CENTER FOR AGRICULTURAL PROFITABILITY
Institute of Agriculture and Natural Resources

Technology Use Growing on Nebraska Farms and Ranches

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Technology has changed the way most of us live and the way we farm. I was in graduate school in Texas during the 1980s when personal computers started to be used in agriculture. The understanding of computers and their value in management was still quite obscure at the time. As a graduate student, I assisted in a survey of Texas farmers and ranchers on their knowledge and use of financial management practices and computer use.

We found that 8% of farmers and ranchers owned a computer. When asked if they will invest in a computer if it has the potential to improve their management, 17% stated "yes" and 75% stated "no." About one-third of respondents felt computers were not needed for management, and 28% did not feel a computer was a profitable investment. Judging by the comments several respondents wrote in the margins of their survey, it was evident most did not know how a computer could assist them in making management decisions. Some of the responses were:

> *"This ranch operation does not require immediate management decisions such as computers provide (a 20,000-acre cattle operation)."*
>
> *"Pencils only cost 25 cents."*
>
> *"No advantage to owning a computer in a cow-calf operation with a 95% calf crop and weaning weights at 500 pounds"*
>
> *"I make my own business decisions."*

On Aug. 17, the USDA National Agricultural Statistics Service (NASS) released its "Technology Use (Farm Computer Usage and Ownership)" survey. According to the survey, 77% of Nebraska farmers and ranchers own or use desktop or laptop computers. That is up from 74% in 2021. Similarly, 85% own or use a smartphone, which is up from 80% in 2021. Farmers and ranchers in Nebraska are above the U.S. average in computer use as 69% of producers in the U.S. own or use a personal computer and 82% own or use a smartphone. Interestingly, 90% of farms in Nebraska reported they had internet access, just over the 85% of farms throughout the U.S.

How many of these electronic devices are used for conducting farm or ranch business? Nearly 40% of respondents stated they purchased agricultural inputs over the internet (up from 31% in 2021), and 31% stated they conducted agricultural marketing activities over the internet. Approximately 25% accessed USDA/NASS reports or other USDA services over the internet, while 27% conducted business with any USDA website. This compares with 62% of respondents that conduct business with any non-agricultural website.

The survey also examined the use of precision agriculture practices by asking the question:

> *"In the last 12 months, did this farm or ranch use precision agriculture practices to manage crops or livestock? This would include the use of global positioning (GPS) guidance systems, GPS yield monitoring and soil mapping, variable rate input applications, use of drones for scouting fields or monitoring livestock, electronic tagging, precision feeding, robotic milking, etc."*

Currently, 55% of Nebraska producers use precision agricultural practices to manage crops or livestock, an increase from 51% in 2021. Nebraska producers led all states in the use of this technology, except for North Dakota, where 57% of producers use this technology. As a reference, 27% of the farmers and ranchers in the U.S. use precision agriculture practices.

With so much data now available to producers, a technological device is a necessity if they ever want to use that data for decision-making. Two things are required though: software to make sense of the data and an investment of time by the manager to study the data and then use it to make decisions.

The Center for Agricultural Profitability is involved in developing software packages that can be utilized by producers to make informed decisions. One of those programs is the online Agricultural Business Calculator (ABC) which guides producers in developing enterprise budgets on a cash and economic basis, with several applications that utilize the data to create output to aid in decision making.

ABC currently has over 1,100 users who have developed more than 2,250 enterprise budget records. Check it out at https://cap.unl.edu/abc. We believe ABC can assist farmers and ranchers in making more informed decisions. This is evident in a recent statement from an ABC user:

> *"… Please count me in as a producer that completely relies on this product for annual planning. Speaking for myself, this tool is a 6x or better multiple on my time. If I had to replicate in Excel what you've done, it would take 3x as long, be half as good, and wouldn't give me the easy-to-read output that I can use to communicate with my stakeholders... Be they spouse or banker! Keep up the good work."*

References:

Technology Use (Farm Computer Usage and Ownership), August 2023, USDA, National Agricultural Statistics Service. Publication | Farm Computer Usage and Ownership | ID: h128nd689 | USDA Economics, Statistics and Market Information System (cornell.edu)

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