

Dr. John Werren
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Dear Jack:

I strongly support the PROPOSAL FOR SEQUENCING THE NASONIA GENOME – THE NASONIA GENOME PROJECT. My support is based on the critical need for biological control agents to protect food security, public health, and the environment (especially controlling invasive species). My concerns are:

Food Security– The World Health organization reports that more than 3 billion people are now malnourished in the world and the number is increasing. Insect pests are destroying 15% of all potential food production despite the application of about 1 billion kg of insecticides worldwide (in the U.S. the loss is estimated to be 13%). Biological control agents help prevent these losses to be double their current levels.

Introduced invasive insect-species, cause an estimated \$14 billion in damages and control costs each year. Because these introduced insect species arrived without their natural enemies, biological control is one means of controlling these pests without the use of insecticides.

Public Health– Many insect vectors play a major role in the transmission of many human diseases, including malaria, sleeping sickness, and others. Currently biological control agents help in reducing the incidence of several infectious diseases, but many opportunities exist to employ biological control of vectors of infectious diseases.

Invasive Species– An estimated 50,000 species of plants, animals, and microbes have been introduced into the United States where they cause more than \$137 billion in damages and control costs each year. One new introduction is the West Nile Virus that has infected about 3,000 people and caused the deaths of more than 200 people last year. Many opportunities exist for the biological control of vector mosquitoes associated with West Nile and other infectious diseases in the United States.

Environment– The use of insecticides and other pesticides in pest control in the world and U.S. continues to cause major public health problems. Worldwide, for example, the World Health Organization reports that pesticides cause 26 million human poisonings with 220,000 deaths per year. In the U.S., the Environmental Protection Agency reports there are 300,000 non-fatal pesticide poisonings in humans each year. Many opportunities exist to reduce pesticide use worldwide and in the U.S. by effectively employing biological controls.

Thus, I strongly support the proposal to sequence the *Nasonia* genome.

Sincerely yours,
David Pimentel
Professor of Entomology
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Cornell University
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