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 Time is money when waiting to find out if a cow is expecting.

The earlier a rancher or dairyman can determine if a heifer (or goat, or bison, or sheep) is pregnant, the sooner he can decide what to do with it. That includes re-inseminating the animal, selling it, or culling it — whatever the economy of the herd dictates.

“The more we know and the quicker we know it, the better we can manage,” said Idaho Cattle Association President Wyatt Prescott.

A Moscow bio-tech startup, BioTracking LLC, already a leader in the livestock pregnancy-testing realm, is working to create more sensitive pregnancy tests. It’s using nanomaterials and a $150,000 grant from the National Institutes of Health Small Business Innovation Research program it received earlier this month, said Dr. Garth Sasser, Biotracking founder and president. He’s a former researcher at the University of Idaho where he developed pregnancy-testing technology.

Now, BioTracking is teaming with another Moscow company born of UI research to develop a pregnancy test that could allow detection up to eight days sooner and perhaps permit testing of milk, rather than blood.

That eight days can make a big difference, as far as coordinating calving, and deciding how to categorize individuals.

“Knowing quicker is definately an advantage in operating,” Prescott said. “The sooner the better.”

The Nanospring material that BioTracking is working with was invented at UI and is being developed by the spin-off company GoNano Technologies, which earlier this year received money (an undisclosed amount) from product-development giant 3M to further develop the product.

Nanospring is the trademarked name for a material that could someday be used to coat next-generation catalytic converters, increasing the device's efficiency and longevity, and reducing the amount of precious metals needed to make them.

While GoNano has emphasized Nanospring's potential with catalytic converters, the possible applications are limitless, said company spokesman Aziz Makhani, explaining that his company is working on four potential applications.

"We did imagine that there would be biological applications. That's one area where we're really peeling the onion as best we can," he said.

Makhani said the 3M investment will help GoNano "scale-up" the size of the Nanospring material that can be produced. Currently, the company can make chunks measuring about three centimeters by eight centimeters, but future customers will want the stuff by the kilogram, he said.

Dr. Jack McIver, UI vice president for research, said the university is increasingly considering possibilities for spin-off companies, like GoNano and BioTracking, as part of its research program.

"Helping the community to grow economically is important to the university. One of the missions of a land grant university is to help the public," he said. "We are working this area very hard.'"

As for BioTracking, more NIH money could be coming its way. The $150,000 grant represents a first phase of funding.