RESEARCH FACULTY PRESENTATION AT IOWA STATE UNIVERSITY:
“EVEN A WORM WILL TURN: DISCOVERY OF DRUGS THAT PARALYZE IMPORTANT
WORM PARASITES OF HUMANS AND ANIMALS”

Action Requested: Receive the presentation.

Executive Summary: Richard J. Martin will provide an overview of his work on the discovery of
drugs that selectively inhibit the neuro-muscular systems of roundworm parasite, paralyzing
them to produce a cure. The work has global relevance for both human and animal health –
more than two billion people in the poorest countries worldwide, and most domestic animals, are
infected with nematode parasites which degrade health, affect animal production, and increase
poverty.

Distinguished Professor Richard Martin is director of graduate
education of both the Toxicology and Biomedical Sciences
graduate programs in ISU’s College of Veterinary Medicine. He
earned a veterinary degree from Liverpool University,
Membership of the Royal College Veterinary Surgeons
(MRCVS), Ph.D. (Liverpool), D.Sc. (University of Edinburgh),
and is a diplomate of the European College of Veterinary
Pharmacology and Toxicology (Dip. ECVPT).

Martin, who joined ISU in 1999, has served as chair of
Biomedical Sciences, as a National Institutes of Health study
section member, and as chair of the Education and Residency
Committee of the European College of Veterinary
Pharmacology.

His research uses advanced electrophysiological,
pharmacological, molecular, and parasitology techniques to
discover and study the mechanism of action of new drugs used
to paralyze and treat roundworm parasites. Worldwide, these parasites are a major global
health problem, found in over 2 billion people of the world’s poorest populations, and universally
in domestic animals. In the absence of adequate sanitation and vaccination, these drugs are
used for the control and prevention of both human and animal parasites. The economic returns
for anthelmintic drugs favor development for animal health in western countries initially, and
subsequent application for human health in developing countries. Ivermectin, one of these
anthelmintic drugs studied, was developed for animal use, and is now used in Africa for control
of the parasites that cause river blindness and elephantiasis in humans.