Alfalfa-Grass Mixtures: Evaluating Trade-offs in Forage Quality, Productivity, & Field Carbon Balance

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Alfalfa-grass mixtures may offer a variety of benefits to Midwest dairy producers compared to monoculture alfalfa, including reduced weed pressure and winter kill; improved yield and persistence; and greater forage digestibility and milk production. Mixtures may also help improve soil health and field carbon (C) balance due to the large quantity of fine roots that cool season grasses produce. We assessed differences in field-scale forage yield and quality, soil health indicators, and field C balance between paired alfalfa monoculture and alfalfa-meadow fescue mixtures at two research dairy farm sites in Minnesota and Wisconsin. Soil health indicators included particulate organic matter (POM), mineral associated organic matter (MAOM) and total organic carbon (SOC). Field C balance was estimated with eddy covariance. This presentation will highlight yield, forage quality, and eddy covariance results from the first two years of the study.