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K-State Today

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A 'Fitbit' for plants? Researchers create a low-cost, portable platform to gauge plant health

By Haley Ahlers (<mailto:hahlers@k-state.edu>)

K-State researchers have developed a tool called the Phenocart to capture essential plant health data. It measures plant vital signs like growth rate and color, the same way a Fitbit monitors human health signals like blood pressure and physical activity.

In a field experiment with thousands of plots, the Phenocart is a quick and portable way to evaluate plant health. It also can help plant breeders design larger experiments.

"Larger sample size gives you more power," said Jesse Poland, assistant professor of plant pathology and agronomy. "Measuring phenotypes is very labor-intensive, and really limits how big of an experiment we can do."

The new tool will allow for faster measurements and accelerate the breeding process. The Phenocart also can be outfitted with different sensors depending on what the scientists want to measure, including a sensor to measure how "green" their plants were, Poland said.

"The measure of vegetation index or 'green-ness' is really the easiest and more straightforward way to measure the overall health status of the plant." Poland said.

Read more about the Phenocart [online \(http://www.eurekalert.org/pub_releases/2016-06/asoaf062216.php\)](http://www.eurekalert.org/pub_releases/2016-06/asoaf062216.php).

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From the administration

[Letter from AD John Currie \(http://www.kstatesports.com/news/a-letter-from-a-d-john-currie-june-23-2016-06-23-2016\)](http://www.kstatesports.com/news/a-letter-from-a-d-john-currie-june-23-2016-06-23-2016)

[A legislative update from the director of governmental relations \(announcement.php?id=28034\)](#)

News and research

[College of Veterinary Medicine researchers examine microbiome associations related to disease expression in swine \(http://www.k-state.edu/media/newsreleases/jun16/nurserypigs62416.html\)](http://www.k-state.edu/media/newsreleases/jun16/nurserypigs62416.html)

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Events

[Share your news with pride: E-newsletter training scheduled for June 28 \(announcement.php?id=28027\)](#)

[Free webinar available on forage crops toxic for cattle \(http://www.ksre.k-state.edu/news/news-stories/2016-news-releases/june/free-webinar062116.html\)](http://www.ksre.k-state.edu/news/news-stories/2016-news-releases/june/free-webinar062116.html)

Kudos, publications and presentations

[Beef Cattle Institute's Beef Scholars program provides opportunities for students, resources for beef industry \(http://www.k-state.edu/media/newsreleases/jun16/beefscholars62416.html\)](http://www.k-state.edu/media/newsreleases/jun16/beefscholars62416.html)