

Veterinarian hits the road to study nation's oldest living pet dogs

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WEST LAFAYETTE, Ind. - Most scientists dedicated to discovering the biology behind why we age study worms, flies, and mice in cages. Now a research veterinarian thinks it's time to add man's best friend to the list of aging workhorses that could be harnessed by researchers - and he's setting out to prove it.

This week marks the launch of a 23-day trek by David J. Waters during which he will criss-cross the nation to visit the oldest living pet Rottweilers in the United States. Christened "The Old Grey Muzzle Tour," the trek begins in Harrisburg, Pa., on Thursday (March 11) and will finish April 3 in Seattle.

The complete itinerary of the tour includes: March 11, Harrisburg, Pa.; March 12, Holliston, Mass.; March 13, Philadelphia; March 15, Keysville, Va.; March 16, Columbia, Tenn.; March 19, Cambridge, Wis.; March 20, Riverside, Iowa; March 21, Alma, Kan.; March 23, Red Oak, Texas; March 24, Castle Rock, Colo.; March 27, Colorado Springs, Colo.; March 28, Tijeras, N.M.; March 29, Waddell, Ariz.; March 30, San Diego; April 1, Pacific Palisades, Calif.; and April 3, Seattle.

Waters is executive director of the Gerald P. Murphy Cancer Foundation, based at the [Purdue Research Park](#) of West Lafayette. The Murphy Foundation is home to the [Center for Exceptional Longevity Studies](#) where Waters leads a research team that studies aging and cancer in pet dogs. The research includes the study of exceptionally long-lived Rottweilers - individuals that have lived to at least 13 years, which is equivalent to a human living to 100.



Bort, a 13-year-old pet Rottweiler from Holliston, Mass., will be the first dog visited by Dr. David J. Waters during The Old Grey Muzzle Tour. Waters will travel from Massachusetts to Washington state during the 23-day national tour. (Photo courtesy of the Center for Exceptional Longevity Studies, Gerald P. Murphy Cancer Foundation)

"These exceptional dogs have lived at least 30 percent longer than average for their breed," Waters said. "They have dodged cancer and other life-threatening diseases of aging. We believe studying them can shed light on what it takes to live well."

Over the last three years, Waters' team has tracked down information to create a database of more than 140 of these long-lived Rottweilers. Today, however, only 15 are alive.

So Waters will hit the road to meet these exceptional canines scattered across 13 states. He says a lot of preparation has gone into this scientific expedition.

"From questionnaires completed by owners and veterinarians, my team has validated dates of birth and collected a mountain of information about these dogs, including medical history, diet and dietary supplement usage, and parents' longevity," said Waters, who is associate director of Purdue's Center on Aging and the Life Course and professor in the Department of Veterinary Clinical Sciences.

Now, Waters says it's time to go muzzle-to-muzzle with these special canines.

At each stop, Waters will perform a physical examination, collect DNA samples, and record measurements such as height and chest and belly circumference. He will observe each dog in its home environment and query owners on what makes their dog exceptional.

Few veterinarians have ever come face-to-face with more than a single Rottweiler that has made it to such an advanced age. That is why Waters is motivated to accomplish this feat 15 times in less than a four-week span.

"If you're looking to come up with new theories on how kids can learn better, then you better carefully observe kids learning. When it comes to developing fresh insights on what it takes to age more successfully, the same holds true. There's no substitute for careful firsthand observations," he said.

The casual observer may think that the dogs Waters will examine are all alike – old, arthritic, and not able to hear very well. Waters disagrees.

"Our working hypothesis is just the opposite - that each dog is uniquely different and this uniqueness holds the key to better understanding the different pathways to successful aging," he said.

Along with collecting scientific data, the goal of "The Old Grey Muzzle Tour" is to raise visibility for this kind of scientific work. As people grow increasingly concerned with the number of years of healthy longevity rather than just the total number of years lived, there is growing need for newer model systems to find out what impacts healthy aging.

Roger McCarter, professor of biobehavioral health at Pennsylvania State University and an expert in aging research, described Waters' work within the context of research done by others in the aging field.

"Dr. Waters is leading us to a new way of thinking about how to conduct healthspan research," he said. "Pet dogs living in the same environment as people may be just the research tool we've been looking for."

Waters believes the dogs his team has been studying may be well-suited for tackling some research questions, such as why women live longer than men. Waters' team recently published results (Aging Cell, December 2009) showing that exceptionally long-lived female Rottweilers outnumber males. The currently longest living Rottweilers in the United States reflect this female survival advantage: 11 females and only four males.

As he begins his trek, Waters reflected on the close bond between dogs and their owners.

"For centuries, dogs have enriched people's lives in important ways as our pets and our companions," he said. "Now, we are recognizing that a special group of dogs may have something important to tell us about successful aging. This tour sends a simple message: We're prepared to listen."

About the Center for Exceptional Longevity Studies

The Center for Exceptional Longevity Studies seeks to identify important genetic and environmental determinants of healthy longevity and to better understand the complex relationship between aging and cancer. While the scientific community looks for reliable research approaches to verify exciting scientific leads, we see enormous value in studying pet dogs living with their owners as a virtual aging laboratory. There is a big payoff for validating this kind of innovative thinking - an opportunity to promote healthy longevity in both pets and people. The center and its research are supported by P&G Pet Care, makers of Iams and Eukanuba, and the Rottweiler Health Foundation. The research is conducted jointly by the Murphy Cancer Foundation and Purdue University. The Murphy Foundation is a 501(c)(3) not-for-profit research institution.

About Purdue Research Park of West Lafayette

The 725-acre Purdue Research Park of West Lafayette has the largest university-affiliated business incubation complex in the country. The park is home to more than 160 companies. About 100 of these firms are technology-related and another 39 are incubator businesses. The park is owned and managed by the Purdue Research Foundation, a private, nonprofit foundation created to assist Purdue University in the area of economic development. In addition to the Purdue Research Park in West Lafayette, the foundation has established technology parks in other locations around Indiana including Indianapolis, Merrillville and New Albany.

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