

# Quantifying Soybean CO<sub>2</sub> Exchange with Chlorophyll Content

Holder, Cameron (School: Nettleton High School)

Soybean is a major crop grown in Arkansas. Studying plant development is important to inform management decisions such as irrigation or chemical applications to maximize yield. The chlorophyll content of each leaf was measured and compared to the carbon dioxide exchange. The chlorophyll content was higher at leaves closer to the top compared to the bottom possibly related to more sunlight at top of canopy. The CO<sub>2</sub> exchange went down because photosynthesis uses CO<sub>2</sub>. by Identifying most productive leaves, highest chlorophyll content and greatest reduction of CO<sub>2</sub>, producers and scientists can target management to maximize plant productivity.