METHANE INHIBITS THE LIGHT REACTION IN PHOTOSYNTHESIS. Carl W. Vermeulen, Kiera Breton, Brian L Dailey, Kathryn J Dodson, Charles R. Kee, Kyle R. Nester, Hailey Raines, Cheyenne R Rawlings & Shadonna L Warren. Camp Community Coll. Since NASA found circumstantial evidence that current atmospheric methane at 0.0002% was globally inhibiting photosynthesis by 10% (versus the 1950 level), Under controlled laboratory conditions, we determined the existence of a dose response. We then sought the specific site in the complex metabolic photosynthetic pathway. Using a divide-and-conquer strategy, we sought a midway point in the overall path before or after which methane exhibited the inhibitory effect. The point we chose was the buildup of starch granules in the leaves and then the subsequent mobilization of that starch into the sap to feed the body of the plant. We found that methane did not affect the “late” or starch mobilization, but that there was a direct dose response in the buildup of the granules. In other words, methane affects the “early,” and possibly the light reaction, part of the overall process. We are thus proposing selection of another midpoint such as one revealed by the decolorization of the electron detector DPIP, which closely precedes the proton pumps needed to produce the ATP used in the fixation of CO2. Author contact: Carl W. Vermeulen, ecoligist@yahoo.com.