

by **Laura Nelson** for Certified Angus Beef LLC



nyone who has watched a drop of dye plop into a glass of water understands diffusion.

The surface where it hit may take on a faint hue as the droplet begins to sink, leaving a clouded, colored trail. The dye starts to dissolve as it makes its way to the bottom of the glass, expanding its reach as it finds the bottom. It spreads, with fingers of colors reaching up like flames. Eventually the smoky cloud of color rises, slowly tinting all the water as it spreads. Stirring the glass will speed the process, but the dye will ultimately dissipate on its own and fully saturate the liquid if left on its own. It just takes time.

The same process can be applied to communication in agriculture, particularly when it comes to the adoption of new technology. In the sea of information, cattlemen can gather news and ideas from agricultural magazines, newspapers, company propaganda, broadcast, radio, web e-wires and online news sites, not to mention face-to-face conversations with peers and industry leaders.

So when one more communication method is plopped into the sea, it takes time

to slowly expand to widespread adoption unless otherwise prompted into immediate acceptance.

That seems to be the case with such new media technology as blogs, Facebook and Twitter, according to recent research at Texas Tech University (TTU) and Oklahoma State University (OSU). Also referred to as "social media," it's often dominated by usergenerated content that lends a personal, interactive touch to information sharing.

Lindsey Graber explains how innovations in communication follow a course similar to dye in water: "Initially, very few people who learn of an innovation via the Internet will adopt it." She presented her research for master's thesis defense last winter at TTU.

Instead of the typical bell-shaped curve, adoption of technology and communication methods often imitates an "S"-shaped curve. After a very slow initial uptake, "rapid progression then occurs until it reaches a breaking point. The innovators and early majority have adopted the innovation at this point," she explains.

It's the initial streak of color that disperses from the droplet. The majority of users, including late adopters and laggards eventually follow until the innovation is completely adopted — which is no quick process.

## **Trusting new media**

OSU master's graduate Jen Gillespie also compared social media uptake to diffusion in her thesis.

"A large learning curve is often inherent to communication technologies, which can prevent some individuals from becoming involved," Gillespie says. But if producers are willing to learn, they can gain valuable tools.

She surveyed a random sample of 500 U.S. beef producers online to gauge use and perceptions of social media as a communications tool. Barely more than half of the sample even used social media, and it was their least-preferred and least-trusted source of information.

Whether or not they used social media, most said the information there is credible, "just less credible than other sources," Gillespie says.

Graber's mailed survey of 500 Texas farmers and ranchers found similar trust issues in the new media. Her respondents said the No. 1 characteristic in selecting a

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## A Drop in the Bucket

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news source is trustworthiness, taking in accuracy, credibility and reliability.

She noted, "If a media channel has developed trust with the public, this channel can craft messages to influence attitude and instigate behavior change in people." Though, just like Gillespie found, that trust in social media has not been established among producers yet.

Respondents in the TTU survey said they trusted agricultural websites for help with short-term production decisions, but magazines and newspapers were most trusted. In Gillespie's study, 57% listed livestock publications as their preferred information source, while only 4% listed social media in that top spot. That could be related to demographics.

Most of Graber's respondents were Caucasian males in their early 60s with at least some college education. Gillespie's online respondents were also mostly male but in their early 50s. The majority had a bachelor's degree or higher education and the overwhelming majority had an aboveaverage herd size (more than 100 head).

The OSU master's graduate noted, "All signs point to an aging agriculture population in the U.S. — this may impact how agricultural information is disseminated."

In the TTU study, Graber found social media users are younger than the total population average, while non-users are older. That could mean that as the younger generation grows older with social media, it will gain trust and, therefore, relevance.

## **Opportunities to engage**

"Producers who currently use social media do so largely for reasons related to the beef and/or agriculture industries, and feel more connected to those entities through social media," Gillespie says.

That creates opportunities for them to make better use of the information.

"The Internet has the ability to meet needs other media can't, like interactivity. Online, people can respond to information and create a dialogue with other members of the online community," she says.

Graber adds, "Research has shown that people will select a specific type of media

based on whether or not it can provide them the type of information they need or meet a goal."

Both student researchers found evidence that farmers and ranchers simply don't yet realize how social media could help meet those goals.

"Social media usage is in the initial stages of adaptation," Gillespie says. "The greatest percentage of respondents would use social media if they were taught how to use it."

In her study, time was a major barrier to those who don't use social media, "which is ironic because information and communication technologies can actually be timesavers," she says. "It can serve as a quick and convenient tool for accessing information on the go. Whether a producer is checking cows, cutting hay or fertilizing,

they can have industry information at their fingertips."

Those who used social media in Graber's study (15%) said it was because of an abundance of content — the vast number and diversity of sources, along with the quantity of available information.

Gillespie found that, besides being able

to better filter and select information, the use of social media platforms like Facebook, Twitter and blogs were valuable to users because of their interactive nature.

"Social media is differentiated from other media in that content is userdriven," she explains. "So those who use social media feel more connected to other beef producers and industry

organizations ... Social media can also add an avenue of interaction between the farming and non-farming communities."

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"The greatest

— Jen Gillespie

## The future of communications

Unfortunately, many of those connections just aren't happening for many producers, especially the older ones. Gillespie references "the digital divide," a gap between those who are advantaged and disadvantaged by the Internet. Poor infrastructure, affordability and technology literacy create barriers to the use of information and communication technologies in many rural areas.

As those abilities begin to disperse and rise, like the dye drop at the bottom of the water glass, opportunities will slowly increase. More and more will realize the value new media could bring to their operations.

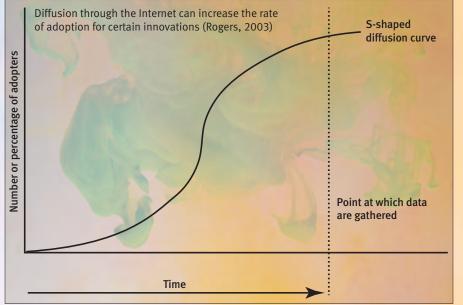
"Although a large number of non-users indicate having no interest in social media, very few consider social media unimportant," Gillespie notes. "Preference for the Internet as an information source was high in this study, a finding that proves contradictory to past studies. Social media could be in the earlier stages of adaptation, a place where the Internet was just 15 years ago."

Graber's finding concurs. "Some use indicates that social media adoption could be in its beginning stages. There is potential for channel usage to increase as trust in those channels increases."

As more cattlemen and women learn to connect, communicate and share in online platforms, Gillespie says they will likely find new ways to make decisions and improve profitability.

"I believe the benefits of social media as they relate to the agriculture industry have not yet been fully realized," she says. "The opportunities are endless."

Fig. 1: Diffusion of innovations



Source: Methods of Gathering Data, Rogers, 2003.