Douglas Cook's research focuses on crop biomechanics. The aim of his research is to quantify factors that are predictive of crop stalk strength. To accomplish this goal, he has worked closely with academic and industry scientists to characterize stalk failure, design stalk testing protocols, perform stalk strength experiments, assess stalk geometry, design devices for measuring stalk strength and record the sounds produced by growing corn.

His research has been supported by grants from the U.S. National Science Foundation, the U.S. Department of Agriculture and industry. His research findings have been published in fields as diverse as acoustics, biomechanics, biomedical engineering, agronomy, medicine and botany.

Cook earned a bachelor's degree in mechanical engineering from Utah State along with minors in mathematics and Mandarin Chinese. He also received a master's and doctoral degree in mechanical engineering from Purdue University.