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Dairy disease-detecting device begins trials (Apr 03, 2017) ◀ 2 G+1

### Dairy disease-detecting device begins trials

#### The portable device could be a game changer on dairy farms

By Jennifer Jackson

A new animal disease-detecting device is about to undergo testing in the field. University of Guelph researchers recently received funding that will aid in the testing of their nano biosensor.

The nano biosensor is the size of a farmer's palm, and uses a small amount of milk or blood to detect metabolic diseases, such as ketosis. The device takes less than a minute to transfer the test results to the farmer's smartphone, according to an [April 3 release](#).

The device will help farmers make quick diagnoses and treatment plans, according to Suresh Neethirajan, lead developer of the device and director of the University of Guelph's BioNano Laboratory.

"The benefit of this sensor is for a farmer to test his herd on the first suspicion that something is amiss, even before there are obvious physical signs," Neethirajan said in [the release](#).

Without the device, the process to get blood tested can be costly – both in terms of time and money. Farmers can wait up to seven days to hear the results of blood tests from labs.

"Especially in isolated areas, a lot of valuable time can go by waiting for a veterinarian and then lab results — time that can be critical," Neethirajan said.



The device uses a sensor that can determine microscopic electrochemical activity in the blood sample. This chemical activity will indicate a metabolic disorder that can often be determined before animals show any symptoms. Farmers may use the device in an in-line robotic milking system to test the whole herd at once.

University of Guelph's researchers plan to make the device available to operations in developing countries, according to the release. To assist in this goal, the University of Edinburgh donated US\$125,000 through their Supporting Evidence Based Interventions initiative. The SEBI encourages research and action to improve livestock productivity and health in developing

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