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Michael T Holm* (mholm@nwciova.edu), 504 Providence Ave. SE, Orange City, IA 51041, and
Ryan K Johnson. *Fibonacci Numbers and Diophantine Equations.*

Gessel showed that Fibonacci-Lucas ordered pairs are the only solutions to a particular two-variable Diophantine Equation. In this talk we present an extension of Gessel's Theorem by showing that the Generalized Fibonacci-Lucas ordered pairs are likewise the only solutions to an appropriately generalized Diophantine Equation. As a final step, we successfully extend Gessel's idea to Fibonacci and Lucas polynomial sequences. (Received September 26, 2005)