

A Man of Many Accomplishments

OWNER PROFILE: George Todaro

By Mary Forney

It is often said that the people in horseracing – from the owners of the magnificent animals to the backstretch workers who care for them – are some of the kindest and most caring people in the world. George Todaro, a Seattle resident and Northern California-based owner, is certainly a stellar example.

A renowned medical doctor and research scientist, Dr. Todaro is one of those rare individuals who choose to do the work they do because of a desire to make a difference – to save lives. Todaro has a soft-spoken manner and the sense of humor of a man who doesn't take himself too seriously. In a recent interview, he settled in and spoke easily of the incredible milestones of his career.

A first-generation Italian-American, Todaro grew up in New York City, attended high school in the Bronx, Swarthmore College in Pennsylvania, and NYU School of Medicine. After receiving his medical degree, he decided not to practice medicine, but to do research instead.

“You have a patient with pneumonia that you treat,” he explained, “and two or three days later they get better, and the patient says ‘Thank you, Doc.’ But I was simply the vehicle. Someone else had discovered that penicillin works, or that antibiotics work... I didn't think I deserved credit for making someone better when someone else had figured it out.”

So Todaro became one of those who would “figure it out.”



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While at the National Institute of Health (NIH) in Bethesda, Maryland in 1969, he co-authored the groundbreaking "Oncogene Theory" that became one of the foundations for future cancer research. In the early 90s, as scientific director at Seattle-based PathoGenesis, he developed a treatment that has saved the lives of countless cystic fibrosis patients. And, more recently, his focus has turned to biotechnology, where he is working to find ways to increase the world's food supply.

Todaro can also add to his list of accomplishments that he was elected to the National Academy of Sciences, was a professor and department head at the University of Washington, holds over 20 patents, and was named one of the Ten Outstanding Young Men of America in 1970.

When asked what accomplishment he is most proud of, Todaro said, "I think developing the oncogene theory, because it led to so much research." According to Todaro, the theory has proven to be "mostly right, but not entirely right." Basically, it says that there are genes inside all cells that can mutate or get "turned on" and become tumor cells, and that viruses could actually carry in these "oncogenes," which could then be activated by radiation or carcinogens. As it turns out, there are several human cancers that are viral, such as cervical cancer, which is caused by the papillomavirus.

Reflecting further on his accomplishments, Todaro related a never-before-told story. As it goes, Elvis Presley was one of the Ten Outstanding Young Men in America honored the same year (1970) as Todaro – as was Ron Ziegler, President Nixon's press secretary. The award, which has been conducted annually since 1940 by the U.S. Junior Chamber of Commerce, recognizes ten Americans each year who exemplify the best attributes of the nation's young people. (In 1985, the program was officially changed to Ten Outstanding Young Americans, recognizing the accomplishments of young women as well).

A couple of weeks after the awards ceremony, Presley invited his co-honorees to Las Vegas for a show. "Back behind the scenes," said Todaro, "I and another scientist got to Ron Ziegler and said, 'Hey look, the war the president is fighting (in the final years of Vietnam) is a bad and unpopular war. We should be fighting a popular war such as a war on cancer.'" Shortly thereafter, during his State of the Union address, Nixon announced a new "War on Cancer."

As successful as he was in cancer research, however, Todaro was anxious for a change. "Each time, I like something that's a bit different," he said, "so I learn something new." So, he relocated to the west coast, where most of the new biotechnology companies were starting up.

"In about the mid-80s, things changed at NIH," he explained. "These biotech companies were starting up, and we had counted on being able to include some of the best young people in the lab. And I was sorry to lose them to companies like Genentech and Amgen – which I had never heard of – and I thought maybe they knew something I didn't know. So, I looked too!"

After looking at all of the start-up biotech companies and deciding they had science as good as what was going on at NIH or most universities, Todaro took a job at Oncogen in Seattle. From there, he went to a couple of other start-up companies, including PathoGenesis, where he did the research on a new treatment for cystic fibrosis.





