dairy research at BARC.

Council thanked Dr. Spence and Dr. Connor for attending. Dr. Spence expressed his appreciation to Council for their support of BARC.

Mr. Putens asked about ARS grants for municipal projects and mentioned that the Greenbelt Volunteer Fire Department and Rescue Squad have been looking into expansion possibilities. Dr. Spence said the ARS World Development Service offers grants for municipal projects in rural areas. He will check if there were any grants opportunities that may be available for Greenbelt.

Informational Items

Ms. Mach reported that she had briefly attended the Parent-School-Community District 2 Meeting sponsored by School Board Member Peggy Higgins at Greenbelt Middle School prior to this meeting.

Ms. Davis provided an update on SB 600/ HB 742 regarding development of the University of Maryland Golf Course.

The meeting ended at 9:40 p.m.

Respectfully submitted,

*Cindy Murray
City Clerk*

