



## **Soil Quality and Colloid Transport under Biodegradable Mulches**

Henry Sintim (1), Sreejata Bandopadhyay (2), Shuresh Ghimire (2), Markus Flury (1), Andy Bary (1), Sean Schaeffer (2), Jennifer DeBruyn (2), Carol Miles (1), and Debra Inglis (1)

(1) Washington State University, USA (flury@wsu.edu), (2) University of Tennessee, USA

Polyethylene (PE) mulch is commonly used in agriculture to increase water use efficiency, to control weeds, manage plant diseases, and maintain a favorable micro-climate for plant growth. However, producers need to retrieve and safely dispose PE mulch after usage, which creates enormous amounts of plastic waste. Substituting PE mulch with biodegradable plastic mulches could alleviate disposal needs. However, repeated applications of biodegradable mulches, which are incorporated into the soil after the growing season, may cause deterioration of soil quality through breakdown of mulches into colloidal fragments, which can be transported through soil. Findings from year 1 of a 5-year field experiment will be presented.