



Cornhusker Economics

Agri-Technology Transforming Farms and Ranches Across Nebraska

The adoption of new agricultural technology is reshaping the labor needs of Nebraska farms and ranches. High-tech advancements are transforming traditional roles and the skills necessary for farm and ranch work. Examples of this transformation include innovations such as autonomous machinery, GPS mapping, precision planting, and fertilizer applications. As a result, many labor-intensive tasks have become automated, reducing the demand for manual labor in planting, harvesting, feeding, and monitoring animals and crops. At the same time, there is an increased demand for workers with higher levels of technical expertise.

Nebraska is among the leaders in agri-tech adoption, which has driven a shift toward hiring workers skilled in using technology and data analysis. One notable example is the use of GPS-guided tractors and harvesters, which have decreased the need for manual labor in repetitive and physically demanding tasks. Automated machinery can efficiently plant, monitor, and harvest crops, reducing the number of required field workers. According to the USDA's 2023 Farm Computer Usage and Ownership report, 55% of Nebraska producers are employing some form of precision agriculture, such as GPS, drones, and electronic tagging. As a result, the farm labor force has become smaller and more specialized.

With increasing costs and regulations, precision agriculture is becoming more appealing and necessary. This approach relies on data analysis and smart tools, often integrated with automated equipment. Operating

such systems requires fewer people in the field but demands a workforce proficient in software use, data interpretation, and systems management. This trend is evident in the rise of producers using data-driven platforms to optimize planting schedules, monitor soil health, and enhance crop yields. Operating these systems, which often utilize real-time data, necessitates skills in data interpretation and the effective use and maintenance of digital tools.

The increasing size and complexity of Nebraska farms is prompting producers to adopt digital platforms that connect operational realities with tracking, accounting, and production management. Workers must be adept at using these technologies as part of a seamless information flow. Consequently, tech-savvy employees capable of managing sophisticated financial systems and tools are in high demand.

This shift reflects a broader trend toward digitalization across all agricultural operations. While the traditional roles of farmhands or cowboys may become obsolete for many operations, new opportunities are emerging for workers to specialize, become more proficient, and ideally earn higher salaries and benefits.

Nebraska's leadership in agri-tech innovation will continue to influence its labor market. The state's focus on research and development in agricultural technology has attracted tech companies and startups, creating a job market rich in advanced roles. From smart irrigation

systems to drone technology, Nebraska serves as a model for how agri-tech reshapes labor in farming.

In summary, agri-tech is reducing the demand for traditional farm and ranch labor in Nebraska while creating new opportunities in technical, analytical, and management roles. As Nebraska maintains its leadership in agri-tech, there will be a growing need for a tech-savvy and versatile agricultural workforce.

References:

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