Hystericalady, with Patrick Valenzuela up, wins the 2006 Hollywood Breeders' Cup Oaks at Hollywood Park.

“Cystic fibrosis patients get a chronic infection that they just never get over,” he explained. “And you could actually treat them much more effectively by going directly into the lungs rather than systemically. So, that was an improvement that has saved many lives.”

These days, Todaro is working to save lives in another way – in the area of plant genetics. “It’s not that big a jump,” he said, “because actually the same genes that control growth in animals also control growth in plants.” It is, however, a bit of a jump for someone who grew up on the streets of New York and readily admits, “I don’t know that I ever saw a cornfield!”

As CEO of Targeted Growth in Seattle, Todaro is working to increase crop yields with both laboratory and field crops. Much of their research is being done on canola, which is grown mostly in Canada and the Northern U.S. because of its need for long hours of daylight.

“We have already shown that we can increase the yield,” he explained. “We did studies that show that we can put specific genes, with specific promoters – promoters turn on genes for a little while and then turn them back off again. So, we targeted promoters that will turn on genes in seeds, because with canola basically the only product is the oil, which is extracted. So,” he concluded, “if you can get more oil per acre, and if you can show that you haven’t changed the relative composition of the oil, you have something that is pretty successful.”

Todaro also has something that is pretty successful when it comes to racing Thoroughbreds. He has close to 50 horses in training – the bulk of them in one-half and one-quarter interests – including Hollywood Breeders’ Cup Oaks winner Hystericalady, Sharp Writer, Passive Income, and Trickey Trevor, winner of the San Carlos and Churchill Downs handicaps. Most of his horses are with trainer Jerry Hollendorfer in Northern California, but he also has a few with Craig Dollase and Richard Matlow in Southern California, and Tom Wentzel in Washington.

His most exciting runner was also one of his first – Pike Place Dancer, who won six of eight starts including the Grade 1 Kentucky Oaks in 1996. As thrilling as the experience was, he says that today it would be even more so, “because I know how hard it is – and I didn’t then!”

Todaro’s introduction to horse ownership began in 1991, when his wife, Jane, gave him a 10 percent interest in a yearling as a Christmas present. The couple met in high school and were married while he was in medical school. While living in Washington D.C., they made occasional visits to Bowie, Laurel, and Pimlico. After moving to Seattle, they began socializing with a group of friends that included other doctors, as well as horse farm owners. It was the beginning of a long, enjoyable pastime, one that has been the perfect balance to his scientific endeavors.

On a recent sunny Saturday afternoon, George and Jane Todaro were out for an afternoon of racing at Bay Meadows with their daughter Wendy and their three grandchildren. The eldest of three children, Wendy is an emergency room doctor at Stanford. They also have two sons – one a lawyer, and the other in business with his father at Targeted Growth. Although Todaro admits that his family is only “marginally interested” in racing, he is a regular on the backside in the mornings and the track in the afternoons. One of the things that he loves about horseracing is its contrast with the scientific world.

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“In biology, there are things that are close to universal,” said Todaro. “Whether or not a cell divides is close to universal. And the answer is reproducible.” He continued, “In science, if you do an experiment and it is true, you can come back next week, or do it anywhere in the world, and it’s always true. In horseracing, it’s different. They may win one day, but there is no assurance they will win on another day or in another part of the world. Science has a universal component; in horseracing timing is more important.”

On the other hand, horseracing has an immediacy that appeals to him. Whether betting on a race, or deciding which race best fits your horse, you make a decision based on imperfect information, dealing with maybe a dozen variables – just as you do running a laboratory. But in

horseracing you know much more quickly if you have made the right decision.

“The way I look at it,” Todaro said, “if you’re doing science, you do an experiment, then you do another experiment, and another experiment, and it’s years before you know whether something is working or not. Horseracing has a certain purity – you get an answer in a minute, thirty seconds or so: yes or no. In the lab you can procrastinate; you can find all sorts of excuses not to do the next experiment. In horseracing a bell rings.”

There is a lovely clarity about that.



Todaro with family and friends at Bay Meadows.