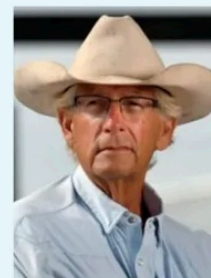


## Artificial Intelligence



Jim Strickland manages hundreds of cattle with virtual fences. Bovines who get too close to the boundary get an auditory warning, or if that fails, a mild jolt. He hopes to eventually pair that tech with AI that can scan cattle and report their vitals.



aware of how that data is collected and what its downstream uses may be.

Aside from cost, computing capacity is the limiting factor for what is possible for AI. And it takes a lot: Goldman Sachs estimates that processing a single ChatGPT query requires nearly 10 times the electricity as a Google search.

New tech may also require internet — a luxury not widely available in rural areas, and especially not in most farm fields. Prototypes must be resilient enough to survive the elements.

“Ask yourself why Tesla doesn’t build tractors,” Wang says. “It’s because field conditions are too hard. ... Everything in agriculture is another level of complicated.”

Field days, where farmers and ranchers visit their peers’ productions to see new tech in action, may be key to industry buy-in for artificial intelligence, says Jim Strickland, former president of the Florida Cattlemen’s Association and co-chairman of the Florida Climate Smart Agriculture Work Group.

His Strickland Ranch is home to the first and largest cattle herd in the Eastern U.S. equipped with GPS and cell service, a partnership with Merck Animal Health USA. He currently manages around 400 of his beef cattle over 6,000 acres using virtual fences, where he can track cows and erect invisible fences around them with the click of a button. (Bovines who get too close to the boundary get an au-

ditary warning, or if that fails, a mild jolt). Strickland hopes to eventually pair that tech with artificial intelligence that can scan cattle and their vitals.

“I’m willing and anxious to embrace all the different things that science and research provide us as landowners, ranchers and timber owners to let us be more sustainable,” he says. “We have advocated for AI technology, recognizing that we don’t know what we don’t know yet. ... There are things that we don’t even know we’re going to be capable of.”

Time will tell how other producers, alongside Strickland and Wishnatzki, adapt to the AI tech infiltrating the industry.

Zippy Duvall, president of the American Farm Bureau Federation, wrote in 2024 that AI was a “transformative element shaping the future of American agriculture,” one that the Farm Bureau would take a “cautious approach” to. The group voted at its 2024 convention to create a new policy addressing the growth of artificial intelligence in agriculture, focusing on the importance of privacy rights.

“Farmers are facing a lot of uncertainties, a lot of risk. They need help managing them,” says Ziwen Yu, a UF assistant professor in agricultural and biological engineering focused on improving data quality and ethical considerations in agricultural AI. “AI is, so far, the most tangible solution for that. But still, I think this progress is not going to be straightforward.”