



JOHN DEERE



KERN MACHINERY

Testimony of

Morgan Trembush  
Integrated Solutions Manager  
Kern Machinery Inc  
Bakersfield, California

Committee of House Energy and Commerce  
Subcommittee on Communications and Technology

May 10, 2024

My name is Morgan Trembush; my educational background is in biomechanical engineering, complemented by a master's in mechanical engineering. In 2020, I joined a large farming company where I helped to implement Precision Ag technologies across their 40,000-acre operation. I then joined Kern Machinery in 2022 as our Integrated Solutions Manager where I provide Precision Ag support to our customers and internal departments. On behalf of Kern Machinery and our Farmers, I want to thank the Committee for the opportunity to tell our story today.

The Camp Family started their farming journey in 1917 when the USDA hired WB Camp to teach California farmers how to grow cotton for the war effort. He eventually started farming on his own in 1936.

When the California Aqueduct opened the west side of the Central Valley to agriculture, his son, DM Camp, had the opportunity to open a John Deere dealership in 1969. This was the start to what are now four John Deere Dealerships.

In 1979, The Camp Family expanded their machinery footprint, becoming a John Deere Engine Distributor that now spans five states.

Farming, Family, and Faith are the three most important things to The Camps. As a 4th Generation Farming family in this industry, they have seen many transitions in agriculture -- from 1917 to today, which is now full of Precision Ag opportunities. They continue investing in their people and this industry to stay ahead of the curve. Combined with John Deere's efforts and ingenuity, they proudly represent the best in the business.

As a John Deere Dealer, Kern Machinery strives to provide equipment solutions to those who work the land. We are a distributor of several Precision Ag products that help our farmers combat the daily challenges and pain points they face. Ultimately,

if we cannot provide solutions to our customers that reduce their inputs, increase their yields, and protect the environment, then we have failed in Precision Ag. A few of the technologies we support that meet these needs fall into the categories of material application products, autonomous air-blast sprayers, or the management tools available through John Deere. Kern Machinery has embraced Precision Ag since the inception of tractor auto-steer systems in the 90s. Since 2013, Kern Machinery has had a Precision Ag Department dedicated to supporting customers in this agriculture sector.

John Deere references “Technology Stack” when discussing the components needed to unlock Precision Ag technologies. At the foundation of that Technology Stack is the connectivity of equipment. This allows growers to create a digital copy of their operation where they can view machines and fields through mobile and web-based applications. As a dealership, we partner with 189 customer organizations, encompassing 1,359 machines. Our customers have created these partnerships with us so we can more easily support their Precision Ag needs. Having machines connected allows the data they generate during farming operations to be sent directly to the customers’ John Deere Operation Center in real-time. This will enable farmers to make timely field decisions and to look at past field history to make more informed, data-driven decisions for future crop cycles.

Many of our customers farm in rural areas where machine connectivity is degraded. They rely on connectivity to view real-time operational data for planting and material applications. Material application is such a big part of every farm’s operation. Our farmers strive to be good stewards of the land and apply material only when and where needed. Some of the technologies farmers use to reduce material input include rate controllers, vision systems for crop detection, and spot sprayers for precise amendment application. If the data collected during these application

processes cannot be viewed in real-time, then timely decisions that affect change cannot be made. Having the potential for major losses to the grower.

Many of our customers use Precision Ag technologies in their everyday operations. They also want more. Though we continue to make connections with our customers and support them in their Precision Ag ventures, there are areas for improvement. The challenges of connectivity in rural areas and in-field connectivity need strengthening. We want to take full advantage of the Technology Stack available to us today but rely on a solid foundation of machine connectivity to do so.

Technological advancements in the space of Precision Ag are coming faster than ever. We are so excited about the future of Precision Ag with the development of Autonomous Tillage equipment and See & Spray™ technology, both utilizing cellular connectivity and artificial intelligence.

We ask that you place great value on strengthening our connectivity foundation so we can better support our customers on their journey to success in Precision Ag.

Thank you.