Researcher Maps Genes of Destructive Parasite

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(PhysOrg.com) -- The genome sequence and genetic map for a microscopic, soil-dwelling worm that is one of the world's most common and destructive plant parasites has been completed by a research team, including UC Davis nematology professor Valerie Williamson.

The tiny worm, whose scientific name is Meloidogyne hapla, is more commonly known as the northern root-knot nematode. Together with related species, it annually causes an estimated $50 billion in plant damage, afflicting crops ranging from alfalfa to potatoes to grapes.

The findings of the group, led by researchers Charlie Opperman and David Bird at North Carolina State University, were recently published online in the Proceedings of the National Academy of Sciences. The sequence data have been deposited in public databases so that other researchers around the world can use the data to discover more specific information about the parasite.

"We are hopeful that this information will lead to the development of more environmentally friendly tools for managing this species and other root-knot nematodes," said Williamson, whose laboratory developed the genetic map for this project.

The northern root-knot nematode has become a key model species in the study of plant-parasitic nematodes, and the completion of the genetic map and genome sequence will equip researchers to ask highly specific questions about the evolution and nature of parasitism.

Source: UC Davis